



0000198797

NEW APPLICATION

ORIGINAL

RECEIVED
AZ CORP COMMISSION
DOCKET CONTROL

2019 JUN 27 P 4:34

1 SHAPIRO LAW FIRM, P.C.
Jay L. Shapiro (No. 014650)
2 1819 E. Morten Avenue, Suite 280
Phoenix, Arizona 85020
3 Telephone (602) 559-9575
jay@shapslawaz.com

Arizona Corporation Commission

DOCKETED

JUN 27 2019

4 LIBERTY UTILITIES
5 Todd C. Wiley (No. 015358)
12725 W. Indian School Road, Suite D-101
6 Avondale, Arizona 85392
Todd.Wiley@LibertyUtilities.com

DOCKETED BY

SW-02361A-19-0139

7 Attorneys for Liberty Utilities (Black Mountain Sewer) Corp.
8

9 **BEFORE THE ARIZONA CORPORATION COMMISSION**

10
11 IN THE MATTER OF THE APPLICATION
12 OF LIBERTY UTILITIES (BLACK
MOUNTAIN SEWER) CORP., AN
13 ARIZONA CORPORATION, FOR A
14 DETERMINATION OF THE FAIR VALUE
OF ITS UTILITY PLANTS AND
15 PROPERTY AND FOR INCREASES IN ITS
RATES AND CHARGES FOR UTILITY
16 SERVICE BASED THEREON.

DOCKET NO: SW-02361A-19-

APPLICATION

17 Liberty Utilities (Black Mountain Sewer) Corp., an Arizona public service
18 corporation ("Liberty Black Mountain" or "Company") hereby applies for an order
19 establishing the fair value of its plant and property used for the provision of public
20 wastewater utility service and, based on such finding, approving permanent rates and
21 charges for utility service designed to produce a fair return thereon. In support thereof,
22 Company states as follows:

23 1. Liberty Black Mountain is an Arizona public service corporation engaged in
24 providing wastewater utility services in portions of Maricopa County, Arizona, pursuant to
25 certificates of convenience and necessity granted by the Arizona Corporation Commission.
26 During the Test Year, Liberty Black Mountain served approximately 2,210 customers.

1 2. Liberty Black Mountain's business office is located at 12725 W. Indian
2 School Road, Suite D-101, Avondale, Arizona 85392 and its telephone number is
3 (623) 935-9367. The primary management contact is Matthew Garlick. Mr. Garlick is
4 President of Liberty Utilities – Arizona/Texas.

5 3. The person responsible for overseeing and directing the conduct of this rate
6 application is Leticia Washington, Manager, Rates and Regulatory Affairs for Liberty
7 Utilities (Arizona). Ms. Washington was assisted by the Company's rate case consultant,
8 Thomas Bourassa and undersigned legal counsel. Ms. Washington's mailing address is
9 12725 W. Indian School Road, Suite D-101, Avondale, Arizona 85392; her telephone
10 number is (623) 298-3762; and her e-mail address is
11 Leticia.Washington@libertyutilities.com. Mr. Bourassa's mailing address is 139 W. Wood
12 Drive, Phoenix, Arizona 85029; his telephone number is (602) 246-7150; and his e-mail
13 address is tjb114@cox.net. **All discovery, data requests and other requests for**
14 **information concerning this Application should be directed to Ms. Washington,**
15 **including copies by e-mail, as well as to Matthew Garlick by e-mail at**
16 **Matthew.Garlick@libertyutilities.com, and to Mr. Bourassa, with a copy by e-mail to**
17 **undersigned counsel at jay@shapslawaz.com and whitney@shapslawaz.com, and to**
18 **Liberty Utilities' General Counsel at todd.wiley@libertyutilities.com.**

19 4. Liberty Black Mountain's present rates and charges for utility service were
20 approved by the Commission in Decision No. 75510 (April 22, 2016) using a test year
21 ending December 31, 2014. There have been no other changes to the Company's rates since
22 the current rates went into effect on or after May 1, 2016.

23 5. The Company's revenues from its utility operations are presently inadequate
24 to provide a fair rate of return on the fair value of its utility plant and property devoted to
25 public service. Operating expenses have caused the revenues produced by the current rates
26 and charges for service to become inadequate to meet operating expenses and provide a

1 reasonable rate of return. Therefore, the Company requests that certain adjustments to its
2 rates and charges for utility service be approved by the Commission so that the Company
3 may recover its operating expenses and be given an opportunity to earn a just and reasonable
4 rate of return on the fair value of its property. The Company agrees to use its original cost
5 rate base as its fair value rate base in this proceeding to minimize disputes and reduce rate
6 case expense.

7 6. Filed concurrently herewith are the schedules required pursuant to A.A.C.
8 R14-2-103 for rate applications by Class "B" utilities. The test year utilized by Liberty
9 Black Mountain in connection with the preparation of such schedules is the 12-month period
10 that ended December 31, 2018. Liberty Black Mountain requests that the Commission
11 utilize such test year in connection with this Application, with appropriate adjustments to
12 obtain a normal or more realistic relationship between revenues, rate base and expenses
13 during the period in which the rates established in this proceeding are in effect.

14 7. During the test year, Liberty Black Mountain's adjusted gross revenues were
15 \$2,473,391. The adjusted operating income was \$397,226 leading to an operating income
16 deficiency of \$655,867. The adjusted fair value rate base was \$14,408,605. Thus, the rate
17 of return during the test year was 2.76 percent.

18 8. Liberty Black Mountain submits that these rates of return are inadequate to
19 allow it to obtain debt, pay a reasonable return to its stockholder, maintain a sound credit
20 rating, and/or enable the Company to attract additional capital on reasonable and acceptable
21 terms in order to continue the investment in utility plant necessary to adequately serve
22 customers.

23 9. Liberty Black Mountain is seeking total revenues of \$3,352,176.
24 The Company seeks an increase in total revenues of \$878,785, an increase of approximately
25 35.53 percent over the adjusted and annualized test year revenues of \$2,473,391.
26 The revenue amount is inclusive of the revenues required to recover (1) operating expenses;

1 (2) a return on rate base; and 3) costs associated with closure of the East Boulders
2 Wastewater Treatment Plant (“Boulders WWTP”); and is exclusive of rate case expense
3 surcharge revenues. Specifically, the increase in annual revenues to provide for recovery
4 of operating expenses and a 7.31 percent return on rate base is approximately \$1,053,093.

5 10. Filed concurrently in support of this Application is the Direct Testimony of
6 Matthew Garlick, which provides an overview of Liberty Black Mountain and discusses the
7 Company’s compliance with the Commission’s orders to close the Boulders WWTP.

8 11. Liberty Black Mountain also submits the Direct Testimony of Teresa A.
9 Valentine, P.E. Ms. Valentine discusses her independent evaluation of the
10 decommissioning of the Boulders WWTP, and her assessment as to whether the Company’s
11 costs related to closure were reasonable and prudent.

12 12. The Company also submits the direct testimony of Leticia Washington, who
13 provides an overview of Liberty Utilities’ business model, cost allocation manual, and
14 corporate cost allocation process. Ms. Washington also addresses the purchased power
15 adjuster mechanism (“PPAM”), the property tax adjuster mechanism (“PTAM”), and the
16 wastewater treatment adjuster mechanism (“WTAM”) for which the Company is seeking
17 approval, as well as the proposed modifications to the Company’s tariff of rates and charges,
18 including a low income tariff and a deployed services member tariff.

19 13. Finally, Liberty Black Mountain submits the Direct Testimony of Thomas
20 Bourassa, in two separate volumes that collectively provide an overview of the Company’s
21 rate filing, discussion of the revenue requirement, including the “A” through “F” schedules,
22 development of the rate base and income statement adjustments, cost of equity capital and
23 related issues, proposed rates, including the “H” schedules, and discussion of the effects of
24 the proposed rates on customers’ bills. The Company’s “D” Schedules, which concern the
25 cost of capital, are attached to the volume of Mr. Bourassa’s testimony addressing cost of
26

1 capital. The remaining schedules are attached to Mr. Bourassa's testimony addressing rate
2 base, income statement and rate design.

3 14. Attached hereto as **Attachment 1** are wastewater plant descriptions, and
4 wastewater flows for January 2018-December 2018.

5 15. Attached hereto as **Attachment 2** is Liberty Black Mountain's proposed tariff
6 of rates and charges.

7 16. Attached hereto as **Attachment 3** is Liberty Black Mountain's proposed
8 PPAM;

9 17. Attached hereto as **Attachment 4** is Liberty Black Mountain's proposed
10 PTAM; and

11 18. Attached hereto as **Attachment 5** is Liberty Black Mountain's proposed
12 WTAM.

13 WHEREFORE, Liberty Black Mountain requests the following relief:

14 A. That the Commission, upon proper notice and at the earliest possible time,
15 conduct a hearing in accordance with A.R.S. § 40-251 and determine the fair value of
16 Liberty Black Mountain's utility plants and property devoted to providing wastewater
17 utility service;

18 B. Based upon such determination, that the Commission approve permanent
19 adjustments to the rates and charges for wastewater utility service provided by Liberty
20 Black Mountain, as proposed herein, or approve such other rates and charges as will
21 produce a just and reasonable rate of return on the fair value of Liberty Black Mountain's
22 utility plant and property;

23 C. That the Commission approve Liberty Black Mountain's request for a PPAM
24 PTAM, and WTAM;

25 D. That the Commission rely on A.R.S. § 40-252 to the extent the Commission
26 believes it necessary to amend past Commission decisions in order to grant the relief

1 requested herein or any other relief the Commission deems just and reasonable under the
2 circumstances; and

3 E. That the Commission authorize such other and further relief as may be
4 appropriate to ensure that Liberty Black Mountain has an opportunity to earn a just and
5 reasonable return on the fair value of their utility plant and property and as may otherwise
6 be required under Arizona law.

7 RESPECTFULLY SUBMITTED this 27th day of June, 2019.

8 SHAPIRO LAW FIRM, P.C.

9
10
11 By: 

12 Jay L. Shapiro
13 1819 E. Morten Avenue, Suite 280
14 Phoenix, Arizona 85020
15 jay@shaplawaz.com
16 whitney@shaplawaz.com

17 and

18 LIBERTY UTILITIES

19 Todd C. Wiley
20 General Counsel
21 Liberty Utilities (West Region)
22 12725 W. Indian School Road, Suite D-101
23 Avondale, Arizona 85392
24 Todd.Wiley@LibertyUtilities.com

25 Attorneys for Liberty Utilities (Black Mountain
26 Sewer) Corp.

1 ORIGINAL and fifteen (15) copies
2 of the foregoing filed
3 this 27th day of June, 2019, with:

4 Docket Control
5 Arizona Corporation Commission
6 1200 W. Washington Street
7 Phoenix, AZ 85007

8 By: Whitney Bink

9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

Application Attachment 1

Wastewater Utility Plant Description	
Name of System:	Liberty Utilities (Black Mountain Sewer) Corp.
Wastewater Inventory Number (if applicable):	APP100351
Type of Treatment	Extended Aeration
Design Capacity of Plant (Gallons per day)	160000GPD BMSC Facility/318,000 GPD Scottsdale

LIFT STATION FACILITIES				
Location	Quantity of Pumps	Horsepower Per Pump	Rated Capacity Per Pump (GPM)	Wet Well Capacity (gals)
Commercial	2	35 HP	200	1080
CIE - No Longer Exists	N/A	N/A	N/A	N/A
Indian Rock	2	6.5	100	470
Sage Brush	2	4	45	470
Trade Center	2	10	174	1000
Sentinel Rock	2	15	370	1500
Carefree Highway	2	20	150	1525
Stage Coach Pass	2	5	50	470
Peaceful Place	2	3	15	470
Sunset Trails	2	20	150	2600
El Pedregal	2	10	185	2000
Ridgeview	2	7.5	100	470
Canyon Crossings - New	2	2	85	1000
Carefree Village	2	2.7	85	1760
Indian Basket	2	1	11	150
NA	NA	NA	NA	NA

FORCE MAINS		
Size	Material	Length (Feet)
Unknown	ACP/PVC/DIP	3,581
1.5 inch	ACP	2,660
2 inch	ACP	5,352
2.5 inch	PVC	164
3 inch	PVC	685
4 inch	PVC	7,263
6 inch	PVC	39,327
8 inch	PVC	625
10 inch	PVC	1,188

MANHOLES	
Type	Quantity
Standard	1,069
Drop	20

CLEANOUTS	
Quantity	
36	
NA	
NA	
NA	

Note: If you are filing for more than one system, please provide separate sheets for each system.

Instructions: Fill out the Grey Cells with the relevant information. Input 0 or none if there is nothing recorded in that account or there is no applicable information to report. Copy and paste this sheet as many times as is necessary.

Wastewater Utility Plant Description (Continued)					
COLLECTION MAINS			SERVICES/LATERALS		
Sizes (inches)	Material	Length (feet)	Size (inches)	Material	Quantity
4	VCP/PVC/DIP/ABS	473	4		2,074
6	VCP/PVC/DIP/ABS	12,457	6		131
8	VCP/PVC/DIP/ABS	196,190			
10	VCP/PVC/DIP/ABS	3,145			
12	VCP/PVC/DIP/ABS	3,061			
15	VCP/PVC/DIP/ABS	1,708			
18	VCP/PVC/DIP/ABS	130			
21	VCP/PVC/DIP/ABS	74			
24	VCP/PVC/DIP/ABS	0			
30	VCP/PVC/DIP/ABS	0			
Unknown & 16	VCP/PVC/DIP/ABS	2,786			
2	VCP/PVC/DIP/ABS	473			
NA	NA	NA			
NA	NA	NA			
NA	NA	NA			

For the following five items, list the utility owned assets in each category for each system.

SOLIDS PROCESSING AND HANDLING FACILITIES	N/A
DISINFECTION EQUIPMENT (Chlorinator, Ultra-Violet, Etc.)	Sodium Hypochlorite
FILTRATION EQUIPMENT (Rapid Sand, Slow Sand, Activated Carbon, Etc.)	Rapid Sand Filter
STRUCTURES (Buildings, Fences, Etc.)	Main Blower Bldg., Chlorine Bldg., Headworks Bldg., Concrete Black Wall (plant)
Other (Laboratory Equipment, Tools, Vehicles, Standby, Power Generators, Etc.)	Odor Control Scrubber (Plant), Stand-by Generator (Portable); Lifting Crane Assembly; Chevy Pickup (x1); Ford Pickup (x2); Stand by Generators (Carefree Village, Commercial, New Trade Center)

Note: If you are filing for more than one system, please provide separate sheets for each system.

Instructions: Fill out the Grey Cells with the relevant information. Input 0 or none if there is nothing recorded in that account or there is no applicable information to report. Copy and paste this sheet as many times as is necessary.

Wastewater Flows					
Month	Number of Services	Total Monthly Sewage Flow	Sewage Flow on Peak Day	Purchased Power Expense ¹	Purchased Power (kWh) ²
January	2,449	5,988,000	263,000	\$ 5,644.60	41,560
February	2,451	5,763,000	305,000	\$ 5,370.88	40,818
March	2,455	5,567,000	219,000	\$ 5,099.23	38,697
April	2,458	6,228,000	302,000	\$ 5,498.77	40,741
May	2,466	6,538,000	248,000	\$ 5,618.38	37,413
June	2,470	5,524,000	247,000	\$ 5,630.66	38,004
July	2,473	5,462,000	208,000	\$ 5,415.75	36,563
August	2,478	5,268,000	210,000	\$ 5,370.88	36,105
September	2,478	5,239,000	210,000	\$ 6,135.54	41,478
October	2,478	6,669,000	429,000	\$ 5,425.83	35,199
November	2,478	5,371,000	259,000	\$ 5,086.55	39,159
December	2,478	6,004,000	403,000	\$ 5,355.44	42,204
	Totals	69,621,000	3,303,000	\$65,653	467,941

Provide the following information as applicable per wastewater system:

Method of Effluent Disposal	Reuse
Groundwater Permit Number	N/A
ADEQ Aquifer Protection Permit ("APP") Number	APP100351
ADEQ Reuse Permit Number	R105424
EPA NPDES Permil Number	N/A
APP Effluent Treatment Requirement (Class)?	A+
Permitted Flow Rate	120000 gpd
Permitted Organic Capacity	N/A
Hydraulic Capacity	N/A
Type of Biological Treatment	N/A

In the space below, list all violations within the past 12 months:

N/A

Note: If you are filing for more than one system, please provide separate sheets for each system.

¹ Enter the total purchased power costs for the power meters associated with this system.

² Enter the total purchased kWh used by the power meters associated with this system.

Instructions: Fill out the Grey Cells with the relevent information. Input 0 or none if there is nothing recorded in that account or there is no applicable information to report.

Application Attachment 2

TABLE OF CONTENTS

Part One – Statement of Charges Sheet No. 1

 I. Rates..... Sheet No. 1

 II. Taxes and Assessments..... Sheet No. 3

Part Two – Statement of Terms and Conditions..... Sheet No. 4

 I. Permitted Costs..... Sheet No. 4

 II. Customer Discharge to System..... Sheet No. 5

 III. Rules and Regulations..... Sheet No. 7

Part Three – Alternative Rates for Wastewater Sheet No. 8

Part Four – Deployed Services Member Program Sheet No. 15

Part Five – Off-Site Facilities Hook-Up Fee Sheet No. 16

Part Six – Pretreatment Standards..... Sheet No. 20

Applies to all service areas
PART ONE
STATEMENT OF CHARGES

I. RATES

In Decision No. XXXXX, dated _____, the Commission approved the following rates and charges to become effective _____:

A. Monthly Minimum Charge

Customer Class	Charge
Residential, per single family unit	\$104.94
Commercial	112.20

B. Commodity Rate

Commercial/Non-Residential Customers (Water Usage Data Available)*

Description	Charge
Commercial (per 1,000 gallons)*	\$6.758
Commercial (per 1,000 gallons) measured influent**	\$9.326

*Company shall bill non-residential customers based on actual water usage data provided by the Town of Carefree, the City of Scottsdale and Cave Creek Water Company. If, at any point, Company is unable to obtain actual water usage data for such commercial/non-residential customers, Company shall bill non-residential customers based on the last known, most recent usage data as a proxy. Billing shall be trued up when actual data is obtained. If no water data can be obtained, a non-residential customer may be required to install an influent meter at cost and such customers shall be billed in accordance with the influent data rates set forth above.

** For customers that are not receiving water service from the Company, and/or the Company is not receiving water usage data information from another water provider, a meter to measure influent will be installed at cost and paid by customer and such customers shall be billed in accordance with the influent data rates set forth above.

Applies to all service areas
PART ONE
STATEMENT OF CHARGES

C. Other Service Related Charges

Description	Charge
Establishment per A.A.C. R14-2-603(D)(1)	\$25.00
Re-Establishment of Service per A.A.C. R14-2-603(D)(1)	(a)
Disconnection	At Cost (b)
Reconnection per A.A.C. R14-2-603(D)(1)	(b)
NSF Check per A.A.C. R14-2-608(E)(1)	\$25.00
Deferred Payment (per month)	1.50%
Late Charge	(c)
Service Calls After Hours	\$50.00 (d)
Deposit Requirement	(e)
Deposit Interest per A.A.C. R14-2-603(B)	6.00%
Service Lateral Connection Charge – All Sizes	(f)
Collection Main Extension Tariff per A.A.C. R14-2-606(B)	(g)
Influent Meter and Metering System Installation	At Cost (h)
Wastewater Hook-Up Fee	(i)
Industrial Pretreatment Costs	(j)

- (a) Minimum charge times number of months off the system, per A.A.C. R14-2-603(D)(1).
- (b) Customer shall pay the actual cost including costs for excavation and trenching, pipeline modification, sewer block, backfill and grading, road repairs and permitting. Customer will be provided copies of invoices for actual costs incurred. There shall be no charge if no work is performed.
- (c) Greater of \$5.00 or 1.50% of unpaid balance.
- (d) Customer shall be charged for after-hours service calls outside of normal working hours for work performed at customer's request or convenience.
- (e) Per A.A.C. R14-2-603(B)(7):
Residential – two times the average bill by class.
Commercial – two and one-half times the customer's estimated maximum monthly bill.
- (f) At cost. Customer/Developer shall install or cause to be installed all Service Laterals as a refundable advance in aid of construction.
- (g) All Main Extensions shall be completed at cost and shall be treated as refundable advances-in-aid of construction.
- (h) The cost of the influent meter and metering system installation shall be at the sole expense of the commercial and industrial user and not subject to refund.
- (i) Residential and Commercial - Customers/Developers shall pay the applicable Wastewater Hook-Up Fees per tariff.
- (j) Customers that qualify as Industrial Users and are subject to compliance with Utility's Industrial Pretreatment Program shall pay the actual costs incurred by Utility relating to Utility's review of such Customer's discharges, and actual costs incurred by Utility for engineering and design of necessary Pre-Treatment requirements and agreements.

Issued: [DATE, 2020]

Effective: [DATE, 2020]

ISSUED BY:
Matthew Garlick, President
Liberty Utilities (Black Mountain Sewer) Corp.
12725 W. Indian School Road, Suite D-101
Avondale, AZ 85392
Decision No. XXXXXX

Applies to all service areas
PART ONE
STATEMENT OF CHARGES

II. TAXES AND ASSESSMENTS

In addition to all other rates and charges authorized herein, the Company shall collect from its customers all applicable sales, transaction, privilege, regulatory or other taxes and assessments as may apply now or in the future, per Rule R14-2-608(D)(5).

Under applicable law, any contributions or advances provided by a Developer are taxable income to the Utility. In accordance with the Gross-Up Sharing Method policy adopted by the Commission in Decision No. 76974, the Company will collect from the Developer an applicable share of income taxes for the Company's state and federal tax liability on all funds contributed and/or advanced. The funds will be collected prior to the commencement of service.

Applies to all service areas
PART TWO
STATEMENT OF TERMS AND CONDITIONS

I. PERMITTED COSTS

- A. Costs shall be verified by invoice.
- B. For services that are provided by Company at cost, costs shall include labor, materials, other charges incurred, and overhead. However, prior to any such service being provided, the estimated cost of such service will be provided by Company to the customer. After review of the cost estimate, the customer will pay the amount of the estimated cost to Company.
- C. In the event that the actual cost is less than the estimated cost, Company will refund the excess to the customer within 30 days after completion of the provision of the service or after Company’s receipt of invoices, timesheets or other related documents, whichever is later.
- D. In the event the actual cost is more than the estimated cost, Company will bill the customer for the amount due within 30 days after completion of the invoices, timesheets or other related documents, whichever is later. The amount so billed will be due and payable 30 days after the invoice date.
- E. At the customer’s request, Company shall make available to the customer all invoices, timesheets or related documents that support the cost for providing such service.
- F. Permitted costs shall include any Federal, State or local taxes that are or may be payable by Company as a result of any tariff or contract for wastewater facilities under which the Customer advances or contributes funds or facilities to Company.

Applies to all service areas
PART TWO
STATEMENT OF TERMS AND CONDITIONS

II. CUSTOMER DISCHARGE TO SYSTEM**A. Service Subject to Regulation**

Company provides wastewater service using treatment and collection facilities that are regulated by numerous county, state and federal statutes and regulations. Those regulations include limitations as to domestic strength wastewater and the type of wastewater that may be discharged into the system by any person directly or indirectly connected to the plant.

B. Waste Limitations

Company has established the permissible limits of concentration as domestic strength wastewater and will limit concentration for various specific substances, materials, waters, or wastes that can be accepted in the sewer system, and to specify those substances, materials, waters, or wastes that are prohibited from entering the sewer system. Each permissible limit so established shall be placed on file in the business office of Company, with a copy filed with the Commission. No person shall discharge, or cause to be discharged, any new sources of inflow including, but not limited to, storm water, surface water, groundwater, roof runoffs, subsurface drainage, cooling water, or polluted industrial process waters into the sanitary sewer. Company will require an affidavit from all non-residential customers, and their professional engineer, stating that the wastewater discharged to the system does not exceed domestic strength or applicable pre-treatment standards.

Applies to all service areas
PART TWO
STATEMENT OF TERMS AND CONDITIONS

II. CUSTOMER DISCHARGE TO SYSTEM (cont.)

C. Inspection and Right of Entry

Every facility that is involved directly or indirectly with the discharge of wastewater to the Treatment Plant may be inspected by Company as it deems necessary. These facilities shall include but not be limited to sewer; sewage pumping plants; all processes; devices and connection sewer; and all similar sewerage facilities. Inspections may be made to determine that such facilities are maintained and operated properly and are adequate to meet the provisions of these rules and this tariff. Inspections may include the collection of samples. Authorized personnel of Company shall be provided immediate access to all of the above facilities or to other facilities directly or indirectly connected to the Treatment Plant at all reasonable times including those occasioned by emergency conditions. Any permanent or temporary obstruction to easy access to the user's facility to be inspected shall promptly be removed by the facility user or owner at the written or verbal request of Company and shall not be replaced. No person shall interfere with, delay, resist or refuse entrance to an authorized Company representative attempting to inspect any facility involved directly or indirectly with a discharge of wastewater to the Treatment Plant. Adequate identification shall be provided by Company for all inspectors and other authorized personnel and these persons shall identify themselves when entering any property for inspection purposes or when inspecting the work of any contractor.

All transient motor homes, travel trailers and other units containing holding tanks must arrive at the Company's service area in an empty condition. Inspection will be required of said units prior to their being allowed to hookup to the wastewater system.

D. Termination of Service for Violation of Wastewater Rules and Regulations

The Company is authorized to discontinue service to any person connected to its sewer system who violates the Company's wastewater terms and conditions as set forth in this PART TWO or in any way creates a public health hazard or the likelihood of such a public health hazard. This termination authority also applies to non-payment for wastewater services.

Applies to all service areas
PART TWO
STATEMENT OF TERMS AND CONDITIONS

III. RULES AND REGULATIONS

Company has adopted the Rules and Regulations established by the Commission as the basis for its operating procedures. A.A.C. R14-2-601 through A.A.C. R14-2-609 will be controlling of Company procedures, unless specifically approved tariffs or Commission Order(s) provide otherwise.

Applies to all service areas
PART THREE
ALTERNATE RATES FOR WASTEWATER (ARW)
DOMESTIC SERVICE – SINGLE FAMILY ACCOMMODATION

APPLICABILITY

Applicable to residential wastewater service for domestic use rendered to low-income households where the customer meets all the program qualifications and special conditions of this rate schedule. Acceptance into the program is subject to verification of income source.

TERRITORY

Within all customer service areas served by Liberty Utilities (Black Mountain Sewer) Corp. (“Liberty Utilities”).

RATES

Thirty percent (30%) discount applied to the regular filed tariff.

PROGRAM QUALIFICATIONS

1. The Liberty Utilities bill must be in your name and the address must be your primary residence or you must be a tenant receiving water service by a sub-metered system.
2. You may not be claimed as a dependent on another person’s tax return.
3. You must reapply each time you move residences.
4. You must renew your application once every two (2) years, or sooner, if requested.
5. You must recertify each year by submitting a declaration attesting to your continuing eligibility, and provide one of the following items as proof of eligibility: (1) copy of tax return from prior year (proof of gross income); or (2) copy of complete W2 form with gross income calculation from prior year; or (3) copy of welfare / current eligibility letter for food stamps (dated).
6. You must notify Liberty Utilities within thirty (30) days if you become ineligible for ARW.
7. Your total gross annual income of all persons living in your household cannot exceed the income levels below:

Applies to all service areas
PART THREE
ALTERNATE RATES FOR WASTEWATER (ARW)
DOMESTIC SERVICE – SINGLE FAMILY ACCOMMODATION

Effective _____

<u>No. of Person in Household</u>	<u>Total Gross Annual Income*</u>
1	\$XXXXXX
2	\$ XXXXXX
3	\$ XXXXXX
4	\$ XXXXXX
5	\$ XXXXXX
6	\$ XXXXXX

For each additional person residing in the household, add \$XXXXX

***Qualifying annual incomes are set at 150 percent of the 2020 federal poverty levels.**

For the purpose of the program the “gross household income” means all money and non-cash benefits, available for living expenses, from all sources, both taxable and non-taxable, before deductions for all people who live in your home. This includes, but is not limited to:

Wages or salaries	Social Security, SSI, SSP	Rental or royalty income
Interest or dividends from:	Scholarships, grants, or other aid	Profit from self-employment
Savings account, stocks or bonds	used for living expenses	(IRS form Schedule C, Line 29)
Unemployment benefits	Disability payments	Worker’s Compensation
TANF (AFDC)	Food Stamps	Child Support
Pensions	Insurance settlements	Spousal Support
Gifts		

Applies to all service areas
PART THREE
ALTERNATE RATES FOR WASTEWATER (ARW)
DOMESTIC SERVICE – SINGLE FAMILY ACCOMMODATION

SPECIAL CONDITIONS

1. Application: An application on a form authorized by the Commission is required for each request for service under this schedule. A customer must reapply every two (2) years.
2. Recertification: A customer enrolled in the ARW program must, each year, recertify by submitting a declaration attesting to continuing eligibility, and provide one of the following items as proof of eligibility: (1) copy of tax return from prior year (proof of gross income); or (2) copy of complete W2 form with gross income calculation from prior year; or (3) copy of welfare / current eligibility letter for food stamps (dated).
3. Commencement of Rate: Eligible customers whose applications have been approved shall be billed on this schedule commencing with the next regularly scheduled billing period that follows receipt of application by Liberty Utilities.
4. Verification: Information provided by the applicant is subject to verification by Liberty Utilities. Refusal or failure of a customer to provide documentation of eligibility acceptable to Liberty Utilities, upon request by Liberty Utilities, shall result in removal from this rate schedule.
5. Notice from Customer: It is the customer's responsibility to notify Liberty Utilities if there is a change of eligibility status.
6. Rebilling: Customers may be re-billed retroactively for periods of ineligibility under the applicable rate schedule.
7. Master-metered: A reduction will be calculated in the bill of master-metered customers, who have sub-metered tenants that meet the income eligibility criteria, so an equivalent discount (30%) can be passed through to eligible customer(s).
8. Participation Cap: The ARW program is limited to 500 wastewater customers. Applications will be reviewed and approved on a first come, first served basis. Applicants will be placed on a waiting list if the participation cap has been met.

Applies to all service areas
PART THREE
ALTERNATE RATES FOR WASTEWATER (ARW)
DOMESTIC SERVICE – SINGLE FAMILY ACCOMMODATION

RECOVERY OF COST OF LOW INCOME TARIFF AND CUSTOMER SURCHARGES

Under the terms of Company's Alternate Rates for Wastewater (ARW) Domestic Service, qualifying low-income customers receive a 30 percent discount applied to the Company's regular filed tariff rates for wastewater service. The cost of the ARW tariff shall be recovered by Company from a monthly low income tariff surcharge on all residential and non-residential wastewater customers who are not participating in the ARW program. Specifically, Company is entitled to seek recovery of direct costs (*i.e.*, those costs directly associated with the program, and would not be incurred in the absence of the program). Company shall account for those direct costs separately from other operating costs.

Company shall be entitled to implement a low income tariff surcharge on non-participating residential and non-residential wastewater customers as follows.

- For customers participating in ARW, the Company shall maintain separate balancing accounts for wastewater customers detailing the beginning and ending balance of the cumulative unrecovered program costs each month.
- Company's authorized rate of return shall be applied monthly to the average of the beginning balances of the cumulative unrecovered program costs for wastewater service and included in the beginning balances for the following month.
- Using the separate balancing accounts for wastewater customers, Company shall calculate separate monthly surcharges for wastewater customers. The wastewater surcharges shall be calculated as follows:

(Ending Balance for Low-Income Tariff Balancing Account including amortized carrying costs during recovery period/Number of active non-participating wastewater connections at year end)/12

- The ending balance in the balancing accounts shall equal the beginning balances plus discounts allowed on bills for the twelve month tracking period, plus direct program costs incurred in the twelve month period plus carrying charges less surcharge fees billed in the twelve month tracking period.
- Company shall implement monthly wastewater surcharges for the ARW program for each twelve month period of the ARW Program. Company shall calculate the monthly wastewater surcharges each year based on the active number of wastewater connections for each respective system as of December 31 of the prior year. Company shall file notice of the wastewater surcharges, along with a report on the ARW Program, with the Arizona Corporation Commission on or before January 31 and the surcharges shall be implemented on customer bills in February of each year with the recovery period ending in January of the following year.

Application for Alternate Rates for Wastewater (ARW)

To qualify for Liberty Utilities ARW please check (✓) all that apply:

- I am a Liberty Utilities residential customer and the Liberty Utilities account is in my name.
- I am a sub-metered tenant within the Liberty Utilities service area.
- My household income is at or below the income level in the listing below.

Household Size	Total Gross Annual Income from All Sources
1	\$XXXXXX
2	\$XXXXXX
3	\$XXXXXX
4	\$XXXXXX
5	\$XXXXXX
6	\$XXXXXX

For each additional person residing in the household, add \$XXXXXX.

The definition of "gross household income" (before taxes) is all money and non-cash benefits available for living expenses from all sources, both taxable and nontaxable, before deductions, including expenses, for all people who live in your home. **This includes, but is not limited to the following (please check (✓) all that apply):**

- | | |
|--|--|
| <input type="checkbox"/> Wages, salaries or profit from self-employment | <input type="checkbox"/> Social Security, SSI or SSP |
| <input type="checkbox"/> Disability and/or Workers' Compensation payments | <input type="checkbox"/> Food Stamps |
| <input type="checkbox"/> Insurance and/or legal settlements | <input type="checkbox"/> TANF (AFDC) |
| <input type="checkbox"/> Pensions | <input type="checkbox"/> Veterans Affairs benefits |
| <input type="checkbox"/> Spousal and/or child support | <input type="checkbox"/> Unemployment benefits |
| <input type="checkbox"/> Scholarships, grants, or other aid used for living | <input type="checkbox"/> Rental and/or royalty income |
| <input type="checkbox"/> Interest/dividends from: savings, stocks, bonds, or retirement accounts | <input type="checkbox"/> Cash, gifts and/or other income |

Please print the following information. **Incomplete information will delay your discount.** The name used to apply for the discount **must** be the same as the name on the Liberty Utilities statement.

PLEASE PRINT LEGIBLY											
Liberty Utilities Account Number (As shown on statement)											
Total No. of persons living in household:			Household's Total Gross Annual Income: \$				Contact Phone Number				
Name as shown on Liberty Utilities statement											
Liberty Utilities Service Address											
City			State				Zip Code				

Please attach one of the items listed as proof of income for eligibility verification: Copy of tax return from prior year (proof of gross income), or copy of complete W2 form with gross income calculation from prior year, or copy of welfare /current eligibility letter for food stamps (dated).

By signing below, I certify under penalty of perjury that this information is true and correct under the laws of the State of Arizona. I will provide proof of income and I will notify Liberty Utilities of any changes that affect my eligibility. I further authorize Liberty Utilities to verify source of income provided above. I understand that if I receive the discount without meeting the qualifications for it, I may be required to pay back the discount I received.

Customer Signature

Date

Note: An Application for ARW must be submitted every two years. A Declaration of Eligibility must be submitted annually for verification. Please allow 30-45 days for processing.

Office Use Only: Date Verified _____ Verified By _____ Expires _____

Issued: [DATE, 2020]

Effective: [DATE, 2020]

ISSUED BY:
Matthew Garlick, President
Liberty Utilities (Black Mountain Sewer) Corp.
12725 W. Indian School Road, Suite D-101
Avondale, AZ 85392
Decision No. XXXXXX

**Declaration of Eligibility
Alternate Rates for Wastewater (ARW)**

To recertify enrollment in the ARW Program please fill out the following attesting to continuing eligibility:

PLEASE PRINT LEGIBLY																									
Name as shown on Liberty Utilities statement																									
Liberty Utilities Account Number (As shown on statement)																				-					
Liberty Utilities Service Address																									
City				State					Zip Code																
Contact Phone Number							Work Phone Number																		

I,

Your Name (Please Print)

Last submitted an Application for Alternative Rates (ARW) on _____

(dd/mm/yyyy)

and hereby confirm my eligibility for the year ending _____

(dd/mm/yyyy)

Please attach one of the items listed below as proof of income for eligibility verification:

Copy of tax return from prior year (proof of gross income); or
copy of complete W2 form with gross income calculation from prior year; or
copy of welfare /current eligibility letter for food stamps (dated).

By signing below, I certify under penalty of perjury that this information is true and correct under the laws of the State of Arizona. I will provide proof of income and I will notify Liberty Utilities of any changes that affect my eligibility. I further authorize Liberty Utilities to verify source of income provided above. I understand that if I receive the discount without meeting the qualifications for it, I may be required to pay back the discount I received.

Customer Signature

Date

Note: An Application for ARW must be submitted every two years. A Declaration of Eligibility must be submitted annually for verification.

Issued: [DATE, 2020]

Effective: [DATE, 2020]

ISSUED BY:
Matthew Garlick, President
Liberty Utilities (Black Mountain Sewer) Corp.
12725 W. Indian School Road, Suite D-101
Avondale, AZ 85392
Decision No. XXXXXX

**Liberty Utilities (Black Mountain Sewer) Corp.
Alternate Rates for Wastewater (ARW)**

Applicability

Applicable to residential wastewater service for domestic use rendered to low-income households where the customer meets all the Program Qualifications and Special Conditions of this rate schedule.

Territory

Within all customer service areas served by Liberty Utilities (Black Mountain Sewer) Corp.

Discount

Thirty percent (30%) discount applied to the regular filed tariff. The discount will be applied to the customer's total bill before any adjustments and application of any other taxes, credit, penalties or fees.

Program Qualifications

- The Liberty Utilities account must be in your name and the address must be your primary residence in our service area or you must be a tenant receiving water service by a sub-metered system.
- You may not be claimed as a dependent on another person's tax return.
- You must reapply each time you move residences.
- You must renew your application once every two (2) years or sooner if requested.
- You must recertify each year by submitting a declaration attesting to your continuing eligibility, and provide one of the following items as proof of eligibility: (1) copy of tax return from prior year (proof of gross income); or (2) copy of complete W2 form with gross income calculation from prior year; or (3) copy of welfare/current eligibility letter for food stamps (dated).
- You must notify Liberty Utilities within thirty (30) days if you become ineligible for ARW.
- Your total gross annual income of all persons living in your household cannot exceed the income levels provided on the application.

Special Conditions

- You must fill out and sign the ARW Application completely. Incomplete information will delay your discount. You must reapply every two (2) years.
- You must recertify your enrollment in the ARW annually by submitting a Declaration of Eligibility and providing one of the following items as proof of eligibility: (1) copy of tax return from prior year (proof of gross income); or (2) copy of complete W2 form with gross income calculation from prior year; or (3) copy of welfare/current eligibility letter for food stamps (dated).
- Customers shall be billed on this schedule commencing with the next regularly scheduled billing period that follows the receipt and approval of the application by Liberty Utilities.
- Documentation of your gross annual income must be provided to Liberty Utilities for verification of eligibility for ARW. Refusal or failure to provide documentation of acceptable eligibility to Liberty Utilities shall result in removal from this rate schedule.
- It is the customer's responsibility to notify Liberty Utilities if there is a change in eligibility status.
- You may be re-billed for any periods of ineligibility under the applicable rate schedule.
- Master-metered customers who have sub-metered tenants will receive a reduction in the billing. Sub-metered tenants must qualify and meet the income eligibility criteria so an equivalent discount (30%) can be passed through to eligible customer(s).
- The ARW program is limited 500 wastewater division customers.

How to Submit Completed ARW Application and/or Declaration of Eligibility

Mail, Fax or Email your ARW Application and Declaration of Eligibility to:

Liberty Utilities (Black Mountain Sewer) Corp.

12725 W. Indian School Rd. Ste. D101

Avondale, AZ 85392

Fax: 623-935-1020

Email: customerserviceavondale@libertywater.com

Issued: [DATE, 2020]

Effective: [DATE, 2020]

ISSUED BY:
Matthew Garlick, President
Liberty Utilities (Black Mountain Sewer) Corp.
12725 W. Indian School Road, Suite D-101
Avondale, AZ 85392
Decision No. XXXXXX

Applies to all service areas
PART FOUR
DEPLOYED SERVICES MEMBER PROGRAM

This program allows the Company to provide a credit to deployed service members of the United States Military equal to the cost of the monthly minimum wastewater charges as well as applicable taxes. The Company will defer these costs and seek recovery in its next rate case.

The Company will provide the credit on the deployed service member's wastewater bill provided that the following criteria are met:

1. Deployment is not a "permanent change of station." Permanent change of station requires a service member to permanently change his or her place of residence, paid for by the applicable military branch. A service member's decision to keep a secondary residence in Arizona would be discretionary and would not qualify for this credit.
2. Deployed member does not have family or any tenant(s) living in the premises. Short term deployments, where a spouse and/or dependents remain in the United States would not qualify, as the service member would receive separate compensation from the military to cover domestic expenses while deployed.
3. The deployed service member is an active member of the military (*e.g.*, Air Force, Army, Coast Guard, Marines, and Navy).

ADMINISTRATION

1. Participation shall be limited to 50 customers, as determined on a first come, first served basis.
2. Continued eligibility will be determined periodically through a recertification process.
3. The Company is permitted to seek Commission approval to change participant limits based on level of participation.

The Company file with Docket Control, by March 1st each year, an annual report detailing the number of participants from the previous calendar year, the total amount of credits provided by the program, and the total of any program administrative costs.

Applies to all service areas
PART FIVE
OFF-SITE FACILITIES HOOK-UP FEE

I. Purpose and Availability

The purpose of the off-site facilities hook-up fees payable to **Liberty Utilities (Black Mountain Sewer) Corp.** (“Company”) pursuant to this tariff is to equitably apportion the costs of constructing additional off-site facilities to provide wastewater treatment and disposal facilities among all new service laterals. These charges are applicable to all new service laterals undertaken via Collection Main Extension Agreements, or requests for service not requiring a Collection Main Extension Agreement, entered into after the effective date of this tariff. The charges are one-time charges and are payable as a condition to Company’s establishment of service, as more particularly provided below.

II. Definitions

Unless the context otherwise requires, the definitions set forth in R-14-2-601 of the Arizona Corporation Commission’s (“Commission”) rules and regulations governing sewer utilities shall apply interpreting this tariff schedule.

“Applicant” means any party entering into an agreement with Company for the installation of wastewater facilities to serve new service laterals, and may include developers and/or builders of new residential subdivisions, and non-residential properties.

“Company” means Liberty Utilities (Black Mountain Sewer) Corp.

“Collection Main Extension Agreement” means an agreement whereby an Applicant, Developer and/or Builder agrees to advance the costs of the installation of wastewater facilities necessary to serve new service laterals, or install wastewater facilities to serve new service laterals and transfer ownership of such wastewater facilities to Company, which agreement does not require the approval of the Commission pursuant to A.A.C. R-14-2-606, and shall have the same meaning as “Wastewater Facilities Agreement.”

“Off-Site Facilities” means the wastewater treatment plant, sludge disposal facilities, effluent disposal facilities and related appurtenances necessary for proper operation, including engineering and design costs. Off-site facilities may also include lift stations, force mains, transportation mains and related appurtenances necessary for proper operation if these facilities are not for the exclusive use of the Applicant and benefit the entire wastewater system.

“Service Lateral” means and includes all service laterals for single-family residential, commercial, industrial or other uses.

Applies to all service areas
PART FIVE
OFF-SITE FACILITIES HOOK-UP FEE

III. Wastewater Hook-up Fee

For each new residential service lateral, Company shall collect a Hook-Up Fee of \$1,700 based on the Equivalent Residential Unit (“ERU”) of 320 gallons per day. Non-residential applicants shall pay based on the total ERUs of their development calculated by dividing the estimated total daily wastewater capacity usage needed for service using standard engineering standards and criteria by the ERU factor of 320 gallons per day.

IV. Terms and Conditions

A. Assessment of One Time Off-Site Facilities Hook-up Fee: The off-site facilities hook-up fee may be assessed only once per parcel, service lateral, or lot within a subdivision (similar to a service lateral installation charge). If a development or subdivision is upsized or expanded by Applicant, Builder and/or Developer after assessment of Hook-Up Fees by Company, Company may charge additional Hook-Up Fees for such upsizing or expansion by Applicant based on the calculation set forth above.

B. Use of Off-Site Facilities Hook-up Fee: Off-site facilities hook-up fees may only be used to pay for capital items of off-site facilities, repay loans obtained to fund the cost of installation of off-site facilities, or pay state and federal income taxes related to the hook-up fees. Off-site hook-up fees shall not be used to cover repairs, maintenance, the cost of closing wastewater treatment plant, including lift stations, or other operational purposes. The Company shall record amounts collected under the tariff as CIAC; however, such amounts shall not be deducted from rate base until such amounts have been expended for plant.

C. Time of Payment:

1. In the event that the person or entity that will be constructing improvements (“Applicant,” “Developer,” or “Builder”) is otherwise required to enter into a Collection Main Extension Agreement, payment of the fees required hereunder shall be made by the Applicant, Developer or Builder within 15 days of execution of a Main Extension Agreement or as otherwise mutually agreed between Applicant and Company.

Applies to all service areas
PART FIVE
OFF-SITE FACILITIES HOOK-UP FEE

2. In the event that the Applicant, Developer or Builder for service is not required to enter into a Collection Main Extension Agreement, the hook-up fee charges hereunder shall be due and payable at the time wastewater service is requested for the property.

D. Off-Site Facilities Construction by Developer: Company and Applicant, Developer, or Builder may agree to construction of off-site facilities necessary to serve a particular development by Applicant, Developer or Builder, which facilities are then conveyed to Company. In that event, Company shall credit the total cost of such off-site facilities as an offset to off-site hook-up fees due under this Tariff. If the total cost of the off-site facilities constructed by Applicant, Developer or Builder and conveyed to Company is less than the applicable off-site hook-up fees under this Tariff, Applicant, Developer or Builder shall pay the remaining amount of off-site hook-up fees owed hereunder. If the total cost of the off-site facilities contributed by Applicant, Developer or Builder and conveyed to Company is more than the applicable off-site hook-up fees under this Tariff, Developer or Builder shall be refunded the difference upon acceptance of the off-site facilities by the Company.

E. Failure to Pay Charges; Delinquent Payments: Company will not be obligated to make an advance commitment to provide or actually provide wastewater service to any Developer, Builder or other applicant for service in the event that the Developer, Builder or other applicant for service has not paid in full all charges hereunder. Under no circumstances will Company connect service or otherwise allow service to be established if the entire amount of any payment has not been paid.

F. Off-Site Hook-Up Fees Non-refundable: The amounts collected by Company pursuant to the off-site hook-up fee tariff shall be non-refundable contributions in aid of construction (“CIAC”).

G. Use of Off-Site Hook-Up Fees Received: All funds collected by Company as off-site facilities hook-up fees shall be deposited into a separate account and bear interest and shall be used for the purposes of paying for the costs of installation of off-site facilities, including repayment of loans obtained for the installation of off-site facilities. In addition, funds may be used to pay state and federal income taxes related to the hook-up fees.

H. Off-Site Facilities Hook-Up Fee in Addition to On-site Facilities: The off-site facilities hook-up fee shall be in addition to any costs associated with the construction of on-site facilities under a Collection Main Extension Agreement.

Applies to all service areas
PART FIVE
OFF-SITE FACILITIES HOOK-UP FEE

I. Disposition of Excess Funds: After all necessary and desirable off-site facilities are constructed utilizing funds collected pursuant to the off-site facilities hook-up fees, or if the off-site facilities hook-up fee has been terminated by order of the Arizona Corporation Commission, any funds remaining in the trust account shall be refunded. The manner of the refund shall be determined by the Commission at the time a refund becomes necessary.

J. Status Reporting Requirements to the Commission: Company shall submit a calendar year Off-Site Facilities Hook-Up Fee status report each January to Docket Control for the prior twelve (12) month period, beginning January 2020, until the hook-up fee tariff is no longer in effect. This status report shall contain a list of all customers that have paid the hook-up fee tariff, the amount each has paid, the physical location/address of the property in respect of which such fee was paid, the amount of money spent from the account, the amount of interest earned on the funds within the tariff account, and an itemization of all facilities that have been installed using the tariff funds during the 12 month period.

Applies to all service areas
PART SIX

PRETREATMENT STANDARDS



LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

INDUSTRIAL PRETREATMENT PROGRAM

SEPTEMBER, 2015

LIBERTY UTILITIES
12725 W. Indian School Road, Suite D101,

Avondale, AZ 85392

PRETREATMENT PROGRAM

The objective of a Pretreatment Program (the General Pretreatment Regulations (40 CFR, Part 403) of Clean Water Act of 1977) is to protect the water quality and is designed to reduce the level of pollutants discharged by industry and other non-domestic wastewater sources into municipal sewer systems, and thereby, reduce the amount of pollutants released into the environment through wastewater. Liberty Utilities (Black Mountain Sewer) Corp. (“Liberty Black Mountain”) enforces requirements of the pretreatment program by enforcing the EPA established limits and the state or local authority on the amount of pollutants allowed to be discharged. This requires dischargers to treat their wastewater prior to its discharge in Liberty Black Mountain’s collection system.

Specific objectives of this ordinance are outlined below:

1. To prevent the introduction of pollutants into Liberty Black Mountain’s wastewater collection system that will interfere with the operation of the system, including the City of Scottsdale WWTP, or contaminate the resulting sludge.
2. To prevent the introduction of pollutants into the Liberty Black Mountain wastewater collection system that will pass through the system, inadequately treated, into receiving waters or the atmosphere or otherwise be incompatible with the system.
3. To improve the opportunity to recycle and reclaim waste waters and sludges from the system.
4. To provide for equitable distribution of the cost of operating and maintaining the Liberty Black Mountain’s wastewater system.

Liberty Black Mountain will enforce these standards by limiting the following discharges and will review pretreatment prior to approval of a discharge into its wastewater system:

1. Discharge of any liquids, solids or gases that by reason of their nature or quantity are, or may be, sufficient either alone or by interaction to cause fire or explosion or be injurious in any other way to the operation of the Liberty Black Mountain wastewater collection system or City of Scottsdale WWTP, or the integrity of the sewer system or cause a danger to the public health or safety is prohibited. This prohibition includes but is not limited to waste streams with a closed cup flash point of less than one hundred forty degrees Fahrenheit or sixty degrees Centigrade using the test methods specified in federal regulations, 40 CFR 261.21.
2. Discharge of any solid or viscous substances that will or may cause obstruction to the flow in a sewer or other interference with the operation of the wastewater system is prohibited.
3. Any trucked or hauled pollutants, unless the hauler has first obtained written approval from Liberty Black Mountain.
4. Discharge of any wastewater having a pH less than 5.5 or greater than 10.5 SU, or having any other corrosive property capable of causing damage or hazard to

- structures, equipment, or personnel of the system, or interference with the operation of the City of Scottsdale WWTP is prohibited.
5. Discharge of any wastewater containing hazardous substances, toxic, conventional, or non conventional pollutants in sufficient quantity, either singly or by interaction, which could injure or interfere with any wastewater treatment process, constitutes a health or safety hazard to humans or animals, or exceed the limitations set forth in the LOCAL REGULATORY LIMITS or the categorical pretreatment standards appropriate for the specific industrial user is prohibited. Hazardous substances, toxic, conventional or non conventional pollutants will include, but not be limited to, any pollutant identified in 40 CFR 122 Appendix D Tables II, III, IV, AND V (AZPDES Permit Limits that are applicable), or substances alone or in combination with other constituents that are determined to be toxic by the toxicity test as defined in 40 CFR Part 136 for wastewater or the toxicity characteristic leaching procedure (TCLP) test as defined in 40 CFR Part 261 for biosolids.
 6. Discharge of any noxious or malodorous liquids, gases or solids which, either singly or by interaction, are capable of creating a public nuisance or hazard to life or are sufficient to prevent entry into the sewers without special hazardous material protective equipment or clothing for their maintenance and repair is prohibited.
 7. Discharge of any substance which may cause the City of Scottsdale WWTP effluent or treatment residues, biosolids or scum to be unsuitable for reclamation and reuse or which may interfere with such reclamation and reuse process is prohibited. In no case will a substance discharged to the Liberty Black Mountain wastewater collection system cause the City of Scottsdale WWTP to be in a noncompliance with biosolids use or disposal criteria, guidelines or regulations developed under Section 405 of the Clean Water Act, any criteria, guidelines or regulations affecting biosolids uses or disposal developed pursuant to the Solid Waste Disposal Act, the Clean Air Act, the Toxic Substances Control Act or state or local standards applicable to the biosolids management method adopted by the Liberty Black Mountain and/or local and state authorities.
 8. Discharge of any substances which will inhibit the operation or performance of the City of Scottsdale WWTP or pass through the system and cause the City of Scottsdale WWTP to violate any requirements of any discharge permit issued by the state or federal government is prohibited.
 9. Discharge of any substance with objectionable color not removed in the treatment process, such as, but not limited to, dye wastes and vegetable tanning solutions, is prohibited.
 10. Discharge of any wastewater having a temperature which will inhibit biological activity in the City of Scottsdale WWTP treatment plant resulting in interference; but in no case, wastewater with a temperature at the introduction into the City of Scottsdale WWTP which exceeds thirty eight degrees Celsius (one hundred degrees Fahrenheit) is prohibited.
 11. Discharge of any slug load, which will mean any pollutant, including oxygen demanding pollutants (BOD, etc.), released in a single extraordinary discharge

- episode of such volume or strength as to cause interference to the City of Scottsdale WWTP is prohibited.
12. Discharge of any wastewater containing any radioactive wastes or isotopes of such half-life or concentration as to exceed limits established by state and federal regulations is prohibited.
 13. Discharge of any wastewater which causes the City of Scottsdale WWTP effluent to exhibit toxicity to test organisms in a standard biological toxicity test as defined by local, state or federal requirements, or which Liberty Utilities BMSC determines would be toxic to or impede the treatment capabilities of the biological processes in the City of Scottsdale WWTP is prohibited.
 14. Discharge of any petroleum oil, non biodegradable cutting oil or products of mineral oil origin that will cause interference or pass through the City of Scottsdale WWTP is prohibited.
 15. No industrial user of the Liberty Black Mountain wastewater collection system may discharge wastes or waste waters containing concentrations of pollutants higher than those listed in TABLE 1.1.

ORGANIC CONTAMINANTS (µg/L)	
Benzene	35
Chloroform	2,000
4,4' - DOE	Not allowed
4,4' - DDT	Not allowed
Aldrin	Not allowed
BHC-Alpha	Not allowed
BHC-Gamma (Lindane)	Not allowed
Heptachlor	Not allowed
Heptachlor Epoxide	Not allowed
Polychlorinated byphenyl compounds (PCBs)	Not allowed

TRACE METALS	
PARAMETER	Daily Average Effluent Limitation (mg/L)
Arsenic (As)	0.13
Cadmium (Cd)	0.047
Copper (Cu)	1.5
Cyanide (CN)	2.0
Lead (Pb)	0.41
Mercury (Hg)	0.0023
Selenium (Se)	0.10
Silver (Ag)	1.2
Zinc (Zn)	3.5

16. Liberty Black Mountain can accept certain pollutants which are compatible with the City of Scottsdale WWTP treatment processes; however, the discharge would pay a surcharge, established on quantity, to cover the costs of such treatment.
17. Dilution of a waste is not an acceptable pretreatment strategy.

Waste Discharge Permits

A waste discharge permit is required for industrial and non-domestic wastewater generators for the following conditions:

1. Any discharger subject to National Categorical Pretreatment Standards
2. Any Significant Industrial discharge as defined by the Liberty Utilities BMSC
3. Any discharger whose discharge who would be in violation with local limits in Table 1.1.
4. Any discharger by State Pretreatment requirements to obtain a permit
5. Any other discharger directed by the Liberty Utilities BMSC to apply for a permit

Permit Applications and Fees (to be developed based on site specific conditions)

Violations and enforcement (to be developed based on site specific conditions)

Penalties

Installation of Meter

Liberty Black Mountain will be responsible, unless the responsibility is given to the discharger by Liberty Black Mountain for the reading of water and/or wastewater meters when installed in discharger's establishment. All meters shall be installed at a location approved by Liberty Black Mountain. All meters will be accessible to Liberty Black Mountain at all times.

**LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.
INDUSTRIAL PRETREATMENT PROGRAM STANDARD
OPERATING PROCEDURES**

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Administration	2
1.2	Abbreviations	2
1.3	Definitions	3
2.0	GENERAL SEWER USE REQUIREMENTS	9
2.1	Prohibited Discharge Standards	9
2.2	National Categorical Pretreatment Standards	11
2.3	State Pretreatment Standards	11
2.4	Local Limits	11
2.5	Corporation Right of Revision	14
2.6	Dilution	14
3.0	PRETREATMENT FACILITIES	14
3.1	Pretreatment Facilities	14
3.2	Additional Pretreatment Measures	14
3.3	Accidental Discharge/Slug Discharge Control Plans	15
3.4	Hauled Wastewater	15
3.5	Brewery Waste	16
4.0	INDIVIDUAL WASTEWATER DISCHARGE PERMITS	16
4.1	Wastewater Analysis	16
4.2	Individual Wastewater Discharge Permit Requirement	16
4.3	Individual Wastewater Discharge Permitting: Existing Connections	17
4.4	Individual Wastewater Discharge Permitting: New Connections	17
4.5	Individual Wastewater Discharge Permit Application Contents	17
4.6	Application Signatories and Certifications	19
4.7	Individual Wastewater Discharge Permit Decisions	19
5.0	INDIVIDUAL WASTEWATER DISCHARGE PERMIT ISSUANCE	19
5.1	Individual Wastewater Discharge Permit Duration	19
5.2	Individual Wastewater Discharge Permit Contents	19
5.3	Permit Modification	21
5.4	Individual Wastewater Discharge Permit Transfer	21
5.5	Individual Wastewater Discharge Permit Renovation	22
5.6	Individual Wastewater Discharge Permit Reissuance	23

6.0	REPORTING REQUIREMENTS	23
6.1	Baseline Monitoring Reports	23
6.2	Compliance Schedule Progress Reports	24
6.3	Reports on Compliance with Categorical Pretreatment Standard Deadline	25
6.4	Periodic Compliance Reports	25
6.5	Reports of Changed Conditions	27
6.6	Reports of Potential Problems	27
6.7	Reports from Unpermitted IUs	28
6.8	Notice of Violation/Repeat Sampling and Reporting	28
6.9	Notification of the Discharge of Hazardous Waste	28
6.10	Analytical Requirements	29
6.11	Sample Collection	29
6.12	Date of Receipt of Reports	30
6.13	Recordkeeping	30
6.14	Certification Statements	31
7.0	COMPLIANCE MONITORING	32
7.1	Right of Entry: Inspection and Sampling	32
7.2	Search Warrants	33
8.0	CONFIDENTIAL INFORMATION	33
9.0	PUBLICATION OF IUS IN SIGNIFICANT NONCOMPLIANCE	33
10.0	ADMINISTRATIVE ENFORCEMENT REMEDIES	34
10.1	Notification of Violation	34
10.2	Consent Orders	36
10.3	Show Cause Hearing	36
10.4	Compliance Orders	36
10.5	Cease and Desist Orders	37
10.6	Administrative Fines	37
10.7	Emergency Suspensions	37
10.8	Termination of Discharge	38
11.0	JUDICIAL ENFORCEMENT REMEDIES	40
11.1	Injunctive Relief	40
11.2	Civil Penalties	40
11.3	Criminal Prosecution	40
11.4	Remedies Nonexclusive	41
12.0	SUPPLEMENTAL ENFORCEMENT ACTION	41
12.1	Penalties for Late Reports	41
12.2	Performance Bonds	41
12.3	Liability Insurance (Optional)	42

12.4	Payment of Outstanding Fees and Penalties (Optional)	42
12.5	Contractor Listing (Optional)	42
13.0	AFFIRMATIVE DEFENSES TO DISCHARGE VIOLATIONS	42
13.1	Upset	42
13.2	Prohibited Discharge Standards	43
13.3	Bypass	43

**LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.
PRETREATMENT PROGRAM STANDARD
OPERATING PROCEDURES**

1.0 INTRODUCTION

To control the discharge of pollutants to the Nation's waters, the Clean Water Act (CWA) requires the Environmental Protection Agency (EPA) to promulgate regulations related to discharges. Discharges from non-domestic dischargers can impact the operations of the Publicly Owned Treatment Works (POTWs) as the pollutants can pass through or interfere with the operations of the plants, threaten worker's health and safety, or contaminate sludges. POTWs are designed to treat domestic sewage. The non-domestic discharges are regulated by the National Pretreatment Program. Industrial and commercial dischargers known as IUs) are required to obtain permits or other control mechanisms to discharge wastewater to the POTW under the National Pretreatment Program. EPA promulgated the General Pretreatment Regulations (Title 40 Code of Federal Regulations [CFR] Section 403 [40 CFR 403]), which defines the National Pretreatment Program. The Arizona Administrative Code (AAC) R18-9-A905(A)(8)(b) incorporates the General Pretreatment Regulations.

The Liberty Utilities (Black Mountain Sewer) Corp. (Liberty Utilities BMSC) operates a wastewater collection and conveyance system and discharges collected wastewater to the City of Scottsdale's wastewater treatment plant. Liberty Utilities BMSC can regulate discharges from IUs for potential contaminants of concern to minimize impact on the City of Scottsdale POTW under the Liberty Utilities BMSC's CODE OF PRACTICE (Liberty Utilities BMSC-CP).

The discharge of toxic and other harmful pollutants from IUs can be effectively controlled through a local pretreatment program that is based on these regulations, structured to address specific local concerns, and enforced through the Liberty Utilities BMSC Code Liberty Utilities BMSC-CP.

The objectives of the pretreatment SOP are:

- To prevent the introduction of pollutants into the POTWs that will interfere with its operation;
- To prevent the introduction of pollutants into the POTWs that will pass through the POTWs, inadequately treated, into receiving waters, or otherwise be incompatible with the POTWs;
- To protect both POTWs personnel who may be affected by wastewater and sludge in the course of their employment and the general public;
- To promote reuse and recycling of industrial wastewater and sludge from the POTWs;
- To provide for fees for the equitable distribution of the cost of operation, maintenance, and improvement of the POTWs; and
- To enable Liberty Utilities BMSC to comply with its Arizona Pollutant Discharge Elimination System permit conditions, sludge use and disposal requirements, and any other Federal or State laws to which the POTWs is subject.

These Standard Operating Procedures (SOPs) shall apply to all IUs of the Liberty Utilities BMSC wastewater collection and conveyance system. The SOPs include the issuance of individual wastewater discharge permits; provides for monitoring, compliance, and enforcement activities; establishes administrative review procedures; requires IUs reporting; and provides for the setting of fees for the equitable distribution of costs resulting from the program established herein.

1.1 ADMINISTRATION

Except as otherwise provided herein, the Liberty Utilities BMSC Operations Manager shall administer, implement, and enforce the provisions of these SOPs. Any powers granted to or duties imposed upon the Liberty Utilities BMSC Operations Manager may be delegated by the Liberty Utilities BMSC Operations Manager to a duly authorized Liberty Utilities BMSC employee.

1.2 ABBREVIATIONS

The following abbreviations, when used in this SOP, shall have the designated meanings:

AZPDES - Arizona Pollutant Discharge Elimination System
BOD - Biochemical Oxygen Demand
BMP - Best Management Practice
BMR - Baseline Monitoring Report
CFR - Code of Federal Regulations
CIU - Categorical Industrial User
COD - Chemical Oxygen Demand
EPA - U.S. Environmental Protection Agency
GPD - gallons per day
IU - Industrial User
MG/l - milligrams per liter
NPDES - National Pollutant Discharge Elimination System
NSCIU - Non-Significant Categorical Industrial User
POTW - Publicly Owned Treatment Works
RCRA - Resource Conservation and Recovery Act
SIU - Significant Industrial User
SNC - Significant Noncompliance
TSS - Total Suspended Solids
U.S.C. - United States Code

1.3 DEFINITIONS

- A. Act or "the Act." The Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. section 1251 et seq.
- B. Approval Authority. Arizona Department of Environmental Quality, the Arizona Administrative Code (AAC) R18-9-A905(A)(8)(b)
- C. Authorized or Duly Authorized Representative of the IU
- a. If the IU is a corporation:
 - i. The president, secretary, treasurer, or a vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or
 - ii. The manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for individual wastewater discharge permit requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 - b. If the IU is a partnership or sole proprietorship: a general partner or proprietor, respectively.
 - c. If the IU is a Federal, State, or local governmental facility: a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or their designee.
 - d. The individuals described in paragraphs 1 through 3, above, may designate a Duly Authorized Representative if the authorization is in writing, the authorization specifies the individual or position responsible for the overall operation of the facility from which the discharge originates or having overall responsibility for environmental matters for the company, and the written authorization is submitted to Liberty Utilities BMSC
- D. Biochemical Oxygen Demand or BOD. The quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedures for five (5) days at 20

September 2015 (revised May 2016)

degrees centigrade, usually expressed as a concentration (e.g., mg/l).

- E. Best Management Practices or BMPs means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in Section 2.1 A and B [40 CFR 403.5(a)(1) and (b)] and/or the Arizona Administrative Code (AAC) R18-9-A905(A)(8)(b). BMPs include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage.
- F. Brewery Discharge. A brewery discharge qualifies as a non-categorical IU and requires a permit for compliance.
- G. Categorical Pretreatment Standard or Categorical Standard. Any regulation containing pollutant discharge limits promulgated by EPA in accordance with sections 307(b) and (c) of the Act (33 U.S.C. section 1317) that apply to a specific category of IUs and that appear in 40 CFR Chapter I, Subchapter N, Parts 405-471.
- H. Categorical Industrial User. An IU subject to a categorical Pretreatment Standard or categorical Standard.
- I. Liberty Utilities BMSC Organizational Structure. The Liberty Utilities BMSC Operations Manager or their designee shall be responsible official who will administer this pretreatment program and the permitting process.
- J. Chemical Oxygen Demand or COD. A measure of the oxygen required to oxidize all compounds, both organic and inorganic, in water.
- K. Control Authority. Liberty Utilities BMSC
- L. Daily Maximum. The arithmetic average of all effluent samples for a pollutant collected during a calendar day.
- M. Daily Maximum Limit. The maximum allowable discharge limit of a pollutant during a calendar day. Where Daily Maximum Limits are expressed in units of mass, the daily discharge is the total mass discharged over the course of the day. Where Daily Maximum Limits are expressed in terms of a concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day.
- N. Environmental Protection Agency or EPA. The U.S. Environmental Protection Agency or, where appropriate, the Regional Water Management Division Director, the Regional Administrator, or other duly authorized official of said agency.
- O. Existing Source. Any source of discharge that is not a "New Source."
- P. Grab Sample. A sample that is taken from a waste stream without regard to the flow in the

September 2015 (revised May 2016)

waste stream and over a period of time not to exceed fifteen (15) minutes.

- Q. Indirect Discharge or Discharge. The introduction of pollutants into the POTW from any nondomestic source.
- R. Instantaneous Limit. The maximum concentration of a pollutant allowed to be discharged at any time, determined from the analysis of any discrete or composited sample collected independent of the industrial flow rate and the duration of the sampling event.
- S. Interference. A discharge that, alone or in conjunction with a discharge or discharges from other sources, inhibits or disrupts the POTW, its treatment processes or operations or its sludge processes, use or disposal; and therefore, is a cause of a violation of Liberty Utilities BMSC's or the City of Scottsdale's AZPDES permit or of the prevention of sewage sludge use or disposal in compliance with any of the following statutory/regulatory provisions or permits issued there under, or any more stringent State or local regulations: section 405 of the Act; the Solid Waste Disposal Act, including Title II commonly referred to as the Resource Conservation and Recovery Act (RCRA); any State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the Solid Waste Disposal Act; the Clean Air Act; the Toxic Substances Control Act; and the Marine Protection, Research, and Sanctuaries Act.
- T. Local Limit. Specific discharge limits developed and enforced by the Liberty Utilities BMSC upon industrial or commercial facilities to implement the general and specific discharge prohibitions listed in 40 CFR 403.5(a)(1) and (b).
- U. Medical Waste. Isolation wastes, infectious agents, human blood and blood products, pathological wastes, sharps, body parts, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, and dialysis wastes.
- V. Monthly Average. The sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.
- W. Monthly Average Limit. The highest allowable of "daily maximum discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.
- X. New Source.
 - a. Any building, structure, facility, or installation from which there is (or may be) a discharge of pollutants, the construction of which commenced after the publication of proposed Pretreatment Standards under section 307(c) of the Act that will be applicable to such source if such Standards are thereafter promulgated in accordance with that section, provided that:
 - i. The building, structure, facility, or installation is constructed at a site at

September 2015 (revised May 2016)

- which no other source is located; or
 - ii. The building, structure, facility, or installation totally replaces the process or production equipment that causes the discharge of pollutants at an Existing Source; or
 - iii. The production or wastewater generating processes of the building, structure, facility, or installation are substantially independent of an Existing Source at the same site. In determining whether these are substantially independent, factors such as the extent to which the new facility is integrated with the existing plant, and the extent to which the new facility is engaged in the same general type of activity as the Existing Source, should be considered.
- b. Construction on a site at which an Existing Source is located results in a modification rather than a New Source if the construction does not create a new building, structure, facility, or installation meeting the criteria of Section (1)(b) or (c) above but otherwise alters, replaces, or adds to existing process or production equipment.
- c. Construction of a New Source as defined under this paragraph has commenced if the owner or operator has:
- i. Begun, or caused to begin, as part of a continuous onsite construction program
 1. any placement, assembly, or installation of facilities or equipment; or
 2. significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or
 - ii. Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this paragraph.
- Y. Noncontact Cooling Water. Water used for cooling that does not come into direct contact with any raw material, intermediate product, waste product, or finished product.
- Z. Pass Through. A discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the Liberty Utilities BMSC's or City of Scottsdale's AZPDES permit, including an increase in the magnitude or duration of a violation.
- AA. Person. Any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or any other legal entity; or their legal

September 2015 (revised May 2016)

- representatives, agents, or assigns. This definition includes all Federal, State, and local governmental entities.
- BB. pH. A measure of the acidity or alkalinity of a solution, expressed in standard units.
- CC. Pollutant. Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, Medical Wastes, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, municipal, agricultural and industrial wastes, and certain characteristics of wastewater (e.g., pH, temperature, TSS, turbidity, color, BOD, COD, toxicity, or odor).
- DD. Pretreatment. The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to, or in lieu of, introducing such pollutants into the POTW. This reduction or alteration can be obtained by physical, chemical, or biological processes; by process changes; or by other means, except by diluting the concentration of the pollutants unless allowed by an applicable Pretreatment Standard.
- EE. Pretreatment Requirements. Any substantive or procedural requirement related to pretreatment imposed on an IU, other than a Pretreatment Standard.
- FF. Pretreatment Standards or Standards. Pretreatment Standards shall mean prohibited discharge standards, categorical Pretreatment Standards, and Local Limits.
- GG. Prohibited Discharge Standards or Prohibited Discharges. Absolute prohibitions against the discharge of certain substances; these prohibitions appear in Section 2.1 of this SOPs.
- HH. Publicly Owned Treatment Works or POTW. A treatment works, as defined by section 212 of the Act (33 U.S.C. section 1292), which is owned by Liberty Utilities BMSC or the City of Scottsdale POTWs to which Liberty Utilities BMSC's conveyance system discharges. This definition includes any devices or systems used in the collection, storage, treatment, recycling, and reclamation of sewage or industrial wastes of a liquid nature and any conveyances, which convey wastewater to a treatment plant.
- II. Septic Tank Waste. Any sewage from holding tanks such as vessels, chemical toilets, campers, trailers, and septic tanks.
- JJ. Sewage. Human excrement and gray water (household showers, dishwashing operations, etc.).
- KK. Significant Industrial User (SIU). Except as provided in paragraphs (3) and (4) of this Section, a Significant Industrial User is:
- a. An IU subject to categorical Pretreatment Standards; or

- b. An IU that:
 - i. Discharges an average of twenty five thousand (25,000) gpd or more of process wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blow down wastewater);
 - ii. Contributes a process waste stream which makes up five (5) percent or more of the average dry weather hydraulic or organic (BOD, ammonia, and/or total nitrogen) capacity of the POTW treatment plant; or
 - iii. Is designated as such by Liberty Utilities BMSC on the basis that it has a reasonable potential for adversely affecting the POTW's operation or for violating any Pretreatment Standard or Requirement.
 - c. Liberty Utilities BMSC may determine that an IU subject to categorical Pretreatment Standards is a Non-Significant Categorical IU rather than a Significant IU on a finding that the IU never discharges more than 100 gallons per day (gpd) of total categorical wastewater (excluding sanitary, non-contact cooling and boiler blowdown wastewater, unless specifically included in the Pretreatment Standard) and the following conditions are met:
 - i. The IU, prior to Liberty Utilities BMSC's finding, has consistently complied with all applicable categorical Pretreatment Standards and Requirements;
 - ii. The IU annually submits the certification statement required in Section 6.14 B [see 40 CFR 403.12(q)], together with any additional information necessary to support the certification statement; and
 - iii. The IU never discharges any untreated concentrated wastewater.
 - d. Upon a finding that a IU meeting the criteria in Subsection (2) of this part has no reasonable potential for adversely affecting the POTW's operation or for violating any Pretreatment Standard or Requirement, Liberty Utilities BMSC may at any time, on its own initiative or in response to a petition received from an IU, and in accordance with procedures in 40 CFR 403.8(f)(6), determine that such IU should not be considered a Significant IU.
- LL. Slug Load or Slug Discharge. Any discharge at a flow rate or concentration, which could cause a violation of the prohibited discharge standards in Section 2.1 of this SOP. A Slug Discharge is any Discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the POTW's regulations, Local Limits or Permit conditions.
- MM. Storm Water. Any flow occurring during or following any form of natural precipitation, and resulting from such precipitation, including snowmelt.

September 2015 (revised May 2016)

- NN. Liberty Utilities BMSC Operations Manager. The person designated by Liberty Utilities BMSC to supervise the operation of the POTW, and who is charged with certain duties and responsibilities by this SOP. The term also means a Duly Authorized Representative of the Liberty Utilities BMSC Operations Manager.
- OO. Total Suspended Solids or Suspended Solids. The total suspended matter that floats on the surface of, or is suspended in, water, wastewater, or other liquid, and that is removable by laboratory filtering.
- PP. User or Industrial User. A source of indirect discharge.
- QQ. Wastewater. Liquid and water-carried industrial wastes and sewage from residential dwellings, commercial buildings, industrial and manufacturing facilities, and institutions, whether treated or untreated, which are contributed to the POTW.
- RR. Wastewater Treatment Plant or Treatment Plant. That portion of the POTW which is designed to provide treatment of municipal sewage and industrial waste.

2. GENERAL SEWER USE REQUIREMENTS

2.1 Prohibited Discharge Standards

- A. General Prohibitions. No IU shall introduce or cause to be introduced into the POTW any pollutant or wastewater which causes Pass Through or Interference. These general prohibitions apply to all IUs of the POTW whether or not they are subject to categorical Pretreatment Standards or any other National, State, or local Pretreatment Standards or Requirement.
- B. Specific Prohibitions. No IU shall introduce or cause to be introduced into the POTW the following pollutants, substances, or wastewater:
- Pollutants which create a fire or explosive hazard in the POTW, including, but not limited to, waste streams with a closed cup flashpoint of less than 140 degrees F (60 degrees C) using the test methods specified in 40 CFR 261.21;
 - Wastewater having a pH less than 5.5 or more than 10.5, or otherwise causing corrosive structural damage to the POTW or equipment;
 - Solid or viscous pollutants, fats, oils, or grease in amounts or sizes which will cause obstruction of the flow in the wastewater collection system and/or POTW or result in interference or otherwise disrupt the operation of the POTW or any private sewer;
 - Pollutants, including oxygen demanding pollutants (BOD, etc.), released in a discharge at a flow rate and/or pollutant concentration which, either singly or by interaction with other pollutants, will cause Interference with the POTW;

September 2015 (revised May 2016)

- e. Wastewater having a temperature greater than 104 degrees F (40 degrees C), or any wastewater at temperature greater than 150 degrees F (65 degrees C), or which will inhibit biological activity in the treatment plant resulting in Interference;
- f. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin, in amounts that will cause Interference or pass through;
- g. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;
- h. Trucked or hauled pollutants, except at discharge points designated by Liberty Utilities BMSC Operations Manager in accordance with Section 3.4 of this SOP;
- i. Hazardous waste that violates any local limit contained in this article;
- j. Noxious or malodorous liquids, gases, solids, or other wastewater which either alone or by interaction with other wastes are sufficient to create a nuisance or a hazard to life, generate odor complaints, or to prevent entry into the sewers for maintenance or repair;
- k. Wastewater containing any radioactive wastes or isotopes except in compliance with applicable state or federal regulations;
- l. Hazardous waste that violates any local limit contained in this article;
- m. Storm water, surface water, ground water, artesian well water, roof runoff, subsurface drainage, condensate, noncontact cooling water and unpolluted wastewater unless specifically authorized by the Liberty Utilities BMSC
- n. Sludges, screenings, and other residues from the pretreatment of industrial wastes or from the cleaning of interceptors or sewer collection systems;
- o. Medical wastes except as specifically authorized by the division in a wastewater discharge permit;
- p. Wastewater causing, alone or in conjunction with other sources, the POTW's effluent to fail a toxicity test;
- q. Detergents, surface active agents, or other substances which might cause excessive foaming in the POTW;
- r. Wastewater causing a reading on an explosion hazard meter at the point of discharge into the POTW, or at any point in the POTW, of more than ten percent.

Pollutants, substances, or wastewater prohibited by this Section shall not be processed or stored in such a manner that they could be discharged to the POTW.

2.2 National Categorical Pretreatment Standards

IUs must comply with the categorical Pretreatment Standards found at 40 CFR Chapter I, Subchapter N, Parts 405-471.

- A. Where a categorical Pretreatment Standard is expressed only in terms of either the mass or the concentration of a pollutant in wastewater, Liberty Utilities BMSC Operations Manager may impose equivalent concentration or mass limits in accordance with Section 2.2E & 2.2F.
- B. When the limits in a categorical Pretreatment Standard are expressed only in terms of mass of pollutant per unit of production, the Liberty Utilities BMSC Operations Manager may convert the limits to equivalent limitations expressed either as mass of pollutant discharged per day or effluent concentration for purposes of calculating effluent limitations applicable to individual IUs.
- C. When wastewater subject to a categorical Pretreatment Standard is mixed with wastewater not regulated by the same Standard, Liberty Utilities BMSC Operations Manager shall impose an alternate limit in accordance with 40 CFR 403.6(e).
- D. A user may obtain a net/gross adjustment to a categorical pretreatment standard in accordance with 40 CFR §403.15.

2.3 State Pretreatment Standards

IUs must comply with The Arizona Administrative Code (AAC) R18-9-A905(A)(8)(b) incorporates the General Pretreatment Regulations.

2.4 Local Limits

- A. The Liberty Utilities BMSC Operations Manager is authorized to establish Local Limits pursuant to 40CFR 403.5(c).
- B. The following pollutant limits are established to protect against Pass Through and Interference. No person shall discharge wastewater containing in excess of the Daily Maximum Limits shown on the table atop the following page.

CONTAMINANTS (mg/L)	
Benzene	0.035
Chloroform	2.0
4,4' - DDE	Not allowed
4,4' - DDT	Not allowed
Aldrin	Not allowed
BHC-Alpha	Not allowed
BHC-Gamma (Lindane)	Not allowed
Heptachlor	Not allowed
Heptachlor Epoxide	Not allowed
Polychlorinated byphenyl compounds (PCBs)	Not allowed

CONTAMINANTS (mg/L) CONTD.	
PARAMETER	Daily Average Effluent Limitation (mg/L)
Arsenic (As)	0.13
Cadmium (Cd)	0.047
Copper (Cu)	1.5
Cyanide (CN)	2.0
Lead (Pb)	0.41
Mercury (Hg)	0.0023
Selenium (Se)	0.10
Silver (Ag)	1.2
Zinc	3.5

The above limits apply at the point where the wastewater is discharged to the POTW. All concentrations for metallic substances are for total metal unless indicated otherwise. Liberty Utilities BMSC Operations Manager may impose mass limitations in addition to the concentration based limitations above.

- C. The division may develop Best Management Practices (BMPs) for any significant industrial user or other user, as needed, to implement this article. BMPs may be implemented through a permit, order, or regulation. For purposes of this article, BMPs are pretreatment requirements.
- D. All users subject to a categorical pretreatment standard shall comply with all requirements of such standard, and shall also comply with any limitations and prohibitions contained in this article. Where the same pollutant is limited by more than one pretreatment standard, the limitations which are more stringent shall prevail. Compliance with categorical pretreatment standards for existing sources shall be within the timeframe specified in the applicable categorical pretreatment standard. Compliance with categorical pretreatment standards for new sources shall be upon commencement of discharge.
- E. Liberty Utilities BMSC may establish more stringent pretreatment standards or additional

September 2015 (revised May 2016)

site specific effluent limits, when, in the judgment of the division, such limitations are necessary to implement the objectives of this article.

2.5 Liberty Utilities BMSC Right of Revision

Liberty Utilities BMSC reserves the right to establish, by SOP or in individual wastewater discharge permits, more stringent Standards or Requirements on discharges to the POTW consistent with the purpose of this SOP.

2.6 Dilution

No IU shall ever increase the use of process water, or in any way attempt to dilute a discharge, as a partial or complete substitute for adequate treatment to achieve compliance with a discharge limitation unless expressly authorized by an applicable Pretreatment Standard or Requirement. Liberty Utilities BMSC Operations Manager may impose mass limitations on IU who are using dilution to meet applicable Pretreatment Standards or Requirements or in other cases when the imposition of mass limitations is appropriate.

3. PRETREATMENT OF WASTEWATER

3.1 Pretreatment Facilities

IUs shall provide wastewater treatment as necessary to comply with this SOPs and shall achieve compliance with all categorical Pretreatment Standards, Local Limits, and the prohibitions set out in Section 2.1 of this SOPs within the time limitations specified by EPA, the State, or Liberty Utilities BMSC Operations Manager, whichever is more stringent. Any facilities necessary for compliance shall be provided, operated, and maintained at the IU's expense. Detailed plans describing such facilities and operating procedures shall be submitted to Liberty Utilities BMSC Operations Manager for review, and shall be acceptable to Liberty Utilities BMSC Operations Manager before such facilities are constructed. The review of such plans and operating procedures shall in no way relieve the IU from the responsibility of modifying such facilities as necessary to produce a discharge acceptable to Liberty Utilities BMSC under the provisions of this SOP.

3.2 Additional Pretreatment Measures

- A. Whenever deemed necessary, Liberty Utilities BMSC Operations Manager may require IUs to restrict their discharge during peak flow periods, designate that certain wastewater be discharged only into specific sewers, relocate and/or consolidate points of discharge, separate sewage waste streams from industrial waste streams, and such other conditions as may be necessary to protect the POTW and determine the IU's compliance with the requirements of this SOP.
- B. Liberty Utilities BMSC Operations Manager may require any person discharging into the POTW to install and maintain, on their property and at their expense, a suitable storage

September 2015 (revised May 2016)

and flow control facility to ensure equalization of flow. An individual wastewater discharge permit may be issued solely for flow equalization.

- C. Grease, oil, and sand interceptors shall be provided when, in the opinion of Liberty Utilities BMSC Operations Manager, they are necessary for the proper handling of wastewater containing excessive amounts of grease and oil, or sand; except that such interceptors shall not be required for residential users. All interception units shall be of a type and capacity approved by Liberty Utilities BMSC Operations Manager, shall be so located to be easily accessible for cleaning and inspection. Such interceptors shall be inspected, cleaned, and repaired by the IU at their expense.
- D. IUs with the potential to discharge flammable substances may be required to install and maintain an approved combustible gas detection meter.

3.3 Accidental Discharge/Slug Discharge Control Plans

Liberty Utilities BMSC Operations Manager shall evaluate whether each SIU needs an accidental discharge/slug discharge control plan or other action to control Slug Discharges. Liberty Utilities BMSC Operations Manager may require any IU to develop, submit for approval, and implement such a plan or take such other action that may be necessary to control Slug Discharges. Alternatively, Liberty Utilities BMSC Operations Manager may develop such a plan for any IU. An accidental discharge/slug discharge control plan shall address, at a minimum, the following:

- A. Description of discharge practices, including non routine batch discharge;
- B. Description of stored chemicals;
- C. Procedures for immediately notifying Liberty Utilities BMSC Operations Manager of any accidental or Slug Discharge, as required by Section 6.6 of this SOP; and
- D. Procedures to prevent adverse impact from any accidental or Slug Discharge. Such procedures include, but are not limited to, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site runoff, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants, including solvents, and/or measures and equipment for emergency response.

3.4 Hauled Wastewater

- A. Septic tank waste may be introduced into the POTW only at locations designated by Liberty Utilities BMSC Operations Manager, and at such times as are established by Liberty Utilities BMSC Operations Manager. Such waste shall not violate Section 2 of this SOP or any other requirements established by Liberty Utilities BMSC. Liberty Utilities BMSC Operations Manager may require septic tank waste haulers to obtain individual wastewater discharge permits.

September 2015 (revised May 2016)

- B. Liberty Utilities BMSC Operations Manager may require haulers of industrial waste to obtain individual wastewater discharge permits. Liberty Utilities BMSC Operations Manager may require generators of hauled industrial waste to obtain individual wastewater discharge permits. Liberty Utilities BMSC Operations Manager also may prohibit the disposal of hauled industrial waste. The discharge of hauled industrial waste is subject to all other requirements of this SOP.
- C. Industrial waste haulers may discharge loads only at locations designated by Liberty Utilities BMSC Operations Manager. No load may be discharged without prior consent of Liberty Utilities BMSC Operations Manager. Liberty Utilities BMSC Operations Manager may collect samples of each hauled load to ensure compliance with applicable Standards. Liberty Utilities BMSC Operations Manager may require the industrial waste hauler to provide a waste analysis of any load prior to discharge.
- D. Industrial waste haulers must provide a waste tracking form for every load. This form shall include, at a minimum, the name and address of the industrial waste hauler, permit number, truck identification, names and addresses of sources of waste, and volume and characteristics of waste. The form shall identify the type of industry, known or suspected waste constituents, and whether any wastes are RCRA hazardous wastes.

3.5 Brewery Waste

- A. A brewery discharge qualifies as a non-categorical IU, and therefore, requires a permit for compliance. Assuming that there are no toxics in the brewery discharge, IU should comply with the Liberty Utilities BMSC Pretreatment Program Local Limits.

4. INDIVIDUAL WASTEWATER DISCHARGE PERMITS

4.1 Wastewater Analysis

When requested by Liberty Utilities BMSC Operations Manager, an IU must submit information on the nature and characteristics of its wastewater within 30 days of the request. Liberty Utilities BMSC Operations Manager is authorized to prepare a form for this purpose and may periodically require IUs to update this information.

4.2 Individual Wastewater Discharge Permit Requirement

- A. No Significant IU shall discharge wastewater into the POTW without first obtaining an individual wastewater discharge permit from Liberty Utilities BMSC Operations Manager, except that a Significant IU that has filed a timely application pursuant to Section 4.3 of this SOP may continue to discharge for the time period specified therein.
- B. Liberty Utilities BMSC Operations Manager may require other IUs to obtain individual wastewater discharge permits as necessary to carry out the purposes of this SOP.

September 2015 (revised May 2016)

- C. Any violation of the terms and conditions of an individual wastewater discharge permit shall be deemed a violation of this SOP and subjects the wastewater discharge permittee to the sanctions set out in Sections 10 through 12 of this SOP. Obtaining an individual wastewater discharge permit does not relieve a permittee of its obligation to comply with all Federal and State Pretreatment Standards or Requirements or with any other requirements of Federal, State, and local law.

4.3 Individual Wastewater Discharge Permitting: Existing Connections

Any IU required to obtain an individual wastewater discharge permit who was discharging wastewater into the POTW prior to the effective date of this SOP and who wishes to continue such discharges in the future, shall, within 90 days after said date, apply to Liberty Utilities BMSC Operations Manager for an individual wastewater discharge permit in accordance with Section 4.5 of this SOP, and shall not cause or allow discharges to the POTW to continue after 30 days of the effective date of this SOP except in accordance with an individual wastewater discharge permit issued by Liberty Utilities BMSC Operations Manager.

4.4 Individual Wastewater Discharge Permitting: New Connections

Any IU required to obtain an individual wastewater discharge permit who proposes to begin or recommence discharging into the POTW must obtain such permit prior to the beginning or recommencing of such discharge. An application for this individual wastewater discharge permit, in accordance with Section 4.5 of this SOP, must be filed at least 90 days prior to the date upon which any discharge will begin or recommence.

4.5 Individual Wastewater Discharge Permit Application Contents

- A. All IUs required to obtain an individual wastewater discharge permit must submit a permit application. Liberty Utilities BMSC Operations Manager may require IUs to submit all or some of the following information as part of a permit application:
- a. Identifying Information
 - i. The name and address of the facility, including the name of the operator and owner.
 - ii. Contact information, description of activities, facilities, and plant production processes on the premises;
 - b. Environmental Permits. A list of any environmental control permits held by or for the facility.
 - c. Description of Operations
 - i. A brief description of the nature, average rate of production (including each product produced by type, amount, processes, and rate of production), and standard industrial classifications of the operation(s) carried out by such IU. This description should include a schematic process diagram, which indicates

September 2015 (revised May 2016)

- points of discharge to the POTW from the regulated processes.
 - ii. Types of wastes generated, and a list of all raw materials and chemicals used or stored at the facility which are, or could accidentally or intentionally be, discharged to the POTW;
 - iii. Number and type of employees, hours of operation, and proposed or actual hours of operation;
 - iv. Type and amount of raw materials processed (average and maximum per day);
 - v. Site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, floor drains, and appurtenances by size, location, and elevation, and all points of discharge;
- d. Time and duration of discharges;
- e. The location for monitoring all wastes covered by the permit;
- f. Flow Measurement. Information showing the measured average daily and maximum daily flow, in gallons per day, to the POTW from regulated process streams and other streams, as necessary, to allow use of the combined waste stream formula set out in Section 2.2C (40 CFR 403.6(e)).
- g. Measurement of Pollutants.
- i. The categorical Pretreatment Standards applicable to each regulated process and any new categorically regulated processes for Existing Sources.
 - ii. The results of sampling and analysis identifying the nature and concentration, and/or mass, where required by the Standard or by Liberty Utilities BMSC Operations Manager, of regulated pollutants in the discharge from each regulated process.
 - iii. Instantaneous, Daily Maximum, and long-term average concentrations, or mass, where required, shall be reported.
 - iv. The sample shall be representative of daily operations and shall be analyzed in accordance with procedures set out in Section 6.10 of this SOP. Where the Standard requires compliance with a BMP or pollution prevention alternative, the IU shall submit documentation as required by the Liberty Utilities BMSC Operations Manager or the applicable Standards to determine compliance with the Standard.
 - v. Sampling must be performed in accordance with procedures set out in Section 6.11 of this SOP.
- h. Any other information as may be deemed necessary by Liberty Utilities BMSC Operations Manager to evaluate the permit application.
- B. Incomplete or inaccurate applications will not be processed and will be returned to the IU for revision.

4.6 Application Signatories and Certification

- A. All wastewater discharge permit applications, IU reports and certification statements must be signed by an Authorized Representative of the IU and contain the certification statement in Section 6.14 A. [see Section 1.4 C for definition].
- B. If the designation of an Authorized Representative is no longer accurate because a different individual or position has responsibility for the overall operation of the facility or overall responsibility for environmental matters for the company, a new written authorization satisfying the requirements of this Section must be submitted to Liberty Utilities BMSC Operations Manager prior to or together with any reports to be signed by an Authorized Representative.

4.7 Individual Wastewater Discharge Permit Decisions

Liberty Utilities BMSC Operations Manager will evaluate the data furnished by the IU and may require additional information. Within 30 days of receipt of a complete permit application, Liberty Utilities BMSC Operations Manager will determine whether to issue an individual wastewater discharge permit. Liberty Utilities BMSC Operations Manager may deny any application for an individual wastewater discharge permit.

5. INDIVIDUAL WASTEWATER DISCHARGE PERMIT ISSUANCE

5.1 Individual Wastewater Discharge Permit Duration

An individual wastewater discharge permit shall be issued for a specified time period, not to exceed five (5) years from the effective date of the permit. An individual wastewater discharge permit may be issued for a period less than five (5) years, at the discretion of Liberty Utilities BMSC Operations Manager. Each individual wastewater discharge permit will indicate a specific date upon which it will expire.

5.2 Individual Wastewater Discharge Permit Contents

An individual wastewater discharge permit shall include such conditions as are deemed reasonably necessary by Liberty Utilities BMSC Operations Manager to prevent Pass Through or Interference, protect the quality of the water body receiving the treatment plant's effluent, protect worker health and safety, facilitate sludge management and disposal, and protect against damage to the POTW.

- A. Individual wastewater discharge permits must contain:
 - a. A statement that indicates the wastewater discharge permit issuance date, expiration date and effective date;
 - b. A statement that the wastewater discharge permit is nontransferable without prior

September 2015 (revised May 2016)

notification to Liberty Utilities BMSC in accordance with Section 5.5 of these SOPs, and provisions for furnishing the new owner or operator with a copy of the existing wastewater discharge permit;

- c. Effluent limits, including Best Management Practices, based on applicable Pretreatment Standards;
 - d. Self monitoring, sampling, reporting, notification, and record-keeping requirements. These requirements shall include an identification of pollutants (or best management practice) to be monitored, sampling location, sampling frequency, and sample type based on Federal, State, and local law.
 - e. A statement of applicable civil and criminal penalties for violation of Pretreatment Standards and Requirements, and any applicable compliance schedule. Such schedule may not extend the time for compliance beyond that required by applicable Federal, State, or local law.
 - f. Requirements to control Slug Discharge, if determined by the Liberty Utilities BMSC Operations Manager to be necessary.
- B. Individual wastewater discharge permits may contain, but need not be limited to, the following conditions:
- a. Limits on the average and/or maximum rate of discharge, time of discharge, and/or requirements for flow regulation and equalization;
 - b. Requirements for the installation of pretreatment technology, pollution control, or construction of appropriate containment devices, designed to reduce, eliminate, or prevent the introduction of pollutants into the treatment works;
 - c. Requirements for the development and implementation of spill control plans or other special conditions including management practices necessary to adequately prevent accidental, unanticipated, or non routine discharges;
 - d. Development and implementation of waste minimization plans to reduce the amount of pollutants discharged to the POTW;
 - e. The unit charge or schedule of IU charges and fees for the management of the wastewater discharged to the POTW;
 - f. Requirements for installation and maintenance of inspection and sampling facilities and equipment, including flow measurement devices;
 - g. A statement that compliance with the individual wastewater discharge permit does not relieve the permittee of responsibility for compliance with all applicable Federal and State Pretreatment Standards, including those which become effective during the

September 2015 (revised May 2016)

term of the individual wastewater discharge permit; and

- h. Other conditions as deemed appropriate by Liberty Utilities BMSC Operations Manager to ensure compliance with this SOP, and State and Federal laws, rules, and regulations.

5.3 Permit Modification

- A. Liberty Utilities BMSC Operations Manager may modify an individual wastewater discharge permit for good cause, including, but not limited to, the following reasons:
 - a. To incorporate any new or revised Federal, State, or local Pretreatment Standards or Requirements;
 - b. To address significant alterations or additions to the IU's operation, processes, or wastewater volume or character since the time of the individual wastewater discharge permit issuance;
 - c. A change in the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;
 - d. Information indicating that the permitted discharge poses a threat to Liberty Utilities BMSC POTW, Liberty Utilities BMSC personnel, or the receiving waters;
 - e. Violation of any terms or conditions of the individual wastewater discharge permit;
 - f. Misrepresentations or failure to fully disclose all relevant facts in the wastewater discharge permit application or in any required reporting;
 - g. Revision of or a grant of variance from categorical Pretreatment Standards pursuant to 40 CFR 403.13;
 - h. To correct typographical or other errors in the individual wastewater discharge permit; or
 - i. To reflect a transfer of the facility ownership or operation to a new owner or operator where requested in accordance with Section 5.5.

5.4 Individual Wastewater Discharge Permit Transfer

Individual wastewater discharge permits may be transferred to a new owner or operator only if the permittee gives at least 60 days advance notice to Liberty Utilities BMSC Operations Manager and Liberty Utilities BMSC Operations Manager approves the individual wastewater discharge

September 2015 (revised May 2016)

permit transfer. The notice to Liberty Utilities BMSC Operations Manager must include a written certification by the new owner or operator which:

- A. States that the new owner and/or operator has no immediate intent to change the facility's operations and processes;
- B. Identifies the specific date on which the transfer is to occur; and
- C. Acknowledges full responsibility for complying with the existing individual wastewater discharge permit.

Failure to provide advance notice of a transfer renders the individual wastewater discharge permit void as of the date of facility transfer.

5.5 Individual Wastewater Discharge Permit Revocation

Liberty Utilities BMSC Operations Manager may revoke an individual wastewater discharge permit for good cause, including, but not limited to, the following reasons:

- A. Failure to notify Liberty Utilities BMSC Operations Manager of significant changes to the wastewater prior to the changed discharge;
- B. Failure to provide prior notification to Liberty Utilities BMSC Operations Manager of changed conditions pursuant to Section 6.5 of this SOP;
- C. Misrepresentation or failure to fully disclose all relevant facts in the wastewater discharge permit application;
- D. Falsifying self monitoring reports and certification statements;
- E. Tampering with monitoring equipment;
- F. Refusing to allow Liberty Utilities BMSC Operations Manager timely access to the facility premises and records;
- G. Failure to meet effluent limitations;
- H. Failure to pay fines;
- I. Failure to pay sewer charges;
- J. Failure to meet compliance schedules;
- K. Failure to complete a wastewater survey or the wastewater discharge permit application;

- L. Failure to provide advance notice of the transfer of business ownership of a permitted facility; or
- M. Violation of any Pretreatment Standard or Requirement, or any terms of the wastewater discharge permit or this SOP.

Individual wastewater discharge permits shall be voidable upon cessation of operations or transfer of business ownership. All individual wastewater discharge permits issued to a IU are void upon the issuance of a new individual wastewater discharge permit to that IU.

5.6 Individual Wastewater Discharge Permit Reissuance

An IU with an expiring individual wastewater discharge permit shall apply for individual wastewater discharge permit reissuance by submitting a complete permit application, in accordance with Section 4.5 of this SOP, a minimum of 90 days prior to the expiration of the IU's existing individual wastewater discharge permit.

6. REPORTING REQUIREMENTS

6.1 Baseline Monitoring Reports

- A. Within either one hundred eighty (180) days after the effective date of a categorical Pretreatment Standard, or the final administrative decision on a category determination under 40 CFR 403.6(a)(4), whichever is later, existing Categorical IUs currently discharging to or scheduled to discharge to the POTW shall submit to Liberty Utilities BMSC Operations Manager a report which contains the information listed in paragraph B, below. At least ninety (90) days prior to commencement of their discharge, New Sources, and sources that become Categorical IUs subsequent to the promulgation of an applicable categorical Standard, shall submit to Liberty Utilities BMSC Operations Manager a report which contains the information listed in paragraph B, below. A New Source shall report the method of pretreatment it intends to use to meet applicable categorical Standards. A New Source also shall give estimates of its anticipated flow and quantity of pollutants to be discharged.
- B. IUs described above shall submit the information set forth below.
 - a. All information required in Section 4.5A (1) (a), Section 4.5A (2), Section 4.5A (3) (a), and Section 4.5A (6).
 - b. Measurement of pollutants.
 - i. The IU shall provide the information required in Section 4.5 A (7) (a) through (d)
 - ii. The IU shall take a minimum of one representative sample to compile that data necessary to comply with the requirements of this paragraph.
 - iii. Samples should be taken immediately downstream from pretreatment

September 2015 (revised May 2016)

- facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with the regulated wastewater prior to pretreatment the IU should measure the flows and concentrations necessary to allow use of the combined waste stream formula in 40 CFR 403.6(e) to evaluate compliance with the Pretreatment Standards.
- iv. Where an alternate concentration or mass limit has been calculated in accordance with 40 CFR 403.6(e) this adjusted limit along with supporting data shall be submitted to the Control Authority;
 - v. Sampling and analysis shall be performed in accordance with Section 6.10;
 - vi. The Liberty Utilities BMSC Operations Manager may allow the submission of a baseline report which utilizes only historical data so long as the data provides information sufficient to determine the need for industrial pretreatment measures;
 - vii. The baseline report shall indicate the time, date and place of sampling and methods of analysis, and shall certify that such sampling and analysis is representative of normal work cycles and expected pollutant Discharges to the POTW
- c. Compliance Certification. A statement, reviewed by the IU's Authorized Representative as defined in Section 1.4 C and certified by a qualified professional, indicating whether Pretreatment Standards are being met on a consistent basis, and, if not, whether additional operation and maintenance (O&M) and/or additional pretreatment is required to meet the Pretreatment Standards and Requirements.
- d. Compliance Schedule. If additional pretreatment and/or O&M will be required to meet the Pretreatment Standards, the shortest schedule by which the IU will provide such additional pretreatment and/or O&M must be provided. The completion date in this schedule shall not be later than the compliance date established for the applicable Pretreatment Standard. A compliance schedule pursuant to this Section must meet the requirements set out in Section 6.2 of this SOP.
- e. Signature and Report Certification. All baseline monitoring reports must be certified in accordance with Section 6.14 A of this SOP and signed by an Authorized Representative as defined in Section 1.4C.

6.2 Compliance Schedule Progress Reports

The following conditions shall apply to the compliance schedule required by Section 6.1(B)(4) of this SOP:

- A. The schedule shall contain progress increments in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the IU to meet the applicable Pretreatment Standards (such events include, but are not limited to, hiring an engineer, completing preliminary and final plans, executing contracts for major components, commencing and completing construction, and beginning and conducting routine operation);

- B. No increment referred to above shall exceed nine (9) months;
- C. The IU shall submit a progress report to Liberty Utilities BMSC Operations Manager no later than fourteen (14) days following each date in the schedule and the final date of compliance including, as a minimum, whether or not it complied with the increment of progress, the reason for any delay, and, if appropriate, the steps being taken by the IU to return to the established schedule; and
- D. In no event shall more than nine (9) months elapse between such progress reports to Liberty Utilities BMSC Operations Manager.

6.3 Reports on Compliance with Categorical Pretreatment Standard Deadline

Within ninety (90) days following the date for final compliance with applicable categorical Pretreatment Standards, or in the case of a New Source following commencement of the introduction of wastewater into the POTW, any IU subject to such Pretreatment Standards and Requirements shall submit to Liberty Utilities BMSC Operations Manager a report containing the information described in Section 4.5A(6) and (7) and 6.1(B)(2) of this SOP. For IUs subject to equivalent mass or concentration limits established in accordance with the procedures in Section 2.2, this report shall contain a reasonable measure of the IU's long term production rate. For all other IUs subject to categorical Pretreatment Standards expressed in terms of allowable pollutant discharge per unit of production (or other measure of operation), this report shall include the IU's actual production during the appropriate sampling period. All compliance reports must be signed and certified in accordance with Section 6.14 A of this SOP. All sampling will be done in conformance with Section 6.11.

6.4 Periodic Compliance Reports

- A. Except as specified in Section 6.4.C, all IUs must, at a frequency determined by Liberty Utilities BMSC Operations Manager submit no less than once per year (January 15) report indicating the nature, concentration of pollutants in the discharge which are limited by Pretreatment Standards and the measured or estimated average and maximum daily flows for the reporting period. In cases where the Pretreatment Standard requires compliance with a Best Management Practice (BMP) or pollution prevention alternative, the IU must submit documentation required by Liberty Utilities BMSC Operations Manager or the Pretreatment Standard necessary to determine the compliance status of the IU.
- B. The Liberty Utilities BMSC may authorize an IU subject to a categorical Pretreatment Standard to forego sampling of a pollutant regulated by a categorical Pretreatment Standard if the IU has demonstrated through sampling and other technical factors that the pollutant is neither present nor expected to be present in the Discharge, or is present only at background levels from intake water and without any increase in the pollutant due to activities of the IU. [see 40 CFR 403.12(e)(2)] This authorization is subject to the following conditions:

September 2015 (revised May 2016)

- a. The waiver may be authorized where a pollutant is determined to be present solely due to sanitary wastewater discharged from the facility provided that the sanitary wastewater is not regulated by an applicable categorical Standard and otherwise includes no process wastewater.
 - b. The monitoring waiver is valid only for the duration of the effective period of the individual wastewater discharge permit, but in no case longer than 5 years. The IU must submit a new request for the waiver before the waiver can be granted for each subsequent individual wastewater discharge permit. See Section 4.5A(8).
 - c. In making a demonstration that a pollutant is not present, the IU must provide data from at least one sampling of the facility's process wastewater prior to any treatment present at the facility that is representative of all wastewater from all processes.
 - d. The request for a monitoring waiver must be signed in accordance with Section 1.4C, and include the certification statement in 6.14 A (40 CFR 403.6(a)(2)(ii)).
 - e. Non-detectable sample results may be used only as a demonstration that a pollutant is not present if the EPA approved method from 40CFR Part 136 with the lowest minimum detection level for that pollutant was used in the analysis.
 - f. Any grant of the monitoring waiver by the Liberty Utilities BMSC Operations Manager must be included as a condition in the IU's permit. The reasons supporting the waiver and any information submitted by the IU in its request for the waiver must be maintained by the Liberty Utilities BMSC Operations Manager for 3 years after expiration of the waiver.
 - g. Upon approval of the monitoring waiver and revision of the IU's permit by the Liberty Utilities BMSC Operations Manager, the IU must certify on each report with the statement in Section 6.14 C below, that there has been no increase in the pollutant in its waste stream due to activities of the IU.
 - h. In the event that a waived pollutant is found to be present or is expected to be present because of changes that occur in the IU's operations, the IU must immediately: Comply with the monitoring requirements of Section 6.4 A, or other more frequent monitoring requirements imposed by the Liberty Utilities BMSC Operations Manager, and notify the Liberty Utilities BMSC Operations Manager.
 - i. This provision does not supersede certification processes and requirements established in categorical Pretreatment Standards, except as otherwise specified in the categorical Pretreatment Standard.
- C. Reduced reporting is not available to IUs that have in the last two (2) years been in Significant Noncompliance, as defined in Section 9 of this SOP. In addition, reduced reporting

September 2015 (revised May 2016)

is not available to an IU with daily flow rates, production levels, or pollutant levels that vary so significantly that, in the opinion of the Liberty Utilities BMSC Operations Manager, decreasing the reporting requirement for this IU would result in data that are not representative of conditions occurring during the reporting period.

- D. All periodic compliance reports must be signed and certified in accordance with Section 6.14 A of this SOP.
- E. All wastewater samples must be representative of the IU's discharge. Wastewater monitoring and flow measurement facilities shall be properly operated, kept clean, and maintained in good working order at all times. The failure of an IU to keep its monitoring facility in good working order shall not be grounds for the IU to claim that sample results are unrepresentative of its discharge.
- F. If an IU subject to the reporting requirement in this section monitors any regulated pollutant at the appropriate sampling location more frequently than required by Liberty Utilities BMSC Operations Manager, using the procedures prescribed in Section 6.11 of this SOP, the results of this monitoring shall be included in the report. [Note: See 40CFR 403.12(g)(6)].

6.5 Reports of Changed Conditions

Each IU must notify Liberty Utilities BMSC Operations Manager of any significant changes to the IU's operations or system which might alter the nature, quality, or volume of its wastewater at least 90 days before the change.

- A. Liberty Utilities BMSC Operations Manager may require the IU to submit such information as may be deemed necessary to evaluate the changed condition, including the submission of a wastewater discharge permit application under Section 4.5 of this SOP.
- B. Liberty Utilities BMSC Operations Manager may issue an individual wastewater discharge permit under Section 5.7 of this SOP or modify an existing wastewater discharge permit under Section 5.4 of this SOP in response to changed conditions or anticipated changed conditions.

6.6 Reports of Potential Problems

- A. In the case of any discharge, including, but not limited to, accidental discharges, discharges of a non-routine, episodic nature, a non-customary batch discharge, a Slug Discharge or Slug Load, that might cause potential problems for the POTW, the IU shall immediately telephone and notify Liberty Utilities BMSC Operations Manager of the incident. This notification shall include the location of the discharge, type of waste, concentration and volume, if known, and corrective actions taken by the IU.
- B. Within five (5) days following such discharge, the IU shall, unless waived by Liberty

September 2015 (revised May 2016)

Utilities BMSC Operations Manager, submit a detailed written report describing the cause(s) of the discharge and the measures to be taken by the IU to prevent similar future occurrences. Such notification shall not relieve the IU of any expense, loss, damage, or other liability which might be incurred as a result of damage to the POTW, natural resources, or any other damage to person or property; nor shall such notification relieve the IU of any fines, penalties, or other liability which may be imposed pursuant to this SOP.

- C. A notice shall be permanently posted on the IU's bulletin board or other prominent place advising employees who to call in the event of a discharge described in paragraph A, above. Employers shall ensure that all employees, who could cause such a discharge to occur, are advised of the emergency notification procedure.
- D. Significant Industrial IUs are required to notify the Liberty Utilities BMSC Operations Manager immediately of any changes at its facility affecting the potential for a Slug Discharge.

6.7 Reports from Unpermitted IUs

All IUs not required to obtain an individual wastewater discharge permit shall provide appropriate reports to Liberty Utilities BMSC Operations Manager as Liberty Utilities BMSC Operations Manager may require.

6.8 Notice of Violation/Repeat Sampling and Reporting

If sampling performed by an IU indicates a violation, the IU must notify Liberty Utilities BMSC Operations Manager within twenty four (24) hours of becoming aware of the violation. The IU shall also repeat the sampling and analysis and submit the results of the repeat analysis to Liberty Utilities BMSC Operations Manager within thirty (30) days after becoming aware of the violation. Resampling by the IU is not required if Liberty Utilities BMSC performs sampling at the IU's facility at least once a month, or if Liberty Utilities BMSC performs sampling at the IU between the time when the initial sampling was conducted and the time when the IU or Liberty Utilities BMSC receives the results of this sampling, or if Liberty Utilities BMSC has performed the sampling and analysis in lieu of the IU.

6.9 Notification of the Discharge of Hazardous Waste

- A. Any IU who commences the discharge of hazardous waste shall notify the POTW, the EPA Regional Waste Management Division Director, and State hazardous waste authorities, in writing, of any discharge into the POTW of a substance which, if otherwise disposed of, would be a hazardous waste under 40 CFR Part 261. Such notification must include the name of the hazardous waste as set forth in 40 CFR Part 261, the EPA hazardous waste number, and the type of discharge (continuous, batch, or other). If the IU discharges more than one hundred (100) kilograms of such waste per calendar month to the POTW, the notification also shall contain the following information to the extent such information is known and readily available to the IU: an identification of the hazardous constituents contained in the wastes, an estimation of the mass and concentration of such constituents in

September 2015 (revised May 2016)

the waste stream discharged during that calendar month, and an estimation of the mass of constituents in the waste stream expected to be discharged during the following twelve (12) months. All notifications must take place no later than one hundred and eighty (180) days after the discharge commences. Any notification under this paragraph need be submitted only once for each hazardous waste discharged. However, notifications of changed conditions must be submitted under Section 6.5 of this SOP. The notification requirement in this Section does not apply to pollutants already reported by IUs subject to categorical Pretreatment Standards under the self monitoring requirements of Sections 6.1, 6.3, and 6.4 of this SOP.

- B. Dischargers are exempt from the requirements of paragraph A, above, during a calendar month in which they discharge no more than fifteen (15) kilograms of hazardous wastes, unless the wastes are acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e). Discharge of more than fifteen (15) kilograms of nonacute hazardous wastes in a calendar month, or of any quantity of acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e), requires a one time notification. Subsequent months during which the IU discharges more than such quantities of any hazardous waste do not require additional notification.
- C. In the case of any new regulations under section 3001 of RCRA identifying additional characteristics of hazardous waste or listing any additional substance as a hazardous waste, the IU must notify Liberty Utilities BMSC Operations Manager, the EPA Regional Waste Management Waste Division Director, and State hazardous waste authorities of the discharge of such substance within ninety (90) days of the effective date of such regulations.
- D. In the case of any notification made under this Section, the IU shall certify that it has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.
- E. This provision does not create a right to discharge any substance not otherwise permitted to be discharged by this SOP, a permit issued there under, or any applicable Federal or State law.

6.10 Analytical Requirements

All pollutant analyses, including sampling techniques, to be submitted as part of a wastewater discharge permit application or report shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto, unless otherwise specified in an applicable categorical Pretreatment Standard. If 40 CFR Part 136 does not contain sampling or analytical techniques for the pollutant in question, or where the EPA determines that the Part 136 sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analyses shall be performed by using validated analytical methods or any other applicable sampling and analytical procedures, including procedures suggested by the Liberty Utilities BMSC Operations Manager or other parties approved by EPA.

6.11 Sample Collection

Samples collected to satisfy reporting requirements must be based on data obtained through appropriate sampling and analysis performed during the period covered by the report, based on data that is representative of conditions occurring during the reporting period.

- A. Except as indicated in Section B and C below, the IU must collect wastewater samples using 24 hour flow proportional composite sampling techniques, unless time proportional composite sampling or grab sampling is authorized by Liberty Utilities BMSC Operations Manager. Where time proportional composite sampling or grab sampling is authorized by Liberty Utilities BMSC, the samples must be representative of the discharge. Using protocols (including appropriate preservation) specified in 40 CFR Part 136 and appropriate EPA guidance, multiple grab samples collected during a 24 hour period may be composited prior to the analysis as follows: for cyanide, total phenols, and sulfides the samples may be composited in the laboratory or in the field; for volatile organics and oil and grease, the samples may be composited in the laboratory. Composite samples for other parameters unaffected by the compositing procedures as documented in approved EPA methodologies may be authorized by Liberty Utilities BMSC, as appropriate. In addition, grab samples may be required to show compliance with Local Limits.
- B. Samples for oil and grease, temperature, pH, cyanide, total phenols, sulfides, and volatile organic compounds must be obtained using grab collection techniques.
- C. For sampling required in support of baseline monitoring and 90 day compliance reports required in Section 6.1 and 6.3 [40 CFR 403.12(b) and (d)], a minimum of four (4) grab samples must be used for pH, cyanide, total phenols, oil and grease, sulfide and volatile organic compounds for facilities for which historical sampling data do not exist; for facilities for which historical sampling data are available, Liberty Utilities BMSC Operations Manager may authorize a lower minimum. For the reports required by paragraphs Section 6.4 (40 CFR 403.12(e) and 403.12(h)), the IU is required to collect the number of grab samples necessary to assess and assure compliance by with applicable Pretreatment Standards and Requirements.

6.12 Date of Receipt of Reports

Written reports will be deemed to have been submitted on the date postmarked or if hand delivered, date received by Liberty Utilities BMSC.

6.13 Recordkeeping

IUs subject to the reporting requirements of this SOP shall retain, and make available for inspection and copying, all records of information obtained pursuant to any monitoring activities required by this SOP, any additional records of information obtained pursuant to monitoring activities undertaken by the IU independent of such requirements, and documentation associated with Best Management Practices established under Section 2.4 C. Records shall include the date, exact place,

method, and time of sampling, and the name of the person(s) taking the samples; the dates analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses. These records shall remain available for a period of at least three (3) years. This period shall be automatically extended for the duration of any litigation concerning the IU or Liberty Utilities BMSC, or where the IU has been specifically notified of a longer retention period by Liberty Utilities BMSC Operations Manager.

6.14 Certification Statements

- A. Certification of Permit Applications, IU Reports and Initial Monitoring Waiver-The following certification statement is required to be signed and submitted by IUs submitting permit applications in accordance with Section 4.7; IUs submitting baseline monitoring reports under Section 6.1 B (5); IUs submitting reports on compliance with the categorical Pretreatment Standard deadlines under Section 6.3; IUs submitting periodic compliance reports required by Section 6.4 A-D, and IUs submitting an initial request to forego sampling of a pollutant on the basis of Section 6.4B(4). The following certification statement must be signed by an Authorized Representative as defined in Section 1.3 C:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

- B. Annual Certification for Non-Significant Categorical Industrial IUs-A facility determined to be a Non Significant Categorical IU by Liberty Utilities BMSC Operations Manager pursuant to 1.3 GG(3) and 4.7 C [Note: See 40 CFR 403.3(v)(2)] must annually submit the following certification statement signed in accordance with the signatory requirements in 1.3 C [Note:

See 40 CFR 403.120(l)]. This certification must accompany an alternative report required by Liberty Utilities BMSC Operations Manager:

Based on my inquiry of the person or persons directly responsible for managing compliance with the categorical Pretreatment Standards under 40 CFR _____, I certify that, to the best of my knowledge and belief that during the period from _____, _____ to _____, [months, days, year]:

- (a) The facility described as _____ [facility name] met the definition of a Non Significant Categorical IU as described in 1.4 GG (3); [Note: See 40 CFR 403.3(v)(2)]

September 2015 (revised May 2016)

- (b) The facility complied with all applicable Pretreatment Standards and requirements during this reporting period; and © the facility never discharged more than 100 gallons of total categorical wastewater on any given day during this reporting period.

This compliance certification is based on the following information.

7. COMPLIANCE MONITORING

7.1 Right of Entry: Inspection and Sampling

Liberty Utilities BMSC Operations Manager shall have the right to enter the premises of any IU to determine whether the IU is complying with all requirements of this SOP and any individual wastewater discharge permit or order issued hereunder. IUs shall allow Liberty Utilities BMSC Operations Manager ready access to all parts of the premises for the purposes of inspection, sampling, records examination and copying, and the performance of any additional duties.

- A. Where an IU has security measures in force which require proper identification and clearance before entry into its premises, the IU shall make necessary arrangements with its security guards so that, upon presentation of suitable identification, Liberty Utilities BMSC Operations Manager shall be permitted to enter without delay for the purposes of performing specific responsibilities.
- B. Liberty Utilities BMSC Operations Manager shall have the right to set up on the IU's property, or require installation of, such devices as are necessary to conduct sampling and/or metering of the IU's operations.
- C. Liberty Utilities BMSC Operations Manager may require the IU to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the IU at its own expense. All devices used to measure wastewater flow and quality shall be calibrated [insert desired frequency] to ensure their accuracy.
- D. Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the IU at the written or verbal request of Liberty Utilities BMSC Operations Manager and shall not be replaced. The costs of clearing such access shall be born by the IU.
- E. Unreasonable delays in allowing Liberty Utilities BMSC Operations Manager access to the IU's premises shall be a violation of this SOP.

7.2 Search Warrants

If Liberty Utilities BMSC Operations Manager has been refused access to a building, structure, or property, or any part thereof, and is able to demonstrate probable cause to believe that there may be a violation of this SOP, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program of Liberty Utilities BMSC designed to verify compliance with this SOP or any permit or order issued hereunder, or to protect the overall public health, safety and welfare of the community, Liberty Utilities BMSC Operations Manager may seek issuance of a search warrant from the Maricopa County Court or other authorities as applicable.

8. CONFIDENTIAL INFORMATION

Information and data on a IU obtained from reports, surveys, wastewater discharge permit applications, individual wastewater discharge permits, and monitoring programs, and from the Liberty Utilities BMSC inspection and sampling activities, shall be available to the public without restriction, unless the IU specifically requests, and is able to demonstrate to the satisfaction of Liberty Utilities BMSC Operations Manager, that the release of such information would divulge information, processes, or methods of production entitled to protection as trade secrets under applicable State law. Any such request must be asserted at the time of submission of the information or data. When requested and demonstrated by the IU furnishing a report that such information should be held confidential, the portions of a report which might disclose trade secrets or secret processes shall not be made available for inspection by the public, but shall be made available immediately upon request to governmental agencies for uses related to the NPDES program or pretreatment program, and in enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics and other effluent data, as defined at 40 CFR 2.302 shall not be recognized as confidential information and shall be available to the public without restriction.

9. PUBLICATION OF IUS IN SIGNIFICANT NONCOMPLIANCE

Liberty Utilities BMSC Operations Manager shall publish annually, in a newspaper of general circulation that provides meaningful public notice within the jurisdictions served by Liberty Utilities BMSC, a list of the IUs which, at any time during the previous twelve (12) months, were in Significant Noncompliance with applicable Pretreatment Standards and Requirements. The term Significant Noncompliance shall be applicable to all Significant IUs (or any other IU that violates paragraphs (C), (D) or (H) of this Section) and shall mean:

- A. Chronic violations of wastewater discharge limits, defined here as those in which sixty six percent (66%) or more of all the measurements taken for the same pollutant parameter taken during a six (6) month period exceed (by any magnitude) a numeric Pretreatment Standard or Requirement, including Instantaneous Limits as defined in Section 2;

September 2015 (revised May 2016)

- B. Technical Review Criteria (TRC) violations, defined here as those in which thirty three percent (33%) or more of wastewater measurements taken for each pollutant parameter during a six (6) month period equals or exceeds the product of the numeric Pretreatment Standard or Requirement including Instantaneous Limits, as defined by Section 2 multiplied by the applicable criteria (1.4 for BOD, TSS, fats, oils and grease, and 1.2 for all other pollutants except pH);
- C. Any other violation of a Pretreatment Standard or Requirement as defined by Section 2 (Daily Maximum, long term average, Instantaneous Limit, or narrative standard) that Liberty Utilities BMSC Operations Manager determines has caused, alone or in combination with other discharges, Interference or Pass Through, including endangering the health of POTW personnel or the general public;
- D. Any discharge of a pollutant that has caused imminent endangerment to the public or to the environment, or has resulted in Liberty Utilities BMSC Operations Manager's exercise of its emergency authority to halt or prevent such a discharge;
- E. Failure to meet, within ninety (90) days of the scheduled date, a compliance schedule milestone contained in an individual wastewater discharge permit or enforcement order for starting construction, completing construction, or attaining final compliance;
- F. Failure to provide within forty five (45) days after the due date, any required reports, including baseline monitoring reports, reports on compliance with categorical Pretreatment Standard deadlines, periodic self monitoring reports, and reports on compliance with compliance schedules;
- G. Failure to accurately report noncompliance; or
- H. Any other violation(s), which may include a violation of Best Management Practices, which Liberty Utilities BMSC Operations Manager determines will adversely affect the operation or implementation of the local pretreatment program.

10. ADMINISTRATIVE ENFORCEMENT REMEDIES

10.1 Notification of Violation

When Liberty Utilities BMSC Operations Manager finds that an IU has violated, or continues to violate, any provision of this SOP, an individual wastewater discharge permit, or order issued hereunder, or any other Pretreatment Standard or Requirement, Liberty Utilities BMSC Operations Manager may serve upon that IU a written Notice of Violation. Within 14 days of the receipt of such notice, an explanation of the violation and a plan for the satisfactory correction and prevention thereof, to include specific required actions, shall be submitted by the IU to Liberty Utilities BMSC Operations Manager. Submission of such a plan in no way relieves the IU of liability for any violations occurring before or after receipt of the Notice of Violation. Nothing in this Section shall limit the authority of Liberty Utilities BMSC Operations Manager to take any action,

September 2015 (revised May 2016)

including emergency actions or any other enforcement action, without first issuing a Notice of Violation.

A. **Enforcement Actions.** In enforcing compliance with this Industrial Pretreatment Program, Liberty Black Mountain may take any of the following actions relating to an IU that has violated or continues to violate any provision of the Industrial Pretreatment Program and/or SOP.

- (1) Contact by inspector;
- (2) Provide educational material of BMP and TCC requirements and/or prohibitions;
- (3) Warning letter;
- (4) Notice of Violation;
- (5) Administrative Orders, which may include:
 - (a) Modification of wastewater discharge permits,
 - (b) Affirmative obligations, such as increased monitoring,
 - (c) Prohibited actions or obligations to cease and desist,
 - (d) Other appropriate orders;
- (6) Administrative Fines;
- (7) Emergency suspension or permanent termination of service;
- (8) Hearings to show cause;
- (9) Publication of significant violators and imposition of fines;
- (10) Judicial enforcement action, including injunctive relief and criminal prosecution.

B. **Enforcement Timeframes.** Enforcement Actions under this tariff shall be conducted in accordance with the following timeframes.

- (1) Enforcement responses to initial Pretreatment Program Violations will be initiated within ten (10) days of discovery or at the discretion of Liberty Black Mountain. Whenever use of an NOV as an enforcement response is selected, immediate issuance is allowed.
- (2) When appropriate, follow-up inspections will occur within ten (10) days of a due date specified in a Notice of Violation.
- (3) Follow-up escalated action for repeat or reoccurring offenses will be taken within ten (10) days of discovery of the repeat or reoccurring offenses and may include additional Administrative Enforcement, including Administrative Orders and Administrative Fines, and Judicial Enforcement.

September 2015 (revised May 2016)

- (4) In emergency situations caused by Violations, including imminent danger to the public health, safety, or welfare, and endangerment to persons or the environment, Liberty Black Mountain may initiate enforcement responses, including without limitation:
 - (a) Issuance of cease and desist orders;
 - (b) Service termination;
 - (c) Revocation or termination of any permits issued under this Industrial Pretreatment Program.

10.2 Consent Orders

Liberty Utilities BMSC Operations Manager may enter into Consent Orders, assurances of compliance, or other similar documents establishing an agreement with any IU responsible for noncompliance. Such documents shall include specific action to be taken by the IU to correct the noncompliance within a time period specified by the document. Such documents shall have the same force and effect as the administrative orders issued pursuant to Sections 10.4 and 10.5 of this SOP and shall be judicially enforceable.

10.3 Show Cause Hearing

Liberty Utilities BMSC Operations Manager may order an IU which has violated, or continues to violate, any provision of this SOP, an individual wastewater discharge permit, or order issued hereunder, or any other Pretreatment Standard or Requirement, to appear before Liberty Utilities BMSC Operations Manager and show cause why the proposed enforcement action should not be taken. Notice shall be served on the IU specifying the time and place for the meeting, the proposed enforcement action, the reasons for such action, and a request that the IU show cause why the proposed enforcement action should not be taken. The notice of the meeting shall be served personally or by registered or certified mail (return receipt requested) at least 30 days prior to the hearing. Such notice may be served on any Authorized Representative of the IU as defined in Section 1.4 C and required by Section 4.7 A. A show cause hearing shall not be a bar against, or prerequisite for, taking any other action against the IU.

10.4 Compliance Orders

When Liberty Utilities BMSC Operations Manager finds that a IU has violated, or continues to violate, any provision of this SOP, an individual wastewater discharge permit, or order issued hereunder, or any other Pretreatment Standard or Requirement, Liberty Utilities BMSC Operations Manager may issue an order to the IU responsible for the discharge directing that the IU come into compliance within a specified time. If the IU does not come into compliance within the time provided, sewer service may be discontinued unless adequate treatment facilities, devices, or other related appurtenances are installed and properly operated. Compliance orders also may contain other requirements to address the noncompliance, including additional self monitoring and management practices designed to minimize the amount of pollutants discharged to the sewer. A compliance order may not extend the deadline for compliance established for a Pretreatment Standard or Requirement, nor does a compliance order relieve the IU of liability for any violation,

September 2015 (revised May 2016)

including any continuing violation. Issuance of a compliance order shall not be a bar against, or a prerequisite for, taking any other action against the IU.

10.5 Cease and Desist Orders

When Liberty Utilities BMSC Operations Manager finds that a IU has violated, or continues to violate, any provision of this SOP, an individual wastewater discharge permit, or order issued hereunder, or any other Pretreatment Standard or Requirement, or that the IU's past violations are likely to recur, Liberty Utilities BMSC Operations Manager may issue an order to the IU directing it to cease and desist all such violations and directing the IU to:

- A. Immediately comply with all requirements; and
- B. Take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation, including halting operations and/or terminating the discharge. Issuance of a cease and desist order shall not be a bar against, or a prerequisite for, taking any other action against the IU.

10.6 Administrative Fines

- A. When Liberty Utilities BMSC Operations Manager finds that a IU has violated, or continues to violate, any provision of this SOP, an individual wastewater discharge permit, or order issued hereunder, or any other Pretreatment Standard or Requirement, Liberty Utilities BMSC Operations Manager may fine such IU in an amount not to exceed \$250 per day. Such fines shall be assessed on a per-violation, per-day basis. In the case of monthly or other long-term average discharge limits, fines shall be assessed for each day during the period of violation.
- B. Unpaid charges, fines, and penalties shall, after 90 calendar days, be assessed an additional penalty of 10 percent (10%) of the unpaid balance, and interest shall accrue thereafter at a rate of one percent (1 %) per month. A lien against the IU's property shall be sought for unpaid charges, fines, and penalties.
- C. IUs desiring to dispute such fines must file a written request for Liberty Utilities BMSC Operations Manager to reconsider the fine along with full payment of the fine amount within 30 days of being notified of the fine. Where a request has merit, Liberty Utilities BMSC Operations Manager may convene a hearing on the matter. In the event the IU's appeal is successful, the payment, together with any interest accruing thereto, shall be returned to the IU. Liberty Utilities BMSC Operations Manager may add the costs of preparing administrative enforcement actions, such as notices and orders, to the fine.
- D. Issuance of an administrative fine shall not be a bar against, or a prerequisite for, taking any other action against the IU.

10.7 Emergency Suspensions

September 2015 (revised May 2016)

Liberty Utilities BMSC Operations Manager may immediately suspend a IU's discharge, after informal notice to the IU, whenever such suspension is necessary to stop an actual or threatened discharge, which reasonably appears to present, or cause an imminent or substantial endangerment to the health or welfare of persons. Liberty Utilities BMSC Operations Manager may also immediately suspend an IU's discharge, after notice and opportunity to respond, that threatens to interfere with the operation of the POTW, or which presents, or may present, an endangerment to the environment.

- A. Any IU notified of a suspension of its discharge shall immediately stop or eliminate its contribution. In the event of an IU's failure to immediately comply voluntarily with the suspension order, Liberty Utilities BMSC Operations Manager may take such steps as deemed necessary, including immediate severance of the sewer connection, to prevent or minimize damage to the POTW, its receiving stream, or endangerment to any individuals. Liberty Utilities BMSC Operations Manager may allow the IU to recommence its discharge when the IU has demonstrated to the satisfaction of Liberty Utilities BMSC Operations Manager that the period of endangerment has passed, unless the termination proceedings in Section 10.8 of this SOP are initiated against the IU.
- B. A IU that is responsible, in whole or in part, for any discharge presenting imminent endangerment shall submit a detailed written statement, describing the causes of the harmful contribution and the measures taken to prevent any future occurrence, to Liberty Utilities BMSC Operations Manager prior to the date of any show cause or termination hearing under Sections 10.3 or 10.8 of this SOP.

Nothing in this Section shall be interpreted as requiring a hearing prior to any Emergency Suspension under this Section.

10.8 Termination of Discharge

In addition to the provisions in Section 5.6 of this SOP, any IU who violates the following conditions is subject to discharge termination:

- A. Violation of individual wastewater discharge permit conditions;
- B. Failure to accurately report the wastewater constituents and characteristics of its discharge;
- C. Failure to report significant changes in operations or wastewater volume, constituents, and characteristics prior to discharge;
- D. Refusal of reasonable access to the IU's premises for the purpose of inspection, monitoring, or sampling; or
- E. Violation of the Pretreatment Standards in Section 2 of this SOP.

Such IU will be notified of the proposed termination of its discharge and be offered an opportunity

September 2015 (revised May 2016)

to show cause under Section 10.3 of this SOP why the proposed action should not be taken. Exercise of this option by Liberty Utilities BMSC Operations Manager shall not be a bar to, or a prerequisite for, taking any other action against the IU.

11. JUDICIAL ENFORCEMENT REMEDIES

11.1 Injunctive Relief

When Liberty Utilities BMSC Operations Manager finds that a IU has violated, or continues to violate, any provision of this SOP, an individual wastewater discharge permit, or order issued hereunder, or any other Pretreatment Standard or Requirement, Liberty Utilities BMSC Operations Manager may petition the Maricopa County through Attorney for the issuance of a temporary or permanent injunction, as appropriate, which restrains or compels the specific performance of the individual wastewater discharge permit, order, or other requirement imposed by this SOP on activities of the IU. Liberty Utilities BMSC Operations Manager may also seek such other action as is appropriate for legal and/or equitable relief, including a requirement for the IU to conduct environmental remediation. A petition for injunctive relief shall not be a bar against, or a prerequisite for, taking any other action against an IU.

11.2 Civil Penalties

- A. An IU who has violated, or continues to violate, any provision of this SOP, an individual wastewater discharge permit, or order issued hereunder, or any other Pretreatment Standard or Requirement shall be liable to Liberty Utilities BMSC for a maximum civil penalty of \$250 per violation, per day. In the case of a monthly or other long term average discharge limit, penalties shall accrue for each day during the period of the violation.
- B. Liberty Utilities BMSC Operations Manager may recover reasonable attorneys' fees, court costs, and other expenses associated with enforcement activities, including sampling and monitoring expenses, and the cost of any actual damages incurred by Liberty Utilities BMSC.
- C. In determining the amount of civil liability, the Court shall take into account all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the magnitude and duration of the violation, any economic benefit gained through the IU's violation, corrective actions by the IU, the compliance history of the IU, and any other factor as justice requires.
- D. Filing a suit for civil penalties shall not be a bar against, or a prerequisite for, taking any other action against an IU.

11.3 Criminal Prosecution

- A. An IU who willfully or negligently violates any provision of this SOP, an individual wastewater discharge permit, or order issued hereunder, or any other Pretreatment Standard or Requirement shall be punishable by a fine of not more than \$250 per violation, per day and subject to misdemeanor violations, as applicable by law.
- B. An IU who willfully or negligently introduces any substance into the POTW which causes personal injury or property damage shall, \$250 per violation, per day and subject to

September 2015 (revised May 2016)

misdemeanor violations, as applicable by law. This penalty shall be in addition to any other cause of action for personal injury or property damage available under State law.

- C. A IU who knowingly makes any false statements, representations, or certifications in any application, record, report, plan, or other documentation filed, or required to be maintained, pursuant to this SOP, individual wastewater discharge permit, or order issued hereunder, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this SOP shall, upon conviction, be punished by a fine of not more than \$250 fine per day.
- D. In the event of a second conviction, a IU shall be punished by a fine of not more than \$500 fine per day.

11.4 Remedies Nonexclusive

The remedies provided for in this SOP are not exclusive. Liberty Utilities BMSC Operations Manager may take any, all, or any combination of these actions against a noncompliant IU. Enforcement of pretreatment violations will generally be in accordance with [the Liberty Utilities BMSC's] enforcement response plan. However, Liberty Utilities BMSC Operations Manager may take other action against any IU when the circumstances warrant. Further, Liberty Utilities BMSC Operations Manager is empowered to take more than one enforcement action against any noncompliant IU.

12. SUPPLEMENTAL ENFORCEMENT ACTION

12.1 Penalties for Late Reports

A penalty of \$100 shall be assessed to any IU for each day that a report required by this SOP, a permit or order issued hereunder is late, beginning five days after the date the report is due [higher penalties may also be assessed where reports are more than 30-45 days late]. Actions taken by Liberty Utilities BMSC Operations Manager to collect late reporting penalties shall not limit Liberty Utilities BMSC Operations Manager authority to initiate other enforcement actions that may include penalties for late reporting violations.

12.2 Performance Bonds {Optional}

Liberty Utilities BMSC Operations Manager may decline to issue or reissue an individual wastewater discharge permit to any IU who has failed to comply with any provision of this SOP, a previous individual wastewater discharge permit, or order issued hereunder, or any other Pretreatment Standard or Requirement, unless such IU first files a satisfactory bond, payable to Liberty Utilities BMSC, in a sum not to exceed a value determined by Liberty Utilities BMSC Operations Manager to be necessary to achieve consistent compliance.

12.3 Liability Insurance {Optional}

Liberty Utilities BMSC Operations Manager may decline to issue or reissue an individual wastewater discharge to any IU who has failed to comply with any provision of this SOP, a previous individual wastewater discharge permit, or order issued hereunder, or any other Pretreatment Standard or Requirement, unless the IU first submits proof that it has obtained financial assurances sufficient to restore or repair damage to the POTW caused by its discharge.

12.4 Payment of Outstanding Fees and Penalties {Optional}

Liberty Utilities BMSC Operations Manager may decline to issue or reissue an individual wastewater discharge permit to any IU who has failed to pay any outstanding fees, fines or penalties incurred as a result of any provision of this SOP, a previous individual wastewater discharge permit, or order issued hereunder.

12.5 Contractor Listing {Optional}

IUs which have not achieved compliance with applicable Pretreatment Standards and Requirements are not eligible to receive a contractual award for the sale of goods or services to Liberty Utilities BMSC. Existing contracts for the sale of goods or services to Liberty Utilities BMSC held by an IU found to be in Significant Noncompliance with Pretreatment Standards or Requirements may be terminated at the discretion of Liberty Utilities BMSC Operations Manager.

13. AFFIRMATIVE DEFENSES TO DISCHARGE VIOLATIONS**13.1 Upset**

- A. For the purposes of this Section, upset means an exceptional incident in which there is unintentional and temporary noncompliance with categorical Pretreatment Standards because of factors beyond the reasonable control of the IU. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- B. An upset shall constitute an affirmative defense to an action brought for noncompliance with categorical Pretreatment Standards if the requirements of paragraph C, below, are met.
- C. A IU who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and the IU can identify the cause(s) of the upset;
 - b. The facility was at the time being operated in a prudent and workman like manner and in compliance with applicable operation and maintenance procedures; and
 - c. The IU has submitted the following information to Liberty Utilities BMSC Operations

September 2015 (revised May 2016)

Manager within twenty four (24) hours of becoming aware of the upset [if this information is provided orally, a written submission must be provided within five (5) days]

- i. A description of the indirect discharge and cause of noncompliance;
 - ii. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and
 - iii. Steps being taken and/or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
- D. In any enforcement proceeding, the IU seeking to establish the occurrence of an upset shall have the burden of proof.
- E. IUs shall have the opportunity for a judicial determination on any claim of upset only in an enforcement action brought for noncompliance with categorical Pretreatment Standards.
- F. IUs shall control production of all discharges to the extent necessary to maintain compliance with categorical Pretreatment Standards upon reduction, loss, or failure of its treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

13.2 Prohibited Discharge Standards

A IU shall have an affirmative defense to an enforcement action brought against it for noncompliance with the general prohibitions in Section 2.1(A) of this SOP or the specific prohibitions applicable of this SOP if it can prove that it did not know, or have reason to know, that its discharge, alone or in conjunction with discharges from other sources, would cause Pass Through or Interference and that either:

- A. A Local Limit exists for each pollutant discharged and the IU was in compliance with each limit directly prior to, and during, the Pass Through or Interference; or
- B. No Local Limit exists, but the discharge did not change substantially in nature or constituents from the IU's prior discharge when Liberty Utilities BMSC or the City of Scottsdale was regularly in compliance with its AZPDES permit, and in the case of Interference, was in compliance with applicable sludge use or disposal requirements.

13.3 Bypass

- A. For the purposes of this Section,
 - a. Bypass means the intentional diversion of waste streams from any portion of an IU's treatment facility.

- b. Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- B. An IU may allow any bypass to occur which does not cause Pretreatment Standards or Requirements to be violated, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of paragraphs (C) and (D) of this Section.
- C. Bypass Notifications
 - a. If an IU knows in advance of the need for a bypass, it shall submit prior notice to

Liberty Utilities BMSC Operations Manager, at least ten (10) days before the date of the bypass, if possible.
 - b. An IU shall submit oral notice to Liberty Utilities BMSC Operations Manager of an unanticipated bypass that exceeds applicable Pretreatment Standards within twenty four (24) hours from the time it becomes aware of the bypass. A written submission shall also be provided within five (5) days of the time the IU becomes aware of the bypass. The written submission shall contain a description of the bypass and its cause; the duration of the bypass, including exact dates and times, and, if the bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass. Liberty Utilities BMSC Operations Manager may waive the written report on a case by case basis if the oral report has been received within twenty four (24) hours
- D. Bypass
 - a. Bypass is prohibited, and Liberty Utilities BMSC Operations Manager may take an enforcement action against a IU for a bypass, unless
 - i. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - ii. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - iii. The IU submitted notices as required under paragraph © of this section.

September 2015 (revised May 2016)

- b. Liberty Utilities BMSC Operations Manager may approve an anticipated bypass, after considering its adverse effects, if Liberty Utilities BMSC Operations Manager determines that it will meet the three conditions listed in paragraph (D)(1) of this Section.

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

PRETREATMENT STANDARDS TARIFF

EXECUTIVE SUMMARY

Liberty Utilities (Black Mountain Sewer) Corp. (“Liberty Black Mountain”) hereby declares that the following Code of Practice has been prepared and adopted to provide for pretreatment standards in the maintenance and operation of wastewater treatment at the City of Scottsdale Wastewater Treatment Plant (“CSWWTP”). This Code of Practice shall be filed with the Arizona Corporation Commission and made part of Liberty Black Mountain’s Wastewater Service Tariff, Part Four, Section I.B [Waste Limitations].

Liberty Black Mountain hereby expressly reserves the right to make any lawful addition and/or revisions in this Code of Practice when and as they may become advisable to properly manage the CSWWTP and to promote the peace, health, safety and welfare of the customers that will be served. This Code of Practice is supplementary to, and are not to be construed as, any abridgement of any lawful rights of Liberty Black Mountain as outlined in the Arizona Revised Statutes governing Public Utilities (Title 40) and the Arizona Administrative Corporation Commission Rules on Sewer (Title 14, Article 6), including the right to disconnect or to refuse permission to connect a customer to Liberty Black Mountain’s wastewater system for violation of this Code of Practice or any other applicable law of the State of Arizona.

This Code of Practice incorporates pretreatment standards per 40 CFR 403, A.A.C. Title 12, Article 4, and A.A.C. Title 18, Chapter 9, Article 3. This Code of Practice is enforceable per the authority granted to wastewater utilities established under A.A.C. Title 14, Chapter 2, Article 6 of the Arizona Administrative Code.

Approved: _____

Responsible Agent: Operations

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

CODE OF PRACTICE (Liberty Utilities BMSC-CP-01-DEF)

SECTION 1 – DEFINITIONS

A. PROHIBITED WASTE

Prohibited waste means:

1. Air Contaminant Waste

Any waste other than sanitary waste which, by itself or in combination with another substance, is capable of creating, causing or introducing an air contaminant outside any sewer or sewage facility or is capable of creating, causing or introducing an air contaminant within any sewer or sewage facility which would prevent safe entry by authorized personnel.

2. Flammable or Explosive Waste

Any pollutants which create a fire or explosion hazard to the sewer or any waste other than sanitary waste which, which by itself or in combination with another substance, is capable of causing or contributing to an explosion or supporting combustion in any sewer or sewage facility including, but not limited to gasoline, naphtha, propane, diesel, fuel oil, kerosene or alcohol.

3. Obstructive Waste

Any waste other than sanitary waste which, by itself or in combination with another substance, is capable of obstructing the flow of, or interfering with, the operation or performance of any sewer or sewage facility including, but not limited to: earth, sand, sweepings, gardening or agricultural waste, ash, chemicals, paint, metal, glass, sharps, rags, cloth, tar, asphalt, cement-based products, plastic, wood, waste portions of animals, fish or fowl and solidified fat.

4. Corrosive Waste

Any waste other than sanitary waste which, with corrosive properties which, by itself or in combination with any other substance, may cause damage to any sewer or sewage facility or which may prevent safe entry by authorized personnel.

5. High Temperature Waste

Any waste other than sanitary waste which, by itself or in combination with another substance, will create heat in amounts which will interfere with the operation and maintenance of a sewer or sewage facility or with the treatment of waste in a sewage facility;

Any waste other than sanitary waste which, will raise the temperature of waste entering any sewage facility to 40 degrees Celsius (104 degrees Fahrenheit) or more; or any non-domestic waste with a temperature of 65 degrees Celsius (150 degrees Fahrenheit) or more.

6. Biomedical Waste

Any of the following categories of biomedical waste: human anatomical waste, animal waste, untreated microbiological waste, waste sharps, medical products, and untreated human blood and body fluids known to contain viruses and agents.

Approved: _____

Responsible Agent: Operations

7. Miscellaneous Wastes

Any storm water, surface water, groundwater, roof runoff, or surface drainage is prohibited.

8. Dilution Wastes

Any discharge that has been in any way, been diluted as a substitute for pretreatment, for the purposes of obtaining compliance with any categorical standard or pretreatment requirement or any other requirement imposed by this article except where dilution is expressly authorized by an categorical standard.

9 Other Discharge Limitations.

Any discharge that is transported from the point of generation to the sewer by any hauler, unless the hauler has first:

- a. Obtained authorization to discharge from Liberty Black Mountain.
- b. Disclosed the nature, origin, and volume of the discharge.

Any waste, other than sanitary waste, which by itself or in combination with another substance:

- a. constitutes or may constitute a significant health or safety hazard to any person;
- b. Any waste other than sanitary waste which may interfere with any sewer or sewage treatment process;
- c. may cause a discharge from a sewage facility to contravene any requirements by or under any ADEQ or AZPDES discharge permit or any other act, approved Waste Minimization Plan (WMP), or any other law or regulation governing the quality of the discharge, or may cause the discharge to result in a hazard to people, animals, property or vegetation;
- d. may cause bio-solid to fail criteria for beneficial land application.

B. RESTRICTED WASTE (Liberty Utilities BMSC-CP-01-001)

Restricted waste means:

1. Specified Waste

Any waste other than sanitary waste which, at the point of discharge into a sewer, contains any contaminant at a concentration in excess of the limits set out below. All concentrations are expressed as total concentrations which includes all forms of the contaminant, whether dissolved or un-dissolved. The concentration limits apply to both grab and composite samples. Contaminant definitions and methods of analysis are outlined in standard methods.

ORGANIC CONTAMINANTS (µg/L)	
Benzene	35
Chloroform	2,000
4,4' - DOE	Not allowed
4,4' – DDT	Not allowed
Aldrin	Not allowed
BHC-Alpha	Not allowed

Approved: _____

Responsible Agent: Operations

BHC-Gamma (Lindane)	Not allowed
Heptachlor	Not allowed
Heptachlor Epoxide	Not allowed
Polychlorinated biphenyl compounds (PCBs)	Not allowed
TRACE METALS	
PARAMETER	DAILY AVERAGE (mg/L)
Arsenic	0.13
Cadmium (Cd)	0.047
Copper (Cu)	1.5
Cyanide (CN)	2.0
Lead (Pb)	0.41
Mercury (Hg)	0.0023
Selenium (Se)	0.10
Silver (Ag)	1.2
Zinc (Zn)	3.5

2. Food Waste

Any solid or viscous pollutants, animal fats, oil, and grease (FOG) in amounts that may cause obstruction to the flow in sewers or pass through or other interference or damage to the sewer collection system. Any pollutant, including oxygen demanding pollutants (BOD, COD, TOC, etc.) released in a discharge flow at a rate and/or pollutant concentration which may cause interference with the sewer collection system or wastewater treatment process. This also includes petroleum oil, non-biodegradable cutting oil, or other products of mineral oil origin in amounts that may cause interference or pass through at the wastewater treatment facility.

3. Brewery Waste

Any discharge containing solid or other substances in which sufficient quantity to cause or have the potential to cause obstruction to the flow in sewers or pass through or other interference or damage to the sewer collection system. Any pollutant, including oxygen demanding pollutants (BOD, COD, TOC, etc.) and/or suspended solids released in a discharge flow at a rate and/or pollutant concentration which may cause interference with the sewer collection system or wastewater treatment process.

4. Radioactive Waste

Any discharge containing a toxic, radioactive, poisonous or other substances in which sufficient quantity to cause or have the potential to cause injury or damage to a person or property or interference with any sewage treatment process, cause corrosive structural damage, constitute a hazard to humans or create any hazard to the sewer system or the effluent of the sewer system. All such wastes shall be subject to compliance with Nuclear Regulatory Commission standards for sewer disposal including the Unity Equation.

Approved: _____

Responsible Agent: Operations

5. pH Waste

Any discharge with a pH less than 5.5 standard units (SU) or greater than 10.5 SU as determined by either a grab or a composite sample.

6. Dyes and Coloring Material

Dyes or coloring materials which may pass through a sewage facility and discolor the effluent from a sewage facility except where the dye is used by the Liberty Utilities BMSC, or one or more of its agents, as a tracer.

7. Miscellaneous Restricted Wastes

Any of the following wastes:

- a. 4,4' – DDE
- b. 4,4' – DDT
- c. Aldrin
- d. BHC—Alpha
- e. BHC—Beta
- f. BHC—Gamma (Lindane)
- g. Heptachlor.
- h. Heptachlor epoxide.
- i. Polychlorinated biphenyl compounds (PCB's)

7. Temperature

Any waste other than sanitary waste which, will raise the temperature of waste entering any sewage facility to 40 degrees Celsius (104 degrees Fahrenheit) or more; or any non-domestic waste with a temperature of 65 degrees Celsius (150 degrees Fahrenheit) or more.

Approved: _____

Responsible Agent: Operations

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

CODE OF PRACTICE (Liberty Utilities BMSC-CP-01-002)

SECTION 2 - DENTAL OPERATIONS

I. APPLICATION

This code of practice for dental operations defines mandatory requirements for managing non-domestic waste discharged directly or indirectly into a sewer connected to a sewage facility.

This code of practice applies to dental operations.

II. DISCHARGE REGULATIONS

An operator of a dental operation must not discharge waste which, at the point of discharge into a sewer, contains:

- a. prohibited waste, special waste, or storm water ; or
- b. restricted waste with the exception of mercury measured at the point of discharge from a certified amalgam separator.

An operator of a dental operation that produces liquid waste from photographic imaging containing silver shall comply with the requirements of Liberty Utilities BMSC-CP-01-001.

An operator of a dental operation that produces wastewater containing dental amalgam must either:

- a. collect and transport the wastewater from the dental operation for off-site waste management; or
- b. treat the wastewater at the dental operation site prior to discharge to the sewer using a certified amalgam separator.

An operator of a dental operation must install and maintain the amalgam separator according to the manufacturer's or supplier's recommendations in order that the amalgam separator functions correctly. Such separator must be certified for use by the manufacturer.

An operator of a dental operation who installs an amalgam separator must ensure that:

- a. all dental operation wastewater that contains dental amalgam is treated using the amalgam separator;
- b. a monitoring point is installed at the outlet of the amalgam separator or downstream of the amalgam separator at a location upstream of any discharge of other waste;
- c. the monitoring point must be installed in such a manner that the total flow from the amalgam separator may be intercepted and sampled; and
- d. the monitoring point shall be readily and easily accessible at all times for inspection.

If the amalgam separator is located downstream of a wet vacuum system, an operator of a dental operation must ensure that:

- a. the wet vacuum system is fitted with an internal flow control fitting; or
- b. a flow control fitting is installed on the water supply line to the wet vacuum system.

The flow control fitting must be sized to limit the flow to a rate that is no more than the maximum inlet flow rate of the amalgam separator as stated by the manufacturer of the amalgam separator.

Approved: _____

Responsible Agent: Operations

An operator of a dental operation must locate an amalgam separator in such a manner that an accidental spill, leak or collecting container failure will not result in waste containing amalgam entering any sewer. If a location is not available, an operator of a dental operation must do one of the following:

- (a) install spill containment to contain spills or leaks from the amalgam separator; or
- (b) cap all floor drains into which liquid spilled from the amalgam separator would normally flow.

An operator of a dental operation must replace the amalgam separator's collecting container when any one of the following occurs:

- (a) the manufacturer's or supplier's recommended expiry date, as shown on the amalgam separator, has been reached; or
- (b) the warning level specified by the manufacturer has been reached; or
- (c) analytical data obtained using a method of analysis outlined in standard methods, or an alternative method of analysis approved by the manager, having a method detection limit of 0.0000005 mg/L or lower, indicates that the total concentration of mercury in the discharge from the amalgam separator is greater than, or equal to 0.005 mg/l.

An operator of a dental operation shall not dispose of dental amalgam collected in an amalgam separator, a collecting container, or any other device, to a sewer.

III. RECORD KEEPING AND RETENTION

An operator of a dental operation that uses an amalgam separator must keep, at the site of installation of the amalgam separator, an operation and maintenance manual containing instructions for installation, use, maintenance and service of the amalgam separator installed.

An operator of a dental operation that uses an amalgam separator must post, at the site of installation of the amalgam separator, a copy of the manufacturer's standard test report pertaining to the amalgam separator installed.

An operator of a dental operation that uses an amalgam separator must keep a record book at the dental operation site that includes the following information pertaining to the amalgam separator installed:

- a. date of installation of the amalgam separator and name of the installation service provider;
- b. serial number and expiry date of the amalgam separator and/or its components;
- c. maximum recommended flow rate through the amalgam separator, where applicable;
- d. dates of inspection, maintenance, cleaning and replacement of any amalgam separation equipment or components;
- e. dates and descriptions of all operational problems, spills, leaks or collecting container failures associated with the amalgam separator and remedial actions taken;
- f. name, address and telephone number of any person or company who performs any maintenance or disposal services related to the operation of the amalgam separator; and
- g. dates of pick-up of the collecting container for off-site disposal, volume of waste disposed and the location of disposal.

The records must be retained for a period of two years and must be available on request by an company representative.

Approved: _____

Responsible Agent: Operations

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

CODE OF PRACTICE (Liberty Utilities BMSC-CP-01-003)

SECTION 3 - DRY CLEANING OPERATIONS

I. APPLICATION

This code of practice for Dry Cleaning operations defines the requirements for managing waste discharged directly or indirectly into a sewer connected to a sewage facility from dry cleaning businesses, or other facilities employing solvent or chemical cleaning routines.

Definitions are included in Liberty Utilities BMSC-CP-01-DEF.

II. DISCHARGE REGULATIONS

An operator of a dry cleaning operation must not discharge waste, which at the point of discharge into a sewer contains:

- (a) Petroleum solvent in a concentration that is in excess of 15 milligrams per liter as analyzed in a grab sample; and
- (b) Prohibited waste, restricted waste, special waste, storm water, or uncontaminated water.

Solvent Water Separators and Holding Tanks

Solvent/water separator and holding tank installations must conform to the requirements of this code of practice.

An operator of a dry cleaning operation shall not directly discharge wastewater from the solvent/water separator to a sewage facility

All dry cleaning operations in business that generate wastewater containing tetrachloroethylene, perchloromethylene, or petroleum solvent, but do not have a solvent/water separator and holding tank shall install and maintain a solvent/water separator and holding tank when any of the following occur:

- (a) The dry cleaning operation is renovated, to modify the plumbing or dry cleaning equipment;
- (b) New equipment, designed specifically for dry cleaning, is added to the dry cleaning operation; or
- (c) The discharge from the dry cleaning operation exceeds the discharge limits specified above or any of the restricted waste criteria specified in Liberty Utilities BMSC-CP-01-DEF.

An operator of a dry cleaning operation must:

- (a) Collect the wastewater discharged from a solvent/water separator into a transparent, solvent-compatible, holding tank with a containment capacity 25% larger than the total volume of the solvent/water separator; and
- (b) Allow the wastewater to stand undisturbed for a period of not less than 12 hours following each operating date.

If the holding tank contains any visible tetrachloroethylene or petroleum solvent after the specified period of time, then the tetrachloroethylene or petroleum solvent must be separated and returned to the solvent recovery system. After the removal of all visible solvent, the wastewater may be discharged to the sanitary sewer.

Approved: _____

Responsible Agent: Operations

Visual Inspections

An operator of a dry cleaning operation must:

- (a) Visually inspect the solvent/water separator on a daily basis and
- (b) Clean the solvent/water separator at least once every seven (7) days to manufacturer's standards.

Spills and Leaks

An operator of a dry cleaning operation must install spill containment facilities in all chemical storage areas and around all dry cleaning machines.

An operator of a dry cleaning operation must block off all sewer drains within the containment area for chemical storage and dry cleaning equipment to prevent any accidental discharge of solvent to a sewer.

An operator of a dry cleaning operation must inspect all dry cleaning equipment for liquid leaks at least once per day.

An operator of a dry cleaning operation must keep all equipment clean to ensure that leaks are visible. The following areas and items are to be checked for leaks:

- (i) hose connections, unions, couplings and valves
- (ii) machine door gasket and seating
- (iii) filter head gasket and seating
- (iv) pumps
- (v) base tanks and storage
- (vi) solvent/water separators
- (vii) filter sludge recovery
- (viii) distillation unit
- (ix) diverter valves
- (x) saturated lint in lint baskets
- (xi) holding tanks
- (xii) cartridge filters

An operator of a dry cleaning operation who detects any liquid leak from dry cleaning equipment or chemical storage must repair the leak within 72 hours and must immediately prevent any discharge of contaminants to a sewer.

III. RECORD KEEPING AND RETENTION

Every dry cleaning operation must keep a record book on site for inspection with records from the previous two years.

The following information shall be recorded in the record book:

- (i) record of all inspections done by the operator, employees or other hired personnel;
- (ii) record of any liquid leaks detected and remedial action taken;
- (iii) record of solvent/water separator cleaning;
- (iv) record of holding tank cleaning and solvent transfer; and
- (v) record of all other equipment maintenance and repair.

Approved: _____

Responsible Agent: Operations

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

CODE OF PRACTICE (Liberty Utilities BMSC-CP-01-004)

SECTION 4 - FOOD SERVICE OPERATIONS

I. APPLICATION

This code of practice for Food Service operations defines the requirements for managing waste discharged directly or indirectly into a sewer connected to a sewage facility from restaurants, or other facilities employing food service (such as food preparation services) as a primary or secondary business operation. Traps, interceptors and separators shall be provided to prevent the discharge of oil, grease, sand and other substances harmful or hazardous to the building drainage system, the collection system the private sewage disposal system or the sewage treatment plant or processes.

Traps, interceptors and separators shall be installed:

- (a) operators of a food services operation that adds kitchen equipment that discharges oil and grease;
- (b) operators of a food services operation that discharges non-domestic waste to sewer that exceeds any of the restricted waste criteria specified in Liberty Utilities BMSC-CP-01-DEF; or
- (c) any food service operation, as determined by Liberty Black Mountain's wastewater operations group.
- (d) at new facilities
- (e) at existing food service facilities, not equipped with a trap, interceptor or separator, when additions, alterations or remodel are done which increase servicing volume, seating capacity, , etc.
- (f) at existing food service facilities, equipped with a trap, interceptor or separator, when additions, alterations or remodel are done which increase servicing volume, seating capacity, changes to the menu, etc.
- (g) at any non-food facilities when additions, alterations, or remodeling is proposed for the purpose of food preparation and service.
- (h) at existing facilities not equipped with a trap, interceptor or separator, which is proposed for the purpose of food preparation and service.

Definitions are included in Liberty Utilities BMSC-01-DEF.

II. DISCHARGE REGULATIONS

An operator of a Food Service Operation must not discharge waste, which at the point of discharge into a sewer, contains:

- 1. Prohibited waste, restricted waste, special waste, storm water, or uncontaminated water.

III. GREASE INTERCEPTORS

Grease interceptors are required to be installed and maintained by the Owner of food service operations within the collection system of Liberty Black Mountain facilities. Grease interceptor installations shall conform to the requirements of this code of practice.

Interceptors, such as grease, oil, or sand shall be provided by laundries, restaurants, service stations, auto repair shops, carwashes and other industrial users when, in the opinion of Liberty Black Mountain, interceptors are necessary for the proper handling of wastewater containing oil and grease or sand or any flammable wastes. Such interceptors shall not be required for domestic users.

Construction:

All traps, interceptors and separators shall be constructed of impervious materials capable of withstanding abrupt

Approved: _____

Responsible Agent: Operations

and extreme changes in temperature. New or upgraded grease device shall have a three-lid manhole, properly sized per Table 1. Traps, interceptors and separators shall be watertight, and equipped with easily removable covers. Covers shall be gastight and watertight.

Cleaning and Maintenance:

Cleaning and maintenance must be performed when total volume of captured oil, grease and solids material displaces more than twenty-five (25) percent of the total volume of the trap, interceptor or separator or when the pH of a sample taken from the effluent side of the interceptor drops below 5.0 or when odor generation becomes a health issue or when the Liberty Black Mountain inspection determines a cleaning is necessary.

Maintenance Records:

All traps, interceptors and separators shall be maintained by the user in efficient operating condition at all times. Written records and documentation of all cleaning, repair, calibration, and maintenance shall be maintained at the facility for a minimum of three (3) years and be made available upon request.

Maintenance Inspection:

All traps, interceptors and separators shall be inspected by Liberty Black Mountain representative during normal working hours. Inspection results shall be made available to person, firm or corporation in reasonable charge of the traps, interceptors and separators. Liberty Black Mountain representative shall require correction in order to enforce Liberty Black Mountain pretreatment code of practices.

Skimming:

Skimming, decanting or discharging of removed waste or wastewater back into any traps, interceptors and separators or any appurtenance of the wastewater collection system is strictly prohibited.

Pumping:

All oil, sand and grease interceptors shall be pumped out or cleaned out completely not less than once every ninety (90) calendar days. Grease traps must be cleaned out completely not less than once every thirty (30) calendar days. Traps and interceptors shall be cleaned more frequently when necessary or required.

Bacteria as a Substitute:

The use of bacteria additives as a supplement to maintenance may be authorized by Liberty Black Mountain when a written request is made to the Liberty Black Mountain, which includes material safety data sheets. The addition of emulsifiers, de-emulsifiers, surface active agents, enzymes, or degreasers directly or into any drain leading to any grease removal device is strictly prohibited unless approved by Liberty Black Mountain.

Use:

Traps, interceptors and separators shall be single user only. When an interceptor can be safely used by multiple users (e.g., food courts), multiple users may be allowed when approved by Liberty Black Mountain. Multiple facilities operated by the same person, firm or corporation may be allowed to connect to a single interceptor with approval from Liberty Black Mountain. The person, firm or corporation in reasonable charge of the trap, interceptor or separator shall take any and all steps necessary to assure adequacy which includes repair, modification or replacement.

Approved: _____

Responsible Agent: Operations

Alternate Devices and Technology:

Alternative devices and technologies shall be submitted to Liberty Black Mountain for approval before any such device is installed. The service facility will be required to furnish analytical data demonstrating the effluent discharge concentration to Liberty Black Mountain's wastewater collection system will not exceed those listed in Liberty Utilities BMSC-CP-01-001.

Sizing:

All traps, interceptors and separators shall be properly sized per Table 1. When an interceptor is sized less than five hundred (500) gallons or more than two thousand five hundred (2,500) gallons, the person, firm or corporation making the permit application shall first meet with Liberty Black Mountain to verify the reduced or increased size has been correctly calculated and that no other options are available.

Size Modification:

Modifying the size of any trap or interceptor shall only be done when sizing per Table 1 allows the modification. Modifying the size of any trap or interceptor shall not be done without the approval of Liberty Black Mountain.

Domestic Wastewater:

Domestic wastewater shall not be discharged to the interceptor.

Minimization Plan:

All facilities required to install and operate a trap, interceptor or separator shall develop and implement a Waste Minimization Plan pertaining to the disposal of grease, oils, and food bearing wastes.

Best Management:

All establishments requiring a trap, interceptor or separator shall adopt BMP's (Best Management Practices) for handling sources of floatable oils, fat or grease originating within their facility. Proof of employee training in BMP's shall be shown to Liberty Black Mountain upon request.

Other Fixtures:

Toilets, urinals, and other similar fixtures shall not discharge through a grease interceptor.

Minimization Program:

The applicant shall establish and submit a written waste minimization plan (maintenance program) outlining specific methods (Best Management Practices) that the facility will use on a daily basis to reduce the discharge of oil and grease as well as solids from entering the interception device and ultimately, the Liberty Black Mountain sewer system. This plan shall be acceptable to and approved by Liberty Black Mountain . The approved document shall accompany the permit application.

Discharge Permit:

This document will be used in lieu of a discharge permit to assist with enforcing all Liberty Black Mountain's codes of practices.

Approved: _____

Responsible Agent: Operations

Grease interceptors and automatic grease removal devices required:

A grease interceptor or automatic grease removal device shall be required to receive the drainage from fixtures and equipment with grease-laden waste located in food preparation areas, such as in restaurants, hotel kitchens, hospitals, school kitchens, bars, factory cafeterias, caterers, nursing homes, day care center, churches and clubs. Fixtures and equipment shall include pot sinks, pre-rinse sinks; soup kettles or similar devices; work stations; floor drains or sinks into which kettles are drained; automatic hood wash units and dishwashers without pre-rinse sinks. Grease interceptors and automatic grease removal devices shall receive waste only from fixtures and equipment that allow fats, oils or grease to be discharged. Interceptors, such as grease, oil or sand shall be provided at laundries, restaurants, service stations, auto repair shops, carwashes and other industrial users when the proper handling of wastewater containing oil and grease or sand or any flammable wastes is necessary.

Location:

All Interceptors shall be approved and shall be located to be readily and easily accessible for cleaning and inspection.

Food waste grinder:

Where food waste grinders connect to grease interceptors, a solids interceptor shall separate the discharge before connecting to the grease interceptor. Solids interceptors and grease interceptors shall be sized and rated for the discharge of the food waste grinder. Emulsifiers, chemicals, enzymes and bacteria shall not discharge into the food waste grinder. Liberty Black Mountain shall require any user to cease operation of a garbage grinder and permanently remove such equipment when it is determined that the grinder is imposing any adverse effect on interceptor function.

Grease interceptor capacity:

Grease interceptors shall have the grease retention capacity indicated in Table 1 for the flow-through rates indicated. Liberty Black Mountain shall make determinations of interceptor adequacy and need, based on review of all relevant information regarding interceptor performance, facility site and building plan review and to require repairs to, modifications, or replacement of such traps.

Approved: _____

Responsible Agent: Operations

TABLE 1 - CAPACITY OF GREASE INTERCEPTORS - EPA-2 Model

A. Determine maximum drainage flow from fixtures:					
Type of Fixture	Total Fixtures		Flow Rate	=	Amount
Restaurant kitchen sink	_____	X	15 gpm	=	_____
Single compartment sink	_____	X	20 gpm	=	_____
Double compartment sink	_____	X	25 gpm	=	_____
2, single compartment sinks	_____	X	25 gpm	=	_____
2, double compartment sinks	_____	X	35 gpm	=	_____
Triple sink 1.5 inch drain	_____	X	35 gpm	=	_____
Triple sink 2 inch drain	_____	X	50 gpm	=	_____
30 gallon dishwasher	_____	X	15 gpm	=	_____
50 gallon dishwasher	_____	X	25 gpm	=	_____
50--100 gallon dishwasher	_____	X	40 gpm	=	_____
B. Total	Number of fixtures			=	_____ gpm
C. Loading Factors					
Restaurant type	Fast food-paper delivery			=	.50
	Low volume			=	.50
	Medium volume			=	.75
	High Volume			=	1.0
D. B x C = D, subtotal					
E. D x 60 = Subtotal x 60 minutes = E, maximum flow for one (1) hour, in gallons					
F. E x 2 = maximum flow for one hour times two (2) hours retention time (based on restaurant volume) = F, volume of trap in gallons = _____					

Access and maintenance of traps, interceptors, and separators:

Complete access shall be provided to each interceptor and separator for service, maintenance and inspection of the inner chamber(s) and viewing and sampling of effluent wastewater discharged to the sewer. Interceptors and separators shall be maintained by periodic removal of accumulated grease, scum, oil, or other floating substances and solids deposited in the interceptor or separator.

Periodic Inspection:

All traps, inceptors and separators shall be subject to periodic inspections by Liberty Black Mountain during normal operating hours. These inspections can be based on an annual inspection or when a complaint is registered with Liberty Black Mountain regarding a grease-removal device. Should the inspection of any trap, interceptor or separator indicate a violation of any item in (1) thru (3) below, the person, firm or corporation in reasonable charge shall bring the device into compliance within the timeframe noted on the notice of violation, but not longer than fourteen (14) calendar days.

- (1) If twenty-five (25) percent of the interceptor is full; both surface (oil and grease) and bottom (solids).

Approved: _____

Responsible Agent: Operations

(2) When OSHA (Occupational, Safety and Health Administration) atmospheric levels of Hydrogen Sulfide limits have been exceeded - "Short Term Exposure Limit" (STEL) of fifteen (15) ppm over a fifteen-minute time-weighted average. When the "Immediately Dangerous to Life and Health" (IDLH) level is 100 ppm or above, immediate action shall be performed to return the level of Hydrogen Sulfide to safe and acceptable limits. If the violation cannot be immediately resolved, all use of the Trap, Interceptor or Separator shall cease until compliance is obtained.

(3) When pH in the effluent chamber falls below 5.0 - which is an unhealthy anaerobic interceptor condition.

Maintenance:

Any trap, interceptor or separator not adequately maintained to prevent floatable oils, fat or grease from entering the sewerage system or produce excessive odors shall be in violation of Liberty Black Mountain codes of practice.

Clearing Obstructions:

Liberty Black Mountain shall take appropriate action to clear any obstruction of the Liberty Black Mountain sewer that causes a sewer overflow. When the obstruction is found to be caused by an over-burdened or non-maintained trap, interceptor or separator, the person, firm or corporation in reasonable charge of the trap, interceptor or separator reimbursement of Liberty Black Mountain costs associated with clean-up efforts including any fines leveled against Liberty Black Mountain. Any establishments that continuously violates Liberty Black Mountain codes of practice shall be subject to having sewer service discontinued.

Contain and/or Clean Up:

Should Liberty Black Mountain find it necessary to contain and/or clean up a private sanitary sewer overflow caused by blockage of private or public sewer lateral or system, all associated cost shall be the responsibility of the person, firm or corporation in reasonable charge of the property.

Repairs or Replacements:

When repairs or replacements are necessary to a trap, interceptor or separator, all repairs or replacements shall be completed within the time frame stated on the notice to comply. Liberty Black Mountain may authorize a time extension, not to exceed thirty (30) days, for justifiable cause.

Grease Removal:

The person, firm or corporation in reasonable charge shall remove and dispose of grease at a facility permitted to receive and process such waste. Cleaning frequencies shall be dependent on the amount of oil, grease or solids generated at each operation, the size of the grease trap or interceptor, and the approved written waste minimization program, but not to exceed thirty-day intervals for traps and ninety-day intervals for interceptors. Traps and interceptors shall be cleaned by a licensed contractor.

Interference, Operation and Odors:

Any facility whose effluent discharge into the sewerage system causes interference in the conveyance system, operation of the sewerage system, or emits excessive odors shall be required to sample the discharge from the trap, interceptor or separator and have it analyzed for oil and grease and sulfides, total and dissolved. Results of the analysis shall be immediately reported. Liberty Black Mountain may sample the grease interception device at any time, utilizing Liberty Black Mountain representatives. The person, firm or corporation in reasonable charge shall be responsible for any and all associated cost of such testing or sampling.

Approved: _____

Responsible Agent: Operations

IV. RECORD KEEPING AND RETENTION

An operator of a food services operation must keep a record at the food services operation of all grease interceptor inspection and maintenance activities including:

- (a) the date of inspection or maintenance;
- (b) the maintenance conducted;
- (c) the type and quantity of material removed from the grease interceptor; and
- (d) the location of disposal of the material removed from the grease interceptor.

The records shall be retained for a period of three years, and shall be available on request by an company representative.

Approved: _____

Responsible Agent: Operations

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

CODE OF PRACTICE (Liberty Utilities BMSC-CP-01-005)

SECTION 5 - PHOTOGRAPHIC IMAGING OPERATIONS

I. APPLICATION

This code of practice for photographic imaging operations defines mandatory requirements for managing non-domestic waste discharged directly or indirectly into a sewer connected to a sewage facility.

This code of practice applies to photographic imaging operations. Definitions are included in Liberty Utilities BMSC-CP-01-DEF.

II. DISCHARGE REGULATIONS

An operator of a photographic imaging operation must not discharge waste which, at the point of discharge into a sewer, contains:

- (a) silver in a concentration that is in excess of prescribed local limit analyzed in a grab sample; or,
- (b) prohibited waste, restricted waste, special waste, storm water, or uncontaminated water as defined in Liberty Utilities BMSC-CP-01-DEF.

An operator of a photographic imaging operation that produces liquid waste containing silver must either:

- (a) collect and transport the waste from the photographic imaging operation for off-site waste management; or
- (b) treat the waste at the photographic imaging operation site prior to discharge to the sewer using one of the following silver recovery technologies:
 - (i) two chemical recovery cartridges connected in a series;
 - (ii) an electrolytic recovery unit followed by two chemical recovery cartridges connected in series; or
 - (iii) any other silver recovery technology, or combination of technologies, capable of reducing the concentration of silver in the waste to 1.2 mg/L or less where valid analytical test data has been submitted to and accepted by the Liberty Black Mountain wastewater group.

An operator of a photographic imaging operation must install and maintain silver recovery technology according to the manufacturer's or supplier's recommendations.

An operator of a photographic imaging operation must collect all liquid waste containing silver in a holding tank and must deliver this waste to the chemical recovery cartridges using a metering pump.

An operator of a photographic imaging operation must calibrate the metering pump at least once per year.

Spill/Leak Prevention

An operator of a photographic imaging operation must locate the silver recovery system in such a manner that an accidental spill, leak or container failure will not result in liquid waste containing silver in concentrations greater than 1.2 mg/L entering any sewer.

If a location referred to above is not available, an operator of a photographic imaging operation must do one of the following:

- (a) install spill containment to contain spills or leaks from the silver recovery system; or

Approved: _____

Responsible Agent: Operations

- (b) cap all floor drains into which liquid spilled from the silver recovery system would normally flow.

Testing

When using two separate chemical recovery cartridges, an operator of a photographic imaging operation must test the discharge from the first cartridge for silver content at least once per month using either silver test paper or a portable silver test kit.

When the discharge from the first chemical recovery cartridge referred to above cannot be sampled, an operator of a photographic imaging operation must:

- (a) install a cumulative flow meter on the silver recovery system; and
- (b) test the discharge from the second chemical recovery cartridge once per week using silver test paper or a silver test kit.

Cartridge Replacement

An operator of a photographic imaging operation must replace the chemical recovery cartridges when any one of the following occurs:

- (a) the manufacturer's or supplier's recommended expiry date, as shown on each cartridge, has been reached;
- (b) eighty percent (80%) of the manufacturer's or supplier's maximum recommended capacity, or total cumulative flow, for each cartridge has been reached;
- (c) test data, using silver test paper or a silver test kit, indicates that the discharge from the first cartridge is greater than 1000 mg/L; or
- (d) analytical data using a method of analysis outlined in standard methods, or an alternative method of analysis approved by the manager, having a method detection limit of 0.5 mg/L silver or lower, indicates that the concentration of silver in the discharge from the silver recovery system is greater than, or equal to, 1.2 mg/L.

III. RECORD KEEPING AND RETENTION

An operator of a photographic imaging operation that uses a silver recovery system must keep, at the photographic imaging operation site, an operation and maintenance manual pertaining to all equipment used in the silver recovery system.

An operator of a photographic imaging operation that uses two chemical recovery cartridges connected in series must keep a record book at the photographic imaging operation site which includes the following information recorded for the previous two years:

- (a) serial number of each chemical recovery cartridge used;
- (b) installation date of each chemical recovery cartridge used;
- (c) expiry date of each chemical recovery cartridge used (where provided by manufacturers or suppliers);
- (d) maximum recommended capacity, or total cumulative flow, of each chemical recovery cartridge used;
- (e) dates of all metering pump calibrations;
- (f) monthly silver test results on the discharge from the first chemical recovery cartridge; or where the discharge from the first cartridge cannot be sampled, weekly silver test results on the discharge from the second chemical recovery cartridge and weekly cumulative flows through the silver recovery system; and
- (g) dates and descriptions of all operational problems associated with the chemical recovery cartridges and remedial actions taken.

Approved: _____

Responsible Agent: Operations

¹ If treatment of liquid waste with two chemical recovery cartridges connected in series is the only silver recovery technology being used, then the owner of the photographic imaging operation must replace both chemical recovery cartridges when one of the events referred to occurs.

If treatment of liquid waste with two chemical recovery cartridges connected in series is used following treatment by an electrolytic recovery unit, the second cartridge may replace the used first cartridge and a new second cartridge may be installed when one of the events referred to occurs.

Both chemical recovery cartridges used following an electrolytic recovery unit must be replaced by the operator of the photographic imaging operation when one of the events referred to above occurs if this is recommended by the manufacturer or supplier of the cartridges.

An operator of a photographic imaging operation that uses an electrolytic recovery unit in addition to two chemical recovery cartridges connected in series must keep a record book at the photographic imaging operation site which includes the following information recorded for the previous two years:

- (a) all information specified above;
- (b) date of each removal of silver from the electrolytic recovery unit;
- (c) date of each maintenance check on the electrolytic recovery unit;
- (d) dates and descriptions of all operational problems associated with the electrolytic recovery unit anti remedial actions taken.

Approved: _____

Responsible Agent: Operations

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

CODE OF PRACTICE (Liberty Utilities BMSC-CP-01-006)

SECTION 6 - RV PARK OPERATIONS

I. APPLICATION

This code of practice for RV park operations defines the requirements for managing waste discharged directly or indirectly into a sewer connected to a sewage facility from RVs, mobile homes, trailers, watercraft and other sources which employ storage, chemical disinfection/stabilization and discharge as a waste disposal mechanism.

This code of practice applies to all RV park operations. Definitions are included in Liberty Utilities BMSC-CP-01-DEF.

II. DISCHARGE REGULATIONS

An operator of an RV park operation must not discharge waste, which at the point of discharge into a sewer, contains:

- (a) prohibited waste, restricted waste, special waste, storm water, or uncontaminated water.

If the RV park operation accepts RV customers with the intention of providing sewerage hook-ups, that practice is only acceptable if one of the following conditions is met:

1. If the RV park operation has a dedicated pre-treatment facility, that facility must be used for the disposal of the first discharge of wastewater from any entering RVs. The facility must be maintained as per manufacturer's or engineer's operating instructions. Discharge from that facility which is directed to a sewer connected to a sewerage facility shall be metered such that large slugs of waste are not introduced to the sewer instantaneously. Discharges from such facilities to sewers are limited to 10% of the average daily sewerage flow (in USGPM) experienced in the sewer.
2. In the absence of a dedicated pre-treatment facility, the RV park operation shall require incoming RVs to certify that, prior to connection to a sewer, that the holding tanks of the RV have been discharged at an approved facility.

III. RECORD KEEPING AND RETENTION

An operator of an RV park operation must keep a record at the RV park operation of:

1. All disposals of RV waste into a dedicated pre-treatment facility;
2. Pre-treatment facility inspection and maintenance activities including:
 - a. the date of inspection or maintenance;
 - b. the maintenance conducted; and
 - c. the type and quantity of material removed from the facility;
3. Certifications of waste disposal prior to hook up of RVs to sewer services.

The records shall be retained for a period of two years, and shall be available on request by a Liberty Black Mountain representative.

Approved: _____

Responsible Agent: Operations

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

CODE OF PRACTICE (Liberty Utilities BMSC-CP-01-007)

SECTION 7 – PRETREATMENT/INDUSTRIAL WASTE CONTROL

I APPLICATION

This Section is adopted by Liberty Black Mountain in accordance with the authority conferred in the Clean Water Act, and any regulations implementing the Clean Water Act, including, but not limited to, 40 CFR 403.8, applicable Arizona Revised Statutes, including but not limited to 49 A.R.S. 2, applicable Arizona Administrative Code, including but not limited to 18 A.A.C. 9 and 18. A.A.C. 11, and with all the powers thereof which are specifically granted to Liberty Black Mountain, or are necessary or incidental to or implied from power specifically granted therein for carrying out the objectives and purposes of Liberty Black Mountain and this Section.

II. COMPLIANCE

The Pretreatment/Industrial Waste Control Program is designed to enable Liberty Black Mountain to comply with all conditions of any applicable Aquifer Protection Permit (APP), AZPDES discharge permit, Federal Pretreatment Regulations, Arizona Pretreatment Regulations, and any applicable sludge disposal regulations, and to meet the following objectives:

1. To prevent the introduction of pollutants into the Company's Facilities which will interfere with the operation of the wastewater systems or contaminate the sludge.
2. To prevent the introduction of pollutants into the wastewater system which will pass through the wastewater system, inadequately treated, into the receiving waters or the atmosphere.
3. To prevent the introduction of pollutants into the wastewater system which might constitute a hazard to humans or to animals.
4. To assure the Company's ability to recycle and reclaim wastewater and sludge.
5. To protect human health and welfare, the environment, property and the Company's wastewater system.

II. DISCHARGE REGULATIONS

A. General Discharge Limitations

No customer shall contribute or cause to be contributed, directly or indirectly, any pollutant or wastewater which will interfere with the operation or performance of Liberty Black Mountain's wastewater system. These general prohibitions apply to all customers of Liberty Black Mountain whether or not the customer is subject to National Categorical Pretreatment Standards or any other national, State, Liberty Black Mountain, or local pretreatment standards or requirements.

B. Specific Discharge Limitations

No User shall discharge into the Liberty Black Mountain wastewater system or into any connected sewer system at any time or over any period of time, wastewater containing any of the materials and substances in excess of the limitations provided under Section B "Restricted Waste". The specified limitations may also be imposed directly on process wastewaters prior to dilution by domestic and other wastewaters discharged by a customer.

Approved: _____

Responsible Agent: Operations

Once promulgated, National Categorical Pretreatment Standards for a particular industrial subcategory, if more stringent, shall supersede all conflicting discharge limitations contained in this Section 7, as they apply to that industrial subcategory.

State requirements and limitations on discharges shall apply in any case where they are more stringent than federal requirements and limitations or those contained elsewhere in this Code.

C. Prohibited Discharges

None of the following described sewage, water, substances, materials, or wastes shall be discharged into the Liberty Black Mountain wastewater system or into the sewer system by any customer, and each governing body of any applicable Service Provider shall prohibit and shall prevent such discharges by any Liberty Black Mountain customer, either directly or indirectly, into its sewer system:

- (a) Any liquids, solids or gases which by reason of their nature or quantity are, or may be, sufficient either alone or by interaction with other substances to cause fire or explosion or be injurious in any other way to the Liberty Black Mountain wastewater system, the sewer system of a Service Provider or any of its connectors, or to the operation of Liberty Black Mountain. At no time shall any reading on an explosion hazard meter, at the point of discharge into the Liberty Black Mountain wastewater system or the sewer system of a Service Provider or any of its customers (or at any point in the wastewater systems), or at any monitoring location designated by Liberty Black Mountain in a wastewater contribution permit, be more than ten percent (10%) of the Lower Explosive Limit (LEL) of the meter. Prohibited materials include, but are not limited to, gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, tetrachloroethylene, perchloroethylene, bromates, carbides, hydrides, and sulfides.
- (b) Any solid or viscous material which could cause an obstruction to flow in the sewers or in any way could interfere with the treatment process, including as examples of such materials but without limiting the generality of the foregoing, significant proportions of ashes, wax, paraffin, cinders, sand, mud, straw, shavings, metal, glass, rags, lint, feathers, tars, plastics, wood and sawdust, paunch manure, hair and fleshings, entrails, lime slurries, beer and distillery slops, grain processing wastes, grinding compounds, acetylene generation sludge, chemical residues, acid residues, food processing bulk solids, snow, ice, and all other solid objects, material, refuse, and debris not normally contained in sanitary sewage.
- (c) Any wastewater having a pH less than 5.5 for discharges from Industrial Customers into the Liberty Black Mountain wastewater system or the sewer system of a Service Provider or that of any of its Customers, or less than 5.5 or greater than 10.5 for other discharges into the Liberty Black Mountain wastewater system, or wastewater having any other corrosive property capable of causing damage or hazard to any part of the Liberty Black Mountain wastewater system or the sewer system of a Service Provider or any of its Customers, or to personnel.
- (d) Any wastewater having a temperature which will inhibit biological activity at the Liberty Black Mountain treatment plant, but in no case wastewater containing heat in such amounts that the temperature at the introduction into the Liberty Black Mountain wastewater treatment exceeds 40°C (104°F).
- (e) Any pollutants, including oxygen demanding pollutants (BOD, COD, etc.) released at a flow rate and/or pollutant concentration which cause Upset. In no case shall a slug load have a flow rate or contain concentrations or qualities of pollutants that exceed for any time period longer than fifteen (15) minutes more than five (5) times the average twenty-four (24) hour concentration, quantities, or flow during normal operation.
- (f) Any water or wastes containing a toxic substance (such as Chlorine from large swimming pools over 25,000 gallons, etc.) in sufficient quantity, either singly or by interaction with other substances, to injure or interfere with any sewage treatment process, to constitute a hazard to humans or to animals, or to create any hazard or toxic effect in the waters which receive the treated or untreated sewage.
- (g) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin, each in amounts that will cause interference.

Approved: _____

Responsible Agent: Operations

- (h) Pollutants which result in the presence of toxic gases, vapors, or fumes within the system in a quantity that may cause acute worker health and safety problems.
- (i) Any trucked or hauled pollutants except at discharge points designated by Liberty Black Mountain.
- (j) Any water or wastes containing pollutant quantities or concentrations exceeding the limitations in Section 7 of this Code of Practice, or the limitations in any applicable Categorical Standards.

Approved: _____

Responsible Agent: Operations

III. HAZARDOUS WASTE DISCHARGE NOTICE

Any customer disposing of industrial waste shall notify Liberty Black Mountain, the EPA Regional Waste Management Division Director, and the state hazardous waste authorities in writing of any discharge into the Liberty Black Mountain wastewater system of any substance which, if otherwise disposed of, would be considered a hazardous waste under 40 CFR Part 261. The specific information required to be reported and the time frames in which it is to be reported are found at 40 CFR §403.12(p).

IV. REPORTING REQUIREMENTS FOR SIGNIFICANT INDUSTRIAL USERS

[RESERVED]

V. MONITORING BMSC FACILITIES

Liberty Black Mountain may require to be provided and operated, at the customer's own expense, monitoring facilities to allow inspection, sampling, and flow measurement of any discharges as necessary to determine compliance with the provisions of this Code.

There shall be ample room in or near such sampling manhole or facility to allow accurate sampling and preparation of samples for analysis. The facility, sampling, and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the customer.

The sampling and monitoring facilities shall be provided in accordance with Liberty Black Mountain's requirements and all applicable local construction standards and specifications. Construction shall be completed within such a time frame as Liberty Black Mountain shall specify by written notification.

Approved: _____

Responsible Agent: Operations

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

CODE OF PRACTICE (Liberty Utilities BMSC-CP-01-008)

SECTION 8 – NONCOMPLIANCE / ENFORCEMENT

I. NOTICE OF VIOLATIONS

Whenever Liberty Black Mountain determines that any customer has violated or is violating any provision of this Code, or any directives, orders, or permits issued or approved to which Liberty Black Mountain is bound, Liberty Black Mountain may serve upon such customer a written notice (“Notice”) stating the nature of the violation(s) in accordance with A.A.C. R14-2-609.C, and requiring that the customer correct the violation(s) within a specified period of time; perform such tasks as Liberty Black Mountain determines are necessary for the customer to correct the violations; or perform such tasks and submit such information as is necessary for Liberty Black Mountain to evaluate the extent of noncompliance or to determine appropriate enforcement actions to be taken in conjunction with the applicable regulatory agencies. A copy of the Notice shall also be provided to the Director of the Utilities Division of the Arizona Corporation Commission.

II. SUSPENSION OF SERVICE

If the customer does not cure the violation, or present a satisfactory plan of remediation to Liberty Black Mountain, within the time specified in the Notice, then Liberty Black Mountain may suspend or disconnect wastewater treatment service in accordance with A.A.C. R14-2-609.C.

In addition, Liberty Black Mountain may suspend wastewater treatment service, in accordance with A.A.C. R14-2-609.B (without notice), when such suspension is necessary, in the opinion of Liberty Black Mountain, in order to stop an actual or threatened discharge which presents or may present an imminent or substantial endangerment to the health or welfare of persons, to the environment, or causes to violate any condition of its aquifer protection permit, AZPDES discharge permit, or any applicable sludge disposal regulations.

Any customer notified of an immediate suspension of the wastewater treatment service shall immediately stop or eliminate the discharge. In the event of a failure of the customer to comply voluntarily with the cease and desist request, the Liberty Black Mountain shall take such steps as deemed necessary, including immediate severance of the sewer connection and/or immediate disconnection of the water service, to prevent or minimize damage to the company’s wastewater system or endangerment to any individuals or the environment. Any action that results in the immediate suspension of service, or disconnection, of a customer shall be reported to the Director of the Utilities Division of the Arizona Corporation Commission and Maricopa County Environmental Services Department (MCESD) within twenty-four (24) hours of the suspension or disconnection. Any reconnection of the affected customer shall be in accordance with the Liberty Black Mountain Tariff for which the customer must pay the cost of disconnection and reconnection, plus the cost of parts and installation of an Elder valve (or similar equipment) to allow for easier disconnection in the event of a repeated discharge offense by customer.

Approved: _____

Responsible Agent: Operations

RATIONAL AND JUSTIFICATION FOR LOCAL LIMITS

CONVENTIONAL CONTAMINANTS

These limits are consistent with influent loading design parameters for the facility and with other similar sewerage systems in the area. They represent the maximum limits that can be accepted at the headworks and the values are similar to maximum values found in domestic wastewater.

TRACE INORGANIC CONTAMINANTS

These limits were developed to maintain compliance with the aquifer protection and AZPDES permit limits at Liberty Utilities (Black Mountain Sewer) Corp. In considering the waste load allocation for industries, background concentrations in domestic wastewater and the target permit limits at the water reclamation facility were considered. The maximum allowable concentrations that can be allocated to industries were identified while considering the dilution factors that occur in the sewerage system with background wastewater flows.

ARTICLE 5
PRETREATMENT/INDUSTRIAL WASTE CONTROL

5.1 General.

5.1.1 Authority:

This Article 5 is adopted by Liberty Utilities (Black Mountain Sewer) Corp. (Liberty Black Mountain) in accordance with the authority conferred in the Clean Water Act, and any regulations implementing the Clean Water Act, including, but not limited to, 40 CFR 403.8, applicable Arizona Revised Statute, including but not limited to 49 A.R.S. 2, applicable Arizona Administrative Code, including but not limited to 18 A.A.C. 9 and 18. A.A.C. 11, and with all the powers thereof which are specifically granted to Liberty Black Mountain, or are necessary or incidental to or implied from power specifically granted therein for carrying out the objectives and purposes of the Liberty Black Mountain and this Article 5. The provisions in this Article 5 shall be called the Pretreatment/Industrial Waste Control Program of the Liberty Black Mountain.

5.1.2 Compliance:

The Pretreatment/Industrial Waste Control Program of the Liberty Utilities (Black Mountain Sewer) Corp. (Liberty Black Mountain) is designed to enable the Liberty Black Mountain to comply with all conditions of its Arizona Pollutant Discharge Elimination System (AZPDES) Permit, Federal Pretreatment Regulations, Arizona Pretreatment Regulations, and any applicable sludge disposal regulations, and to meet the following objectives:

- (a) To prevent the introduction of pollutants into the Liberty Black Mountain Liberty Black Mountain Facilities which will interfere with the operation of the Wastewater Systems or contaminate the sludge.
- (b) To prevent the introduction of pollutants into the Wastewater System which will pass through the Wastewater System, inadequately treated, into the receiving waters or the atmosphere.
- (c) To prevent the introduction of pollutants into the Wastewater System which might constitute a hazard to humans or to animals.
- (d) To assure the Liberty Black Mountain's ability to recycle and reclaim Wastewater and sludge.
- (e) To protect human health and welfare, the environment, property and Liberty Black Mountain's Wastewater System.

PART A

RULES AND REGULATIONS FOR INDUSTRIAL/PRETREATMENT USERS

5.2 Applicability.

- (a) A User is any non-domestic discharger who contributes, causes, or permits the contribution of wastewater into the Liberty Black Mountain's wastewater collection and City of Scottsdale's POTW.
- (b) Any User, the sewage from which directly or indirectly enters the Wastewater System of the Liberty Black Mountain from an area within or without the boundaries (through a Service Provider) of the Liberty Black Mountain, shall be subject to the requirements of this Part and shall be bound by these Rules and Regulations as they now exist or may hereafter be amended. Such Rules and Regulations may be enforced against any User.

5.3 General Discharge Prohibitions.

No User shall contribute or cause to be contributed, directly or indirectly, any pollutant or wastewater which will interfere with the operation or performance of the Liberty Black Mountain's Wastewater System. These general prohibitions apply to all such Users of the Liberty Black Mountain's Wastewater System whether or not the User is subject to national categorical pretreatment standards or any other national, State, Liberty Black Mountain, or local pretreatment standards or requirements: A User may not discharge any of the sewage, water, substances, materials, or wastes listed in Articles 5.4, 5.27, 5.28, 4.29 of these Rules and Regulations.

5.4 Specific Discharge Limitations – Users.

5.4.1 Liberty Black Mountain Limitations:

No User shall discharge into the Liberty Black Mountain Wastewater System or into any connected sewer system at any time or over any period of time, Wastewater containing any of the following materials and substances in excess of the limitations provided herein. These limitations may also be imposed directly on process wastewaters prior to dilution by domestic and other Wastewaters discharged by the User:

ORGANIC CONTAMINANTS (µg/L)	
Benzene	35
Chloroform	2,000
4,4' - DOE	Not allowed
4,4' - DDT	Not allowed
Aldrin	Not allowed
BHC-Alpha	Not allowed
BHC-Gamma (Lindane)	Not allowed
Heptachlor	Not allowed
Heptachlor Epoxide	Not allowed
Polychlorinated byphenyl compounds (PCBs)	Not allowed

PARAMETER	Daily Average Effluent Limitation (mg/L)
Arsenic (As)	0.13
Cadmium (Cd)	0.047
Copper (Cu)	1.5
Cyanide (CN)	2.0
Lead (Pb)	0.41
Mercury (Hg)	0.0023
Selenium (Se)	0.10
Silver (Ag)	1.2
Zinc	3.5

*Notwithstanding these numeric limitations, the discharge of dry-cleaning process wastes, including new and used tetrachloroethene (perchloroethylene), still bottom oil, and separator water, is prohibited entirely. Where necessary the may require that these wastes be physically prevented from discharging into the Liberty Black Mountain's Wastewater System.

5.4.2 General Requirements Regarding Deleterious Wastes.

None of the following described sewage, water, substances, materials or waste shall be discharged into the Liberty Black Mountain's Wastewater System; and each governing body of each Service Provider shall prohibit and shall prevent any discharges from any outlet into its sewer system, if such discharges cause or significantly contribute to a violation of any of the requirements contained herein:

- (a) Sewage of such a nature and delivered at such a rate as to impair the hydraulic capacity of the Liberty Black Mountain's Wastewater System, normal and reasonable wear and usage excepted.
- (b) Sewage of such a quantity, quality, or other nature as to impair the strength or the durability of the sewer structures, equipment or treatment works, either by chemical or by mechanical action.
- (c) Sewage having a flash point lower than 187°F, as determined by the test methods specified in 40 CFR §261.21.
- (d) Any radioactive substance, the discharge of which, does not comply with Article 4, Appendix B of the AAC, Title 12, Chapter 1.
- (e) Any garbage other than that received directly into the Service Provider's sewer system from domestic and commercial garbage grinders in dwellings, restaurants, hotels, stores, and institutions, by which such garbage has been shredded to such a degree that all particles will be carried freely under flow conditions normally prevailing in public sewers with no particle greater than one-half (1/2) inch in any dimension.
- (f) Any night soil or septic tank pumpage, except by permit in writing from the Liberty Black Mountain at such points and under such conditions as the Liberty Black Mountain may stipulate in each permit.
- (g) Sludge or other material from sewage or industrial waste treatment plants or from water treatment plants, except such sludge or other material, the discharge of which to the Liberty Black Mountain Wastewater System shall be governed by the provisions of these Rules and Regulations or any Connector Agreement or as otherwise authorized by the Liberty Black Mountain.
- (h) Water which has been used for cooling or heat transfer purposes without recirculation, discharged from any system of condensation, air conditioning, refrigeration, or similar use.
- (i) Water accumulated in excavations or accumulated as the result of grading, water taken from the ground by well points, or any other

- drainage associated with construction.
- (j) Any water or wastes containing grease or oil and other substances that will solidify or become discernibly viscous at temperatures between 32°F and 150°F except by permit in writing from the Liberty Black Mountain at such points and under such conditions as the Liberty Black Mountain may stipulate in each permit.
 - (k) Any wastes that contain a corrosive, noxious, or malodorous material or substance which, either singly or by reaction with other wastes, is capable of causing damage to the Liberty Black Mountain's Wastewater System or to any part thereof, of creating a public nuisance or hazard, or of preventing entry into the sewers for maintenance and repair.
 - (l) Any wastes that contain concentrated dye wastes or other wastes that are either highly colored or could become highly colored by reacting with any other wastes, except by permission of the Liberty Black Mountain.
 - (m) Any wastes which are unusual in composition; i.e., contain an extremely large amount of suspended solids or BOD; are high in dissolved solids such as sodium chloride, calcium chloride, or sodium sulfate; contain substances conducive to creating tastes or odors in drinking water supplies; otherwise make such waters unpalatable even after conventional water purification treatment; or are in any other way extremely unusual unless the Liberty Black Mountain determines that such wastes may be admitted to the Liberty Black Mountain Wastewater System or shall be modified or treated before being so admitted.
 - (n) Any substance which may cause the Liberty Black Mountain's effluent or any other product of the Liberty Black Mountain such as residues, sludges or scums, to be unsuitable for reclamation and reuse or to interfere with the reclamation process. In no case, shall a substance discharged to the Wastewater System cause the Liberty Black Mountain to be in non-compliance with sludge use or disposal criteria, guidelines or regulations developed under Article 405 of the Clean Water Act; any criteria, guidelines, or regulations affecting sludge use or disposal developed pursuant to the Solid Waste Disposal Act, the Clean Air Act, the Toxic Substances Control Act, or State criteria applicable to the sludge management method being used.
 - (o) Any substance which may cause the Liberty Black Mountain to violate its Arizona Pollutant Discharge Elimination System (AZPDES) Permit or the receiving water quality standards.
 - (p) Except for existing combined sewer facilities, any stormwater, directly or indirectly, from surface drains, ditches, or streams, storm or combined sewers, roof, areaway, sumps and sump pumps, or foundation drains, or from any other means, including subsurface drainage or groundwater.

(q) 5.4.3 Prohibited Discharges.

None of the following described sewage, water, substances, materials, or wastes shall be discharged into the Liberty Black Mountain's Wastewater System or into the sewer system of a Service

Provider, by any User and each governing body of each Service Provider shall prohibit and shall prevent such discharges by any User, either directly or indirectly, into its sewer system:

- (a) Any liquids, solids or gases which by reason of their nature or quantity are, or may be, sufficient either alone or by interaction with other substances to cause fire or explosion or be injurious in any other way to the Liberty Black Mountain's Wastewater System, the sewer system of a Service Provider or any of its connectors, or to the operation of the Liberty Black Mountain. At no time shall any reading on an explosion hazard meter, at the point of discharge into the Liberty Black Mountain's Wastewater System or the sewer system of a Service Provider or any of its Customers (or at any point in the Wastewater Systems), or at any monitoring location designated by the Liberty Black Mountain in a wastewater contribution permit, be more than ten percent (10%) of the Lower Explosive Limit (LEL) of the meter. Prohibited materials include, but are not limited to, gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, and sulfides.
- (b) Any solid or viscous material which could cause an obstruction to flow in the sewers or in any way could interfere with the treatment process, including as examples of such materials but without limiting the generality of the foregoing, significant proportions of ashes, wax, paraffin, cinders, sand, mud, straw, shavings, metal, glass, rags, lint, feathers, tars, plastics, wood and sawdust, paunch manure, hair and fleshings, entrails, lime slurries, beer and distillery slops, grain processing wastes, grinding compounds, acetylene generation sludge, chemical residues, acid residues, food processing bulk solids, snow, ice, and all other solid objects, material, refuse, and debris not normally contained in sanitary sewage.
- (c) Any Wastewater having a pH less than 5.5 and more than 10.5 for discharges from Industrial Users into the Liberty Black Mountain's Wastewater System or the sewer system of a Service Provider or that of any of its Customers, or less than 5.5 or greater than 10.5 for other discharges into the Liberty Black Mountain's Wastewater System, or wastewater having any other corrosive property capable of causing damage or hazard to any part of the Liberty Black Mountain's

- Wastewater System or the sewer system of a Service Provider or any of its Customers, or to personnel.
- (d) Any wastewater having a temperature which will inhibit biological activity at the Liberty Black Mountain's treatment plant, but in no case wastewater containing heat in such amounts that the temperature at the introduction into the Liberty Black Mountain's, Wastewater Treatment Works exceeds 40°C (104°F).
 - (e) Any pollutants, including oxygen demanding pollutants (BOD, etc.) released at a flow rate and/or pollutant concentration which cause Upset. In no case shall a slug load have a flow rate or contain concentrations or qualities of pollutants that exceed for any time period longer than fifteen (15) minutes more than five (5) times the average twenty-four (24) hour concentration, quantities, or flow during normal operation.
 - (f) Any water or wastes containing a toxic substance in sufficient quantity, either singly or by interaction with other substances, to injure or interfere with any sewage treatment process, to constitute a hazard to humans or to animals, or to create any hazard or toxic effect in the waters which receive the treated or untreated sewage.
 - (g) Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin, each in amounts that will cause interference or Upset.
 - (h) Pollutants which result in the presence of toxic gases, vapors, or fumes within the system in a quantity that may cause acute worker health and safety problems.
 - (i) Any trucked or hauled pollutants except at discharge points designated by the Liberty Black Mountain.
 - (j) Any water or wastes containing pollutant quantities or concentrations exceeding the limitations in Article 5 of these Rules and Regulations, or the limitations in any applicable Categorical Standards.
 - (k) Any wastewater discharges to the Liberty Black Mountain's Wastewater System, except at locations approved by the Liberty Black Mountain.

5.4.4 National Categorical Pretreatment Standards:

Once promulgated, Categorical Standards for a particular industrial subcategory, if more stringent, shall supersede all conflicting discharge limitations contained in this Article 5, Part B, as they apply to that industrial subcategory.

5.4.5 State Requirements:

State requirements and limitations on discharges shall apply in any case where they are more stringent than federal requirements and limitations or those contained elsewhere in this Article 5, Part B.

5.4.6 Dilution Prohibited:

Except where permitted by Categorical Standards, no User may increase the use of process water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to attain compliance with the limitations contained in National Categorical Pretreatment Standards or any other specific discharge limitations contained in this Article 5. The Liberty Black Mountain may set or require a Service Provider to set mass limitations or alternate concentration-based limitations for those Users which are using improper dilution to meet these limitations.

5.5 Insignificant Discharges.

Notwithstanding the prohibitions and limitations contained in Article 5.3 of these Rules and Regulations, the Liberty Black Mountain may allow a proposed discharge to the system if the Liberty Black Mountain determines that the quantity and quality of the discharge, both alone and in conjunction with similar discharges which might be affected by this determination, will have no material effect on the Liberty Black Mountain's operations, including the quality of its effluent or sludges. Approval of the Liberty Black Mountain must be received in writing before the discharge may commence, and the discharge must adhere to any terms and conditions of the Liberty Black Mountain's approval.

Approval of such a discharge is entirely at the discretion of the Liberty Black Mountain, and shall not constitute approval of any additional or similar discharges. Disapproval of a proposed discharge by the Liberty Black Mountain shall not be subject to the appeal and hearing procedure set forth in these Rules and Regulations.

5.6 Accidental Or Unusual Discharges.

An accidental or unusual discharge is a discharge which may disrupt Wastewater System treatment processes or operations, damage Wastewater System facilities, cause an AZPDES Permit violation at the Liberty Black Mountain's treatment plant or degrade sludge quality excessively, or which differs significantly in quantity or quality from discharges under normal operations.

5.6.1 Accidental Discharge Protection:

Each User shall provide protection from accidental or unusual discharges of prohibited materials or other substances regulated by these Rules and Regulations. Infrastructure necessary to prevent accidental discharge of prohibited materials shall be provided and maintained at the Customer or User's own cost and expense.

5.6.2 Notification Requirements:

- (a) Telephone Notification: In the case of any accidental or unusual discharge, it is the responsibility of the User to immediately telephone and notify the Liberty Black Mountain and the Service Provider providing sewage services of the incident. The notification shall include the

location of discharge, type of waste, concentration and volume, and corrective actions

- (b) Written Notice: Within five (5) days following an accidental or unusual discharge, the User shall submit to the Liberty Black Mountain a detailed written report describing the cause of the discharge and the measures to be taken by the User to prevent similar future occurrences. Such notification shall not relieve the User of any expense, loss, damage, or other liability which may be incurred as a result of damage to the Liberty Black Mountains wastewater system, fish kills, or any other damage to person or property; nor shall such notification relieve the User of any fines, civil penalties, or other liability which may be imposed by these Rules and Regulations or other applicable law.

Notice To Employees. A notice shall be permanently posted on the User's bulletin board or other prominent place advising employees whom to call in the event of an accidental discharge. Employers shall ensure that all employees who may cause or suffer such an accidental discharge to occur are advised of the emergency notification procedure.

5.6.3 Slug Discharge Plan Requirements:

At least every two (2) years, or as required by 40 CFR §403.8(f)(2)(v), the Liberty Black Mountain shall evaluate whether each Significant Industrial User needs a plan to control slug discharges. If a slug discharge plan is needed, it shall be submitted to the Liberty Black Mountain for review and approval as directed by the Liberty Black Mountain, and shall contain, at a minimum, the following elements:

- (a) A description of discharge practices, including non-routine batch discharges.
- (b) A description of stored chemicals.
- (c) Procedures for immediately notifying the Liberty Black Mountain and the Service Provider providing sewage services of slug discharges, including any discharge that would violate any prohibition or limitation under Articles 5.17 or 5.18 of these Rules and Regulations, with procedures for follow-up written notification within five (5) days.
- (d) If necessary, procedures to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant-site runoff, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents), and/or measures and equipment for emergency response.

5.7 Hazardous Waste Discharge Notification.

Industrial Users shall notify the Liberty Black Mountain, the EPA Regional Waste Management Division Director, and the state hazardous waste authorities in writing of

any discharge into the Liberty Black Mountains Wastewater System of any substance which, if otherwise disposed of, would be considered a hazardous waste under 40 CFR Part 261. This notification requirement does not apply to pollutants already being reported under the reporting requirements contained in these Rules and Regulations. The specific information required to be reported and the time frames in which it is to be reported are found at 40 CFR §403.12(p).

5.8 Wastewater Contribution Permits.

5.8.1 Applicability:

All Significant Industrial Users and other users as required by the Liberty Black Mountain, contributing to or proposing to connect to or to contribute to the Liberty Black Mountain's Wastewater System, shall obtain a Wastewater Contribution Permit. Such permit shall either be issued by the Liberty Black Mountain, or co-issued by the Service Provider providing sewage services and the Liberty Black Mountain or in a form acceptable to the Liberty Black Mountain.

Requirements pertaining to permits co-issued with municipalities or issued solely by the Liberty Black Mountain are contained in the Liberty Black Mountain's Rules and Regulations. Permits co-issued with Service Providers may also contain requirements contained in the various municipal codes, ordinances, resolutions, and rules and regulations.

5.8.2 Permit Application:

Users required to obtain a Wastewater Contribution Permit shall complete and file with the Liberty Black Mountain an application accompanied by a fee as determined pursuant to Article 5.12 of these Rules and Regulations.

Applications Are Due: For new dischargers, at least 90 days prior to beginning discharge to the Liberty Black Mountain's Wastewater System.

For existing dischargers who become subject to a newly promulgated Categorical Standard, at least 90 days prior to the effective date of such standard.

For existing dischargers who, because of process changes or additions, will become subject to an existing Categorical Standard, at least 90 days prior to beginning discharge from the categorical process.

For existing dischargers subject to Categorical Standards as of the effective date of this regulation, who have not previously obtained a Wastewater Contribution Permit, within 30 days of the effective date of this regulation.

For all other dischargers, in a time frame as specified in notice from the Liberty Black Mountain.

In support of the application, the User shall submit, in units and terms appropriate for evaluation, the following information:

- (a) Name, mailing address, and facility location.
- (b) SIC number(s) according to the Standard Industrial Classification (SIC) Manual, Office of Management and Budget, 1987, as amended or the 1997 North American Industrial Classification System (NAICS), as amended.
- (c) Time and duration of wastewater discharges.
- (d) Average daily and thirty (30) minute peak wastewater flow rates, including daily, monthly, and seasonal variations, if any.
- (e) Site plan, floor plans, mechanical and plumbing plans, and details to show all sewers, sewer connections, and appurtenances by the size, location, and elevation.
- (f) Description of activities, facilities, and plant processes on the premises including all materials which are or could be discharged.
- (g) Wastewater constituents and characteristics including, but not limited to, those limited by Article 5 of these Rules and Regulations, as determined by a reliable analytical laboratory. Sampling and analysis shall be performed in accordance with procedures established by the EPA pursuant to Article 304(g) of the act and contained in 40 CFR, Part 136, as amended.
- (h) A statement regarding whether or not the discharge standards and pollutant limitations contained in Article 5 of these Rules and Regulations, including any applicable State or national pretreatment standards, are being met on a consistent basis and if not, whether additional O&M and/or additional pretreatment is required for the User to meet the applicable standards.
- (i) If additional pretreatment and/or O&M will be required to meet the discharge standards and pollutant limitations, the shortest schedule by which the User will provide such additional treatment. For state or national pretreatment standards, the completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard.

The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the User to meet the applicable discharge standards and pollutant limitations (e.g., Hiring an engineer, completing preliminary plans, completing final plans, executing contract for major components, commencing construction, completing construction, etc.). In no case shall an increment of progress exceed nine (9) months.

- (a) Each product produced by type, amount, process or processes, and rate of production.
- (b) The type and amount of raw materials processed (average and maximum

- per day).
- (c) The number and type of employees, and hours of operation of the plant, and proposed or actual hours of operation of the Pretreatment System.
 - (d) Any other information as may be deemed by the Liberty Black Mountain to be necessary to evaluate the permit application.

5.8.3 Permit Issuance:

The Liberty Black Mountain shall issue a Wastewater Contribution Permit to the applicant if the Liberty Black Mountain finds that all of the following conditions are met:

- (a) The proposed discharge of the applicant is in compliance with the prohibitions and limitations of Articles 5.17 and 5.18 of these Rules and Regulations;
- (b) The proposed discharge of the applicant would permit the normal and efficient operation of the wastewater treatment system; and
- (c) The proposed discharge of the applicant would not result in a violation by the Liberty Black Mountain of the terms and conditions of its AZPDES Permit.

If the Liberty Black Mountain finds that the condition set out in Paragraph 1 of this Subsection is not met, the Liberty Black Mountain may issue a Wastewater Contribution Permit to the applicant if the conditions set out in Paragraphs 2 and 3 of this Subsection are met and if the applicant submits, and the Liberty Black Mountain approves, a schedule setting out the measures to be taken by the applicant and the dates that such measures will be implemented to ensure compliance with the provisions of these Rules and Regulations.

5.8.4 Permit Denial;

Appeal and Hearing. In the event an application for a Wastewater Contribution Permit is denied, the Liberty Black Mountain shall notify the applicant in writing of such denial. Such notification shall state the grounds for denial with that degree of specificity which will inform the applicant of the measures or actions which must be taken by the applicant prior to issuance of a permit.

An applicant denied a Wastewater Contribution Permit may request that the Liberty Black Mountain Operations Manager review the denial and issue a permit. If the Liberty Black Mountain Operations Manager reaffirms the denial, the applicant may appeal this decision pursuant to the terms and conditions of the Liberty Black Mountain's appeal and hearing procedure as set forth in these Rules and Regulations.

5.8.5 Permit Conditions:

Wastewater Contribution Permits shall be expressly subject to all provisions of these

Rules and Regulations. Permits will contain, at a minimum, the following:

- (a) A statement of duration (in no case more than five (5) years).
- (b) A statement of non-transferability without, at a minimum, prior notification to the Liberty Black Mountain and provision of a copy of the existing permit to the new Customer or operator.
- (c) Effluent limits based on applicable Pretreatment Standards, Categorical Pretreatment Standards, specific discharge limitations, as cited in these Rules and Regulations, site-specific discharge limitations, and other federal, state and local law and regulations.
- (d) Self-monitoring, sampling, reporting, notification, and record keeping requirements, including an identification of the pollutants to be monitored, sampling locations, sampling frequencies, and sample types. These requirements shall be based on applicable general pretreatment standards and requirements at 40 CFR §403; categorical pretreatment standards; specific discharge limitations; State and local law and regulations; and Liberty Black Mountain determinations as to the type, quantity, quality, and frequency of information needed to adequately determine compliance with conditions of the permit.
- (e) A statement of applicable civil and criminal penalties for violation of pretreatment standards and requirements, and any applicable compliance schedules. Such schedules may not extend compliance dates beyond federal deadlines.
- (f) Permits may also contain the following:
 - 1. A Schedule Of User Charges and Fees pursuant to Article 5.12 of these Rules and Regulations.
 - 2. Limits on average and maximum rate and time of discharge or requirements for flow regulation and equalization.
 - 3. Requirements for installation and maintenance of inspection and sampling facilities.
 - 4. Requirements for notification to the Liberty Black Mountain of any new introduction of wastewater constituents or any substantial change in operations or in the volume or character of the wastewater constituents being introduced into the Liberty Black Mountain's Wastewater System.
 - 5. Requirements for notification of slug discharges.
 - 6. Other conditions as deemed appropriate by the Liberty Black Mountain to ensure compliance with these Rules and Regulations.

5.8.6 Permit Modifications:

- (a) The terms and conditions of a Wastewater Contribution Permit may be modified by the Liberty Black Mountain during the term of the permit as limitations or requirements as identified in these Rules and Regulations are modified or other just cause exists. The User shall be informed of any proposed changes in his permit at least thirty (30) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.
- (b) Within nine (9) months of the promulgation of a national categorical pretreatment standard, the Wastewater Contribution Permit of Users subject to such standard shall be revised to require compliance with such standard within the time frame prescribed by such standard.

5.8.7 Permit Duration;

Reapplication: Permits shall be issued for a specified time period, not to exceed five (5) years. The User shall apply for permit reissuance a minimum of ninety (90) days prior to the expiration of the User's existing Permit.

5.9 Reporting Requirements For Significant Industrial Users.

5.9.1 Initial Compliance Report For Users Subject To National Categorical Pretreatment Standards:

Within ninety (90) days following the date for final compliance with applicable Pretreatment Standards or, in the case of a new source, following commencement of the introduction of wastewater into the Liberty Black Mountain's Wastewater System, or as specified in the wastewater discharge permit, any User subject to Pretreatment Standards and requirements shall submit to the Liberty Black Mountain a report indicating the nature and concentration of all pollutants in the discharge from the regulated processes which are limited by the Pretreatment Standards and requirements and the average and maximum daily flow for those process units in the User's facility which are limited by such Pretreatment Standards or requirements.

Where applicable Pretreatment Standards contain limitations on the mass of pollutants discharged per unit of production, the report shall also contain the pollutant mass and production information necessary to determine compliance with such Pretreatment Standards.

The report shall state whether the applicable Pretreatment Standards and Requirements are being met on a consistent basis and, if not, what additional O&M and/or pretreatment is necessary to bring the User into compliance with the applicable Pretreatment Standards or Requirements. This statement shall be signed by an authorized representative of the Industrial User, and certified to by a qualified professional.

5.9.2 Periodic Compliance Reports:

- (a) Any User subject to a National Categorical Pretreatment Standard, after the compliance date of such Pretreatment Standard, or, in the case of a new source, after commencement of the discharge into the Liberty Black Mountain's Wastewater System, shall submit to the Liberty Black Mountain during the months of July and January, unless required more frequently in the pretreatment standard or by the Liberty Black Mountain, a report covering the preceding six (6) months and indicating the nature and concentration of pollutants in the effluent which are limited by such pretreatment standards. In addition, this report shall include a record of average and maximum daily flows for the reporting period for all regulated processes.
- (b) Where applicable Pretreatment Standards contain limitations on the mass of pollutants discharged per unit of production, the report shall also contain the pollutant mass and production information necessary to determine compliance with such pretreatment standards. At the discretion of the Liberty Black Mountain and in consideration of such factors as local high or low flow rates, holidays, and budget cycles, the Liberty Black Mountain may agree to alter the months during which the above reports are to be submitted.
- (c) Significant Industrial Users not subject to National Categorical Pretreatment Standards shall submit to the Liberty Black Mountain at least once every six (6) months (on dates specified by the Liberty Black Mountain), unless required more frequently by the Liberty Black Mountain, a description of the nature, pollutant concentrations, flows, and, where requested, pollutant masses, of the discharges required to be reported by the Liberty Black Mountain.
- (d) All reports submitted pursuant to this section shall be based on analyses performed in accordance with procedures established by the EPA Administrator pursuant to Article 304(g) of the act and contained in 40 CFR, Part 136 and amendments thereto or with any other test procedures approved by the EPA Administrator. Sampling shall be performed in accordance with the techniques approved by the administrator.

5.10 Monitoring Liberty Black Mountain Facilities.

The Liberty Black Mountain may require to be provided and operated at the User's own expense, monitoring facilities to allow inspection, sampling, and flow measurement of any discharges as necessary to determine compliance with the provisions of these Rules and Regulations.

There shall be ample room in or near such sampling manhole or facility to allow accurate sampling and preparation of samples for analysis. The facility, sampling, and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the User.

The sampling and monitoring facilities shall be provided in accordance with the Liberty Black Mountain's requirements and all applicable local construction standards and specifications. Construction shall be completed within such a time frame as the Liberty Black Mountain shall specify by written notification.

5.11 Information Submittal, Inspection and Sampling.

The Liberty Black Mountain may require any User to submit information as necessary to determine compliance with the requirements of these Rules and Regulations.

The Liberty Black Mountain may inspect the facilities of any User to ascertain whether the requirements of these Rules and Regulations are being complied with. Persons or occupants of premises where wastewater is created or discharged shall allow the Liberty Black Mountain or its representatives ready access at all reasonable times to all parts of the premises for the purposes of inspection, sampling, records examination and copying, or in the performance of any of their duties.

The Liberty Black Mountain, Maricopa County, the Arizona Department of Environmental Quality, and EPA shall have the right to set up on the User's property such devices as are necessary to conduct sampling, inspection, compliance monitoring and/or metering operations. Where a User has security measures in force which would require proper identification and clearance before entry into the User's premises, the User shall make necessary arrangements with security guards so that upon presentation of suitable identification, personnel from the Liberty Black Mountain, the Arizona Department of Environmental Quality, and EPA will be permitted to enter, without delay, for the purposes of performing their specific responsibilities.

All records relating to compliance with pretreatment standards and requirements shall be made available to officials of the Liberty Black Mountain, the Arizona Department of Environmental Quality, and EPA upon request.

5.12 Wastewater Treatment.

Users shall provide wastewater treatment as required to comply with the requirements of these Rules and Regulations, and shall achieve compliance with all national categorical pretreatment standards within the time limitations as specified by the federal pretreatment regulations. Any facilities required to pretreat wastewater to a level acceptable to the Liberty Black Mountain shall be provided, operated, and maintained at the User's expense.

5.13 Confidential Information.

Information and data on a User obtained from reports, questionnaires, permit applications, permits, monitoring programs, and inspections shall be available to the public or other governmental agency without restriction unless the User specifically designates and is able to demonstrate to the satisfaction of the Liberty Black Mountain

that the release of such information would divulge sales or marketing data, processes, or methods of production entitled to protection as “Confidential Business Information” of the User. Wastewater constituents and characteristics will not be recognized as confidential information. It shall be the User’s obligation to stamp each page, which has been demonstrated to the Liberty Black Mountain’s satisfaction to contain trade secrets, with the words “Confidential Business Information,” “Confidential Information,” or “Confidential.” A failure by the User to designate and identify any document in this manner may result in the document losing its protection from disclosure as confidential business information.

Confidential business information shall not be made available for inspection by the public but shall be made available upon request to governmental entities or agencies for uses related to these Rules and Regulations, the Liberty Black Mountain’s Aquifer Protection Permit and Arizona Discharge Pollutant Discharge Elimination System (AZPDES) Permit and/or the pretreatment program in accordance with 40 CFR Part 2 and Title 18, Article 9 of the AAC. Confidential business information shall not be transmitted to any governmental agency or entity for other uses by the Liberty Black Mountain except upon written request and after a ten (10) day notification and right to object is given to the User. Such notification shall not be required in certain circumstances provided for in 40 CFR Part 2. If after a request for public inspection, a person or entity challenges the determination of any record to protection as confidential business information, the User shall cooperate, to the fullest extent possible and at User’s own expense, with the Liberty Black Mountain in the defense of the determination. At the request of the Liberty Black Mountain the user shall, at the User’s expense, provide a defense to such challenge.

5.14 Remedies for Noncompliance; Enforcement.

5.14.1 Notice of Violation:

Whenever the Liberty Black Mountain determines that any User has violated or is violating any provision of these Rules and Regulations or a Wastewater Contribution Permit issued or approved hereunder, the Liberty Black Mountain may serve upon such User a written notice stating the nature of the violation(s). Where directed to do so by the notice, a plan for the satisfactory correction of the violation(s) shall be submitted to the Liberty Black Mountain by the User, within a time frame as specified in the notice.

5.14.2 Administrative Orders:

Whenever the Liberty Black Mountain determines that any User has violated or is violating any provision of these Rules and Regulations, or any directives, orders, or permits issued or approved hereunder, the Liberty Black Mountain may serve upon such User a written order stating the nature of the violations(s), and requiring that the User correct the violation(s) within a specified period of time; perform such tasks as the Liberty Black Mountain determines are necessary for the User to correct the violations;

or perform such tasks and submit such information as is necessary for the Liberty Black Mountain to evaluate the extent of noncompliance or to determine appropriate enforcement actions to be taken.

5.14.3 Compliance Orders / Compliance Schedules:

Whenever the Liberty Black Mountain determines that any User has violated or is violating any provision of these Rules and Regulations, or any directives, orders or permits issued or approved hereunder, the Liberty Black Mountain may serve upon the User a written order requiring that the User submit, within a time frame as specified in the notification, a plan (compliance schedule) for the satisfactory correction of such violation(s).

The compliance schedule must represent the shortest schedule by which the User will provide additional treatment or perform such other tasks as will enable the User to consistently comply with applicable requirements. The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to compliance (e.g., Hiring an engineer, completing preliminary plans for pretreatment systems, completing final plans, executing contracts for major components, commencing construction, completing construction). In no case shall an increment of progress exceed nine (9) months.

Upon approval by the Liberty Black Mountain, the compliance schedule will be issued to the User as an administrative order which contains the approved schedule milestones and any applicable reporting requirements. Issuance of a compliance schedule by the Liberty Black Mountain does not release the User of liability for any violations.

Not later than fourteen (14) days following each date in the schedule and the final date for compliance, the User shall submit a progress report to the Liberty Black Mountain including, at a minimum, information on whether or not the User complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason(s) for delay, and the steps being taken by the User to return to the schedule established.

5.14.4 Suspension of Service:

The Liberty Black Mountain may suspend the wastewater treatment service and/or a Wastewater Contribution Permit when such suspension is necessary, in the opinion of the Liberty Black Mountain, in order to stop an actual or threatened discharge which presents or may present an imminent or substantial endangerment to the health or welfare of persons, to the environment, causes pass through or interference or causes the Liberty Black Mountain to violate any condition of its aquifer protection permit or AZPDES permit.

Any User notified of a suspension of the wastewater treatment service and/or the Wastewater Contribution Permit shall immediately stop or eliminate the discharge. In

the event of a failure of the User to comply voluntarily with the suspension order, the Liberty Black Mountain shall take such steps as deemed necessary, including immediate severance of the sewer connection, to prevent or minimize damage to the Liberty Black Mountain's Wastewater System System or endangerment to any individuals or the environment. The Liberty Black Mountain shall reinstate the Wastewater Contribution Permit and/or the wastewater treatment service upon proof of the elimination of the non-complying discharge. A detailed written statement submitted by the User describing the causes of the harmful contribution and the measures taken to prevent any future occurrence shall be submitted to the Liberty Black Mountain within fifteen (15) days of the date of occurrence.

5.14.5 Permit Revocation:

Any User who has violated or is violating any provision of these Rules and Regulations, or any orders or permits issued or approved hereunder, is subject to having his permit revoked. Grounds for permit revocation include, but are not limited to:

- (a) Failure of a User to factually report the wastewater constituents and characteristics of his discharge.
- (b) Failure of the User to report significant changes in operations, or wastewater constituents and characteristics.
- (c) Refusal of reasonable access to the User's premises for the purpose of inspection or monitoring.
- (d) Violation of conditions of the permit.

5.14.6 Penalties:

Any User who is found to have violated any provision of these Rules and Regulations, or any orders or permits issued or approved hereunder, shall be subject to a penalty not to exceed, except as noted below, twenty-five thousand dollars (\$25,000) per violation. Each day on which a violation occurs or continues shall be deemed a separate and distinct violation. In the case of violations of monthly or other long-term average discharge limitations, penalties may be assessed for each day in the period covered by the violations.

In addition to the penalties provided herein, the Liberty Black Mountain may recover reasonable attorney's fees, court costs, court reporter's fees, and other expenses of litigation by appropriate suit at law against the User found to have violated these Rules and Regulations, or the order or permits issued hereunder. Such penalties shall be in addition to any actual damages the Liberty Black Mountain may incur because of such violations.

Where a violation is found to have caused Interference or Upset, the maximum penalty of \$25,000 per violation per day as described above may be increased as necessary to allow the Liberty Black Mountain to recover any fines or penalties paid by the Liberty Black Mountain for AZPDES Permit violations due to the Interference or Upset.

5.14.7 Legal Action:

If any person discharges sewage, industrial wastes or other wastes into the Liberty Black Mountain's wastewater disposal system contrary to the provisions of these Rules and Regulations, or any orders or permits issued hereunder, the Liberty Black Mountain's attorney may commence an action for appropriate legal and/or equitable relief in the Superior Court of Maricopa County.

5.14.8 Appeal Procedure:

Any User who is aggrieved by any enforcement action taken by the Liberty Black Mountain pursuant to this Article 5.12 may within thirty (30) days of the receipt of notice of the determination, order, or finding being appealed request in writing that the Liberty Black Mountain review the enforcement action. The request (Letter of Appeal) shall state all points of disagreement and objection to the determination, order, or finding. If the Liberty Black Mountain reaffirms the action, the User may appeal this decision to the ACC.

- (a) Hearing Request, Deadlines, Procedure and Related Matters **[Reserved]**.

5.15 Charges and Fees.

Charges and fees to be assessed against Users will be determined by the Liberty Black Mountain and, where instituted, will be set at a level to allow the Liberty Black Mountain to recover its costs for administering elements of the Pretreatment/Industrial Waste Control Program. Program elements for which charges and fees may be assessed include, but are not limited to, permit applications; monitoring, inspection, and surveillance activities; and general program administration.

PART B

RULES AND REGULATIONS FOR SERVICE PROVIDER USE OF LIBERTY BLACK MOUNTAIN WASTEWATER SYSTEM

5.16 Applicability.

Any Service Provider, the sewage from which directly or indirectly enters the Wastewater System of the Liberty Black Mountain from areas within or without the boundaries or Service Area of the Liberty Black Mountain, shall be subject to the requirements of this Part and shall be bound by these Rules and Regulations as they now exist or may hereafter be amended.

All Service Providers are required to design and administer Pretreatment Industrial Waste Control Programs which are in accordance with this Article 5, and which will enable the Liberty Black Mountain to comply with all pretreatment and effluent limitation conditions of its National Pollutant Discharge Elimination System (AZPDES) Permit, Federal Pretreatment Regulations, and applicable sludge disposal regulations.

5.17 Compliance with Requirements.

Each Service Provider will cause all sewage at any time discharged directly or indirectly into its sewer system, or into the Liberty Black Mountain Wastewater System by it or on its behalf, to comply with any requirements of the Liberty Black Mountain. In all cases where the application or the enforcement of said requirements involve technical or scientific analyses or determinations, the Liberty Black Mountain shall have final authority as to methods, standards, criteria, significance, evaluation, and interpretation of such analyses and determinations. Each Service Provider will permit no new connections and will discontinue existing public connections and will require the discontinuance of existing private connections to its sewer system which allow entrance therein of such sewage as will cause the discharge at any time into its sewer system, or into the Liberty Black Mountain Wastewater System from such sewer system of sewage that does not comply with said requirements of the Liberty Black Mountain.

The Liberty Black Mountain may from time to time make a determination of the respects in which sewage discharged or to be discharged into the sewer system of a Service Provider, or into the Liberty Black Mountain Wastewater System by any Service Provider, is not in compliance with said requirements and with the amendments thereof, if any, then in effect. A copy of said determination shall be mailed to the Service Provider at its usual place of business and for all purposes of these Rules and Regulations shall be conclusively deemed to have been made in accordance with this section and to be correct at the expiration of thirty (30) days after such mailing unless within said period of thirty (30) days the Service Provider shall have filed with the Liberty Black Mountain an objection thereto stating that such determination is incorrect and stating the changes therein which should be made in order to correct such determination.

5.17.1 Penalties:

Any Service Provider who is found to have violated any provision of this Article 5 shall be subject to a penalty not to exceed, except as noted below, five thousand dollars (\$5,000) for such violation. Each day on which a violation occurs or continues shall be deemed a separate and distinct violation. Such penalty shall be in addition to any actual damages the Liberty Black Mountain may incur because of such violation.

In addition to the penalties provided here, the Liberty Black Mountain may recover reasonable attorney's fees, court costs, court reporter's fees, and other expenses of litigation by appropriate suit at law against the Service Provider found to have violated these Rules and Regulations.

Where a violation is found to have caused Interference or Upset, the maximum penalty of \$5,000 per violation described above may be increased as necessary to allow the Liberty Black Mountain to recover any fines or penalties paid by the Liberty Black Mountain for AZPDES permit violations due to the Interference or Upset.

5.18 Legal Authority Requirements.

5.18.1 Ordinance/Resolution:

Except as provided in Subsection 5.4.3, each Service Provider will enact and enforce an ordinance or resolution which conforms to 40 CFR §403.8(f)(1) Pretreatment Program Requirements, as from time to time amended, for legal authority and containing all other legal provisions mandated by these Rules and Regulations. Any proposed amendments to such ordinance or resolution, or any proposed actions which would serve to amend such ordinance or resolution with respect to any pretreatment program requirements, must be submitted to the Liberty Black Mountain for review, and must be approved in writing by the Liberty Black Mountain, prior to such enactment.

Each Service Provider shall adopt and enforce in its ordinance or resolution provisions which are in conformance to the following provisions:

- (a) A provision requiring any Industrial User responsible for a significant accidental or unusual discharge to notify immediately both the Service Provider and the Liberty Black Mountain.
- (b) A provision precluding, except where authorized by Categorical Standards, the use of dilution to attain conformance to Pretreatment/Industrial Waste Control Standards, and authorizing the Service Provider to set mass limitations for any Industrial User using improper dilution.
- (c) A provision forbidding and where possible penalizing the knowing transmittal of false information by an Industrial User to the Service Provider or Liberty Black Mountain.

- (d) A provision requiring the installation of all necessary monitoring and pretreatment facilities by Industrial Users. This provision shall also authorize the Service Provider to impose compliance schedules on Industrial Users for the installation of such facilities.
- (e) A provision applying civil or criminal penalties or, where permitted by 40 CFR §403.8(f)(1), assessing liquidated damages against Industrial Users which violate Pretreatment/Industrial Waste Control Standards and Requirements. Where possible, such penalties and liquidated damages shall be set at a level determined by the Liberty Black Mountain to provide a reasonable degree of deterrence to violations.
- (f) A provision adopting discharge limitations for Users at least as stringent as the corresponding limitations in Article 5, Part B of these Rules and Regulations.
- (g) A provision requiring that Industrial Users agree to act and allow the Liberty Black Mountain to act as provided under the provisions of this Article 5.
- (h) A provision requiring that any User discharging any toxic Pollutants which cause an increase in the cost of managing the effluent or the sludge of the Liberty Black Mountain's Wastewater System shall pay for such increased costs.

5.18.2 Attorney's Statement:

Except as provided in Subsection 5.4.3, each Service Provider must submit to the Liberty Black Mountain an Attorney's Statement which conforms to the requirements of 40 CFR §403.9(b)(1), and which certifies that the Service Provider has adequate authority to carry out its responsibilities under the Liberty Black Mountain's Pretreatment/Industrial Waste Control Program including the provisions of these Rules and Regulations.

5.18.3 Legal Authority Exemption:

Any Service Provider that does not serve any commercial or Industrial Users may submit a letter to the Liberty Black Mountain in lieu of enacting the ordinance or resolution, and submitting the Attorney's Statement, as required by these Rules and Regulations. The letter must state that the Service Provider has no commercial or Industrial Users, and must identify any nonresidential Users served. Furthermore, any Service Provider submitting such a letter shall (1) notify the Liberty Black Mountain at least fourteen (14) days in advance of the date that any commercial or Industrial User is granted a sewer connection and (2) fully comply with the Liberty Black Mountain's Pretreatment/Industrial Waste Control Program, including the requirements of these Rules and Regulations, and the Federal Pretreatment Regulations prior to allowing that User to connect to the Service Provider's sewer system. The Liberty Black Mountain, at its own discretion, may require any Service Provider to fully comply with these Rules and Regulations, regardless of whether or not the aforementioned letter has been submitted and/or previously accepted by the Liberty Black Mountain.

5.19 Program Procedure Requirements.

5.19.1 General:

Each Service Provider must formulate, fund, and implement procedures which will enable Liberty Black Mountain compliance with the “Procedures” and “Funding” requirements contained in 40 CFR §403.8(f)(2) and (3) of the Federal Pretreatment Regulations, and which will enable Service Provider compliance with the requirements of these Rules and Regulations.

5.19.2 Procedures Manual:

The Liberty Black Mountain shall issue to all Service Providers a manual on Procedures for Implementing the Pretreatment/Industrial Waste Control Program of the Liberty Black Mountain (Procedures Manual). The Procedures Manual shall set forth Liberty Black Mountain requirements on formulating, funding, and implementing Pretreatment/Industrial Waste Control Program procedures, and shall provide guidance to Service Providers on implementing the procedural requirements.

Where necessary to maintain continued compliance with applicable federal and state regulations, or these Rules and Regulations, or to facilitate the operation of the Pretreatment/Industrial Waste Control Program, the Liberty Black Mountain may from time to time amend the Procedures Manual, and shall provide notice of such amendments to all Service Providers.

The following subsections highlight the procedural requirements that will be more fully presented in the Procedures Manual to be adopted by the Liberty Black Mountain.

5.19.3 Industrial Waste Survey:

Each Service Provider shall formulate and implement procedures for conducting ongoing, comprehensive industrial waste surveys to locate and identify all Significant Industrial Users discharging to the Service Provider’s sewer system.

5.19.4 Notification to Industrial Users:

Each Service Provider is responsible for notifying its Industrial Users of their obligations under the Pretreatment/Industrial Waste Control Program.

5.19.5 Permitting of Significant Industrial Users:

Each Service Provider shall control, through permits, industrial waste discharges from each Significant Industrial User within its service area.

The Liberty Black Mountain shall make the final determination as to whether a particular Industrial User is a Significant Industrial User. To this end, the Liberty Black Mountain may require that a Service Provider collect and forward to the Liberty Black Mountain all information necessary to make this determination.

In the event that a Service Provider fails to issue a suitable permit to a Significant Industrial User upon notification to do so by the Liberty Black Mountain, the Liberty Black Mountain shall deny service to the Significant Industrial User, and may impose conditions upon the Service Provider to take such steps as are necessary to provide such service.

5.19.6 Monitoring of Industrial Users:

Each Service Provider must sample, monitor, and inspect its Significant Industrial Users, and where appropriate, require industrial self-monitoring, at a frequency adequate to determine if such Users are in compliance with applicable Pretreatment/Industrial Waste Control Program Standards and Requirements.

5.19.7 Slug Discharge Determinations:

Each Service Provider must evaluate, at least every two (2) years, whether each Significant Industrial User needs a plan to control slug discharges. If needed, the Slug Control Plan must contain the minimum elements listed at 40 CFR §403.8(f)(2)(v).

5.19.8 Compliance Activities:

Each Service Provider is required to implement procedures for identifying violators of Pretreatment/Industrial Waste Control Program Standards and Requirements, and to diligently enforce such Standards and Requirements and provide suitable remedies for non-compliance.

5.19.9 Industrial User Reporting/Confidentiality:

Each Service Provider is required to receive and analyze self-monitoring reports and any other notices submitted by Industrial Users pursuant to the requirements of the Pretreatment/ Industrial Waste Control Program. Where an Industrial User claims confidentiality for any information transmitted, the Service Provider must implement procedures to ensure that confidential information is treated in accordance with the procedures in 40 CFR Part 2 and/or 5 CCR 1002-63.

5.19.10 Public Participation:

- (a) Each Service Provider must comply with the public participation requirements of 40 CFR Part 25 in the enforcement of National Pretreatment Standards.
- (b) Each Service Provider must make all information collected under the

Pretreatment/Industrial Waste Control Program, except those documents legitimately classified as “confidential,” available for public review and copying to the extent required by 40 CFR §403.14 and the ARS, Title 39 (Public Records, Printing, and Notices).

- (c) The Liberty Black Mountain will publish an annual notice in the newspaper with the largest daily circulation within the Liberty Black Mountain, a list of Users that were found to be in significant noncompliance during the previous year with Pretreatment Standards or other Pretreatment Requirements. For the purposes of this provision, “significant noncompliance” is as defined at 40 CFR §403.8(f)(2)(vii).

5.19.11 Information Transmittal:

Each Service Provider shall transmit to the Liberty Black Mountain, in a timely manner, all documents as necessary to enable the Liberty Black Mountain to effectively administer the Pretreatment/Industrial Waste Control Program. Such documents shall include:

- (a) A certified copy of the Industrial Waste Discharge Ordinance or Resolution, and any amendments thereto, together with any Rules and Regulations issued pursuant to such ordinance or resolution.
- (b) Copies of all Industrial Waste permits and contracts issued or entered into pursuant to the requirements of the Pretreatment/Industrial Waste Control Program.
- (c) Copies of all industrial survey, monitoring, and inspection reports.
- (d) Any information needed to enable the Liberty Black Mountain to determine whether a particular Industrial User is subject to a particular Categorical Standard.
- (e) Notices of all compliance and enforcement activities, and all related correspondence.
- (f) An annual staffing, costs, and funding report, if requested by the Liberty Black Mountain Operations Manager.

5.19.12 Staffing, Costs, and Funding:

Each Service Provider must provide sufficient resources and qualified personnel to carry out its responsibilities under the Pretreatment/Industrial Waste Control Program. Upon request of the Liberty Black Mountain, a Service Provider must submit to the Liberty Black Mountain a report describing personnel responsibilities, an itemization of program capital and operating costs, and a demonstration that adequate funds are available to support program activities.

5.20 Extra-Jurisdictional Industrial Users.

Each Service Provider shall have the responsibility for those Industrial Users located outside its corporate limits, who discharge industrial wastewater into the Service

Provider's sewer system. Each extra-jurisdictional Industrial User shall be subject to an ordinance, resolution, or equivalent source of legal authority which contains 40 CFR §403.8(f)(1) minimum legal authorities and all other legal provisions mandated by these Rules and Regulations. Each extra-jurisdictional Industrial User shall also be included in a Pretreatment Program which substantially conforms to 40 CFR §403.8(f)(2) and (3) "Procedures" and "Funding" requirements. To this end, the Service Provider shall make contractual arrangements with the extra-jurisdictional legal entity exercising powers over the Industrial User providing either for the inclusion of the Industrial User in the Liberty Black Mountain's Pretreatment/Industrial Waste Control Program, or for formal review of a Pretreatment Program administered by the extra-jurisdictional legal entity. Where necessary to obtain compliance with Federal Pretreatment Regulations, the Service Provider shall enter into a separate contract with each extra-jurisdictional Industrial User discharging into its sewer system.

The Service Provider shall also secure by contract, as it applies to extra-jurisdictional Industrial Users, for each of the following Liberty Black Mountain rights: (i) the right to inspect, sample, and monitor Industrial Users, (ii) the right to terminate service to an Industrial User on an emergency basis, (iii) the right to determine the applicability of Categorical Standards and to determine Significant Industrial Users, (iv) the right to receive copies of all monitoring reports, (v) the right to enforce all Article 5 discharge limitations and (vi) the right to act in lieu of the Service Provider in executing Pretreatment/Industrial Waste Control Program responsibilities.

Where the Service Provider and extra-jurisdictional legal entity fail to execute their Program responsibilities in obtaining compliance by extra-jurisdictional Industrial Users with all applicable Pretreatment/ Industrial Waste Control Standards and Requirements, the Liberty Black Mountain shall have full recourse to the remedy provisions of these Rules and Regulations as they apply to the Service Provider receiving the industrial waste discharge in question.

5.21 Exemptions.

A Service Provider administering a Pretreatment Program, separate from that of the Liberty Black Mountain, which has been approved by the Regional Administrator of EPA or the Arizona Department of Environmental Quality in accordance with §403.11 of the Federal Pretreatment Regulations, may be exempted from compliance with certain provisions of this Article 5, as determined by the Liberty Black Mountain.

5.21 Program Review.

The Liberty Black Mountain shall review Municipal ordinances or other Service Provider resolutions, measures, guidelines, or regulations, and amendments thereof, for conformance to 40 CFR §403.8(f)(1) Pretreatment Requirements for minimum legal authorities and for the inclusion of all other legal provisions mandated by these Rules and Regulations. The Liberty Black Mountain shall periodically review the enforcement efforts of Service Providers to ascertain whether Pretreatment/Industrial Waste Control

Requirements and Standards are being diligently enforced at the local level.

Insofar as a Service Provider administers the Pretreatment/Industrial Waste Control Program, the Liberty Black Mountain shall periodically review the Service Provider's procedures, including, but not limited to, procedures for updating the industrial waste survey, and for inspecting, sampling, and monitoring industrial waste discharges, to ensure that each such Service Provider is administering the Program in technical conformance to "Procedures" and "Funding" requirements under 40 CFR §403.8(f)(2) and (3) of the Federal Pretreatment Regulations and to the provisions of these Rules and Regulations. Any significant Program changes shall be subject to Liberty Black Mountain approval.

5.22 Remedies.

5.22.1 Emergency Remedies:

Where a discharge to the Wastewater System reasonably appears to present an imminent endangerment to the health or welfare of persons, or presents or may present an endangerment to the environment, or threatens to interfere with the operation of the Liberty Black Mountain, the Liberty Black Mountain shall immediately initiate investigative procedures to identify the source of the discharge, and take any steps necessary to halt or prevent the discharge. If necessary, the Liberty Black Mountain shall seek injunctive relief against the violating Service Provider and any User contributing significantly to the emergency condition.

5.22.2 Routine Remedies:

If the Liberty Black Mountain determines that a Pretreatment/Industrial Waste Control Program as administered by a Service Provider is not in compliance with Pretreatment/Industrial Waste Control Requirements, or that the discharge from a Service Provider is not in compliance with Liberty Black Mountain Standards, the Liberty Black Mountain shall issue a notice setting forth the Requirements and Standards not being complied with and directing the Service Provider to attain conformance to these Requirements and Standards within a period of ten (10) days.

If after ten (10) days, the Service Provider has failed or refuses to comply with this notice, the Liberty Black Mountain may issue an additional notice setting forth remedial actions to be taken by the violating Service Provider and a time schedule for attaining compliance with all Pretreatment/ Industrial Waste Control Requirements and Standards. If after thirty (30) days notice, the violating Service Provider has not taken necessary steps to correct the violation, the Liberty Black Mountain may assume in whole or in part Pretreatment/Industrial Waste Control Program responsibilities in lieu of the violating Service Provider. The Liberty Black Mountain may continue in this capacity until the violating Service Provider agrees to the original terms of the notice and any additional terms which the Liberty Black Mountain feels are necessary to ensure ongoing compliance by the Service Provider with all Pretreatment/ Industrial

Waste Control Requirements and Standards. The Service Provider shall be liable for all costs associated with the Liberty Black Mountain's assumption of responsibilities on behalf of the Service Provider and the Liberty Black Mountain may recover such costs in any manner permitted by law.

5.23 Program Preemption.

Where the Liberty Black Mountain preempts a Service Provider in the execution of Pretreatment/Industrial Waste Control Program responsibilities, the Liberty Black Mountain shall directly enforce Federal Pretreatment Standards, including Categorical Standards, and the provisions of Article 5 of these Rules and Regulations against the Industrial Users located within the service area of the Service Provider. The Liberty Black Mountain may request that all industrial self-monitoring reports, including those required under 40 CFR §403.12, be conveyed directly to the Liberty Black Mountain. Moreover, the Liberty Black Mountain shall carry out all inspection and sampling activities necessary to monitor compliance with Pretreatment/Industrial Waste Control Standards and Requirements. Where Program preemption occurs, the Liberty Black Mountain shall have the right to seek injunctive relief against the Service Provider and any Industrial User in order to obtain full compliance with Pretreatment/Industrial Waste Control Standards and Requirements. The Liberty Black Mountain shall bill and the Service Provider shall be liable for costs incurred by the Liberty Black Mountain in conjunction with the administration of the Program in lieu of the Service Provider, and the Liberty Black Mountain may recover such costs, including attorney fees and costs, in any manner permitted by law.

The Liberty Black Mountain shall have the right to require the cessation of any industrial wastewater discharge in violation of Pretreatment/Industrial Waste Control Standards and Requirements. Where the Liberty Black Mountain finds an Industrial User to be in violation of any Pretreatment/Industrial Waste Control Standard or Requirement, the Liberty Black Mountain may require the Industrial User to enter into a bilateral contract with the Liberty Black Mountain containing any conditions, including conditions relating to the installment of pretreatment or monitoring facilities, necessary to ensure compliance with Pretreatment/Industrial Waste Control Standards and Requirements. At the discretion of the Liberty Black Mountain, these conditions may be incorporated into the municipal industrial waste discharge permit or Agreement once Program responsibilities are returned to the Service Provider.

5.24 Program Delegation.

Any Service Provider may enter into an Agreement with the Liberty Black Mountain providing the Liberty Black Mountain with the legal authority to carry out technical and administrative procedures necessary to implement the Pretreatment/ Industrial Waste Control Program at the local level. These procedures may include, among others, updating the industrial waste survey, providing technical services relating to the issuance and review of industrial waste discharge permits, inspecting and monitoring industrial waste discharges, waste discharge facilities and operations of permittees, and

providing technical assistance for local enforcement actions. Where Program delegation occurs, the delegation agreement shall contain provisions for the Liberty Black Mountain to recover the costs, including attorney fees and costs, incurred by the Liberty Black Mountain in conjunction with the administration of the Program on behalf of the Service Provider.

5.25 Liberty Black Mountain Monitoring.

For the purpose of determining the quantity, quality, and other characteristics of any sewage which shall be or may be delivered and discharged into the Wastewater System by a Service Provider, or into the system of a Service Provider by any User, the Liberty Black Mountain shall have the right at all reasonable times to enter upon and to inspect the Service Provider's system or any industrial or commercial installations connected thereto or any other connections which contribute sewage or Wastewater to the Service Provider's system and to inspect and copy records, to take samples and to make tests, measurements, and analyses of sewage or other wastes in, entering, or to be discharged into such Service Provider's system.

5.26 Specific Discharge Limitations for Service Providers.

No Service Provider shall discharge to the Wastewater System at any time or over any period of time wastewater containing any of the materials and substances in excess of the limitations provided under section 5.3

Company: Liberty Utilities (Black Mountain Sewer) Corp.

Decision No.: _____

Phone: _____

Effective Date: _____

PRE-TREATMENT TARIFF

PURPOSE

The purpose of this tariff is to enable Liberty Utilities (Black Mountain Sewer) Corporation (“Liberty Black Mountain” or “Company”) to set forth certain waste limitations and pretreatment standards that apply based on the class of commercial/industrial customer served by the Liberty Black Mountain’s wastewater collection system. Customer classes include dental offices, dry cleaners, food service establishments, photo imaging operations, RV Parks and pretreatment for industrial wastes. This tariff will govern the type and quality of waste discharged into the Company’s wastewater collection system and treated at its wastewater treatment facilities.

This tariff incorporates pretreatment standards consistent with the City of Scottsdale which meet applicable Federal and State standards. In addition, the Liberty Black Mountain has a Code of Practice guideline attached to this tariff.

REQUIREMENTS

The requirements to be in compliance with the rules of the Arizona Corporation Commission (“Commission”), specifically A.A.C. R14-2-603, 605, 607, and 609, the above pretreatment standards and guidelines that govern this tariff are as follows:

1. Any customer disposing of industrial waste considered as hazardous under this tariff shall notify Company in writing of any discharge into the Company’s collection system. The specific information for the reporting and time-frame requirement to be submitted to Liberty Black Mountain is 180 days per 40 CFR §403.12 (p)
2. The Company may require monitoring equipment facilities, at the customer’s expense, to allow inspection, sampling, and flow measurement of any discharges as necessary to determine compliance with this tariff.
3. Subject to the provisions of A.A.C. R14-2-603, 607 and 609, the Company may terminate service or may deny service to a customer who fails to meet the pretreatment standards or to permit the inspecting and sampling of any discharge as required by this tariff.
4. Liberty Black Mountain may suspend wastewater treatment service, in accordance with A.A.C. R14-2-609.B (without notice), when such suspension is necessary, in the opinion of the Company, in order to stop an actual or threatened discharge which presents or may present an imminent or substantial endangerment

Company: Liberty Utilities (Black Mountain Sewer) Corp.

Decision No.: _____

Phone: _____

Effective Date: _____

to the health or welfare of persons, to the environment, or causes the Company to violate any condition of its aquifer protection permit.

5. Liberty Black Mountain shall give any new customer who is required to meet the pretreatment standards written notice of said requirement and shall be given a complete copy of this tariff and all attachments.
6. Any existing customer found to be in violation of this tariff shall be given written notice of such violation and a complete copy of this tariff with all attachments. If A.A.C. R14-2-609.B.1. is **not** applicable the customer shall be given thirty (30) days from the time such written notice is received to comply with this notice. If the customer can show good cause as to why the pretreatment standards cannot be met within thirty (30) days, the Company may allow, at its sole discretion the customer an additional thirty (30) days to have the pretreatment standards met.
7. Consistent with the provisions of A.C.C. R14-2-607.B.1 and 2, each customer shall be responsible for maintaining and safeguarding all Liberty Black Mountain property installed on the customer's premises for the purpose of supplying utility service to that customer.

Attachment – Liberty Utilities BMSC’s Code of Practice Guideline

Websites:

Arizona Administrative Code (A.A.C.) Title 18, Article 9

www.azsos.gov/public_services/table_of_contents.htm

Code of Federal Register:

www.epa.gov/lawsregs/search/40cfr.html



LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

City Use Only
<input type="checkbox"/> Permit Not Required
<input type="checkbox"/> SIU
<input type="checkbox"/> Zero Discharger
<input type="checkbox"/> High Strength
<input type="checkbox"/> Pollution Prevention
<input type="checkbox"/> Other
This Permit is for:
<input type="checkbox"/> New Permit
<input type="checkbox"/> Existing Permit

Industrial Wastewater Discharge Permit Application

In accordance with Title 40 of the Code of Federal Regulations Part 403 Section 403.14 and Liberty Black Mountain Code Liberty Utilities BMSC-CP-01, information and data provided in this permit application which identifies the nature and frequency of discharge shall be available to the public without restriction. Requests for confidential treatment of other information shall be governed by procedures specified in Liberty Black Mountain's Code Liberty Utilities BMSC-CP-01 and 40 CFR Part 2.

The completed application and all attachments should be mailed within 30 days of receipt to: 12725 W Indian School Rd. St. D101 Avondale, AZ 85323 623-536-4480

Section A - General Information			
Business Name			
Facility Address		Mailing Address <i>(if different from previous)</i>	
A map of the facility is attached to this application		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Signing Official Name		Primary Contact Name	
Title		Title	
Telephone No.		Telephone No.	
Facsimile No.		Facsimile No.	
		E-mail Address	

Section B – Water Usage			
Is water used in manufacturing process (Y/N)?			
Describe processes that consume water?			
Water Supply	Public	Private Well	Others
Is water supply metered (Y/N)?			
Describe treatment process to treat facility incoming water.			
Describe water consumption in the facility	Non contact cooling water (gallons per day)		
	Boiler feed (gallons per day)		
	Manufacturing processes (gallons per day)		
	Personnel sanitary use (gallons per day)		
	Contained in product (gallons per day)		
	Landscaping/Other (gallons per day)		
	Total (gallons per day)		
Provide a water balance diagram for the facility.			

Section C – Discharged Wastewater				
Type of discharges and volumes	Discharge to (volume in gallons /day)	Batch		Continuous
	City sanitary sewer			
	City storm water			
	Natural outlet			
	Waste hauler			
	Total			
Does the facility have flow metering of its discharges (Y/N)? If yes, describe the type of equipment and its locations.				
If applicable, describe future plans for facility expansion that may impact facility discharge(s) characteristics and/or volumes.				
Describe the location of discharge connection to the City's sewer.				
Provide discharge information for each manufacturing process.	Process	Average flow (gallons/day)	Maximum flow (gallons/day)	Batch or Continuous
Provide a schematic of all wastewater discharges for the entire manufacturing train(s) and for each manufacturing process. Show sampling locations. Show locations for all treatment devices such as interceptors, grease/oil/sand traps, ion exchange, filtration, neutralization systems, and any other treatment systems. Show connection to the sanitary sewer on a facility schematic. Indicate floor drains and chemical storage areas on site schematic. Are there any chemical spill/containment devices/storage? If yes, show on facility site schematic. Based on the provided information, additional information may be requested.				
Provide information on storm sewers and well located inside the facility. If yes, provide location of these on facility site plan schematic.	Storm sewers (Y/N)			
	Private wells (Y/N)			
	Dry wells (Y/N)			
	Abandoned wells (Y/N)			

Section D – Wastewater Pretreatment

Describe all wastewater streams which are treated before their discharge.

From the following list, provide pretreatment methods employed at the facility. For each discharge stream, list the discharge streams and their locations and provide a schematic of the installed pretreatment process(es).

Grease or oil separation:

- Grease trap
- Grease interceptor (in-ground)
- Dissolved air flotation
- Oil/water separator (specify type: _____)
- Sand filter
- Other (specify: _____)

Solids separation:

- Centrifuge/cyclone
- Filtration (specify type: _____)
- Grit removal (specify type: _____)
- Screens (specify type: _____)
- Sedimentation/settling tank
- Sump
- Other (specify: _____)

Metals treatment:

- Chemical precipitation
- Filtration (specify type: _____)
- Ion exchange
- Silver Recovery Unit (specify type: _____)
- Other (specify: _____)

Other:

- Flow equalization
- Neutralization, pH correction
- Ozonation
- Water/wastewater reclamation (attach description)
- Biological treatment (specify type: _____)
- Other chemical treatment (specify type: _____)
- Other physical treatment (specify type: _____)
- Other (specify: _____)

Organics treatment:

- Activated carbon
- Solvent separation (specify type: _____)
- Other (specify: _____)

Is any form of pretreatment planned for the facility within the next three (3) years? Yes No

Please furnish a process flow diagram for each existing or planned pretreatment system. Include process equipment, by-products, by-product disposal method, concentrations, waste and by-product volumes, and design and operating conditions.

Section E - Discharge(s) Characteristics						
For each of the priority pollutants listed below, provide the information.						
Item No.	Chemical Compound	Amount of chemical stored onsite (pounds or gallons)	Amount of total chemical discharged (pounds or gallons/day)	Amount of chemical discharged to sanitary sewer (pounds or gallons/day)	Amount of chemical sent to waste hauler (pounds or gallons/day)	Amount of chemicals sent to other(s), describe (pounds or gallons/day)
1.	asbestos (fibrous)					
2.	cyanide (total)					
3.	antimony (total)					
4.	arsenic (total)					
5.	beryllium (total)					
6.	cadmium (total)					
7.	chromium (total)					
8.	copper (total)					
9.	lead (total)					
10.	mercury (total)					
11.	nickel (total)					
12.	selenium (total)					
13.	silver (total)					
14.	thallium (total)					
15.	zinc (total)					
16.	acenaphthene					
17.	acenaphthylene					
18.	acrolein					
19.	acrylonitrile					
20.	aldrin					
21.	anthracene					
22.	benzene					
23.	benzidine					
24.	benzo (a) anthracene					
25.	benzo (a) pyrene					
26.	3,4-benzofluoranthene					
27.	benzo (g, h, i) perylene					
28.	benzo (k) fluoranthene					
29.	α-BHC (alpha)					
30.	β-BHC (beta)					
31.	δ-BHC (delta)					
32.	γ-BHC (gamma)					

Pretreatment Standards 118

33.	bis (2-chloroethyl) ether					
34.	bis (2-chloroethoxyl) methane					
35.	bis (2-chloroisopropyl) ether					
36.	bis (2-ethylhexyl) phthalate					
37.	bromodichloromethane					
38.	bromoform					
39.	bromomethane					
40.	4-bromophenyl phenyl ether					
41.	butyl benzyl phthalate					
42.	carbon tetrachloride					
43.	chlordane					
44.	4-chloro-3-methylphenol					
45.	chlorobenzene					
46.	chloroethane					
47.	2-chloroethyl vinyl ether					
48.	chloroform					
49.	chloromethane					
50.	2-chloronaphthalene					
51.	2-chlorophenol					
52.	4-chlorophenyl phenyl ether					
53.	chrysene					
54.	4,4'-DDD					
55.	4,4'-DDE					
56.	4,4'-DDT					
57.	dibenzo (a, h) anthracene					
58.	dibromochloromethane					
59.	1,2-dichlorobenzene					
60.	1,3-dichlorobenzene					
61.	1,4-dichlorobenzene					
62.	3,3'-dichlorobenzidene					
63.	1,1-dichloroethane					

64.	1,2-dichloroethane					
65.	1,1-dichloroethene					
66.	1,2-trans-dichloroethylene					
67.	2,4-dichlorophenol					
68.	1,2-dichloropropane					
69.	(cis & trans) 1,3-dichloropropene					
70.	dieldrin					
71.	diethyl phthalate					
72.	2,4-dimethylphenol					
73.	dimethyl phthalate					
74.	di-n-butyl phthalate					
75.	di-n-octyl phthalate					
76.	4,6-dinitro-o-cresol					
77.	2,4-dinitrophenol					
78.	2,4-dinitrotoluene					
79.	2,6-dinitrotoluene					
80.	1,2-diphenylhydrazine					
81.	α -endosulfan (alpha)					
82.	β -endosulfan (beta)					
83.	endosulfan sulfate					
84.	endrin					
85.	endrin aldehyde					
86.	ethylbenzene					
87.	fluoroanthene					
88.	fluorene					
89.	heptachlor					
90.	heptachlor epoxide					
91.	hexachlorobenzene					
92.	hexachlorobutadiene					
93.	hexachlorocyclopentadiene					
94.	hexachloroethane					
95.	indeno (1,2,3-cd) pyrene					
96.	isophorone					
97.	methylene chloride					
98.	naphthalene					
99.	nitrobenzene					
100.	2-nitrophenol					
101.	4-nitrophenol					
102.	N-nitrosodimethylamine					

Pretreatment Standards 120

103.	N-nitrosodi-n-propylamine					
104.	N-nitrosodiphenylamine					
105.	PCB-1016					
106.	PCB-1221					
107.	PCB-1232					
108.	PCB-1242					
109.	PCB-1248					
110.	PCB-1254					
111.	PCB-1260					
112.	pentachlorophenol					
113.	phenathrene					
114.	phenol					
115.	pyrene					
116.	2,3,7,8-tetrachlorodibenzo-p-dioxin					
117.	1,1,2,2-tetrachloroethane					
118.	tetrachloroethylene					
119.	toluene					
120.	toxaphene					
121.	1,2,4-trichlorobenzene					
122.	1,1,1-trichloroethane					
123.	1,1,2-trichloroethane					
124.	trichloroethylene					
125.	2,4,6-trichlorophenol					
126.	vinyl chloride					

Is the sampling data representative of facility's discharges to sanitary sewer (Y/N)? If no, describe why.

Parameter	Average Concentration (mg/L)	Maximum Concentration (mg/L)
BOD ₅		
COD		
Total Suspended solids		
TKN (Nitrogen)		
Oil & Grease		
Total Phosphorus		

List pH and temperature for each discharge location.

Discharge Location	pH			Temperature		
	Minimum	Average	Maximum	Minimum	Average	Maximum

Information on discharge(s) not disposed of into sanitary sewer.

Wastes	Estimated quantity/year (pounds or gallons)	Disposal method (i.e., landfill, recycle, sale, evaporation, incineration, etc.)

Pretreatment Standards 121

Waste solvent		
Oil & Grease		
Process wastes		
Pretreatment sludges		
Inks/dyes		
Thinner		
Paints		
Acids and Alkalis		
Left over or extra product		
Pesticides		
Others (specify)		
Provide information for an outside firm (name, address, permit number, etc.) if this firm removes any of the above listed wastes.		
1.	2.	3.
Do any of your substances require an EPA Hazardous Waste Generator permit (Y/N)?		
If "Yes," please provide your ID number and type of permit (large quantity generator, small quantity generator, or conditionally exempt small quantity generator).		

Section F -Certification		
<p>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</p>		
Signature and Title of Industry Signing Official	(Seal if applicable)	Date

12725 W Indian School Rd. St. D101 Avondale, AZ 85323 623-536-4480 FAX #

DATE

NAME AND ADDRESS
OF PERMITTEE

RE: Issuance of Permit for Coverage under the Title 40 of the Code of Federal Regulations Part 403 Section 403.14 and Liberty Utilities BMSC-CP-01 Permission to Discharge to Liberty Utilities (Black Mountain Sewer) Corp. Sanitary Sewer, **Permit No. 2015-1**

Dear **Mr./Ms.** :

In accordance with Title 40 of the Code of Federal Regulations Part 403 Section 403.14 and Liberty Utilities (Black Mountain Sewer) Corp. ("Liberty Black Mountain") Code Liberty Utilities BMSC-CP-01, Liberty Black Mountain has made a final determination to issue coverage under its Industrial Wastewater Discharge Permit Program, effective from **DATE** through **END DATE (usually 5 years or end of AZPDES Permit Term)**. This letter serves as official notification of issuance of the Industrial Wastewater Discharge Permit.

Liberty Black Mountain's final decision to issue permit coverage is based on the Industrial Wastewater Discharge Permit Application submitted on **DATE** and additional requested information. As you know, it is the responsibility of the industry/facility owner and/or operator to comply with the requirements of the Title 40 of the Code of Federal Regulations Part 403 Section 403.14 and Liberty Black Mountain's Code Liberty Utilities BMSC-CP-01. This issuance of coverage does not preclude the industry/facility from following up with an inspection or audit to verify compliance with the Industrial Wastewater Discharge Permit and Liberty Black Mountain's Code Liberty Utilities BMSC-CP-01. Also, be aware that as a condition of recordkeeping, Liberty Black Mountain's Code Liberty Utilities BMSC-CP-01 requires that the permittee retain the required information and all records pertinent to the Permit for at least three (3) years beyond the term of the Permit.

In addition, any previous Permit issued under the Liberty Black Mountain's Code Liberty Utilities BMSC-CP-01 is terminated on the coverage date as specified above. An industry/facility covered under the new Industrial Wastewater Discharge Permit is required to report on activities that were required or committed to under the previous Permit.

Finally, Liberty Black Mountain thanks you for your cooperation in the permitting process. Please retain this letter as documentation of your Industrial Wastewater Discharge Permit. Please contact me at **PHONE NUMBER** or by email at _____ with any questions.

Sincerely,

NAME

Liberty Black Mountain Operations Manager or Program Administrator

Application Attachment 3

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

**PLAN OF ADMINISTRATION FOR
PURCHASED POWER ADJUSTER MECHANISM**

JUNE 27, 2019

I. GENERAL DESCRIPTION.

This document is the Plan of Administration (“POA”) for the Purchased Power Adjuster Mechanism (“PPAM”) for Liberty Utilities (Black Mountain Sewer) Corp. (“Liberty Black Mountain” or “Company”) approved by the Arizona Corporation Commission (“Commission”) in Decision No. _____ on _____, 2020. The PPAM allows Liberty Black Mountain to pass through to its customers the increase or decrease in purchased power costs that result from a rate change for any Commission-regulated electric service provider supplying retail electric service to the Company.

II. PPAM RELATED FILINGS.

A. Within 60 days of the effective date of a Commission Decision authorizing a rate change in the approved tariffs for any Commission-regulated electric service provider supplying retail electric service to the Company, the Company shall file with Docket Control an analysis of the actual impact on the energy portion of the Company’s electric service costs.

B. The Company will provide the Commission with spreadsheets detailing exactly how the Company’s purchased power expenses were calculated in the time period prior to a change in the rate that the Company must pay for purchased power. These calculations will include basic service charges and rate and volume figures. That is, the Company will break down its total purchased power bill into the amount due to fixed fees, volume of electricity used, and the rates paid per unit of electricity. For the period following the rate change, the Company will provide the same information, then compare the two periods, isolating any change in purchased power cost that is due exclusively to a rate change. The specific intent is to show exactly how much of any increase or decrease is due to changes in rates beyond the Company’s control and how much is due to a change in the amount of power that the Company consumes. The Company will only recover increases or refund decreases that are due to changes in rates.

C. All revised schedules filed with the Commission pursuant to the provisions of this PPAM will be accompanied by documentation prepared by the Company in a format approved by Utilities Division Staff of the Commission and will contain sufficient detail to enable the Commission to verify accuracy of the Company’s calculations.

D. The surcharges will not become effective until approved by the Commission.

E. The Company will file annually with the Commission a report detailing the Company's purchased power costs and any conservation or power-shifting measures employed by the Company.

F. The Company shall provide notice (in a form acceptable to Staff) of the rate increases to customers with the bill where the rate increase first appears.

III. APPLICATION TO SEWER CUSTOMERS.

A. The increase or decrease in purchased power costs that are due to changes in rates at the Company's sewer facilities will be allocated on a per capita basis.

B. See the following example:

<i>Test Year</i>			<i>Current Year</i>	
Purchased Power Rate		\$0.0800	Purchased Power Rate	\$0.1000
Kilowatt Hours Used	1,250,000		Kilowatt Hours Used	1,250,000
Purchased Power Expense	\$100,000		Purchased Power Expense	\$125,000

<i>Pass Through Calculation</i>	
Current Year Purchased Power Expense	\$125,000
Test Year Purchased Power Expense	\$100,000
Increase in Purchased Power Expense Due to Rate Increase	\$25,000

<i>PPAM Charge on Sample Customer Bill</i>	
Increase in Purchased Power Expense Due to Rate Increase	\$25,000
Number of Sewer Customers	20,000
PPAM Charge on Sample Customer Bill	\$1.25

Application Attachment 4

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

**PLAN OF ADMINISTRATION FOR
PROPERTY TAX ADJUSTER MECHANISM**

JUNE 27, 2019

I. GENERAL DESCRIPTION.

This document is the Plan of Administration (“POA”) for the Property Tax Adjuster Mechanism (“PTAM”) for Liberty Utilities (Black Mountain Sewer) Corp. (“Liberty Black Mountain” or “Company”) approved by the Arizona Corporation Commission (“Commission”) in Decision No. _____ on _____, 2020. The PTAM allows Liberty Black Mountain to pass through to its customers the increase or decrease in property taxes that results from a change in the applicable assessment ratio and/or property tax rates.

II. PTAM RELATED FILINGS.

A. Within 60 days of the effective date of a change in the assessment ratio and/or property tax rates applicable to the Company, the Company shall file with Docket Control an analysis of the actual impact on the Company’s property tax expenses.

B. The Company will provide the Commission with spreadsheets detailing exactly how the Company’s property tax expenses were calculated in the time period prior to a change in the assessment ratio and/or property tax rate that affects the Company’s property tax expenses. These calculations will include the assessment ratio, the property tax rates, and the value of the property that was taxed. For the period following the change(s), the Company will provide the same information, then compare the two periods, isolating any change in property tax expense that is due exclusively to changes in the assessment ratio and/or property tax rates. The specific intent is to show exactly how much of any increase or decrease in property tax expense is due to changes in the assessment ratio and tax rates beyond the Company’s control and how much is due to changes in the value of the property the Company owns. The Company will only recover increases or refund decreases that are due to changes in the assessment ratio and tax rates.

C. All revised schedules filed with the Commission pursuant to the provisions of this PTAM will be accompanied by documentation prepared by the Company in a format approved by Utilities Division Staff of the Commission and will contain sufficient detail to enable the Commission to verify accuracy of the Company’s calculations.

D. The surcharges will not become effective until approved by the Commission.

E. The Company will file annually with the Commission a report detailing the Company's property tax expenses.

F. The Company shall provide notice (in a form acceptable to Staff) of the rate increases to customers with the bill where the rate increase first appears.

III. APPLICATION TO SEWER CUSTOMERS.

A. The increase or decrease in property tax expenses that are due to changes in the assessment ratio and/or property tax rates at the Company's sewer facilities will be allocated on a per capita basis.

B. See the examples on the next page:

Change in Assessment Ratio Example

Test Year		➔	Current Year	
Assessment Ratio	20.00%		Assessment Ratio	21.00%
Property Full Cash Value	\$10,000,000		Property Full Cash Value	\$10,000,000
Assessed Valuation	\$2,000,000		Assessed Valuation	\$2,100,000

Change in Assessed Valuation

Current Year Assessed Valuation	\$2,100,000
Test Year Assessed Valuation	\$2,000,000
Increase in Assessed Valuation Due to Increase in Assessment Ratio	\$100,000

Test Year		Current Year	
Total Property Tax Rate	10.00%	Total Property Tax Rate	10.00%
Assessed Valuation	\$2,000,000	Assessed Valuation	\$2,100,000
Property Tax Expense	\$200,000	Property Tax Expense	\$210,000

PTAM Charge on Sample Customer Bill

Increase in Property Tax Expense Due to Increase in Assessment Ratio	\$10,000
Number of Sewer Customers	20,000
PTAM Charge on Sample Customer Bill	\$0.50

Change in Total Property Tax Rate Example

Test Year		➔	Current Year	
Total Property Tax Rate	10.00%		Total Property Tax Rate	11.00%
Assessed Valuation	\$2,000,000		Assessed Valuation	\$2,000,000
Property Tax Expense	\$200,000		Property Tax Expense	\$220,000

Pass Through Calculation

Current Year Property Tax Expense	\$220,000
Test Year Property Tax Expense	\$200,000
Increase in Property Tax Expense Due to Rate Increase	\$20,000

PTAM Charge on Sample Customer Bill

Increase in Property Tax Expense Due to Rate Increase	\$20,000
Number of Sewer Customers	20,000
PTAM Charge on Sample Customer Bill	\$1.00

Application Attachment 5

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

**PLAN OF ADMINISTRATION FOR
WASTEWATER TREATMENT ADJUSTER MECHANISM**

JUNE 27, 2019

I. GENERAL DESCRIPTION.

This document is the Plan of Administration (“POA”) for the Wastewater Treatment Adjuster Mechanism (“WTAM”) for Liberty Utilities (Black Mountain Sewer) Corp. (“Liberty Black Mountain” or “Company”) approved by the Arizona Corporation Commission (“Commission”) in Decision No. _____ on _____, 2020. The WTAM allows Liberty Black Mountain to pass through to its customers the increase or decrease in wastewater treatment costs that result from a change in the Revised Code Chapter 49, Article IV, Division 3 - “User Rates and Charges.” Scottsdale may modify Liberty Black Mountain’s user charges for chemical oxygen demand (COD) and total suspended solids (TSS) to correspond to any modifications to the Revised Code.

II. WTAM RELATED FILINGS.

A. Within 60 days of the effective date of a change in the rate Scottsdale charges Company for COD and TSS, Liberty Black Mountain shall file with Docket Control an analysis of the actual impact on the sampling results portion of the Company’s wastewater treatment costs.

B. The Company will provide the Commission with spreadsheets detailing exactly how the Company’s wastewater treatment expenses were calculated in the time period prior to a change in the rate that the Company must pay for treatment. These calculations will include basic flow charges and rate and volume amounts for the sampling results. That is, the Company will break down its total wastewater treatment bill into the amount due to fixed fees, volume of COD and TSS, and the rates paid per pound. For the period following the rate change, the Company will provide the same information, then compare the two periods, isolating any change in wastewater treatment cost that is due exclusively to a rate change. The specific intent is to show exactly how much of any increase or decrease is due to changes in rates beyond the Company’s control and how much is due to a change in the amount of flows delivered. The Company will only recover increases or refund decreases that are due to changes in rates.

C. All revised schedules filed with the Commission pursuant to the provisions of this WTAM will be accompanied by documentation prepared by the Company in a format approved by Utilities Division Staff of the Commission and will contain sufficient detail to enable the Commission to verify accuracy of the Company’s calculations.

D. The surcharges will not become effective until approved by the Commission.

E. The Company shall provide notice (in a form acceptable to Staff) of the rate increases to customers with the bill where the rate increase first appears.

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

III. APPLICATION TO SEWER CUSTOMERS.

A. The increase or decrease in wastewater treatment costs that are due to changes in Scottsdale user rates for COD and TSS will be allocated on a per capita basis.

B. See the following example:

Test Year

Factor	MG	COD/TSS	Total COD/TSS	Conversion Factor	Total Pounds	Price Per Pound	Total COD/TSS Charge
	(A)	(B)	(A) x (B)=(C)	(D)	(C) x (D) =(E)	(F)	(E) x (F)
COD	120.228	600	72,137	8.34	601,620	\$0.13	\$78,210.72
TSS	120.228	350	42,080	8.34	350,946	\$0.33	\$115,812.03

Factor	1,000's Gallons	Price Per 1,000 Gal	Total Gallons Charge	Basic Charge	Total Flow Charge
	(A)	(B)	(A) x (B)=(C)	(D)	(C) + (D)=(E)
FLOW	10,019	\$1.82	\$218,806.01	\$92	\$218,898.01

Current Year

Factor	MG	COD/TSS	Total COD/TSS	Conversion Factor	Total Pounds	Price Per Pound	Total COD/TSS Charge
	(A)	(B)	(A) x (B)=(C)	(D)	(C) x (D) =(E)	(F)	(E) x (F)
COD	120.228	600	72,137	8.34	601,620	\$0.19	\$114,307.97
TSS	120.228	350	42,080	8.34	350,946	\$0.40	\$140,378.21

Factor	1,000's Gallons	Price Per 1,000 Gal	Total Gallons Charge	Basic Charge	Total Flow Charge
	(A)	(B)	(A) x (B)=(C)	(D)	(C) + (D)=(E)
FLOW	10,019	\$1.82	\$218,806.01	\$92	\$218,898.01

Test Year	Current Year
COD/TSS Expense \$194,023	COD/TSS Expense \$254,686

Pass Through Calculation	
Current Year Purchased Power Expense	\$254,686
Test Year Purchased Power Expense	\$194,023
Increase in Purchased Power Expense Due to Rate Increase	\$60,663

WTAM Charge on Sample Customer Bill	
Increase in Wastewater Treatment Expense Due to Rate Increase	\$60,663
Number of Customers	2,200
Annual Increase to Customers	\$27.57
WTAM Charge on Sample Customer Bill	\$2.30

1 SHAPIRO LAW FIRM, P.C.
Jay L. Shapiro (No. 014650)
2 1819 E. Morten Avenue, Suite 280
Phoenix, Arizona 85020
3 Telephone (602) 559-9575
jay@shapslawaz.com

4 LIBERTY UTILITIES
5 Todd C. Wiley (No. 015358)
12725 W. Indian School Road, Suite D-101
6 Avondale, Arizona 85392
Todd.Wiley@LibertyUtilities.com

7 Attorneys for Liberty Utilities (Black Mountain Sewer) Corp.
8

9 **BEFORE THE ARIZONA CORPORATION COMMISSION**

10
11 IN THE MATTER OF THE APPLICATION
OF LIBERTY UTILITIES (BLACK
12 MOUNTAIN SEWER) CORP., AN
ARIZONA CORPORATION, FOR A
13 DETERMINATION OF THE FAIR VALUE
OF ITS UTILITY PLANTS AND
14 PROPERTY AND FOR INCREASES IN ITS
RATES AND CHARGES FOR UTILITY
15 SERVICE BASED THEREON.

DOCKET NO: SW-02361A-19-

16
17
18 **DIRECT TESTIMONY**

19 **OF**

20 **MATTHEW GARLICK**

21
22 **June 27, 2019**
23
24
25
26

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

TABLE OF CONTENTS

I. INTRODUCTION AND PURPOSE OF TESTIMONY 1

II. OVERVIEW OF LIBERTY UTILITIES 3

III. DESCRIPTION OF LIBERTY BLACK MOUNTAIN 5

IV. CLOSURE OF THE BOULDERS WWTP 10

 A. Factual, Regulatory and Legal Background 10

 B. The Decommissioning 19

V. REVISED PRE-TREATMENT TARIFF 29

1 **I. INTRODUCTION AND PURPOSE OF TESTIMONY.**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Matthew Garlick. My business address is 12725 W. Indian School Road,
4 Suite D-101, Avondale, Arizona 85392.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I have been employed by Liberty Utilities since 2000, and I am President of our
7 regulated utilities in Arizona and Texas, including applicant Liberty Utilities (Black
8 Mountain Sewer) Corp. (“Liberty Black Mountain” or the “Company”). I have been
9 President for Liberty Utilities in Arizona and Texas since June 1, 2015.

10 **Q. WHAT ARE YOUR RESPONSIBILITIES AS PRESIDENT OF LIBERTY**
11 **UTILITIES IN TEXAS AND ARIZONA?**

12 A. My responsibilities include directing the operations and administration of all of the
13 Arizona¹ and Texas utilities, including their financial and operating results, capital
14 and operating cost budgeting, rate case planning and oversight, and regulatory
15 policies and procedures. I also oversee customer and development services,
16 environmental, health and safety, accounting/finance, human resources, engineering,
17 and conservation planning.

18 **Q. WHAT OTHER POSITIONS HAVE YOU HELD WITH LIBERTY**
19 **UTILITIES?**

20 A. I was hired in January 2000 as a Technical Services Supervisor for Litchfield Park
21 Service Company, now known as Liberty Litchfield Park. In November 2009, I was
22 named Business Manager of Liberty Litchfield Park, and was responsible for
23

24 ¹ Liberty Utilities owns and operates seven regulated utilities in Arizona. Along with Liberty Black
25 Mountain, Liberty Utilities owns and operates Cordes Lakes Water Co., Liberty Utilities (Bella Vista Water)
26 Corp., Liberty Utilities (Entrada Del Oro Sewer) Corp., Liberty Utilities (Gold Canyon Sewer) Corp.,
Liberty Utilities (Litchfield Park Water & Sewer) Corp. (“Liberty Litchfield Park”), and Liberty Utilities
(Rio Rico Water & Sewer) Corp.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

overseeing the utility operations for approximately 40,000 utility customers. In March 2012, I assumed the role of Director of Operations and was responsible for operations throughout Arizona, as well as in Texas, Missouri, and Illinois.

Q. WHAT WAS YOUR EDUCATION AND EMPLOYMENT PRIOR TO LIBERTY UTILITIES?

A. I earned a Bachelor of Science degree in Earth Science from Northern Arizona University. Before joining Liberty Litchfield Park, I was a Senior Project Geologist for roughly 15 years with an environmental engineering firm called Environmental Science and Engineering. My role was to direct and support other project scientists in daily work activities on various State of Arizona Water Quality Assurance Revolving Fund (WQARF) groundwater remedial projects.

Q. DO YOU HOLD ANY CERTIFICATIONS?

A. Yes. I hold Operator Certifications (Grade IV – Wastewater Collection, Water Treatment, Wastewater Treatment, and Grade III in Water Distribution) in Arizona. I also hold a backflow specialist certification. Additionally, I belong to several professional organizations such as the American Water Works Association, and American Backflow Prevention Association, and I am a board member for the Water Utilities Association of Arizona.

Q. HAVE YOU TESTIFIED BEFORE THIS OR ANY OTHER COMMISSION?

A. Yes, I have testified in all of Liberty Utilities’ rate cases since I became President in 2015, including the last rate case and financing dockets for Liberty Black Mountain (Consolidated Docket Nos. SW-02361A-15-0206 and SW-02361A-15-0207). I have also presented written testimony in pending rate case proceedings before the Public Utility Commission of Texas for our regulated Texas utilities.

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
2 **PROCEEDING?**

3 A. To support Liberty Black Mountain’s request for rate relief. Specifically, I will
4 provide background on Liberty Utilities generally, and then on Liberty Black
5 Mountain specifically. I also will discuss the Company’s compliance with the
6 Commission’s directive that the Company close the Boulders Wastewater Treatment
7 Plant (“Boulders WWTP”).

8 **Q. IS THAT THE REASON WHY LIBERTY BLACK MOUNTAIN IS FILING**
9 **THIS RATE CASE?**

10 A. The Commission ordered the Company to file a rate case on or before June 30, 2019.²
11 The Company needs new rates in order to ensure that its substantial capital
12 investment in successfully complying with the Commission’s order and our
13 customers’ wishes to close the Boulders WWTP is recognized in rates.

14 **II. OVERVIEW OF LIBERTY UTILITIES.**

15 **Q. PLEASE PROVIDE AN OVERVIEW OF LIBERTY UTILITIES.**

16 A. Liberty Utilities Co. (“Liberty Utilities”) is a Delaware corporation that owns and
17 operates regulated utilities in the United States. Liberty Utilities is a subsidiary of
18 Liberty Utilities (Canada) Corp. (“Liberty Utilities Canada”), which is a subsidiary
19 of Algonquin Power & Utilities Corp., or APUC. APUC is a utility holding company
20 based in Oakville, Ontario and publicly traded on the Toronto and New York stock
21 exchanges.³ This means that the Arizona utilities, including Liberty Black
22 Mountain, ultimately are owned by APUC. The Arizona and Texas utilities are
23 wholly owned by Liberty Utilities (Sub) Corp., which is a wholly owned subsidiary

24 _____
25 ² Decision No. 75510 (April 22, 2016) at 19:1-2.

26 ³ The APUC website is www.AlgonquinPowerandUtilities.com. The complete APUC 2018 Annual Report is available on that site.

1 of Liberty Utilities.

2 APUC's subsidiaries generally operate as separate business groups. The
3 distribution business group operates in the United States as "Liberty Utilities" and
4 owns and operates regulated water, wastewater, natural gas and electric transmission
5 and distribution utilities in thirteen states, delivering responsive and reliable utility
6 services to approximately 780,000 customers. Liberty Utilities currently operates in
7 Arizona, Arkansas, California, Georgia, Illinois, Iowa, Kansas, Massachusetts,
8 Missouri, New Hampshire, Oklahoma, New York and Texas. The electric
9 generation business group operates as Liberty Power and owns or has interests in a
10 portfolio of North American based contracted wind, solar, hydroelectric and natural
11 gas-powered generating facilities representing more than 1,150 MW of installed
12 capacity. Liberty Utilities uses a shared services model for its business groups.
13 Leticia Washington discusses the shared services model in her direct testimony.⁴

14 **Q. DOES THAT MEAN THAT THE DECISIONS REGARDING THE**
15 **OPERATION OF REGULATED UTILITY BUSINESSES IN ARIZONA ARE**
16 **BEING MADE IN CANADA?**

17 A. No, Liberty Utilities believes that local management, local decision-making and
18 local operational control are critical. Strategic oversight, financial and
19 administrative support services are provided centrally from Liberty Utilities Canada,
20 APUC and other entities within Liberty Utilities to supplement and support the local
21 operations. This shared-services approach to management, service and support is
22 intended to ensure efficient and dependable utility services to all of Liberty Utilities'
23 customers. We measure our performance in terms of service reliability, customer
24 experience and dedication to public and workplace safety. Liberty Utilities considers
25

26 ⁴ Direct Testimony of Leticia Washington ("Washington Dt.") at 2-8.

1 safety a meta-level value and places safety of customers, employees and community
2 first and foremost.

3 I think this rate case illustrates that Liberty Utilities' approach works. Nearly
4 15 years ago, the Company began responding to and working with its customers, the
5 local community and regulators to address concerns over odors in the community,
6 particularly concerns due to the location of the Boulder WWTP in the middle of a
7 residential neighborhood. As I explain in my testimony, this filing is one of the last
8 steps in the long, challenging and expensive process necessary for the Company to
9 modify its wastewater utility system in order to meet the specific and unique needs
10 and wishes of the community it serves. I believe Liberty Black Mountain's
11 achievement is directly attributable to an overall approach that allows local
12 management to make decisions that promote health, safety and customer satisfaction
13 with support and financing from our shared services partners.

14 **III. DESCRIPTION OF LIBERTY BLACK MOUNTAIN.**

15 **Q. PLEASE PROVIDE AN OVERVIEW OF LIBERTY BLACK MOUNTAIN.**

16 A. Liberty Black Mountain's service area is located in the northeastern portion of the
17 Phoenix metropolitan area. The Company serves primarily in the Town of Carefree
18 ("Town"), and also in an unincorporated portion of Maricopa County and in small
19 portions of the City of Scottsdale ("Scottsdale"). Liberty Black Mountain currently
20 has 2,210 customers, 2,075 of which are residential, 131 are commercial, and four
21 are homeowners' association customers.

22 **Q. HOW LONG HAS LIBERTY BLACK MOUNTAIN BEEN PART OF THE**
23 **LIBERTY UTILITIES FAMILY?**

24 A. Since March 2001 when Algonquin Water Resources of America, Inc.⁵ purchased
25

26 ⁵ Algonquin Water Resources of America, Inc. is now known as Liberty Utilities (Sub) Corp.

1 all of the stock of Boulders Carefree Sewer Corporation (“BCSC”) from an affiliate
2 of Wyndham International. Sometime subsequent to the granting of the Certificate
3 of Convenience and Necessity (“CC&N”), the Wyndham resort group had acquired
4 the Company along with the Boulders Resort (“Resort”). BCSC, which was later
5 renamed to Liberty Utilities (Black Mountain Sewer) Corp., was the first regulated
6 utility in what has since become the Liberty Utilities group of water, sewer, electric
7 and gas utilities in the United States. So, it is fair to say that Liberty Utilities
8 basically started in Carefree, Arizona.

9 **Q. WHEN DID BCSC RECEIVE ITS CC&N?**

10 A. January 3, 1980.⁶ BCSC was formed by the Boulders Carefree Corporation, the real
11 estate developer of Boulders Carefree as a public service corporation to provide
12 sewer utility service to two areas, the Boulders Carefree development, and the area
13 then served by Carefree Water Company, another public service corporation that was
14 providing sewer utility service in portions of the Town. At that time, the Boulders
15 Carefree development was planned for 249 residential lots with a golf course and
16 clubhouse.⁷ When BCSC received its CC&N, 143 of the lots were already built and
17 occupied. Today, there are several hundred homes in the Boulders Carefree
18 community and the Town has a population of more than 3,700 along with multiple
19 commercial areas.

20 **Q. DID BCSC OWN A WASTEWATER TREATMENT PLANT?**

21 A. Yes, BCSC acquired the Boulders WWTP from another affiliate, Boulders
22 Properties, around the time of the decision granting the CC&N.⁸ The Boulders
23

24 ⁶ Decision No. 50544.

25 ⁷ Decision No. 50544 at 2:21 – 3:17.

26 ⁸ Decision No. 50544 at 4:7-17.

1 WWTP was a 120,000 gallon per day package plant apparently built around 1969.⁹
2 The facility was built in what ultimately turned out to be the middle of the Boulders
3 community and resort as depicted in the map attached to my direct testimony as
4 **Exhibit MG-DT1**. The Boulders WWTP was located immediately adjacent to one
5 of the holes on the Boulders golf course and eventually homes were built around the
6 golf course and the sewer treatment plant. At the time BCSC acquired the Boulders
7 WWTP, the facility was already treating flows from the residents of Boulders
8 Carefree as well as the sewer utility customers of Carefree Water Company.¹⁰ By
9 the time Liberty Utilities acquired BCSC in 2001, there were three homes located
10 less than 100 feet from the Boulders WWTP, 10 homes located less than 300 feet
11 from the plant, 17 homes located within 500 feet, and up to 300 homes within 1,000
12 feet of the facility, as well as facilities at the Resort.¹¹

13 **Q. DID BCSC HAVE ANY PLAN BACK IN 1980 TO ADD ADDITIONAL**
14 **TREATMENT CAPACITY?**

15 A. According to the CC&N order, a 60,000 gallon per day Smith & Loveless package
16 plant had already been contracted for and was to be built on the same sight as the
17 Boulders WWTP and be in service by March 1980.¹² But no one seems to know
18 what happened to that planned plant.¹³

19 **Q. HOW DID BCSC TREAT THE EXCESS FLOWS THAT WERE BEYOND**
20 **THE CAPACITY OF THE BOULDERS WWTP?**

21 A. Before 1989, I don't know. Beginning in 1989, the Company started sending some
22

23 ⁹ Decision No. 71865 (September 1, 2010) at 36:24-26.

24 ¹⁰ Decision No. 50544 at 2:21 – 3:17.

25 ¹¹ Decision No. 71865 at 37:8-13.

26 ¹² Decision No. 50544 at 2:21 – 3:17.

¹³ Decision No. 71865 at 37 n. 18.

1 of the wastewater it collected to Scottsdale for treatment.¹⁴ From there, wastewater
2 was sent by Scottsdale to the regional City of Phoenix 91st Avenue Wastewater
3 Treatment Plant. Although the Company and Scottsdale began negotiation of an
4 agreement in 1989, it appears that the agreement was not finalized until several years
5 later.¹⁵ In 1996, the Company entered into the first in a series of wastewater capacity
6 and treatment agreements with Scottsdale. In the first installment, the Company
7 acquired 210,000 gallons per day of treatment capacity and acquired the right to
8 purchase additional capacity in the future. Today, the Company has the right to
9 deliver 520,000 gpd of wastewater per day to Scottsdale for treatment.

10 **Q. WHAT DID BCSC DO WITH RECLAIMED WATER FROM THE**
11 **BOULDERS WWTP?**

12 A. Initially, it went to the Boulders Carefree's developer to use for irrigation on one or
13 more golf courses under a contract that was under negotiation at the time of the
14 CC&N order.¹⁶ Later, the Resort acquired the rights to the Company's effluent and
15 the effluent was used solely for golf course irrigation. When Liberty Utilities
16 acquired the Company from the Resort's owners in 2001, the Company and the
17 Resort entered into an Effluent Delivery Agreement ("EDA") governing the
18 continued provision of effluent from the plant to the Resort. This arrangement gave
19 the Company a low cost means of disposing of its reclaimed water and the golf
20 courses had a source of irrigation water to supplement groundwater withdrawals.

21 **Q. THANK YOU. WHAT IS THE STATUS OF THE BOULDERS WWTP**
22 **TODAY, MR. GARLICK?**

23 A. As of November 30, 2018, Liberty Black Mountain ceased operations of the

24 _____
¹⁴ Decision No. 59944 at 2:20 – 3:1.

25 ¹⁵ Decision No. 59944 at 2-3.

26 ¹⁶ See Decision No. 50544 at 5 ¶ 9, Exhibit 12.

1 Boulders WWTP, precisely as it was ordered to do by the Commission.¹⁷

2 **Q. OKAY. HAS THE COMPANY MADE ANY OTHER SIGNIFICANT**
3 **UPGRADES OR IMPROVEMENTS SINCE THE LAST TEST YEAR**
4 **ENDED IN 2014?**

5 A. Aside from the closure costs and capital investment relating to closure of the
6 Boulders WWTP, the Company made other upgrades and improvements, including
7 lift station improvements, I&I reduction measures, vehicle replacements, sewer and
8 odor monitoring equipment and other similar items such as tool replacement. The
9 total of those additional improvements is \$387,636.

10 **Q. WHAT IS LIBERTY BLACK MOUNTAIN'S COMPLIANCE STATUS?**

11 A. As far as we know, Liberty Black Mountain is in compliance with the rules and
12 regulations of ADEQ, Maricopa County and the Commission.

13 **Q. WHEN DID THE CURRENT RATES GO INTO EFFECT?**

14 A. The current rates were approved in Decision No. 75510. These rates were based on
15 a test year ended December 31, 2014.

16 **Q. IS LIBERTY BLACK MOUNTAIN EARNING ITS AUTHORIZED**
17 **RETURN?**

18 A. No, especially when factoring in all of the costs of closing the Boulders WWTP as
19 discussed in the next section of my direct testimony.

20 **Q. WHAT RATE RELIEF IS LIBERTY BLACK MOUNTAIN SEEKING IN**
21 **THIS RATE FILING, MR. GARLICK?**

22 A. The Company is seeking a total annual revenue requirement equal to \$3,352,176,
23 which is an increase of \$878,785 annually or 35.53 percent over the test year ending
24 December 31, 2018. The primary reason the Company needs higher rates is recovery

25

26

¹⁷ Decision Nos. 71865 and 73885 (May 8, 2013).

1 of the cost of complying with Commission Decision Nos. 71865 and 73885 relating
2 to closure of the Boulders WWTP. The resulting residential and commercial rates
3 are set forth in Mr. Bourassa’s direct testimony.¹⁸ The Company also is requesting
4 certain other tariff changes as addressed by Ms. Washington in her direct
5 testimony.¹⁹

6 **IV. CLOSURE OF THE BOULDERS WTTP.**

7 **A. Factual, Regulatory and Legal Background.**

8 **Q. PLEASE SUMMARIZE WHY THE COMMISSION ORDERED THE**
9 **COMPANY TO REMOVE THE BOULDERS WWTP FROM SERVICE.**

10 A. The Commission ordered the closure of the Boulders WWTP because that’s what
11 the customers and community leaders told the Commission they wanted ten years
12 ago.²⁰ To help understand the chain of events leading to the plant closure, I have
13 attached a timeline of key events from 2005-2019 to my testimony as **Exhibit MG-**
14 **DT2.**

15 **Q. WHAT HAPPENED IN 2005 THAT STARTED THIS PROCESS,**
16 **MR. GARLICK?**

17 A. Odor concerns first arose in the Company’s 2005 rate case filed on September 16,
18 2005. One of the more contentious issues in that rate case revolved around claims
19 that objectionable odors were emanating from the Company’s system. The Town
20 and the Boulders Homeowners Association (“BHOA”) first intervened in the
21 Company’s 2005 rate case and raised concerns about odors that were then believed
22 to be coming from the Company’s wastewater collection and transmission
23

24 ¹⁸ Direct Testimony of Thomas J. Bourassa – Rate Base, Income Statement and Rate Design at 18-19.

25 ¹⁹ Washington Dt. at 24-26.

26 ²⁰ See Decision No. 71865 at 36-55. The community continued to make their desires known in Phase 2 of the rate case decided in May 2013. Decision No. 73885 at 26:4 – 27:10, 31:11 – 32:20.

1 facilities.²¹ In the 2005 rate case decision, the Commission ordered Liberty Black
2 Mountain to take certain steps to mitigate odors coming from the Company's
3 collection system.²² As directed by the Commission, the Company deactivated and
4 removed a lift station, rerouted sewer lines and installed air-jumper pipelines at four
5 locations along the street between manholes to help prevent air from escaping into
6 the atmosphere.²³ The Company also took several steps to minimize odors from the
7 Boulders WWTP after the 2005 rate case, including covering grate openings and
8 installation of an odor scrubber.²⁴

9 **Q. WERE THE COMPANY'S EFFORTS AFTER THE 2005 RATE CASE**
10 **SUCCESSFUL?**

11 A. Yes, these improvements were designed to and did minimize odors from much of
12 the collection system.²⁵ The Company's odor and noise control efforts also made
13 the situation better at and around the plant. Ultimately, though, nothing could be
14 done to completely address customer concerns as long as the Boulders WWTP was
15 still located in the middle of the Boulders residential community.

16 **Q. WHAT HAPPENED NEXT?**

17 A. In December 2008, Liberty Black Mountain filed another rate case. The local
18 community, primarily through the BHOA and the Town, intervened in that rate case
19 because of continued concerns about odors from the plant. Those concerns prompted
20 our customers and community stakeholders to propose closure of the Boulders
21 WWTP.²⁶ The Commission received over 500 public comments supporting closure

22 _____
²¹ Decision No. 69164 at 30:15-19.

23 ²² Decision No. 69164 at 43.

24 ²³ Decision No. 71865 at 40:19-25.

25 ²⁴ Decision No. 71865 at 40:25 – 41:3.

26 ²⁵ Decision No. 71865 at 40:20 – 41:3.

²⁶ See Direct Testimony of Les Peterson, filed September 18, 2009 in Docket No. SW-02361A-08-0609

1 of the Boulders WWTP in the 2008 rate case, further illustrating the ground swell of
2 support from our customers for closure of the plant.²⁷

3 **Q. WERE THERE ANY OPERATIONAL OR COMPLIANCE PROBLEMS**
4 **WITH THE BOULDERS WWTP?**

5 A. No, and that is an important point. The Company was in compliance with all odor
6 control and other operational standards regarding the Boulders WWTP. This, again,
7 illustrates that the real problem was the location of the plant in the middle of a
8 residential community. As they say in real estate, it was all about “location, location,
9 location.” The community did not want the Boulders WWTP as its neighbor any
10 longer and used the 2008 rate case to achieve that goal.

11 It’s also helpful to remember the history of the Boulders WWTP, as I
12 discussed earlier. When we closed the plant in 2018, the plant had been in operation
13 for about 50 years. It was built on one of the golf courses and the community was
14 built up around the golf course and, thereby, around the Boulders WWTP. As a
15 result, the Boulders WWTP was situated less than 100 feet from three homes and
16 within 1,000 feet of approximately 300 homes.²⁸ If constructed today, the Boulders
17 WWTP would require a setback of 100 feet with odor, noise, and aesthetic controls,
18 and a setback of 500 feet without odor, noise, and aesthetic controls.²⁹ Les Peterson,
19 then the BHOA president and the current Mayor of the Town, testified in the 2008
20 rate case that when the Boulders WWTP was constructed, it “was expected to be a
21 temporary wastewater treatment solution until another location could be secured
22

23 (“Peterson 2009 Dt.”), at 6.

24 ²⁷ Decision No. 71865 at 49:23-26; Decision No. 73885 at 19:5-8. In fact, the Commission specifically
noted that only one member of the community opposed the plant closure. Decision No. 71865 at 51 n. 21.

25 ²⁸ Decision No. 71865 at 37:8-12; Decision No. 73885 at 6:5-9.

26 ²⁹ A.A.C. R18-9-B201.I.

1 further away from homes.”³⁰

2 **Q. SO, WHAT HAPPENED IN THE 2008 RATE CASE?**

3 A. The Company’s representatives sat down with representatives from BHOA and
4 discussed a solution to the community’s concerns. Those efforts resulted in the
5 “Plant Closure Agreement,” under which the Company agreed to close the Boulders
6 WWTP if certain conditions were met.³¹

7 **Q. WHY WAS THE COMPANY WILLING TO AGREE TO DECOMMISSION**
8 **THE BOULDERS WWTP?**

9 A. The Company was in a difficult position. Liberty Utilities tries very hard to work
10 with and be a part of the communities it serves. The Company tried to address
11 customer concerns relating to the Boulders WWTP, as illustrated by the significant
12 steps Liberty Black Mountain took to address odors following the 2005 rate case
13 order. But for the community, the mission wasn’t complete yet. Liberty Black
14 Mountain was willing to close the Boulders WWTP if that is what the community
15 wanted as long as all of the stakeholders and the Commission recognized that the
16 Company should and would receive full recovery for any and all necessary costs
17 associated with closure of the plant. When the Company and the BHOA entered into
18 the Plant Closure Agreement in September 2009, it provided for the closure of the
19 Boulders WWTP and the timely recovery of the necessary capital investment by the
20 Company through rates.³²

21 **Q. DID THE COMMISSION APPROVE THE PLANT CLOSURE**
22 **AGREEMENT IN THE 2008 RATE CASE?**

23 A. Yes. The Commission issued Decision No. 71865 on September 1, 2010 (“Phase 1

24 _____
³⁰ Decision No. 73885 at 26:4-7 citing 11/18/09 (Vol. I) Transcript (“2009 Tr.”) at 144, 161-162 (Sorensen).

25 ³¹ Decision No. 71865 at 42:7-27.

26 ³² *Id.*

1 Decision”). In the Phase 1 Decision, the Commission gave a detailed explanation of
2 the “unique facts and circumstances” presented in the 2008 rate case, including the
3 “overwhelming and extraordinary level of customer participation and support for the
4 plant closure.”³³ Concerning the Plant Closure Agreement, the Commission stated
5 that it was a reasonable resolution of the odor concerns expressed by hundreds of
6 Liberty Black Mountain customers.³⁴ To facilitate Liberty Black Mountain’s
7 funding and recovery of costs associated with closure of the Boulders WWTP, the
8 Commission also approved a special plant closure cost recovery surcharge
9 mechanism in the Phase 1 Decision.³⁵ The Commission recognized that directing
10 the Company to remove a fully compliant, used and useful treatment facility was an
11 extraordinary remedy, as was the approval of a means to ensure timely rate recovery
12 by Liberty Black Mountain.³⁶ In the end, the Commission was persuaded that the
13 Plant Closure Agreement was a reasonable resolution of the unique and
14 extraordinary circumstances facing the Company, the community and the
15 Commission.³⁷

16 **Q. YOU MENTIONED EARLIER THAT THE EFFLUENT FROM THE**
17 **BOULDERS WWTP WENT TO THE RESORT FOR IRRIGATION OF ITS**
18 **GOLF COURSE UNDER THE EDA. HOW DID THE COMPANY ADDRESS**
19 **THE IMPACT OF THE CLOSURE ON THE RESORT?**

20 A. The Resort was not a party to the Phase 1 proceedings. However, a key condition of
21 the Plant Closure Agreement was the requirement that the Company successfully
22

23 ³³ Decision No. 71865 at 49:12-18.

24 ³⁴ *Id.*

25 ³⁵ Decision No. 71865 at 54:6 – 55:7.

26 ³⁶ *See* Decision No. 71865 at 54:2-5, 55:5-7.

³⁷ Decision No. 71865 at 49:12-18.

1 negotiate termination of the EDA at no cost to the Company and its customers.³⁸ As
2 a result, after the Phase 1 Decision, Liberty Black Mountain and the BHOA had
3 several meetings with the Resort in an effort to reach agreement to terminate the
4 EDA in order for the plant closure to proceed. Unfortunately, those efforts were not
5 successful, which led to a second phase of the 2008 rate case.

6 **Q. HOW DID PHASE 2 OF THE 2008 RATE CASE COMMENCE?**

7 A. On June 15, 2011, the BHOA filed a Motion for Plant Closure Order with the
8 Commission. In that motion, the BHOA asserted that progress on the Company and
9 the Resort's negotiations for a termination of the EDA appeared to have ceased but
10 that odors from the Boulders WWTP had not.³⁹ The BHOA specifically requested
11 that the Commission order the Boulders WWTP closed. On January 24, 2012, the
12 Commission voted to reopen the matter pursuant to A.R.S. 40-252 in order to address
13 the sole issue of whether it should order Liberty Black Mountain to close the
14 Boulders WWTP and directed the Hearing Division to conduct additional
15 proceedings. A procedural schedule was set, including testimony filing deadlines
16 and a hearing date (May 8, 2012). On January 26, 2012, the Resort was granted
17 intervention in Phase 2.⁴⁰

18 **Q. DID THE COMMISSION ISSUE ANOTHER DECISION IN THE SECOND**
19 **PHASE OF THE 2008 RATE CASE?**

20 A. Yes, after more hearings, the Commission issued Decision No. 73885 on May 8,
21 2013 ("Phase 2 Decision"). In the Phase 2 Decision, the Commission concluded that
22 continued operation of the Boulders WWTP in the midst of a residential
23

24 ³⁸ Decision No. 71865 at 49-54; Peterson 2009 Dt., Exhibit B at 3 ¶ iv.

25 ³⁹ Decision No. 73885 at 2:11-14.

26 ⁴⁰ Decision No. 73885 at 3:4-5. The Town did not participate as a party but passed a resolution that was filed with the Commission supporting closure of the Plant. RUCO also elected not to participate in Phase 2.

1 neighborhood would have a detrimental effect on the quality of life for residents
2 within the community.⁴¹ As the Commission held, “[t]he record supports a finding
3 that due to its location, the Boulders WWTP can no longer be operated in a manner
4 consistent with the public interest[.]”⁴²

5 **Q. DID THE RESORT ACCEPT THE COMMISSION’S PHASE 2 DECISION?**

6 A. No. The Resort filed a petition for rehearing of the Phase 2 Decision pursuant to
7 A.R.S. 40-253, which petition was denied by operation of law. The Resort then
8 appealed the Phase 2 Decision pursuant to A.R.S. 40-254. The Superior Court in
9 Maricopa County Superior Court Case No. CV2013-00784 upheld the
10 Commission’s order, finding that the plant closure order was within the
11 Commission’s statutory powers. The Resort appealed the Superior Court’s decision
12 to the Arizona Court of Appeals as Case No. 1 CA CV 14-0643 (the “Appeal”) filed
13 on August 26, 2014.

14 **Q. WHAT WAS THE OUTCOME OF THE RESORT’S APPEAL TO THE**
15 **COURT OF APPEALS?**

16 A. On November 15, 2015, after the Company filed another rate case, the Appeal was
17 stayed on November 24, 2015, pending the outcome of the 2015 rate case. RUCO,
18 the Resort, the Town and the BHOA all intervened in the 2015 rate case.⁴³

19 **Q. WHY DID LIBERTY BLACK MOUNTAIN FILE ANOTHER RATE CASE**
20 **IN 2015?**

21 A. As stated in the rate application and supporting testimony, the rate case was brought
22 (1) because the plans for and estimated costs of the Boulders WWTP closure had
23 changed since the Phase 1 and Phase 2 Decisions, (2) Liberty Black Mountain already

24 ⁴¹ Decision No. 73885 at 38:2-5.

25 ⁴² Decision No. 73885 at 49:16-17.

26 ⁴³ Decision No. 75510 at 3:2-8, 3:19-21.

1 had over \$1 million of investment in the plant closure, (3) the Company was no
2 longer earning sufficient revenue and returns, and (4) the Company requested a new
3 commercial rate design supported by the Town.⁴⁴

4 **Q. DID THE COURT OF APPEALS RENDER A DECISION ON THE**
5 **RESORT'S APPEAL?**

6 A. No, while the rate case was pending and before the Court of Appeals made its
7 decision, the Resort, the Company, the Town, and the BHOA reached a
8 compromise.⁴⁵

9 **Q. WHAT WAS THE NATURE OF THIS "COMPROMISE"?**

10 A. Liberty Black Mountain, the Town and the Resort, along with the BHOA and Wind
11 Pl Mortgage Borrower LLC., entered into a Proposed Settlement Agreement filed
12 with the Commission in the rate case docket on November 16, 2015 (the
13 "Town/Resort Agreement").⁴⁶ The Town/Resort Agreement set a date certain for
14 closure of the Boulders WWTP of November 30, 2018. The Town/Resort
15 Agreement also included the proposed dismissal of the Resort's Appeal of Decision
16 No. 73885 and the release of all claims related to the closure of the Boulders WWTP
17 if the agreement was accepted by the Commission.

18 **Q. DID COMMISSION STAFF AND RUCO JOIN IN THE TOWN/RESORT**
19 **AGREEMENT?**

20 A. No, however, after the Town/Resort Agreement, the parties to the rate case,
21 including Staff and RUCO, entered into a Comprehensive Settlement Agreement.
22 The Comprehensive Settlement adopted much of the Town/Resort Agreement as
23 well as any remaining terms related to the closure as well as addressing the other

24 ⁴⁴ Liberty Black Mountain's Application, filed June 22, 2015 in Docket No. SW-02361A-15-0207.

25 ⁴⁵ Decision No. 75510 at 3:23 – 4:2, 7:11-18.

26 ⁴⁶ Decision No. 75510 at 7:11-16.

1 issues in the 2015 rate case.⁴⁷

2 **Q. DID THE COMMISSION APPROVE THE TOWN/RESORT AND**
3 **COMPREHENSIVE SETTLEMENT AGREEMENTS?**

4 A. Yes, in Decision No. 75510 the Commission approved the Town/Resort and
5 Comprehensive Settlement agreements, including ordering the Company to close the
6 Boulders WWTP on or before November 30, 2018.⁴⁸

7 **Q. DID THE COMMISSION'S ORDER IN THE 2015 RATE CASE ADDRESS**
8 **ANY OTHER ASPECTS OF THE PLANT CLOSURE?**

9 A. Yes. The Commission approved a regulatory asset to allow the Company to begin
10 recovering its costs to close the Boulders WWTP and approved post-in service
11 AFUDC and deferred depreciation on the closure costs based upon the then existing
12 estimates of costs. The Commission and the parties in last rate case also recognized
13 that the costs could change and that the Company could seek relief for additional
14 post-in service AFUDC and deferred depreciation on the closure costs. These
15 measures were agreed to by the parties in consideration of the Company agreeing to
16 forego the plant cost surcharge mechanism previously approved by the
17 Commission.⁴⁹ The Commission also approved a special effluent rate for the Resort
18 to offset some of the Company's closure costs related to litigation over the
19 Commission's orders directing the Company to close the Boulders WWTP.⁵⁰

20

21

22

23

24 ⁴⁷ Decision No. 75510 at 7:19 – 8:5.

25 ⁴⁸ Decision No. 77510 at 7:17-18, 17:24 – 18:1.

26 ⁴⁹ Decision No. 75510 at 12:28 – 13:6.

⁵⁰ Decision No. 75510 at 11:6-9.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

B. The Decommissioning.

Q. THANK YOU, MR. GARLICK. TURNING NOW TO THE ACTUAL PLANT CLOSURE PROJECT, HOW DO YOU REMOVE A WASTEWATER TREATMENT FACILITY FROM SERVICE?

A. There were three main steps to closing the Boulders WWTP. First, alternative treatment capacity had to be obtained. Second, flows that were previously going to or through the plant needed to be re-routed by the means of installing new gravity sewers, installing new force main, by-passing the existing lift station and constructing a new lift station. Third is decommissioning, which involves removal of the facilities, remediation of the property, and then sale of the parcel.

Q. IN YOUR 30 YEARS OF UTILITY EXPERIENCE, HOW MANY USED AND USEFUL WASTEWATER TREATMENT PLANTS HAVE YOU SEEN CLOSED OR RETIRED?

A. I can't recall any others, and think it is fair to say that this is a very unique event for a utility.

Q. WHERE IS LIBERTY BLACK MOUNTAIN IN THIS PROCESS AT THIS TIME?

A. The Company made the payment for the additional 120,000 gpd of replacement treatment capacity from Scottsdale on December 31, 2017. All of the collection and transmission facilities have been re-routed and upgraded as necessary to deliver all flows to Scottsdale for treatment. The plant itself has been removed, the site has been remediated and it is currently for sale. When sold, half of the net sale proceeds will be shared with ratepayers as required under the Plant Closure Agreement.⁵¹ In other words, we have completed all of the steps required for closure of the

⁵¹ Decision No. 71865 at 43:3-6.

1 Boulders WWTP and are just waiting to share the profits from the land sale with our
2 customers when the lot sells. If the land sale happens before the conclusion of this
3 case, the Company will reflect a sharing of profits (if any) in its request for relief.

4 **Q. HOW MUCH DID IT COST LIBERTY BLACK MOUNTAIN TO COMPLY**
5 **WITH THE COMMISSION'S ORDERS AND CLOSE THE BOULDERS**
6 **WWTP?**

7 A. The closure costs are detailed in the following table:

8 **TOTAL PLANT CLOSURE COSTS**

9

Description	Amount
Construction for Reroute	\$ 5,548,848
Construction for Decommissioning	1,234,004
Replacement Capacity Costs	1,200,074
INDOH	1,193,701
Engineering	267,446
Legal	685,719
Engineering for Flows	428,189
AFUDC	165,463
Engineering for Decommissioning	124,368
Engineering for Closure	108,901
Direct Labor	88,574
Other Expenses	1,594
Grand Total	\$11,046,881

10
11
12
13
14
15
16
17
18

19 **Q. HOW MUCH WAS THE PLANT CLOSURE EXPECTED TO COST?**

20 A. There really is no simple answer to that question.

21 **Q. PLEASE EXPLAIN.**

22 A. While we knew the cost of the additional Scottsdale capacity because it was set by
23 contract, first at \$6 per gallon and then at \$10 per gallon, the actual costs to modify
24 and upgrade the collection and transmission facilities to re-route the flows and the
25 costs of decommissioning the plant and remediating the site were uncertain until we
26 started the project. The type of certainty needed to provide firm estimates requires

1 engineering and design, and that stage of a project like the closure of the Boulders
2 WWTP is costly and time consuming. For those reasons, those efforts did not
3 commence until the Commission's orders were final and certain.

4 **Q. DID THE COMPANY OFFER ANY PRELIMINARY ESTIMATES DURING**
5 **THE PROCEEDINGS BEFORE THE COMMISSION?**

6 A. Yes, but they were at best guesstimates based on 30,000 foot discussions with
7 engineers so that the Company's representatives could answer questions about what
8 the closure of the plant might cost after the Plant Closure Agreement was signed and
9 presented in Phase 1 of the 2008 rate case. For instance, in that rate case, the
10 Company could only state that the plant closure project might cost an estimated \$1.5-
11 \$2 million.⁵² These estimates were not based on any detailed engineering or design
12 analysis or any actual site conditions or municipal requirements. Rather, the
13 estimates were exclusive of the decommissioning and site remediation costs, and
14 were based on the purchase of additional capacity from Scottsdale at \$6 per gpd.⁵³
15 By the time the Company filed another rate case in 2015, the situation had already
16 changed significantly as explained in this excerpt from the Company's direct
17 testimony in that rate case –

18 **Q. DO YOU HAVE AN UPDATED ESTIMATE OF THE**
19 **TOTAL COST TO CLOSE THE BOULDERS**
20 **WWTP?**

21 A. The best I can say at this time is that the Company is looking
22 at an estimated \$1.2 million for replacement capacity, an
23 estimated \$2.6 million for upgrades to the collection and
24 transmission system, an estimated \$750,000 for legal fees
(assuming the Resort loses its current appeal and stops
litigating), for a total of at least \$4.5 million, plus the costs
to remove the facility after closure, which will be partially
offset by the sale of the land. Of course, engineers can only

25 ⁵² Rebuttal Testimony of Gregory S. Sorensen ("Sorensen 2009 Rb."), filed October 29, 2009 in Docket No.
SW-02361A-08-0609, at 8:10-15; 2009 Tr. at 133:24-134:7 (Sorensen).

26 ⁵³ 2009 Tr. at 165:14-166:6 (Sorensen).

1 give their best estimates based on known conditions, and I
2 can't possibly predict the future legal costs.⁵⁴

3 These estimates were also exclusive of any decommissioning costs.⁵⁵

4 In the end, all we can really say is that as time passed, the costs went up. Until
5 you start to engineer, permit and build, you cannot be certain of the cost of a project
6 like the closure of the Boulders WWTP, which is why the Company qualified every
7 estimate as very preliminary.⁵⁶ The parties expressly understood and agreed that
8 those closure costs were preliminary estimates and subject to change as it was
9 specifically written into the Comprehensive Settlement Agreement. In fact, the
10 Comprehensive Settlement Agreement expressly states that “[t]he Parties agree and
11 acknowledge that these costs are still estimates and subject to change.”⁵⁷ The
12 Commission also recognized that the costs were not certain.⁵⁸

13 **Q. IF THE COMPANY HAD BEEN ABLE TO CLOSE THE BOULDERS**
14 **WWTP AFTER THE PHASE 1 DECISION WAS ISSUED IN 2010, WOULD**
15 **THE COSTS HAVE BEEN LOWER?**

16 A. The answer is likely, yes. As reflected in the timeline attached as **Exhibit MG-DT2**,
17 it ultimately took over nine years from the time Liberty Black Mountain and the
18 BHOA first agreed in the Plant Closure Agreement to the decommissioning of the
19 Boulders WWTP. This delay was necessitated to allow the Resort additional time
20

21 ⁵⁴ Direct Testimony of Greg Sorensen (“Sorensen 2015 Dt.”), filed June 22, 2015 in Docket No. SW-
02361A-15-0207, at 24:20 – 25:3.

22 ⁵⁵ Sorensen 2015 Dt. at 25:4-17.

23 ⁵⁶ E.g., Sorensen 2009 Rb. at 8:10-15; 2009 Tr. at 133:24 – 134:7, 165:14 – 166:6 (Sorensen); 05/08/12
24 Transcript (“2012 Tr.”) at 136:15 – 138:3, 188:2 – 190:23 (Sorensen); Sorensen 2015 Dt. at 22:13-20, 24:20
– 25:3; Rebuttal Testimony of Matthew Garlick, filed January 1, 2016 in Docket No. SW-02361A-15-0207,
at 5:10 – 6:9.

25 ⁵⁷ Decision No. 75510 at 17:28 – 18:1, Exhibit B (“Comprehensive Settlement Agreement”) at 10 ¶ 3.4.1.

26 ⁵⁸ Decision No. 75510 at 14:1-4.

1 to find an alternative to the use of the Company's effluent. As a result, the Company
2 incurred substantial legal costs protecting its customers' interests in the
3 Commission's closure order after it was challenged by the Resort.⁵⁹ Those costs are
4 already being recovered and will continue to be for 17 more years.⁶⁰ Then, the cost
5 of the replacement capacity from Scottsdale increased by the time the Company was
6 able to exercise its right to acquire more capacity.⁶¹ In addition, construction labor
7 costs increased from the economic low in 2009-2010 to near peak levels due to
8 increased construction activity by 2018. The increased construction activity also
9 resulted in higher material costs and new tariffs affecting steel pricing, petroleum
10 costs (used to make PVC pipe), cement pricing (used for concrete backfill), and hard
11 dig. These are just some of the reasons the final cost to close the Boulders WWTP
12 exceeded all of the preliminary estimates.

13 **Q. WERE THERE OTHER SPECIFIC, UNANTICIPATED COSTS THAT THE**
14 **COMPANY EXPERIENCED IN THE PROCESS OF CLOSING THE**
15 **BOULDERS WWTP?**

16 A. Yes. Scottsdale's construction requirements led to additional costs related to the
17 new force main as we had to bore and jack under drainage structures rather than
18 install the force main over the top of those structures. Scottsdale also changed its
19 trench backfill requirements from compacted aggregate to a slurry cement mix which
20 is more expensive. Additionally, the total rebuild of the commercial lift station was
21 not anticipated until we began construction and discovered the deteriorating
22 condition of the prior lift station. Rebuilding the lift station cost approximately
23 \$1 million while the preliminary estimates contemplated an upgrade of the existing

24 _____
25 ⁵⁹ Sorensen 2015 Dt. at 22:21 – 24:19; *see p. 20, supra.*

26 ⁶⁰ *See* Decision No. 75510 at 16:14-15.

⁶¹ Sorensen 2015 Dt. at 20:1 – 21:14.

1 lift station for an estimated \$412,000.

2 **Q. WOULD THESE INCREASED COSTS HAVE IMPACTED ANY OF THE**
3 **ALTERNATIVES THAT WERE CONSIDERED?**

4 A. Yes, any option that had the wastewater flows redirected from the Boulders WWTP
5 to Scottsdale would have required the rebuild instead of the upgrade to the
6 commercial lift station. I also believe that we would likely have had to deal with
7 that lift station soon enough if we had not closed the plant when we did. Given the
8 condition of the lift station when we got in there, it would likely have started to cause
9 odors and had to have been replaced. A new odor source is clearly the last thing the
10 Company and its customers needed.

11 **Q. BUT, MR. GARLICK, THE FINAL COST IS STILL MUCH HIGHER THAN**
12 **PRELIMINARY ESTIMATES, CORRECT?**

13 A. Yes, but the issue in this rate case is not the reasonableness of the estimated costs.
14 The Company made its best effort to provide initial estimates and it clearly and
15 repeatedly qualified those estimates as being preliminary. Any differences between
16 the initial estimates and the actual costs were due to (1) delays beyond the
17 Company's control; (2) accommodations made to the Resort; and (3) matters that
18 could not have been known when the estimates were made. Liberty Black Mountain
19 did not spend a single dollar more than was necessary to comply with the
20 Commission's order to close the Boulders WWTP.

21 **Q. OKAY, THANK YOU. THE TABLE YOU PROVIDED INCLUDES**
22 **SOMETHING LABELED "INDOH." WHAT IS INDOH?**

23 A. Indirect Overhead or INDOH refers to that portion of administration and general
24 (A&G) costs that support capital projects and, in turn, are capitalized.
25 Ms. Washington discusses the basis for and calculation of INDOH under the Liberty
26

1 Utilities shared service model in her direct testimony.⁶²

2 **Q. WHY SHOULD INDOH SHOULD BE ADDED TO THE COST TO CLOSE**
3 **THE BOULDERS WWTP, MR. GARLICK?**

4 A. INDOH is a means of apportioning labor and related services as part of the cost of
5 plant, i.e., rate base. Here, it's important and necessary to include INDOH as part of
6 the closure costs because the A&G costs comprising INDOH were necessary to
7 support the capital costs relating to the plant closure. Ms. Washington discusses and
8 addresses the importance of capitalizing these costs in her testimony.⁶³

9 **Q. THANK YOU. DOES LIBERTY BLACK MOUNTAIN BELIEVE ITS**
10 **TOTAL INVESTMENT IN THE CLOSURE WAS REASONABLE AND**
11 **PRUDENT, MR. GARLICK?**

12 A. Without question. The Commission determined that the closure was in the public
13 interest and necessary to respond to the wishes of the community the Company
14 serves. Liberty Black Mountain spent what was reasonable and necessary to comply
15 with the Commission's order. The Company's belief is supported by the expert
16 opinion of an independent engineer Teresa Valentine of Valentine Environmental
17 Engineering.

18 **Q. IS THE COMPANY ALSO PRESENTING THE TESTIMONY OF THE**
19 **INDEPENDENT ENGINEER?**

20 A. Yes. The direct testimony of Teresa Valentine is being filed with the Company's
21 application. Ms. Valentine's qualifications are discussed in her testimony and her
22 written engineering report is attached to her direct testimony.⁶⁴

23

24

⁶² Washington Dt. at 20-24.

25

⁶³ Washington Dt. at 24.

26

⁶⁴ Direct Testimony of Teresa A. Valentine ("Valentine Dt.") at 1, Exhibits TV-DT1 and TV-DT2.

1 **Q. WHY DID LIBERTY BLACK MOUNTAIN HIRE A THIRD-PARTY**
2 **ENGINEER TO CONDUCT AN INDEPENDENT ANALYSIS?**

3 A. We understand that Liberty Black Mountain has the burden to show that it acted
4 reasonably and prudently in complying with the Commission's order to close the
5 Boulders WWTP. We are also familiar with Commission rate proceedings and
6 thought it prudent to provide an independent opinion on which the Company and the
7 Commission could rely.

8 **Q. WHAT WERE THE INSTRUCTIONS TO MS. VALENTINE?**

9 A. Ms. Valentine was asked to evaluate whether the final closure project was reasonable
10 and prudent. Her analysis was to look at costs, availability of alternatives, and any
11 other facts she determined were relevant to her analysis.⁶⁵

12 **Q. CAN YOU SUMMARIZE THE FINDINGS OF THE INDEPENDENT**
13 **ENGINEER'S ANALYSIS?**

14 A. In my reading of her report, Ms. Valentine concluded that (1) of the alternatives that
15 were available to the Company, the purchase of capacity from Scottsdale was the
16 most appropriate option, and (2) that the Company's costs to modify its collection
17 and transmission facilities and to decommission the Boulders WWTP were
18 necessary and reasonable.⁶⁶

19 **Q. WHAT ALTERNATIVES WERE CONSIDERED?**

20 A. Ms. Valentine compared the closure project as built, known as the Tom Darlington
21 realignment option, along with the option of building a new plant and the option of
22 sending the wastewater that previously went to the Boulders WWTP to the Town of
23 Cave Creek's water reclamation facility.

24

25 ⁶⁵ Valentine Dt. at 2:4-7.

26 ⁶⁶ Valentine Dt. at 3:20 – 6:4.

1 **Q. DID THE COMPANY EVALUATE ANY OF THESE OPTIONS FOR**
2 **CLOSURE OF THE BOULDERS WWTP?**

3 A. Yes. The Cave Creek option and different alternatives to re-route the flows to
4 Scottsdale were considered as reflected in the parties' Comprehensive Settlement in
5 the 2015 rate case.⁶⁷ The parties unanimously agreed that the Tom Darlington option
6 was the preferred option. So did the Commission.⁶⁸

7 **Q. YET, THE PREFERRED OPTION TURNED OUT TO BE MORE COSTLY**
8 **THAN ESTIMATED?**

9 A. Yes, however, the factors that caused the cost increases would likely have impacted
10 any options for closing the plant and re-routing the flows to Scottsdale. As I
11 discussed earlier, the cost increases were largely due to delay, additional
12 requirements by Scottsdale, and things that could not have been known before
13 construction started. Such factors would likely have had a similar impact on any
14 plant closure alternative that was being pursued.

15 **Q. IN YOUR OPINION, MR. GARLICK, WAS THERE A POINT WHEN THE**
16 **PRICE TO REMOVE THE BOULDERS WWTP WOULD JUST BE TOO**
17 **MUCH?**

18 A. That wasn't Liberty Black Mountain's decision. All of the stakeholders were aware
19 that ordering the Company to decommission a used and useful, fully compliant plant
20 was unusual and would be costly. We emphasized over and over again that cost
21 estimates were preliminary and that the costs were likely to increase. We acted
22 prudently and, in the end, compliance with the community's wishes and the
23 Commission's order resulted in these costs.

24
25 ⁶⁷ Comprehensive Settlement Agreement at 10 ¶ 3.4.1.

26 ⁶⁸ See Decision No. 75510 at 17:28 – 18:1.

1 **Q. COULD THE COMPANY HAVE GONE BACK TO THE COMMISSION**
2 **WHEN IT REALIZED THAT THE COST WAS GOING TO BE HIGHER**
3 **THAN PREVIOUSLY ESTIMATED?**

4 A. Not really. For one thing, the Company had a hard deadline of January 1, 2018 to
5 acquire the replacement capacity from Scottsdale at a cost of \$10 per gallon.⁶⁹ After
6 that, Scottsdale advised us that the capacity costs would increase significantly.
7 Second, the Company spent roughly six years litigating over the closure of the
8 Boulders WWTP. The prospect of going back and asking if the Commission really
9 meant it when it issued three orders concerning closure of the Boulders WWTP was
10 undesirable. Boiled down, the reality is that once the Commission ordered Liberty
11 Black Mountain to close the facility by November 30, 2018 and the Company began
12 taking the steps to make that happen, there simply was no going back. From that
13 point forward, Liberty Black Mountain did everything the right way relating to
14 closure of the Boulders WWTP and the associated closure costs. Which is what
15 Liberty Utilities did all along. We operated a fully compliant, used and useful plant
16 and then removed it because that's what our customers and regulators told us to do.
17 During the entire process, the Company's representatives continually advised all
18 stakeholders that the closure costs were uncertain and subject to increases, and we
19 evaluated all potential closure options for the plant. All parties and stakeholders
20 agreed that the Tom Darlington closure option was the preferred option and the
21 Company did it.

22
23
24
25
26

⁶⁹ Decision No. 75510 at 13:7-9.

1 **V. REVISED PRE-TREATMENT TARIFF.**

2 **Q. DOES LIBERTY BLACK MOUNTAIN CURRENTLY HAVE A PRE-**
3 **TREATMENT TARIFF?**

4 A. Yes, it was approved by the Commission in the 2015 rate case.⁷⁰ The pre-treatment
5 tariff is necessary to ensure that the wastewater flows we send to Scottsdale comply
6 with their influent requirements.

7 **Q. WHAT CHANGES IS LIBERTY BLACK MOUNTAIN PROPOSING TO**
8 **THE PRE-TREATMENT TARIFF IN THIS RATE CASE?**

9 A. The Company proposes two changes: (1) clarifying to customers qualifying as
10 industrial users enforcement actions for non-compliance; and (2) including language
11 to allow the Liberty Black Mountain to recover its costs incurred relating to industrial
12 users that are subject to compliance with the Company's Industrial Treatment
13 Program. Ms. Washington describes these changes in more detail in her direct
14 testimony.⁷¹

15 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

16 A. Yes.

17

18

19

20

21

22

23

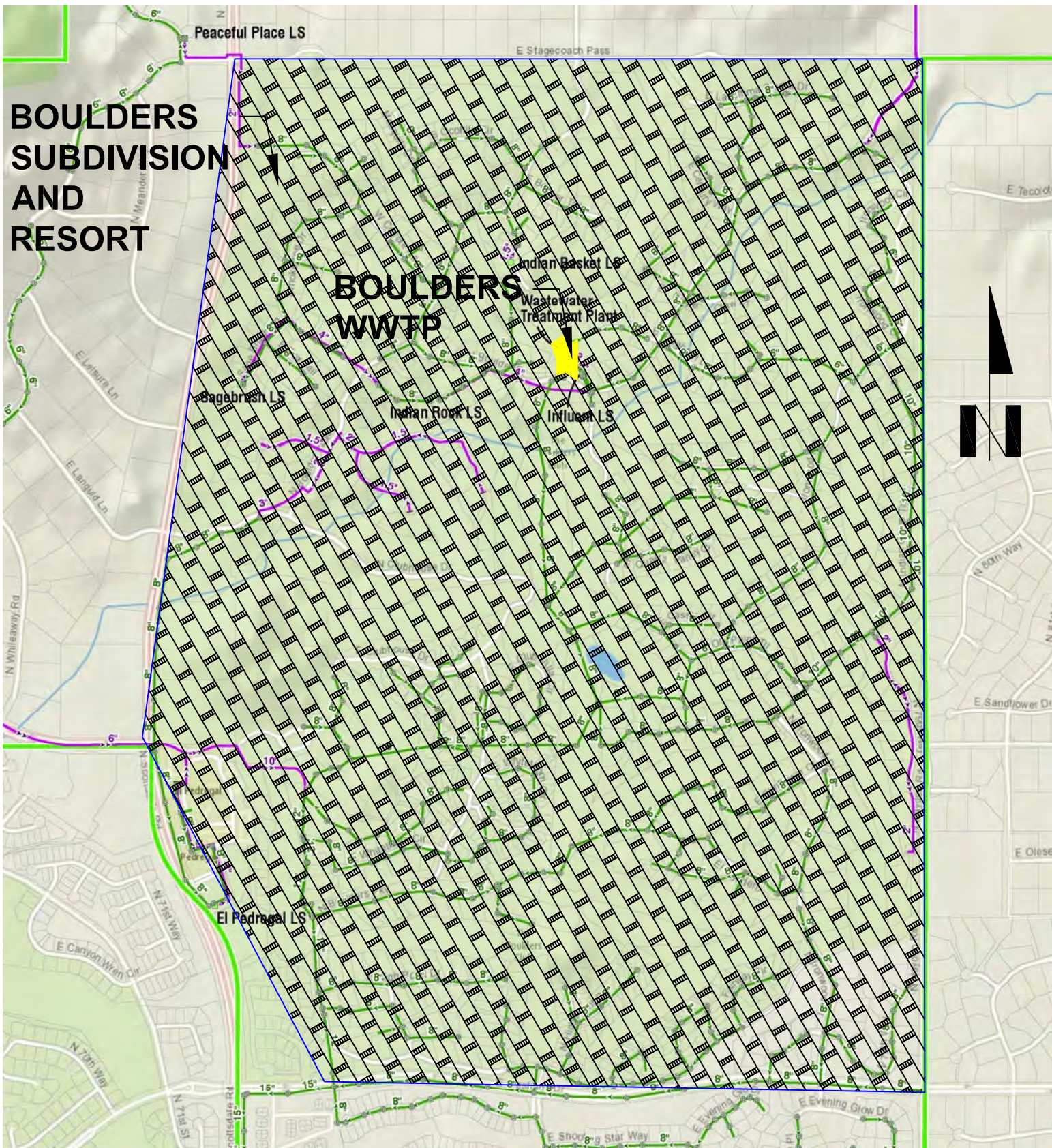
24

25 ⁷⁰ Decision No. 75510 at 18:15-17.

26 ⁷¹ Washington Dt. at 26.

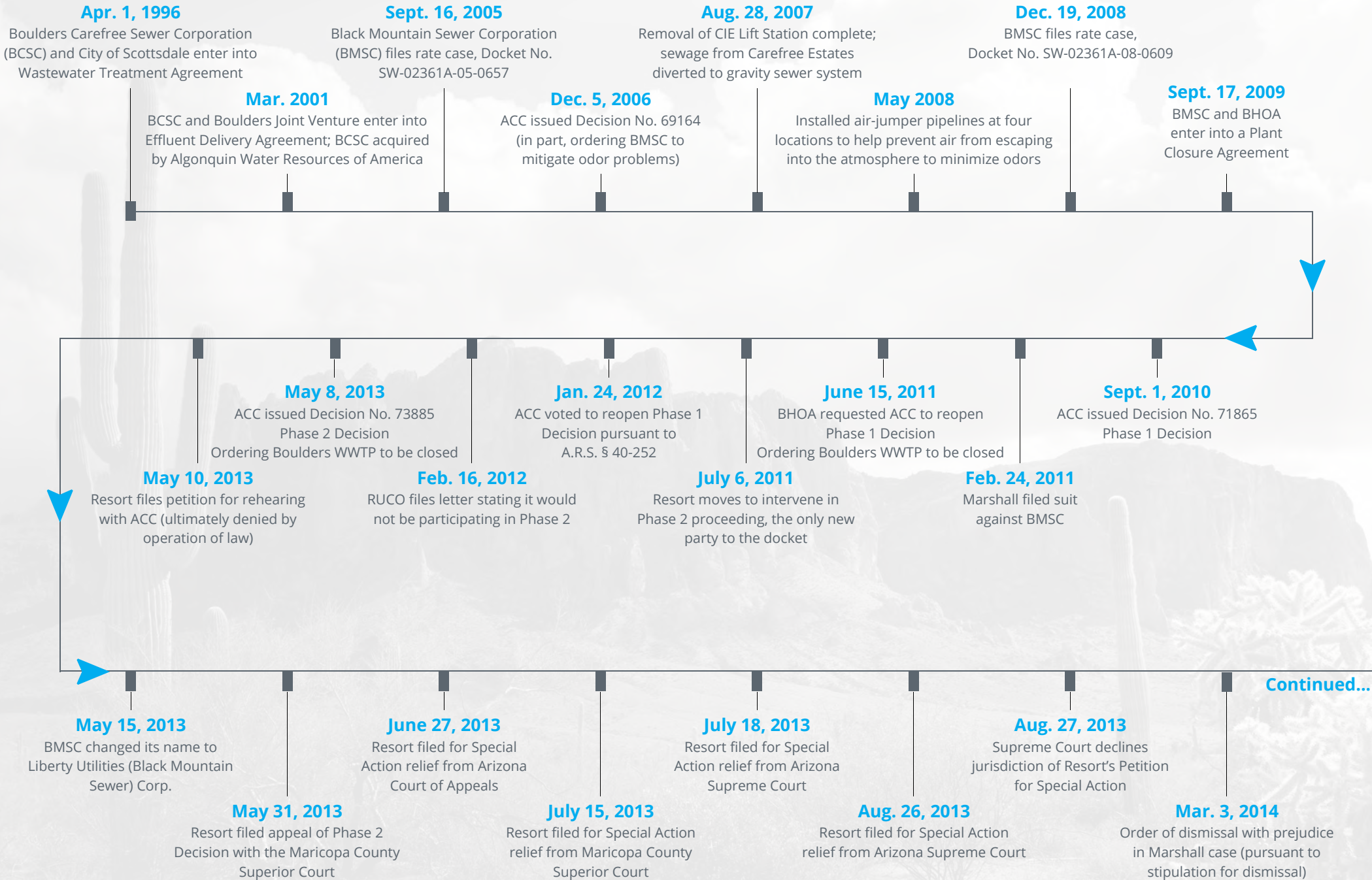
EXHIBIT MG-DT1

BOULDERS SUBDIVISION AND RESORT



BOULDERS WWTP LOCATION

EXHIBIT MG-DT2



Aug. 20, 2014

Superior Court grants judgment in Case No. CV2013-007804 upholding ACC's closure order

Aug. 26, 2014

Resort appealed Judgment in CV2013-007804 to Arizona Court of Appeals

June 22, 2015

Liberty Black Mountain filed rate and financing applications

Aug. 17, 2015

Special Action LC2013-000371 is dismissed

Nov. 16, 2015

Liberty Black Mountain, Town, Resort, BHOA, and Wind P1 enter into Comprehensive Settlement Agreement

Jan. 22, 2016

Comprehensive Settlement Agreement filed with the ACC in SW-02361A-15-0206, et al.

Apr. 22, 2016

ACC issued Decision No. 75510 Approved and ordered closure of Boulders WWTP by Nov. 30, 2018

Dec. 31, 2017

Liberty Black Mountain purchased additional treatment capacity from Scottsdale for \$1,200,000

... Continued

Apr. 2019

Site restored to "vacant residential lot"

Mar. 19, 2019

Land listed for sale

Dec. 2018

Demolition contractor removes wastes, sludge, and odor causing elements from Boulders WWTP site

Aug. 29, 2018

Liberty Black Mountain submits clean closure plan to ADEQ

June 5, 2019

ADEQ issues clean closure approval for Boulder WWTP

Apr. 2019

Boulders WWTP demolition activities completed

Jan. 2019

Boulders WWTP demolition activities begins

Nov. 30, 2018

Boulders WWTP closed and ceased operation

June 2019

Liberty Black Mountain files rate case as required by Decision No. 75510

1 SHAPIRO LAW FIRM, P.C.
Jay L. Shapiro (No. 014650)
2 1819 E. Morten Avenue, Suite 280
Phoenix, Arizona 85020
3 Telephone (602) 559-9575
jay@shapslawaz.com

4 LIBERTY UTILITIES
5 Todd C. Wiley (No. 015358)
12725 W. Indian School Road, Suite D-101
6 Avondale, Arizona 85392
Todd.Wiley@LibertyUtilities.com

7 Attorneys for Liberty Utilities (Black Mountain Sewer) Corp.
8

9 **BEFORE THE ARIZONA CORPORATION COMMISSION**

10

11 IN THE MATTER OF THE APPLICATION
OF LIBERTY UTILITIES (BLACK
12 MOUNTAIN SEWER) CORP., AN
ARIZONA CORPORATION, FOR A
13 DETERMINATION OF THE FAIR VALUE
OF ITS UTILITY PLANTS AND
14 PROPERTY AND FOR INCREASES IN ITS
RATES AND CHARGES FOR UTILITY
15 SERVICE BASED THEREON.

DOCKET NO: SW-02361A-19-

16

17

18

DIRECT TESTIMONY

19

OF

20

TERESA A. VALENTINE, P.E.

21

22

June 27, 2019

23

24

25

26

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

TABLE OF CONTENTS

I.	INTRODUCTION, QUALIFICATIONS AND PURPOSE OF TESTIMONY	1
II.	THE DECOMMISSIONING OF THE BOULDERS WWTP	2

1 **I. INTRODUCTION, QUALIFICATIONS AND PURPOSE OF TESTIMONY.**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Teresa A. Valentine. My business address is 15846 South 46th Street,
4 Suite 144, Phoenix, AZ 85048.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am the Managing Principal of Valentine Environmental Engineers, LLC.

7 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?**

8 A. I have been retained as an expert witness to testify in this rate case on behalf of
9 Liberty Utilities (Black Mountain Sewer) Corp. (“Liberty Black Mountain” or the
10 “Company”).

11 **Q. WHAT IS YOUR EXPERTISE?**

12 A. I have over 20 years of experience in preparing engineering studies and designs, as
13 well as construction oversight, of water and wastewater infrastructure including
14 treatment, storage and conveyance facilities.

15 **Q. CAN YOU DESCRIBE YOUR EDUCATIONAL BACKGROUND AND
16 EMPLOYMENT EXPERIENCE IN YOUR AREA OF EXPERTISE?**

17 A. I received my Bachelor of Science in Civil Engineering from the University of North
18 Dakota in 1992, a Master of Science in Civil Engineering from Arizona State
19 University in 1993 and a Doctor of Philosophy in Civil Engineering from Arizona
20 State University in 1997. I have been employed by national engineering firms
21 locally, working on projects for those firms throughout the southwest and
22 internationally. In 2000, my husband started his own engineering firm, I joined the
23 firm in 2002, became the majority owner shortly thereafter and have been managing
24 the company and our work product since that time.¹

25

26

¹ See Exhibit TV-DT1.

1 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

2 A. I was retained by Liberty Black Mountain to conduct a post hoc evaluation of the
3 decommissioning of the East Boulders Wastewater Treatment Plant (“Boulders
4 WWTP”). Specifically, the Company asked me to evaluate whether, given the final
5 costs, and considering any potential alternatives, the Company’s costs to close the
6 Boulders WWTP were reasonable and prudent from my perspective as an expert
7 engineer. In my written report, I have opined that Liberty Black Mountain’s final
8 closure project was reasonable and prudent and my report is attached to my
9 testimony as **Exhibit TV-DT2**.

10 **Q. HAVE YOU BEEN INVOLVED IN THE DECOMMISSIONING OF A**
11 **TREATMENT FACILITY PRIOR TO THIS ASSIGNMENT?**

12 A. Yes, I have been involved in one project where the existing WWTP was completely
13 decommissioned and my company designed the replacement WWTP, prepared the
14 decommissioning plans for the old WWTP, oversaw the closure efforts and
15 coordinated the permitting efforts associated with these design efforts. I have been
16 involved in several projects where portions of the WWTP were clean
17 closed/decommissioned in order to prepare that portion of the WWTP property for
18 other use. On these projects, I also prepared decommissioning plans, coordinated
19 permitting efforts and oversaw the closure efforts associated with the closure of the
20 portion of the WWTP.

21 **II. THE DECOMMISSIONING OF THE BOULDERS WWTP.**

22 **Q. WOULD YOU PLEASE SUMMARIZE HOW YOU CONDUCTED YOUR**
23 **ANALYSIS?**

24 A. I performed the following tasks to conduct my analysis:
25
26

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

- Gathered background information from Liberty Utilities, including existing system maps and as-builts, decommissioning cost analyses performed by others, and bid tabulations.
- After review of background information, I held several conference calls with Liberty Utilities to discuss my questions and request further technical information.
- After performing the above two tasks, I had developed a good understanding of the Liberty Black Mountain system and the decommissioning that had been implemented by Liberty Utilities for the Boulders WWTP.
- In order to determine if the strategy implemented by Liberty Utilities was prudent and cost effective, I decided to test it against other possible alternatives.
- To develop other possible alternatives, I relied on information provided by Liberty Utilities for other alternatives that it had investigated, my understanding of their existing system and my technical experience.
- At a conceptual level, I developed the key components for each alternative, developed conceptual costs and non-monetary advantages/disadvantages of each. For alternatives that were previously evaluated, I utilized cost estimates and components where I could.

Q. CAN YOU PLEASE ELABORATE ON THE REASONS YOU CONCLUDED THAT LIBERTY BLACK MOUNTAIN HAS ACTED IN A REASONABLE AND PRUDENT FASHION WITH RESPECT TO THE PLANT DECOMMISSIONING?

A. In my report, I reviewed three alternatives that could have been implemented for the plant decommissioning, summarized as follows (for further details, please refer to my report):

- 1 • Option 1: Extend gravity sewer and/or add a lift station/forcemain to
2 connect to Cave Creek system
- 3 • Option 2: Extend gravity sewer and/or add a lift station/forcemain to
4 connect to the City of Scottsdale system
- 5 • Option 3: Build a new WWTP and extend gravity sewer and/or
6 forcemain to the new treatment plant

7 Liberty Black Mountain ultimately implemented Option 2.

8 The reasons I concluded that the Company acted in a reasonable and prudent
9 fashion are:

- 10 • Option 2 was more cost effective than the other alternatives.
- 11 • Option 2 had the lowest impact to the community compared to the
12 other alternatives.
- 13 • Option 2 had a reasonable implementation time frame compared to the
14 other alternatives.

15 **Q. WAS YOUR ANALYSIS DEPENDENT SOLELY ON THE INFORMATION**
16 **PROVIDED TO YOU BY LIBERTY BLACK MOUNTAIN?**

17 A. No, I relied on developing my own opinions based upon the facts and technical
18 information provided by Liberty Black Mountain.

19 **Q. WERE YOU AWARE OF THE EXTRAORDINARY CIRCUMSTANCES**
20 **THAT LED TO THE CLOSURE OF THE BOULDERS WWTP?**

21 A. I am aware of the requirement to close the WWTP by November 2018 as a result of
22 an order from the Arizona Corporation Commission.

23 **Q. HOW DID THAT INFLUENCE YOUR ANALYSIS AND OPINION?**

24 A. Neither the fact that the closure was ordered or that there was a deadline to close the
25 Boulders WWTP materially affected the development of the possible alternatives.
26 I did, however, consider this deadline when evaluating whether the alternative could

1 be reasonably performed within the timeframe available.

2 **Q. IS IT FAIR TO SAY THAT YOU DID NOT EVALUATE WHETHER THE**
3 **COMPANY SHOULD HAVE CLOSED THE BOULDERS WWTP AS PART**
4 **OF YOUR ANALYSIS?**

5 A. Yes, that was not my decision. Nor, apparently, was it the Company's.

6 **Q. WERE YOU ASKED TO OPINE ON WHETHER THE COSTS TO**
7 **DECOMMISSION THE BOULDERS WWTP WERE REASONABLE WHEN**
8 **COMPARED TO THE ESTIMATES THE COMPANY PREVIOUSLY**
9 **PROVIDED IN COMMISSION PROCEEDINGS?**

10 A. No.

11 **Q. DO YOU HAVE ANY CONCERNS WITH THE DECOMMISSIONING OF**
12 **THE BOULDERS WWTP THAT YOU DID NOT EXPRESS BECAUSE**
13 **SUCH CONCERNS WERE OUTSIDE THE SCOPE OF YOUR**
14 **RETENTION?**

15 A. No.

16 **Q. ARE THERE ANY OTHER ALTERNATIVES FOR DECOMMISSIONING**
17 **OF THE BOULDERS WWTP THAT YOU MAY HAVE THOUGHT OF BUT**
18 **DISMISSED, AND HENCE DID NOT INCLUDE IN YOUR WRITTEN**
19 **REPORT OR THIS TESTIMONY?**

20 A. Yes, there was one other alternative that I initially thought may have been feasible.
21 This alternative would have continued to direct sewage to the Boulders WWTP site
22 but would have used a diversion structure to divert all of the flow into the existing
23 Boulders gravity system. I dismissed this alternative because it was not a sound
24 engineering solution. Furthermore, it would have been highly disruptive to the
25 community to make it technically feasible.

26

1 **Q. DO YOU HAVE ANY FURTHER COMMENTS OR TESTIMONY**
2 **CONCERNING YOUR ANALYSIS REGARDING THE CLOSURE OF THE**
3 **BOULDERS WWTP?**

4 A. Not at this time.

5 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

6 A. Yes.

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

EXHIBIT TV-DT1

EXPERIENCE SUMMARY

Teresa has over 22 years of experience specializing in water and wastewater treatment processes and water reuse technologies. Teresa incorporates sustainable development strategies in all stages of planning, design, construction and maintenance for water and wastewater solutions. Over the past 18 years at Valentine Environmental Engineers, Teresa has managed and implemented major projects with municipalities and private companies for new, upgraded or expanded water and wastewater systems. She is a leader in her field with numerous technical papers and presentations and is recognized by her peers through the local State water association.

Valentine Environmental Engineers (2002 – present)

Carollo Engineers (1999 – 2002)

Malcolm Pirnie, Inc. (1997 – 1999)

EDUCATION

Ph.D. in Civil Engineering, Arizona State University, 1997

M.S. in Civil Engineering, Arizona State University, 1993

B.S. in Civil Engineering, University of North Dakota, 1992 – Magna Cum Laude

PROFESSIONAL REGISTRATION

Arizona, 32324, Civil Engineer

California, 83580, Professional Engineer

Colorado, 44065, Professional Engineer

Hawaii, 15301, Professional Engineer

Nevada, 22533, Professional Engineer

BCEE Certification in Water Supply and Wastewater, 2013

Arizona Department of Environmental Quality, Certified Grade 2 Water Treatment Plant Operator, 58623

Arizona Department of Environmental Quality, Certified Grade 3, Wastewater Treatment Plant Operator, 61086

PUBLICATIONS AND PRESENTATIONS

Valentine, T., Hickock, A., Bunchman, J., and Carlson, S. Save More than 40% 55% of Energy Use With New Technologies and Processes. Paper presented at the Arizona Water Association Conference, May 2014.

Valentine, T. Are Turbo Blowers Just a Bunch of Hot Air? Paper presented at the Arizona Water Association Conference, May 2012.

Valentine, T., Hassert C., and Nunez, A. Superoxygenation for Odor Control. Paper presented at the Arizona Water Association Conference, May 2012.

Valentine, T. Superoxygenation for Odor Control. Paper presented at the Tri-State Water Conference, September 2012.

Valentine, T., Green, J., Walz, T. and Wokulich, P. In Search of Digester Capacity at Less Cost? The 91st Avenue WWTP Select Multi-Phased Digestion. Paper presented at the Arizona Water Pollution Control Association, Mesa, AZ, April 14-16, 2002.

Drury, D., Kilian, R.E., and Valentine, T. Multiphased Digestion to Produce Class A Biosolids. Proceedings of the California Water Environment Association 2002 Annual Conference, Sacramento, CA, April 2-5, 2002.

Valentine, T., Kilian, R.E., Green, J., Kinshella, P., and Walz, T. In Search of Digester Capacity for Less Cost? Two-Phase and Three-Phase Digestion Hold Much Promise. Proceedings of the Water Environment 16th Annual Residuals and Biosolids Management Conference, Austin, TX, March 3-6, 2002.

Coughenour, J.R., Piekarz, T., Kopchynski, T. Trahern, P., and Cabral, K. Biological Nutrient Removal Design and Operation for Achieving Stringent Levels of Effluent Total Nitrogen. Proceedings of the Water Environment Federation Annual Conference & Exposition, Orlando, FL, October 3-7, 1998.

Kopchynski, T., and Fox, P. Soil Type and Moisture Content Effects on Microbial Activity. Paper presented at the Water Environment Federation 1997 Annual Conference and Exposition, Chicago, IL, October 5 – 9, 1997.

Kopchynski, T., Brown, P., and Fox, P. Nitrification Potentials in Soil Aquifer Treatment: The Effects of Moisture Content, Temperature and Soil Type. Paper presented at the Water Environment Federation 1996 Annual Conference and Exhibition, Dallas, TX, October 5 – 9, 1996.

Chipello, P.L., Kopchynski, T., et.al. Nitrogen Removal During Simulation of Soil Aquifer Treatment. Proceedings of the American Water Works Association/Water Environment Federation 1996 Water Reuse Conference, San Diego, CA, February 25-28, 1996.

Kopchynski, T., Alsmadi, B., and Fox, P. Wet/Dry Cycle Time Influence on Soil Aquifer Treatment, Paper presented at the Arizona Water Pollution Control Association 1996 Annual Conference, Tucson, AZ, May 1-3, 1996.

Alsmadi, B., Kopchynski, T., Berner, M. and Fox, P. The Effects of Soil Type and Effluent Type on Soil Aquifer Treatment, Water Science and Technology, 34, 1996.

Alsmadi, B., Kopchynski, T., Berner, M., and Fox, P. Independent Characterization and Biological and Physical Removal Mechanisms During Soil Aquifer Treatment in the Role of Recharge Integrated Water Management. Proceedings of the 7th Annual Symposium on Artificial Recharge of Groundwater, Tempe, AZ, May 17-19, 1995.

Kopchynski, T., et.al. Soil Treatability Studies to Design and Model Soil Aquifer Treatment Systems, American Water Works Research Foundation, 1995.

AWARDS

Young Engineer of the Year, Arizona Water Pollution Control Association, 2005

Engineer of the Year, Arizona Water Association, 2014

Environmental Stewart Award, Arizona Water Association, 2015

WATER RELATED EXPERIENCE

Project Manager, Laredo Vista Well No. 2 and Water Campus, EPCOR Water Arizona, Bullhead City, AZ. Valentine provided the engineering design, permitting and construction administration services for an 80 gpm well, 37,500 gallon above grade steel reservoir, gas chlorination system, 190 gpm booster pump station and on site retention basins. Construction administration services included field observations, shop drawing reviews, responses to information requests, and startup assistance. Valentine coordinated the Approval to Construct with Arizona Department of Environmental Quality (ADEQ) and subsequent Approval of Construction.

Project Manager, Adelanto Detention Center Well Pump and Water Campus, HOK Architects, Adelanto, CA. This project demonstrates Valentine's ability to develop a water campus design on an expedited schedule and their knowledge of well equipping, booster pump station design, and reservoir and chlorine system design. As a result of a compressed schedule and limited information at initiation of project, this project proves their resilience to adjust to changing design conditions. This project was comprised of design for a new well, booster pump station, reservoir, and chlorination system on an expanding detention center in Adelanto, San Bernardino, CA. The County's

Engineer did not complete the water supply infrastructure design for the prison expansion so the County hired Valentine to perform a fast track well drilling design and well equipping/water campus design so that this design package could be added as an addendum to the prison bid package. The design was completed within two months (October 2012 to December 2012) to facilitate the client's schedule. In addition to the well drilling and well equipping design, the package also included a reservoir, 1,600 gpm booster pump station, chlorination system and provisions for future arsenic treatment. After the well was drilled, the water quality data determined that fluoride and arsenic were above the MCLs. Valentine quickly turned around a design for RO treatment with pre-filtration and post calcite filtration along with a modified well pump design to address the new water quality issues.

Project Manager, Paradise Valley Country Club Booster Pump Station Improvements, EPCOR Water Arizona, Paradise Valley, AZ. This project exhibits Valentine's success with the design of booster pump station improvements, the ability to produce an intricate construction sequence plan, unique experience with public involvement, as well as, utility coordination in a congested area with unreliable as-builts. Valentine provided engineering design drawings and specifications for booster pump station improvements on a small

site in a high end neighborhood. The design encompassed replacing four existing pumps with four new VFD driven booster pumps for a total pumping capacity of 3,600 gpm. In addition to the pump replacement, yard piping was modified and upsized, new flow monitoring was added, new PLC panel, new HVAC system and ductwork, lighting, receptacles, and the roof of the pump station building was replaced. It also included the addition of a new manual transfer switch and generator quick connect panel for emergency power, a mini power zone, and pressure indication panel which housed the pressure transmitter and switches that monitored the pump suction and discharge lines. A major part of the design was providing the ability to maintain the pump station in service while replacing the pumps and installing new suction and discharge connections. To relay the sequence of work and available shut down periods to the contractors, a Maintenance of Plant Operation (MOPO) was created for the project work as part of the specifications. A complex bypass system and the MOPO plans were developed to meet the same water demands, noise pollution constraints, emergency backup plans, and small facility footprint limitations. The automated system allowed construction on the new station upgrades to proceed as planned, without interruption to surrounding Paradise Valley residents, a private country club and golf course, and a high-end resort, JW Marriott's Camelback Inn.

Project Manager, Corrections Corporation of America, La Palma Detention Center Water Campus, Eloy, AZ. Valentine performed design services, construction administration and permitting for the water system facilities to support a 4,000 bed detention center. The water system facilities included a water campus consisting of a 550,000 gallon reservoir, well pump system, booster pump station, arsenic treatment system, chlorination system. Site civil design including drainage, grading and paving were performed.

Project Director, Downtown Tempe 24-inch Waterline Replacement, Tempe, AZ. Valentine provided design services for 4,350 feet of 24-inch

waterline along Myrtle Avenue, 5th Street, Forest Avenue, and Mill Avenue. The new water main replaces an existing 20-inch 18-inch waterline located along a different alignment. At the end of the project, Tempe asked Valentine to add in the design of an 8-inch waterline between Myrtle and Forest Avenues. This CM@Risk project required significant utility coordination and potholing efforts to determine horizontal and vertical alignment. Abandonment tie-in details were also required.

Project Manager/Senior Project Engineer, Booster Pump Station 5J-B3 and Zone 4J Waterline Replacement, Phoenix, AZ. This project entailed replacing the existing 5J-B1 pump station located in the City's Paradise Valley service area with a new, larger adjacent pump station. The design of the new pump station, 5J-B3, was performed to the City's design standards and guidelines. The design also accommodated future dedicated fire flow pumps. The pump station upgrades consisted of perimeter wall design approved by the City and the Town of Paradise Valley, potable booster pump station and ancillary facilities, suction and discharge hydropneumatic tanks, standby power, pump station control and telemetry according to City Standards, native plant inventory and landscaping. The project also included the design of 12-inch water main along Cheney Drive in Zone 4J.

Project Director, Corrections Corporation of America, Eloy Correctional Facilities Interconnecting Pipelines, Eloy, AZ. Valentine performed the design, construction administration and permitting of water lines within CCA's Eloy Correctional Facility complex to connect the four water campuses' of Red Rock, Saguaro, La Palma and Eloy. The following segments of pipeline were designed:

- 3,290 feet of 12-inch HDPE water main connecting the Saguaro Reservoir and the Red Rock Reservoir
- 3,555 feet of 12-inch HDPE water main connecting the Red Rock Reservoir and the new La Palma Reservoir

Utility coordination, easement acquisition and coordination of canal crossing with the Central Arizona Irrigation District were required. Valentine performed WATERCAD modeling and system assessments and recommended to CCA to interconnect the existing reservoirs in order to provide system redundancy and operational flexibility.

Project Director, Zone 4J Waterline Replacement, Phoenix, AZ. The City of Phoenix has selected Valentine Environmental Engineers, LLC to provide design and bid phase services for the construction of approximately 5,000 feet of 4 to 12-inch potable water and fire services mains in Zones 4J and 5J within the Town of Paradise Valley (TPV). The waterlines are located in the TPV along Cheney Drive, Hummingbird Lane, Foothills Drive South and Ironwood Drive. The new potable water mains will replace existing water mains throughout the service areas. The approximate lengths for each size of pipe are as follows:

- 550 lineal feet of 4-inch pipeline
- 520 lineal feet of 6-inch pipeline
- 4,200 lineal feet of 12-inch pipeline

Project Manager, Big Bend Acres Reservoir, Arizona American Water Company, Bullhead City, Arizona. Design of new 250,000 Gallon reservoir with demolition of existing bolted steel tank reservoir downtown Bullhead city.

Project Director, Town of Gilbert Well 21 Arsenic Treatment Facility. Valentine and Garney Construction, as a Design-Build (DB) Team, were selected to design and construct a 2 MGD arsenic treatment facility for Well 21 that is located in an affluent neighborhood in the Town of Gilbert. Valentine prepared a signed, sealed and County approved design within 2 months in order to facilitate this fast track DB project. The arsenic treatment system, manufactured by Severn Trent, was designed as a low profile tank configuration in order to maintain the facility below the existing site wall. The arsenic treatment system consists of two 10-foot vessels in series, a backwash/rinse tank, backup chlorination and ancillary piping, valves and

bypass system. The construction cost for this project is \$1.8 million.

Project Manager, Water Remote Facilities Chlorination Study, City of Phoenix. Purpose of the project was to assess current methods of chlorination at remote distribution sites and evaluate all feasible alternatives for chlorination. The City of Phoenix currently utilizes chlorine gas, tablet feeder and chlorine generation technologies at their remote facilities sites. Alternatives analysis included advantages and disadvantages development, criteria scoring, and 25 year net present worth analysis. The alternatives that were evaluated included chlorine gas with containment, tablet feeder, chlorine generation, and sodium hypochlorite solution. Chlorine gas with containment and sodium hypochlorite scored the most favorable and were the most cost effective technologies. Interviews with major municipalities within Arizona and the Southwest were also performed to document remote facilities chlorination practices.

Project Engineer, Papago Reservoir Chlortainer, Phoenix, AZ. Valentine developed signed and sealed bid documents for retrofit of the 150-lb cylinder chlorine at the Papago reservoir site to a chlorine containment system. The system has been in operation for several years and has received accolades from both operations and engineering staff, as well as the Phoenix Fire Department.

Project Director, Meritage Homes/Beazer Homes and Arizona American Water Company, Sedella Water Campus. Valentine performed the design for Zone 1 (6,500 gpm) booster pump station and Zone 2 (6,000 gpm) booster pump station, a 1,015 gpm well pump and three 1.5 MG reservoirs, Arsenic treatment, Nitrate treatment, two chlortainer systems, hydro pneumatic/surge tanks and a 3,000 Amp electrical service. The construction cost for this project is \$7.3M.

Project Engineer, Paradise Valley Pump Station Siting Study and Conceptual Design, City of Phoenix, AZ. Performed a study to determine pump station layouts and locations for thirteen

pump stations in the City of Phoenix service area of Paradise Valley. Pump stations are being upgraded to meet City of Phoenix design standards and to accommodate build-out domestic requirements and facilitate dedicated fire flow systems (1500 gpm). The study evaluated recommendations for implementation of these systems. Valentine developed the conceptual pump station layouts and site plans for each pump station. Valentine performed Surge 2000 and WaterCAD hydraulic models of the distribution system to determine chlorine decay and water hammer analyses.

Project Manager, City of Phoenix, Val Vista Water Treatment Plant Chemical Feed System Automation – Flow meter Evaluation Design.

As a sub consultant to Bay Area Instrument and Electric, Valentine performed process mechanical evaluations for the installation of flow metering technologies at the influent to the pre sedimentation basins, influent to the final sedimentation basins and effluent of the filters. The process mechanical evaluations included evaluating different types of flow metering technologies for each location, performing conceptual design and cost evaluations and summarizing the results in a project memorandum. Valentine also performed evaluations of the chemical feed systems to determine if the flow meters were appropriately installed according to manufacturer's recommendations. This project allowed Valentine to become very familiar with the plant and develop relationships with the operations staff and engineering staff.

Principal-in-Charge, City of Phoenix, Val Vista Water Treatment Plant Electronic Vendor O&M Manuals Project.

Valentine performed the conversion of paper vendor Operations and Maintenance Manuals to electronic format for incorporation into the City's Information Access System. Valentine performed a walk down of the entire facility to collect manuals, locate all equipment in each process area and verify if the equipment has or does not have a vendor O&M manual. Once all O&M manual material related to the equipment are

collected, Valentine organized and formatted the manual according to City of Phoenix requirements. Valentine then coordinated the scanning of the manual into pdf format. The manuals were then uploaded into the City's IAS system. The upload tool was also developed as part of this project.

Principal in Charge, Central Groundwater Treatment Facility (CGTF) Plant Upgrades Project, Scottsdale, AZ.

Valentine provided project management and design services for this CM@Risk project for the CGTF located in Scottsdale, AZ. The project provided \$1.5M worth of replacement and upgrades to various plant processes and equipment. The air stripping tower was rehabilitated with a new coating system, upgraded mist eliminator system, distribution tray modifications and replacement of tower packing structural supports. The air stripping tower acid cleaning system was redesigned to allow for greater acid recycle by replacing the existing recirculation pump and modifying the acid cleaning distribution header. Other improvements to the facility included process air blower VFDs, modifications to process air blower piping, 20,000 gallon surge tank installation and site painting.

Project Engineer, Arsenic Treatment Facility Associated Pipelines Project, Scottsdale, AZ.

Valentine Environmental Engineers (Valentine) designed 18 miles of 42" – 16" Arsenic Treatment Transmission Main and associated pipelines located within the WAPA/APS corridor between Pima and Deer Valley Road, and aligned within the right-of-way along Miller Road, Happy Valley Road and Jomax Road. This design also included a new 28-MGD booster pump station and additional pumps at Booster Pump Stations 55B and 55A. In addition, piping, pump and equalization tank modifications were provided at 5 well sites. Valentine also designed a 2.5 MG reservoir at well site 115. Total project construction cost is \$34,000,000.

Project Engineer, Zone 3 Southeast 16-inch Water Transmission Main, Phoenix, AZ.

Valentine developed signed and sealed Bid Documents for 8,000 lineal feet of transmission main on 32nd Street between Ray Road and

Equestrian Trail. The design required construction adjacent to a school, bore and jacking concrete box culverts (5 locations), 404 permitting, and County permit acquisition.

Project Engineer, Paradise Valley Pump Station Siting Study and Conceptual Design, City of Phoenix, AZ. Performed a study to determine pump station layouts and locations for thirteen pump stations in the City of Phoenix service area of Paradise Valley. Pump stations are being upgraded to meet City of Phoenix design standards and to accommodate build-out domestic requirements and facilitate dedicated fire flow systems (1500 gpm). The study evaluated recommendations for implementation of these systems. Valentine is developing conceptual pump station layouts and site plans for each pump station. Valentine is also performing Surge 2000 and WaterCAD hydraulic models of the distribution system to determine chlorine decay and water hammer analyses. **Reference:** Mr. Stan Tax (602) 262-7690; Mr. Bill Mead (480) 348-3529.

Project Engineer, Greenway Water Treatment Plant Design, City of Peoria. Conceptual through detailed Design Engineer for the 16 mgd self-backwashing, declining rate biologically active filters (BAF) and air scour/blower system. This is the first installation of the BAF filter system in Arizona.

Project Manager, Well Site 140 Aquifer Storage and Recovery Well, City of Scottsdale, Scottsdale, AZ. This project added an additional direct injection and recovery well, Well Site 140, to the City of Scottsdale's water distribution and supply system. Well Site No. 140 was designed, constructed, and outfitted in preparation for deep-well injection and recovery by Valentine. This well will be operated remotely and connected to the City's SCADA system.

The project included hydrogeologic services including a site characterization study, well permitting, well drilling bid document preparation, logging, water quality sampling, flow testing and monitoring well design. In addition, the project

included the design of the well site, including preliminary site layouts, well pump and overall system hydraulic analysis, well pump design, recovery well discharge piping and appurtenances, injection piping with flow meter and sleeve valve to reduce the incoming pressure to a pressure suitable for deep-well injection, well purging appurtenances, discharge holding tank and associated pumping system for controlled discharge to the sewer, well site support systems design and site civil design. Native plant inventory, landscaping design, and aesthetic perimeter wall was designed for the site as well.

Project Manager, Kingman State Prison Well Site, Hale Mills Corporation and (HMC) and Management Training Corporation (MTC), Kingman, AZ. Valentine Environmental Engineers, LLC, performed the design, construction administration and permitting of a new well site to serve the Kingman State Prison. The well site included a 1000 gpm recovery well. Valentine performed the design of the well pump, well outfitting, site civil design, water transmission main to the existing on site reservoir and permitting. Valentine performed hydraulic analyses to determine well pump design criteria and utilized WATERCAD software for overall water distribution system modeling.

Valentine utilized a subconsultant for hydrogeological services including well drilling permitting, well bid documents, logging, water quality sampling and flow testing.

Project Manager, Valley Vista Well No. 13, Arsenic Treatment Facility, American Water Company, Phoenix, AZ. Design, permitting and construction administration services associated with a new 400 gpm arsenic treatment facility for the Arizona Water Company Valley Vista Well #13. Valentine provided design of a pre-filter system, absorptive media arsenic treatment system, backwash storage tank, yard piping improvements and E&IC Systems to support the new infrastructure.

Project Manager, Chaparral Water Treatment Plant – Miscellaneous Modifications, City of Scottsdale, Scottsdale, AZ. Valentine provided

analyses, calculations and design services for the following miscellaneous modifications at the Chaparral WTP:

- Step Feed Chlorination System to feed chlorine between membranes and GAC contactors; booster pump, chemical feed line and chemical diffuser design
- Raw water intake structure screening facility replacement preliminary investigation - Valentine analyzed potential screening manufacturers and footprint requirements, costs and waste stream impacts to improve algae removal
- GAC Slurry Pumps Redesign – Existing slurry pumps were under designed; Valentine re-analyzed system hydraulics and mode of operations, selected new pumps and provided new design layout
- Air release valve assessment and selection

Project Manager/Engineer, Booster Pump Station 68 Upgrades, City of Scottsdale, Scottsdale, AZ. This below-grade pump station on a small site is located in a high-end north Scottsdale neighborhood. The station required pump upgrades and also solutions for noise abatement as the adjacent homeowner was experiencing vibration noise. Valentine evaluated the system demand in the area and performed new pump selections; which resulted in the selection of more efficient pumps that will operate at the required conditions. The old pumps were oversized and were operated at minimum VFD turndown, resulting in wasted energy and exacerbating the vibration and noise issues. Valentine also developed a design to limit noise through sound absorbing rubber pads below the pumps, spring mounted air compressor and pipe isolation at wall penetrations with rubber expansion joints. The City required a fast track analysis and design so that construction could begin prior to the high demand months. The contractor provided a temporary bypass to accommodate the construction.

Project Manager, Papago Buttes Domestic Water Improvements District Arsenic Treatment Facility. Design, permitting and construction administration of a 430 gpm arsenic treatment system for Wells 6 and 7 in the Papago

Buttes Domestic Water Improvements District. The arsenic treatment process consists of two parallel 6 foot diameter tanks with Bayoxide E33 adsorptive media manufactured by Severn Trent. A bag filtration system was designed for filtration of backwash/rinse water. This allows for recycling of backwash/rinse water back to the raw water storage tank. Valentine also designed the transfer pump station to convey water from the raw water storage tank through the arsenic treatment system.

Permitting services included acquisition of the Approval to Construct and Approval of Construction with the Arizona Department of Environmental Quality. Construction administration services included RFIs, shop drawing review, inspection and record drawings.

Principal in Charge, Golden Valley Water Improvement District Well # 2 Arsenic Treatment Facility. This project involved design, permitting and construction services for the installation of a 1 mgd arsenic treatment system at Well #2 in the Golden Valley Water Improvement District. The treatment process consists of two parallel 8-foot diameter tanks with Bayoxide E33 adsorptive media manufactured by Severn Trent. A pH adjustment system was required at this site to extend media life.

Permitting services included acquisition of the Approval to Construct and Approval of Construction with the Arizona Department of Environmental Quality. Construction administration services included RFIs, shop drawing review, inspection and record drawings.

Project Manager, Adaman Mutual Water Company Site 1B Arsenic Treatment Facility. Site master planning and arsenic treatment system design, permitting and construction administration services were provided for Well Site 1B. The Adaman Mutual Water Company and the City of Goodyear have negotiated an agreement that will require the water company to deliver 10 mgd of water to the City. The water company's main potable supply well 6A was under mandate by EPA for the additional of arsenic treatment by January 2009. The arsenic treatment facility was located at well site 1B and was master planned for a build-out

treatment capacity of 1,020 gpm. In this first phase, two parallel 8-foot diameter tanks with Bayoxide E33 adsorptive media manufactured by Severn Trent were designed and installed. Backwash was conveyed to an on site irrigation water line. A pH adjustment system and sodium hypochlorite feed system were provided for media maintenance and to extend media life. The sodium hypochlorite feed system also serves to provide disinfection prior to distribution. Valentine also designed the interconnect waterline between well 6A and the water company's reservoir and master planned the site for the addition of booster pumps, a reservoir and other ancillary facilities.

Permitting services included acquisition of the Approval to Construct and Approval of Construction with Maricopa County Environmental Services Department and coordination with EPA. Construction administration services included RFIs, shop drawing review, inspection and record drawings.

Project Manager, Corrections Corporation of America La Palma Water Production Facility, Eloy, AZ. Valentine designed the 250 gpm well, 500,000 gallon storage tank, booster pump station and water softening system for the La Palma Correctional Center in Eloy, Arizona. CCA needed to move quickly with the water production facility design and construction. Thus, design and construction of the water campus had to proceed quickly, even before well drilling was complete. The facility was designed with a water softening system because it was anticipated that the water quality would be similar to CCA's existing three wells. Once new source water quality data was received, it became evident that the water did not need to be softened, but required arsenic treatment instead. At this point, the already

installed Siemens water softening units required conversion to arsenic treatment. Valentine evaluated alternative media replacement options including Severn Trent, Adedge and Siemens. Adedge arsenic removal media was selected for system retrofit. Valentine performed design modifications, permitting and construction administration services for the retrofit.

Principal in Charge, Maricopa Domestic Water Improvements District Well No. 5. Valentine designed a 400 gpm arsenic treatment system at Well No. 5 in the Maricopa Domestic Water Improvements District. The arsenic treatment system consisted of two parallel 6 foot diameter tanks with Bayoxide E33 media. A bag filtration system and backwash holding tank was also be provided at this site.

Project Engineer, District 5 – Nelson Road and I-10 Water Main Crossing, Gila River Indian Community, Sacaton, AZ. One of the challenges the Gila River Indian Community faces is U.S. Interstate 10, which cuts through the center of the community.

Valentine prepared engineering design drawings, plans & specifications, for the construction of a sixteen-inch (16") water main that crossed under U.S. Interstate 10, along the North side of Nelson Road (north & west of the Casa Blanca Road, Exit 175, Pinal County, Arizona). Valentine planned and communicated with the Arizona Department of Transportation (ADOT) to obtain the necessary standard requirements for this project. This project consisted of approximately 425 lineal feet of 16" waterline and 416 lineal feet of 36" steel casing bore and jack underneath U.S. Interstate 10.

WASTEWATER & RECLAIMED WATER RELATED EXPERIENCE

Project Manager, Russell Ranch WRF (RRWRF) Rehabilitation and Upgrades, EPCOR Arizona Water, Litchfield Park, AZ. Valentine analyzed options for the expansion of the RRWRF, analyzed options for immediate improvements to

repair structural components and improve operations and provided design and permitting services for the immediate improvements and plant expansion. The immediate improvements included the installation of a new head works

screen, replacement of air header piping, structural improvements to process tank, and new air control valves and dissolved oxygen analyzers. The expansion design consisted of the addition of an equalization basin, additional process tank and associated pumps and blowers and upgrades to the chemical storage and feed facilities.

Project Manager, Jomax WRF Plantwide Assessment, City of Peoria, AZ. Valentine analyzed options for operational and energy improvements to a number of systems in the WRF including odor control, process aeration and solids handling. Valentine prepared concept plans, 25 year net present worth costs and pros/cons list for each alternative evaluated. Valentine prepared a summary report which the City is utilizing as a baseline for the development of capital projects for the WRF.

Project Manager, Southeast Water Reclamation Plant Aeration Upgrades. This project is similar to one of many recent projects Valentine has performed in the Southwest for optimization of energy as related to the aeration system at local wastewater treatment facilities. Process aeration accounts for up to 40% of a facilities energy demand. Use of outdated and oversized aeration technology often exacerbates the use of energy for this much needed process. Valentine evaluated the City's SEWRP aeration system and found that the existing process of centrifugal blowers and coarse bubble aeration could be optimized through the use of turbo blowers and fine bubble aeration. After completion of the study, Valentine performed the design of the retrofits and provided construction administration services for this project. Significant Maintenance of Plant Operations (MOPO) planning was required to facilitate the construction while maintaining the plant in service. The retrofits are expected to have a six year payback and will save the City over \$7M in operations and maintenance costs over the next 25 years. In the first two years of operation, the City saved over \$150,000 annually in energy as compared to the old method of aeration.

Project Manager, San Diego Replacement Facility, San Diego, CA. Support facility design services were provided for this 2,200 bed

detention center. The support facilities designed focused on water savings technologies with a 10-year or less payback. The water savings technologies implemented on this project put CCA at the forefront of green water use. System designs included a water softening system, a laundry water recycling system, a shower water treatment system with treated water booster pump station, shower collection and reclaimed water distribution lines throughout the campus and on site screening and grinding system for pre-treatment of sewage prior to off-site sewer discharge. The treated shower water will be utilized for toilet flushing at all inmate cells.

Project Manager, Kingman State Prison Sacramento Road WWTP Expansion, Management and Training Corporation. The 1,500 bed expansion of this prison required the design of a WWTP expansion at MTC's Sacramento Road WWTP. The design was for a 0.35 mgd Class A water reclamation plant including headworks with screening/grinding, sequencing batch reactors (in earthen lined basins), effluent chlorination/dechlorination chemical feed systems and sludge dewatering. Existing aerated lagoon basins were converted to effluent recharge basins. Site civil services for drainage, grading and paving, and on site sewerlines from the new prison to the WRF were provided. Valentine provided permitting (APP permit amendment, aerated lagoon clean closure, sewerlines approval to construct) and construction administration services for all portions of the work.

Project Manager, Eloy Detention Center WRP Expansion, Corrections Corporation of America. This required the design of a WWTP expansion at CCA's Eloy Detention Center. Valentine designed a 0.6 mgd Class A+ water reclamation plant including headworks with screening/grinding, activated sludge basins with secondary clarification, process air blower building incorporating turbo blower technology, cloth media filters and effluent chlorination/dechlorination chemical feed systems. Site civil services for drainage, grading

and paving, and on site sewerlines from the new prison to the WRF.

Project Manager, Wishing Well Water Reclamation Facility Improvements Project, Arizona American Water Company. Valentine performed the design of \$2.8M worth of improvements to the Wishing Well WRF including a new headworks consisting of a fine screen and grit removal basin, upgrades of the existing coarse bubble aeration system to fine bubble aeration, replacement of the blowers with new high performance Turbo blowers, addition of new secondary clarification facilities, upgrades to the existing chlorination.

Project Manager, Gainey Ranch WRF Tertiary Treatment Upgrades, City of Scottsdale. Valentine provided evaluation, design and construction administration services for retrofits tertiary treatment systems at the 1.7 mgd Gainey Ranch WRF. The existing traveling bridge filters were reaching their serviceable life, the existing UV system was operationally challenging, a semi-permanent sodium hypochlorite feed system required upgrading, the electrical room had experienced years of corrosion and deterioration, and the existing administration building required upgrade and expansion. Valentine evaluated alternative filtration and disinfection strategies through examination of both capital and O&M costs and system advantages and disadvantages. Disk filtration and vertical, low pressure UV were recommended and designed. The operations staff was reluctant to move forward with UV disinfection as they facility had already utilized two different UV technologies unsuccessfully. Valentine performed a detailed and diligent analysis of potential UV technologies, resulting in the shortlist of a few viable technologies for the facility. Table top demonstrations and visits to existing facilities assisted the team in selecting the most viable UV system for the WRF. The administration building expansion consisted of expanding the office space, lunch room and upgrading the electrical room. This project was performed via the CMAR delivery method.

Project Manager, Gainey Ranch WRF Secondary Treatment Upgrades, City of Scottsdale. Scottsdale rehired Valentine to evaluate and upgrade the secondary treatment process at the Gainey Ranch WRF. Secondary treatment upgrades included replacing the existing bioreactor jet aeration system with fine bubble aeration, upgrading scum handling and WAS pumping facilities and adding process control analyzers (DO and MLSS) to the bioreactors to optimize process air supply and SRT control. This project was delivered via the JOC delivery method (multiple JOCs).

Project Director, 91st Avenue WWTP Support Systems Upgrades Project, Phoenix, AZ. Valentine provided project management and design services for upgrades to various processes at the 91st Avenue WWTP. Valentine's efforts focused on evaluating various options for improving rock and grit removal at the UP01 headworks rock box and design of gates at the influent channels.. Valentine also led a pilot evaluation of proprietary sewer cleaning equipment at the UP01 headworks rock box and evaluated it's ability to remove material. Valentine also managed and coordinated the efforts of their electrical sub consultant who performed the design for \$2M in electrical upgrades including blower building 1 and 3 switchgear replacement and replacement of corroded conduit at various locations throughout the plant.

Project Manager, Toilet Flushing and Treatment Facility, Global Water. Valentine performed the design and construction administration of an enhanced treatment pilot plant and booster pump station for treatment and delivery of Class A⁺ effluent from the Palo Verde WRP to the Global Water Center of Excellence. Recycled water is used for toilet flushing and landscape irrigation. The enhanced treatment pilot plant will be used to study color and odor removal to maximize the aesthetics of the recycled water for use in toilet flushing.

Project Director, 91st Avenue WWTP/23rd Avenue WWTP JO Assistance and Process

Assistance, Phoenix, AZ (December 2005 to March 2009). Valentine continued to provide process, design and construction administration services in support of the Job Order programs at the 23rd Avenue and 91st Avenue WWTPs. Designs completed under this phase include 91st Avenue WWTP sodium bisulfite solution diffuser modifications, 23rd Avenue WWTP plant wide caulking, process instrumentation trouble shooting services, and IMLR Pump System Hydraulics trouble shooting analysis services.

Project Engineer/Manager, 111th Avenue Lift Station Assessment, Arizona American Water. Valentine performed an assessment of the 111th Avenue Sewage Lift Station for Arizona American Water. The 111th Avenue Sewage Lift Station was constructed in 1967 and has a maximum capacity of 320 gallons per minute and a wet well (manhole) capacity of 1,000 gallons. Valentine performed the pump station assessments and made recommendations for rehabilitation of:

- Site components – lift station location and surrounding features
- Structural components – hatch, ladder, interior walls, floor, roof lifting lugs, manhole and steel tank
- Mechanical components – pumps, piping, air compressor and supports
- Electrical and Instrumentation components – conduit, wiring, terminations and control system.

Project Manager, Agua Fria Linear Recharge Project Phase 2, Phoenix, AZ. Valentine Environmental Engineers (Valentine) is performing conceptual evaluations of 18 pipeline alignment alternatives and 8 pump station alternatives for delivery of effluent from the 91st Avenue WWTP for recharge along the Agua Fria River.

Project Manager, 91st Avenue WWTP/23rd Avenue WWTP Improvements Planning, Phoenix, AZ. (March 2003 – November 2005) Valentine provided project management and design services for the various JO projects at the 91st Avenue and 23rd Avenue WWTPs. Valentine

managed 30 JOs and provided design services for a variety of process mechanical plant upgrades and modifications. Completed projects include the Primary Scum Pumping Modifications, Plant 2B Isolation Gates, Solids Handling Facility Centrate Pipe Replacement Project, Plant 2B and 3A RAS Screw Pumps Modifications Project, 23rd Avenue WWTP Centrate Return Modifications and 23rd Avenue WWTP Chlorine Scrubber Piping Replacement and Modifications.

Principal In Charge, 23rd Avenue WWTP Facility Master Plan As-Built Drawings, Phoenix, AZ. Principal in Charge for the creation of Architectural, Civil, HVAC, Mechanical, Plumbing, Landscaping, and Structural Master Drawings Set for the 23rd Avenue WWTP. The work included collecting construction record drawings for all plant projects from initial construction to present. With the use of a database tool, drawings were reviewed for master set applicability, inventoried, renamed, numbered, and formatted by area of plant. The drawings were then scanned, re-drawn, or formatted in AutoCAD 2004. Drawings were then provided with Water Services Department Standard Format title blocks.

Principal In Charge, 91st Avenue WWTP Facility Master Plan As-Built Drawings, Phoenix, AZ. Principal In Charge for the creation of Architectural, Civil, HVAC, Mechanical, Plumbing, Landscaping, and Structural Master Drawings Set for the 23rd Avenue WWTP. The work included collecting construction record drawings for all plant projects from initial construction to present. With the use of a database tool, drawings were reviewed for master set applicability, inventoried, renamed, numbered, and formatted by area of plant. The drawings were then scanned, re-drawn, or formatted in AutoCAD 2004. Drawings were then provided with Water Services Department Standard Format title blocks.

Project Manager, 91st Avenue WWTP Primary Scum Pumping Automation Design, Phoenix, AZ. Project Manager for the design of automated primary scum pumping at Plants 1, 2 and 3.

Automated scum pumping will be achieved via sonic level indication with backup float level indication.

Project Manager, 23rd Avenue WWTP Digester Overflow Hydraulics Study, Phoenix, AZ. For this study, Valentine analyzed methods to improve overflow pipe redundancy, digester re-seeding, digester cleaning and separate digester feed for thickened waste activated sludge. Valentine also developed preliminary opinion of construction costs for the various digester system improvements and developed a draft study report.

Project Engineer/Manager, Northwest Valley Regional Water Reclamation Facility, Various Projects, Arizona American Water. Valentine has been providing design and study services for the following:

- Valentine performed an assessment of the decant pump station at the NWVRRWF to determine methods to increase capacity from 575 gpm to over 800 gpm. Teresa performed influent flow calculations, wetwell size calculations and pump hydraulic/system head curve evaluations for capacity upgrade options
- Valentine developed an expansion phase plan including opinion of probable construction costs for build-out flow of 11.0 MGD

Project Director, Town of Gilbert, Neely Water Reclamation Facility Sludge Force Main. Valentine performed design and construction administration services for 2.5 miles of 8-inch sludge force main from Neely Water Reclamation Facility to the Mesa trunk line sewer system at Baseline and Cooper Roads. The project was successfully constructed and is in operation.

Project Engineer, Yavapai County Justice Facility WWTP Upgrade Project, Phase 1 – Detailed Design and Permit Acquisition. Valentine performed the detailed design of upgrade facilities including SBR system, Effluent Pressure Filtration, UV Light Disinfection, Aerobic

Sludge Digestion, and Leach Field Effluent Disposal. Valentine also prepared a Major Modification Application for the existing WWTP APP permit.

Project Engineer, Yavapai County Justice Facility WWTP Upgrade Project, Phase 1 – Effluent Disposal Alternative and Recommendation (2002). Valentine performed this study that evaluated three effluent disposal options for the Yavapai County Camp Verde Justice Facility WWTP. Three methods evaluated were:

- Leach Fields
- Vadose Zone Wells
- Spreading Ponds

Study involved examination of plant water quality, site hydrogeology, regulatory requirements and cost. Based on the evaluation, leach fields were selected.

Project Manager, 23rd Avenue WWTP Digester Mixing Improvements Design, City of Phoenix, AZ. This project evaluated methods to control foaming in the 23rd Avenue WWTP anaerobic digesters. The work included a digester foaming evaluation to identify potential foaming causes and solutions. The team determined that improvements to the mechanical mixing system would be the most cost-effective short-term solution. Valentine designed the addition of a high discharge mixing point and nozzle to each of the four digesters to improve tank mixing and foam collapsing.

Assistant Project Manager, Agua Fria Linear Recharge Project Phase 1, Phoenix/SROG. Assistant Project Manager for this study which entailed evaluating alternatives for groundwater recharge of 91st Avenue WWTP effluent along the Agua Fria River. Teresa led the Water Resources Technical Committee for this project who are addressing water quality, quantity and recharge issues.

Project Manager, 91st Avenue Wastewater Treatment Plant Multi-Phase Digestion Preliminary Design, Phoenix, AZ. Project Manager for the preliminary design entailing the

retrofit of the existing digester heating system (heat exchangers, hot water pumps, etc.) to meet the heating requirements of the acid-phase and methane-phase thermophilic reactors. The design also included a new transfer pump station to transfer sludge from the acid-phase to the methane-phase reactors, significant process control modifications and miscellaneous gas and sludge piping modifications.

Project Manager, 91st Avenue WWTP Multi-Phase Phase Digestion Feasibility Study, Phoenix, AZ. Project Manager for the 91st Avenue Wastewater Treatment Plant multi-phase phase Digestion Sludge Digestion Feasibility Study, City of Phoenix, Arizona. Teresa led a team of process experts and subconsultants to determine the impact of phased digestion on the plant. The results of the study were favorable for both two- and three-phase digestion. The study found that it is economically and physically feasible to modify to phased digestion and increase the capacity of the existing digesters.

Process Engineer, Cave Creek WRP Startup and Commissioning, Phoenix, AZ. Teresa led the process evaluation and process startup of the Cave Creek WRP. Special considerations were required for startup due to lower than expected influent flow. In order to minimize settling in channels and basin zones, hydraulic calculations and modifications to basin/conveyance channel configurations were performed.

Project Manager/Engineer, 23rd Avenue WWTP Ammonium Sulfate Feed System Facilities Project, Phoenix, AZ. Project Manager and Lead Design Engineer for the design of the system to be used in conjunction with the chlorination system to allow for chlorination of the wastewater to control TTHM formation. The ammonium sulfate feed system design will allow for the reuse of abandoned chemical feed facilities. This system is significantly safer to operate and maintain than an aqua ammonia feed facility.

Project Manager/Engineer, 91st Avenue Wastewater Treatment Plant Emergency

Chlorine Scrubber Modifications, Phoenix, AZ. Project Manager and Lead Design Engineer for the design involving upgrading the existing chlorine scrubber capacity and modifications to system instrumentations and controls.

Project Engineer, Clark County Sanitation District Treatment Facilities, City of Las Vegas, Nevada. Lead Engineer for the process and instrumentation design, on-line instrumentation to optimize process efficiency and control descriptions. Design includes new BNR activated sludge basins, circular secondary clarifiers, RAS/WAS pump station, chemical feed facilities, and scum pumping.

Project/Process Engineer, West Area Water Reclamation Facility, City of Glendale, AZ. Developed and performed ranking analysis for selection of process units/configurations for preliminary, primary, secondary, tertiary and groundwater recharge. Performed conceptual and detailed design of the selected extended aeration process for nitrogen removal, RAS/WAS pump station, and process air blower facility.

Process Engineer, Sun City Water Reclamation Facility Expansion Evaluation, Sun City, AZ. Process Specialist responsible for a performance evaluation of an existing trickling filter facility, and evaluating options for converting and expanding the facility to a BNR facility. Teresa was also responsible for the conceptual design of the selected activated sludge process and denitrification filter.

Process Engineer, Green Valley, Arizona, Green Valley Wastewater Treatment Plant Project. Process Specialist providing analysis of treatment processes for waste activated sludge treatment design of DAF thickening, aerobic digestion and vacuum bed dewatering units.

Process Engineer, Ina Road Wastewater Treatment Plant Tertiary Treatment Study, Tucson, Arizona. Process Design Leader for the assessment of tertiary treatment requirements to produce 20,000 AF of reclaimed water for restricted and open access reuse.

Project Engineer, Advanced Water Treatment Facility City of San Diego, California. Performed preliminary and detailed design of vertical turbine conveyance pump station and chlorination facilities.

Seoul, South Korea, Yang Pyung Wastewater Treatment Plant: Process Design Leader for the design which consisted of an upgrade and expansion of an activated sludge process to a modified Bardenpho process.

City of Inch'on Supporting Community Wastewater Treatment Plant, Seoul, Korea. Process Design Leader for a new BNR treatment facility for the City of Inch'on. Performed a detailed analysis of BNR technologies and conceptual design of the selected A2/O process.

Project Manager/Senior Project Engineer, Water Distribution and Sewer Collection System Improvement, City of Scottsdale, Scottsdale, AZ (Performed under our 2007-2010 On-Call Services Contract). Valentine provided design, permitting, bid phase services and as needed construction administration services for water distribution and sewer collection system improvements projects from 2007 to date. Design services included survey, geotechnical investigations, WaterCAD modeling, design calculations, drawing and specification preparation, utility coordination, and HEC-RAS analysis and scour calculations. The projects listed below were completed under this contract.

- Hayden Road 16" Waterline and Roadway Improvements (3,300 ft)
- Happy Valley 8" Sewer line (6,300 ft)
- Hayden Rd/Happy Valley 12" Waterline and Roadway Improvements (1,400 ft)
- La Vida 6"/8" Waterline Replacement and Roadway Improvements (2,100 ft)
- Troon Irrigation Pumping System
- Waterfront Odor Control & Sewer Improvements Design
- SRP Canal Pump Station Upgrades and Water Unloading Station for Westworld

- Carefree Ranch 6" Waterlines Replacement Project (11,100 ft)
- Dynamite Road 8" Sewer Line (4,000 ft).

Project Manager, Collection and Wastewater Treatment Plant Odor Control Study, City of Scottsdale, Scottsdale, AZ (Performed under our 2011 On-Call Services Contract). Valentine performed an odor control study focused on optimizing and improving the odor control along the City's forcemains, pumpback stations and wastewater treatment facilities. The City currently utilizes ferrous chloride addition at their sewage lift stations to control odors along the sewers, at intermediate pump stations and at the headworks of the downstream wastewater treatment facilities. Valentine investigated alternatives to the costly and corrosive use of ferrous chloride. Criteria for selection of preferred alternatives included operations and maintenance costs and requirements, degree of infrastructure modifications, and safety and handling. The preferred alternatives that were selected for further evaluation were magnesium hydroxide, ferrous chloride/peroxide and superoxygenation. Superoxygenation was found to be the most cost effective on a 25-year net present worth analysis and offers the City many benefits including chemical free odor control, ease of implementation into existing pump stations, corrosion control, and highest degree of odor mitigation. Valentine and the City piloted a superoxygenation technology between one Pumpback and a wastewater treatment facility and after two weeks of testing, 60 to 70% reduction in hydrogen sulfide odors occurred at the treatment facility headworks. Valentine completed a 15 % design and study report for implementation at the City's five Pumpback stations.

Prime Consultant, Eloy Detention Center 0.9 MGD Wastewater Treatment Plant Expansion, Corrections Corporation of America (CCA) Eloy, AZ. Valentine performed design services for the 0.9 MGD expansion to the Eloy Detention Center's WWTP. Valentine provided permit services for the 208 Amendment and Significant Amendment to the APP permit on a fast track schedule. Valentine also assisted CCA with

bidding the project and early procurement of equipment to facilitate the schedule. The following facilities/permits were involved:

- Headworks consisting of sewage grinder and screen
- Package above grade (Davco) WWTP consisting of surge tank, activated sludge treatment with nitrogen removal, secondary clarification
- Disk filtration and chlorine gas disinfection

Fast track permitting efforts for the APP permit, permit to construct, Eloy building permit, 208 Plan Amendment and grey water reuse permit.

Project Manager, Las Sendas Sulfide Control Station, City of Mesa, Mesa, AZ. Valentine performed design and construction administration services for a Sulfide Control Station (SCS) to serve the sanitary sewer collection system along Sossaman and McDowell Roads. The SCS provides ferric chloride solution feed to two existing sewer manhole locations; one on Sossaman Road and the other on McDowell Road. The SCS is comprised of ferric chloride storage, handling and feed systems. Valentine also performed site development of the one acre site including grading, paved vehicle access drive, site perimeter wall, landscaping, irrigation, stormwater retention and stormwater drainage system. Valentine also facilitated reviews and approvals from the City of Mesa Design Review Board, Building and Safety and the County Health Department (Permit to Construct).

Prime Consultant, District 4-Wild Horse Pass New Hotel & Casino Sewage Lift Station & Forcemain, Gila River Indian Community, Sacaton, AZ. Valentine Environmental Engineers, LLC provided project management & coordination, preparation of detailed construction drawings and specifications for sewage lift station and force main for the new Wild Horse Pass Hotel & Casino. This project consisted of 196 lineal feet of 18" sewer main pipe, 809 lineal feet of 8" sewer force main pipe, one six-foot (6') diameter diversion manhole, and one four-foot (4') diameter manhole, two ten-foot (10') diameter wet wells, four (4) pumps, and two (2) valve vaults. The

sewage lift station site included a 100kw standby generator, electrical equipment w/canopy, and transformer within the site footprint. The two wet wells are interconnecting to prevent overflow, in the event of pump failure. This lift station was also designed with a bypass system which allows continual operation of the new Wild Horse Pass Hotel & Casino. A separate double-swing gate allows access by the local electrical company access to the transformer.

Project Manager, District 4-Wastewater Improvements, Gila River Indian Community, Sacaton, AZ. Valentine provided engineering design and preparation of detailed construction drawings and specifications for the District 4 Wastewater Treatment Plant improvements. This project consisted of approximately 6,985 lineal feet of six-inch (6") sewer force main including crossing the Maricopa Floodway right-of-way, rehabilitation of two (2) sewage lift stations and the new Stotonic WWTP. The new Stotonic WWTP has a capacity of 0.21 mgd with dual primary / secondary lagoons and evaporation ponds for bypass operations. The Stotonic and Gila Butte lift stations consists of two (2) manholes, six-foot (6') diameter wet well with two pumps, electrical equipment w/canopy, standby generator, and transformer all within the site footprint.

Project Manager, Global Water Resources, Southeast Lift Station, Maricopa, Arizona. The purpose of this project was to design and install an Interim Lift Station, related gravity sewer piping and force main that will convey wastewater to the Global Water Palo Verde Utilities Company Southeast Water Reclamation Plant that is currently under construction. The Interim Lift Station will collect and pump sewage from an incoming 30-inch sewer line and pump it via a 16-inch/18-inch diameter force main to a 30-inch gravity sewer that discharges to the Palo Verde Water Reclamation Plant. The lift station is sized to accommodate initial, startup flows from local residential areas currently in the planning stage. The Interim Lift Station will be possibly replaced in the future by a larger lift station located in a different location and sized to accommodate build-out sewage flows

from local residential areas. Major facilities included for the Interim Lift Station are:

- Drop Manhole with removable trash basket for the incoming gravity sewer.
- Lift station wet well manhole with submersible pumps.
- Odor control facility to provide vapor phase odor control for head space of the wet well and screen manhole.
- Ancillary facilities including force main yard piping and electrical and instrumentation equipment.

Project Manager, Global Water Resources, Southwest Lift Station, Maricopa, Arizona. Design of an interim lift station and related force main within the Global Water Palo Verde Utilities Company Southwest Water Reclamation Plant Campus II. The interim lift station collects and pump sewage from the incoming 33-inch and 48-inch sewer lines into the Southwest Water Reclamation Plant. The lift station is sized to accommodate initial, startup flows and will be replaced in the future by a larger lift station sized to accommodate build-out sewage flows. Major facilities included for the interim lift station are:

- Drop Manhole with removable trash baskets for incoming sewer mains.
- Lift station wet well manhole with submersible pumps.
- Odor control facility to provide odor control for head space of the two manholes.
- Ancillary facilities including force main yard piping and electrical and instrumentation equipment.

The Gila River Indian Community continually provides social services to its community members. As part of these services, the Gila River Indian Community has constructed a new Domestic Violence Shelter as part a master planned development.

Valentine provided engineering design and preparation of detailed construction drawings and specifications for approximately 1,400 lineal feet of eight-inch (8") sewer line and 2,300 lineal

feet of twelve-inch (12") sewer line which was connected to the existing sewer system; 10,500 lineal feet of twelve-inch (12") diameter water main which has connected to the existing water distribution system. The sewer main alignment parallels Pear Road, from south of Seed Farm Road to the new South Access Road. The water main connects just south of Seed Farm Road runs south along Pear Road, turns east along South Access Road, turns north along Ocotillo Road, and west along Bluebird Road.

The new Domestic Violence Shelter facilities connect to these utilities. The sewer line and waterline also provides for additional future growth and expansion of the development area. These utilities will provide sewer and water services for a future youth development site and a future property and supply site. The sewer main and water main provides a connection to the existing water distribution system currently serving Sacaton and the Gila River Indian Community.

EXHIBIT TV-DT2

FINAL DRAFT MEMORANDUM

To: Liberty Utilities
From: Teresa Valentine, PhD, PE, BCEE
Valentine Environmental Engineers, LLC
RE: Boulders Waste Water Treatment Plant (WWTP) Decommissioning and
Boulders WWTP Force main, Lift Station and Bypass Sewer – Cost
Evaluation
Date: June 10, 2019

1.0 Introduction

The purpose of this memo is to provide an analysis of the work required and the costs incurred for the closure of the Boulders WWTP. Liberty Utilities “Black Mountain Sewer Company” (Liberty Utilities) provided drawings, bid tabulations and change order costs for two elements related to the closure of the Boulders WWTP:

- Decommissioning of the Boulders WWTP
- Boulders WWTP Force main, Lift Station and Bypass Sewer (required to divert the sewage from the decommissioned WWTP to the City of Scottsdale)

In addition to the construction costs, a summary of design costs was also provided.

The work required and costs for each element were evaluated to determine if they were reasonable and prudent.

2.0 Decommissioning of the Boulders WWTP

The closure of the wastewater treatment plant is a necessary part of decommissioning. The Arizona Department of Environmental Quality oversees the closure and post-closure of wastewater treatment or water reclamation facilities which must be performed in accordance with the Arizona Administrative Code R18-9-A209.

The decommissioning of a wastewater treatment plant typically involves removing existing buildings, removing or filling in below grade treatment tanks, removing above grade treatment tanks, removing equipment, piping and appurtenances, and electrical and instrumentation systems including motors, instruments, conduits, and panels. Process tanks will require removal of sludge, cleaning, inspection and possibly testing prior to demolition.

The site will also typically require backfilling (where below grade tanks and piping have been removed), regrading and may require landscaping in order to return the site to the Community’s desired conditions.

I reviewed the Boulders WWTP Decommissioning Plans by Hazen, dated November 2018. The Boulders WWTP was approximately a 120,000 gallon per day facility located on approximately a 22,000 square foot site. These plans included the following general items:

- Removal of sludge
- Disinfection and cleaning of structures
- Demolition and removal of yard piping
- Demolition of the following treatment systems including their below grade (or above grade) tanks, equipment and electrical/instrumentation systems:
 - Influent Lift Station
 - Influent Flow Splitter
 - Influent Bar Screens
 - Biological Treatment Systems
 - Filters
 - Chlorine Contact Basin
 - Effluent Pump Station
 - Odor Control System
- Demolition of the following buildings:
 - Influent Lift Station Building
 - Blower Building and Control Room
 - Chlorine Contact Basin Shade Structure
 - Miscellaneous structures such as equipment sheds and storage sheds
- Fence demolition
- Backfill, regrading and compaction
- Landscaping

Notable in the scope of work is the removal of below grade systems such as piping and treatment tanks rather than leaving in place and filling in. I queried Liberty Utilities about this item, and the complete removal of these systems was at the request of the Boulders Homeowner's Association (HOA) and the Town of Carefree. These two stakeholders requested the property be restored to a condition no less than that of a vacant residential lot.

The scope of work presented in the Hazen plans represents work required to restore the site to a vacant residential lot. This would require the removal of all site components, below and above grade, for the lot to be reused for residential construction purposes. There are no other likely alternatives given this requirement.

Liberty Utilities obtained competitive bids for the WWTP decommissioning. I was provided two bid tabs for review and they are summarized as follows:

- \$1,090,401 – Archer Western Construction dated November 16, 2018
- \$1,357,765 – Achen Gardner Construction, LLC dated November 16, 2018

Archer Western was the qualified, low bidder and performed the work. I find the WWTP decommissioning bid to be reasonable considering the work required, the size of the facility and the current Arizona construction climate.

Archer Western submitted several change requests for the work covering salvage equipment removal for the Liberty Utilities, road usage fees, vibration and noise

monitoring, temporary camera, viewing platform and landscaping adjustments. The total change request amount was \$63,356.50. The requested items are not unreasonable and are typical items that arise during construction. The change order request is less than 10% of the original bid which is also a reflection that the plans were clear on scope.

3.0 Boulders WWTP Force Main, Lift Station and Bypass Sewer

The closing of the Boulders WWTP required Liberty Utilities to design and construct systems that would direct the sewage to a different treatment plant. In my review of the project, I found the following options to be possible for treatment of the sewage from the Boulders WWTP service territory:

- Option 1. Extend gravity sewer and/or add a lift station/force main and connect into the Cave Creek system for eventual treatment at Cave Creek's treatment plant.
- Option 2. Extend gravity sewer and/or add a lift station/force main and connect into the City of Scottsdale for eventual treatment at the City of Scottsdale Water Campus WWTP.
- Option 3. Build a new treatment plant in a new location and extend gravity sewer and/or force mains to the new treatment plant.

It is important to note the following features of the existing system (that were in place for many years prior to the Boulders WWTP closure):

- The northern portion of the Liberty Utilities service territory is generally treated at the Boulders WWTP.
- The existing Commercial Lift Station primarily serves the northern portion of the Liberty Utilities services territory. It discharged into the Boulders gravity system where its flow would be directed to the Boulders WWTP.
- The southern portion of the Liberty Utilities service territory is collected and conveyed to the City of Scottsdale for treatment.
- Overflow to the City of Scottsdale also occurred at the Boulders WWTP. Flows over 120,000 gpd were routed to the City of Scottsdale via existing gravity sewers within the Boulders for eventual connection to an existing gravity line in Scottsdale Road. Liberty Utilities and the City of Scottsdale had (and continue to have) a sewage capacity agreement in place for sewage treatment at the City of Scottsdale Water Campus Water Reclamation Facility.
- The existing Commercial Lift Station discharged into the Boulders gravity system where its flow would be directed to the Boulders WWTP.

Option 1, connecting to Cave Creek, was explored by Liberty Utilities, involved the following conceptual modifications to the Liberty Utility collection system:

- Upgrades to several lift stations within the Town of Cave Creek service territory as well as Liberty Utilities' Commercial Lift Station.
- Addition of both gravity lines and force mains to direct the flow to the Town of Cave Creek.
- Capacity buy-in charges and future connection fees

The following summarizes the cost impacts and advantages/disadvantages of this alternative:

- The Town of Cave Creek (Town) was asking \$4,022,225 for a capacity purchase at their water reclamation facility.
- Additionally, Liberty Utilities indicated that the Town requested an additional \$8,000 connection fee per new customer. Liberty Utilities has indicated that 97 customers have been added to their system over the past three years. This would have added an additional cost of approximately \$766,000, with additional costs as customers are added in the future.
- The Town was also requesting upgrades to the Sunset, Stagecoach, El Pedregal lift stations and odor control at Commercial and Rancho Manana Lift Stations. This was estimated at a cost of \$1,054,200 per the Brian McBride April 9, 2015 cost estimating table.
- Additions of force main and gravity lines would be required; this was estimated to cost \$422,400 (per Brian McBride cost analysis of April 9, 2015).
- Commercial Lift Station upgrades were estimated at \$408,800 (per Brian McBride April 9, 2015 Cost Analysis.)
- This project would still have still required the decommissioning of the Boulders WWTP, a cost of \$1,153,757
- The engineering services associated with the upgrades listed in bullets 3 through 6 above are \$243,132 (assumes engineering services are 8% of the estimated construction cost)
- This project would have required Liberty Utilities to engage in another capacity agreement and long-term arrangement, in addition to the one already in place with the City of Scottsdale.
- This option had several advantages in that it would have assisted the Town of Cave Creek with another source of flow to their underloaded and underfunded wastewater treatment plant. It would have also brought effluent back to serve the golf course, although that line would have been an addition cost.
- From my discussions with Liberty Utilities, the schedule began to become an issue for this option. It became evident to Liberty Utilities that the Town of Cave Creek timeframe would likely not meet their schedule requirements for taking the Boulders WWTP offline.
- This project is estimated to begin at a cost of approximately \$8.95M and included cost uncertainties (future connection costs).

Option 2, connect to the City of Scottsdale, includes the following key features, costs and advantages and disadvantages (this option was ultimately performed by Liberty Utilities):

- Upgrade and replacement of the existing Commercial Lift Station.
- Addition of a new 6-inch force main from the Commercial Lift Station (along Cave Creek Road and Tom Darlington) to the City of Scottsdale connection point at Tom Darlington and East Westland Road - this new force main was approved and preferred by the Town of Carefree.
- Re-routing of a force main and addition of some gravity sewers to bypass the Boulders WWTP, allowing it to be taken off-line.
- This option builds upon the already existing relationship with the City of Scottsdale who accepts flow from Liberty Utilities' southern service territory for a lower

capacity fee (\$10/gallon) than that offered by the Town of Cave Creek. Capacity purchase fees for this option are \$1,200,000.

- City of Scottsdale did not require any additional funding to improve their pumping or treatment systems to accept the additional flow from Liberty Utilities
- The final cost of the above upgrades (lift station, force mains and Boulder WWTP bypass piping) was \$5,548,827.
- The final cost for the decommissioning of the Boulders WWTP was \$1,153,757.
- Engineering fees for the lift stations and force mains and Boulders WWTP closure were \$518,190 (the engineering services were slightly under 8% of the final construction cost).
- The total plant closure construction costs are calculated to be approximately \$8.42M.

Option 3, building a new wastewater treatment plant, has the following requirements, cost impacts and advantages/disadvantages:

- This alternative would have required locating and purchasing property for a new wastewater treatment plant that would minimize impacts to the community; this would have been a very difficult endeavor.
- The cost to purchase the property is estimated at \$100,000/acre or \$500,000 assuming a five-acre lot (property with necessary set backs as required by the Arizona Department of Environmental Quality).
- A new wastewater treatment plant with full noise and odor control and tertiary treatment necessary for effluent disposal would have been required, estimated to range from \$35 to \$40 per gallon or \$4.2M to \$4.8M.
- Locating, designing, permitting and construction of new effluent disposal or pipelines back to Boulders would also have been required. Assuming the disposal facilities could be located on the treatment plant site, effluent disposal construction costs are estimated to range from \$1M to \$1.5M.
- Gravity line extensions or force main additions would have been necessary, and it is difficult to estimate the cost of these items without having a known treatment plant location.
- The timeframe for property siting/purchase, permitting, design and construction is significant and may not have been feasible given the order to close the plant by November 2018.
- This project increases the potential for additional odors as well as impacts to aesthetics and noise due to the water reclamation plant relocation.
- This project would still have required the decommissioning of the Boulders WWTP, which cost \$1,153,757
- The engineering services associated with the upgrades listed in bullets 3, 4 and 8 above are estimated to range between \$508,300 and \$596,300 (assumes engineering services are 8% of the estimated construction cost)
- Without including the cost of unknown collection system extensions/additions and odor control, Option 3 costs are estimated to begin at \$7.36M to \$8.55M.

Table 1 below provides a brief description of each option presented and its associated costs.

**Table 1. Cost Summary
 Boulders Waste Water Treatment Plant (WWTP) Decommissioning and Boulders
 WWTP Force main, Lift Station and Bypass Sewer – Cost Evaluation
 Liberty Utilities**

Cost Summary	Option 1	Option 2	Option 3
Description	Extend gravity sewer and/or add a lift station/force main and connect into the Cave Creek system for eventual treatment at Cave Creek’s treatment plant	Extend gravity sewer and/or add a lift station/force main and connect into the City of Scottsdale for eventual treatment at the City of Scottsdale Water Campus WWTP	Build a new treatment plant in a new location and extend gravity sewer and/or force mains to the new treatment plant
Capacity Purchase Costs	\$4,902,225	\$1,200,000	-
Connection Fees	\$766,000	-	-
Lift Station Upgrades	\$1,054,200	-	Necessary, but unable to determine at this time
Force Main and Gravity Line Additions	\$422,400	\$5,548,828	Necessary, but unable to determine at this time
Commercial Lift Station Upgrades	\$408,800		-
Boulder WWTP Bypass Pumping	-		-
Boulders WWTP Decommissioning	\$1,153,757	\$1,153,757	\$1,153,757
Property Purchase Costs	-	-	\$500,000
New WWTP	-	-	\$4,200,000 - \$4,800,000
Effluent Disposal Construction Costs	-	-	\$1,000,000 - 1,500,000
Engineering Fees	\$243,132	\$518,190	\$508,300 - \$596,300
Total Estimated Costs	Starting at \$8,950,514	\$8,420,775	Starting at \$7,362,057 - \$8,550,057

Option 2, connect to the City of Scottsdale, in my estimation, is a more cost effective and viable solution than Option 3, a new water reclamation facility. The new water reclamation facility would have very likely been greater in cost given the starting cost listed above in Table 1, which does not include sewer/force main infrastructure that is not estimable at this time. Furthermore, this option does not offer the best solution for the community in terms of reducing noise and maintaining the aesthetics of the community.

Option 1, connect to the Town of Cave Creek, is estimated at a beginning cost of \$8.95M, is more cost effective than option 3, build a new WWTP. Option 1 is however, not as cost effective as Option 2, connect to the City of Scottsdale. Furthermore, it is my understanding through discussions with Liberty Water that this option also posed scheduling issues and future uncertain costs, that required Liberty Utilities to focus on other cost effective, timely solutions, such as Option 2, connect to the City of Scottsdale.

In summary, of the options that I reviewed and that were available to Liberty Utilities, Option 2, connecting to the City of Scottsdale, was the most cost effective and viable solution, it offered the least long-term impact to the community and was preferred by the Town of Carefree. In my opinion, the Utility utilized the most prudent option available to them for the rerouting and treatment of the Boulders WWTP flow.

1 SHAPIRO LAW FIRM, P.C.
Jay L. Shapiro (No. 014650)
2 1819 E. Morten Avenue, Suite 280
Phoenix, Arizona 85020
3 Telephone (602) 559-9575
jay@shapslawaz.com

4 LIBERTY UTILITIES
5 Todd C. Wiley (No. 015358)
12725 W. Indian School Road, Suite D-101
6 Avondale, Arizona 85392
Todd.Wiley@LibertyUtilities.com

7 Attorneys for Liberty Utilities (Black Mountain Sewer) Corp.
8

9 **BEFORE THE ARIZONA CORPORATION COMMISSION**

10

11 IN THE MATTER OF THE APPLICATION
OF LIBERTY UTILITIES (BLACK
12 MOUNTAIN SEWER) CORP., AN
ARIZONA CORPORATION, FOR A
13 DETERMINATION OF THE FAIR VALUE
OF ITS UTILITY PLANTS AND
14 PROPERTY AND FOR INCREASES IN ITS
RATES AND CHARGES FOR UTILITY
15 SERVICE BASED THEREON.

DOCKET NO: SW-02361A-19-

16

17

18

DIRECT TESTIMONY

19

OF

20

LETICIA WASHINGTON

21

22

June 27, 2019

23

24

25

26

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

TABLE OF CONTENTS

I. INTRODUCTION AND PURPOSE OF TESTIMONY 1

II. OVERVIEW OF LIBERTY UTILITIES’ SHARED SERVICES MODEL 2

III. DESCRIPTION OF SHARED SERVICES AND SERVICE CENTERS..... 8

IV. ALLOCATION OF INDIRECT OVERHEAD (INDOH)..... 20

V. TARIFF CHANGES 24

VI. ADJUSTER MECHANISMS 26

1 **I. INTRODUCTION AND PURPOSE OF TESTIMONY.**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Leticia Washington. My business address is 12725 W. Indian School
4 Road, Suite D-101, Avondale, Arizona 85392.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I have been employed by Liberty Utilities Co. (“Liberty Utilities”) since October
7 2017. I am currently the Manager of Rates and Regulatory Affairs for Arizona
8 and Texas.

9 **Q. WHAT ARE YOUR RESPONSIBILITIES AS MANAGER OF RATES**
10 **AND REGULATORY AFFAIRS?**

11 A. My responsibilities include preparing and processing rate applications and other
12 regulatory filings for Liberty Utilities’ Arizona and Texas utilities. I also set
13 department goals, oversee development plans, analyze earnings for Liberty
14 Utilities’ Arizona and Texas utilities, and I review capital expenditures and
15 NARUC account assignments to ensure compliance.

16 **Q. WHAT WAS YOUR EDUCATION AND EMPLOYMENT PRIOR TO**
17 **LIBERTY UTILITIES?**

18 A. I earned a Bachelor of Science in Finance from Arizona State University. Prior
19 to joining Liberty Utilities, I held various positions in the Finance and Accounting
20 organization for 18 years at Arizona Public Service Company. My latest position
21 was the Accounting Supervisor of Revenue and Regulatory Accounting. I was
22 responsible for oversight of annual and/or quarterly reporting filings with the
23 Arizona Corporation Commission (“Commission”) and the Federal Energy
24 Regulatory Commission; oversight of electric revenues and the revenue
25 recognition policy; and the coordination, preparation, and/or review the financial
26 information and schedules in rate case filings.

1 **Q. HAVE YOU TESTIFIED BEFORE THIS OR ANY OTHER COMMISSION?**

2 A. I have presented written testimony before the Public Utility Commission of Texas
3 for one of Liberty Utilities' regulated Texas utilities, Liberty Utilities (Silverleaf
4 Water) LLC (Docket No. 49676). This will be my first time testifying before the
5 Commission.

6 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
7 **PROCEEDING?**

8 A. The purpose of my direct testimony is to support Liberty Black Mountain's
9 request for new wastewater rates by addressing the shared services model and cost
10 allocation methods employed by all companies within the Algonquin Power &
11 Utilities Corp. ("APUC")/Liberty Utilities family of companies. In my testimony,
12 I explain the APUC and Liberty Utilities corporate cost allocation model and the
13 benefits of our shared services model to Liberty Black Mountain and the other
14 regulated utilities operated by Liberty Utilities. In addition, I explain indirect
15 overhead ("INDOH"), Liberty Utilities' capitalized INDOH rate, and justification.
16 I will also address Liberty Black Mountain's request for approval of a purchased
17 power adjuster mechanism ("PPAM"), a property tax adjuster mechanism
18 ("PTAM"), a wastewater treatment adjuster mechanism ("WTAM"), a low
19 income tariff, a deployed service member tariff and other tariff changes being
20 requested by the Company.

21 **II. OVERVIEW OF LIBERTY UTILITIES' SHARED SERVICES MODEL.**

22 **Q. PLEASE DESCRIBE THE LIBERTY UTILITIES BUSINESS MODEL.**

23 A. Liberty Black Mountain is under the APUC and Liberty Utilities umbrella of
24 companies. Liberty Utilities' ultimate parent company is APUC, which is
25 publicly traded on the New York and Toronto stock exchanges. APUC is a large
26 North American diversified generation, transmission and distribution utility

1 holding company with \$10 billion in assets, including utility subsidiaries serving
2 over 760,000 gas, water, wastewater and electric utility customers in the United
3 States.

4 APUC has two major operating subsidiaries, Liberty Power and Liberty
5 Utilities. Liberty Power is an unregulated entity that provides renewable power
6 generation from facilities owned throughout the United States and Canada.¹
7 Liberty Utilities owns and operates regulated water, wastewater, gas and electric
8 utilities in thirteen states divided into three operating regions (East, Central and
9 West).² Liberty Utilities uses a decentralized approach to operating its regulated
10 utility business, which emphasizes the importance of local management and local
11 control of day-to-day business operations. This approach is premised on a belief
12 that utility services are best delivered locally, and this is especially true for
13 customer service, employee and regulatory functions and community outreach
14 activities.

15 **Q. IF LIBERTY UTILITIES USES LOCAL MANAGEMENT WITH LOCAL**
16 **CONTROL TO MAKE DECISIONS LOCALLY, WHY DOES THE**
17 **COMPANY ALSO NEED SHARED CORPORATE SERVICES?**

18 A. In addition to access to capital, Liberty Black Mountain benefits from leveraging
19 synergies and economies of scale across multiple entities to achieve cost
20 efficiencies in utility business operations. Liberty Black Mountain and its

21 _____
22 ¹ As of April 2017, Algonquin Power Co. (“Algonquin Power”) started doing business under the name
Liberty Power.

23 ² Arizona is located in Liberty Utilities’ West Region. Besides Liberty Black Mountain, Liberty Utilities
24 owns six other Arizona utilities: Liberty Utilities (Bella Vista Water) Corp., Liberty Utilities (Entrada
25 Del Oro Sewer) Corp., Liberty Utilities (Gold Canyon Sewer) Corp., Liberty Utilities (Litchfield Park
26 Water & Sewer) Corp. (“Liberty Litchfield Park”), Liberty Utilities (Rio Rico Water & Sewer) Corp. and
Cordes Lakes Water Co. As mentioned, the Arizona utilities, including Liberty Black Mountain, are
wholly owned by Liberty Utilities (Sub) Corp., and Liberty Utilities (Sub) Corp. is a wholly owned, direct
subsidiary of Liberty Utilities.

1 customers benefit from improved corporate governance and management
2 oversight and more rigorous and effective internal controls over financial and
3 operating activities. For example, treasury, information technology, insurance and
4 risk management are provided centrally, allowing Liberty Black Mountain to rely
5 on a service group with broad experience utilizing standardized methods. The
6 result is a better run utility able to maintain safe and reliable utility services
7 everywhere Liberty Utilities serves.

8 **Q. HOW DOES LIBERTY BLACK MOUNTAIN RECEIVE ALLOCATIONS**
9 **FOR SHARED SERVICES?**

10 A. Liberty Utilities employs a shared services model that allocates costs to entities
11 under the APUC umbrella of companies. The shared services model and cost
12 allocation methodologies are set forth in the APUC Cost Allocation Manual
13 (“CAM”) dated January 1, 2017.³ The CAM outlines the services provided
14 throughout the entire organization, including the regulated utilities, who provides
15 these services, and the methods used to distribute the costs for those services. Our
16 cost allocation process applies a reasonable and common sense approach. Costs
17 allocated include those that benefit a specific group of entities and the indirect
18 costs for services that benefit the entire organization. The indirect cost allocation
19 methodologies under the CAM (as described further below) are applied only after
20 all direct charges have been assigned to Liberty Black Mountain and other
21 subsidiaries. In other words, the allocations deal only with remaining costs that
22 are not specific to a particular operating entity but benefit all or a group of
23 companies within APUC ownership.

24
25
26 ³ A copy of the 2017 CAM is attached as **Exhibit LW-DT1**.

1 Allocating costs is a two-step process. The first step is to split all costs
2 between the unregulated businesses (Liberty Power) and the regulated businesses
3 (Liberty Utilities). The second step is to allocate the costs to the individual
4 entities, including Liberty Black Mountain, to determine utility-specific costs.
5 The CAM outlines these methods of direct charge and cost allocations between
6 (1) APUC and its affiliates, Liberty Power (formerly Algonquin Power) and
7 Liberty Utilities; (2) Liberty Utilities Canada and Liberty Power/Liberty Utilities;
8 (3) Liberty Utilities Canada and its regulated utility subsidiaries; (4) LUSC and
9 Liberty Power/Liberty Utilities; (5) LUSC and its regulated utility subsidiaries;
10 and (6) regional allocations.

11 **Q. WHAT CHANGES WERE MADE TO THE CAM IN 2017?**

12 A. Changes made to the 2017 CAM include: (1) the Utility Four-Factor Methodology
13 set forth in Table 2 of the CAM was changed from an equal weighting of 25 percent
14 to weighting equal to 40, 20, 20 and 20 percent of Customer Count, Utility Net
15 Plant, Non-Labor Expenses, and Labor Expenses; (2) wording changes to reflect
16 that Algonquin Power is now doing business under the name Liberty Power and
17 that Liberty Power employees in Canada are now employed by LUC in 2017;
18 (3) the addition of two new LABS services of technical support and utility
19 planning that may be provided in the future; (4) the development of a CAM Team
20 to oversee the management of the CAM; and (5) implementation of CAM
21 company-wide training.

22 **Q. HAVE THE LIBERTY UTILITIES CAM AND COST ALLOCATION**
23 **METHODOLOGIES BEEN PREVIOUSLY APPROVED BY ONE OR**
24 **MORE PUBLIC UTILITY COMMISSIONS?**

25 A. Yes. Liberty Utilities has received favorable treatment of its CAM and cost
26 allocations in Arizona as well as in Texas.

1 **Q. IS THE CAM CONSISTENT WITH NARUC?**

2 A. Yes, the CAM is based on the following guidelines set by the National Association
3 of Regulatory Utility Commissioners (“NARUC”):

- 4 1. To the maximum extent practicable, in consideration of
5 administrative costs, costs should be collected and
6 classified on a direct basis for each asset, service or
7 product provided (NARUC Guidelines at 2, § B.1).
- 8 2. The general method for charging indirect costs should
9 be on a fully allocated cost basis. Under appropriate
10 circumstances, regulatory authorities may consider
11 incremental cost, prevailing market pricing or other
12 methods for allocating costs and pricing transactions
13 among affiliates (NARUC Guidelines at 2, § B.2).
- 14 3. To the extent possible, all direct and allocated costs
15 between regulated and non-regulated services and
16 products should be traceable on the books of the
17 applicable regulated utility to the applicable Uniform
18 System of Accounts. Documentation should be made
19 available to the appropriate regulatory authority upon
20 request regarding transactions between the regulated
21 utility and its affiliates (NARUC Guidelines at 2,
22 § B.3).
- 23 4. The allocation methods should apply to the regulated
24 entity’s affiliates in order to prevent subsidization from,
25 and ensure equitable cost sharing among, the regulated
26 entity and its affiliates, and vice versa (NARUC
Guidelines at 2-3, § B.4).
5. All costs should be classified to services or products,
which, by their very nature, are regulated, non-
regulated, or common to both (NARUC Guidelines at 3,
§ B.5).
6. The primary cost driver of common costs, or a relevant
proxy in the absence of a primary cost driver, should be
identified and used to allocate the cost between
regulated and non-regulated services or products
(NARUC Guidelines at 3, § B.6).
7. The indirect costs of each business unit, including the
allocated costs of shared services, should be spread to
the services or products to which they relate using
relevant cost allocators (NARUC Guidelines at 3,
§ B.7).

1 The CAM follows these cost allocation principles and, as a result, provides for the
2 reasonable allocation of prudently incurred corporate costs and shared services to
3 Liberty Black Mountain.

4 **Q. CAN YOU DEFINE DIRECT AND INDIRECT COSTS, PLEASE?**

5 A. Yes. Direct and indirect are defined as follows:

6 Direct charges (sometimes referred to as assigned costs) are
7 costs incurred by one company for the exclusive benefit of, or
8 specifically identified with, one or more other companies, and
9 which are directly charged (or assigned) to the company or
10 companies that specifically benefited. This is consistent with
the NARUC Guidelines which define "Direct Costs" as "costs
which can be specifically identified with a specific service or
product."

11 Indirect charges (sometimes referred to as allocated costs) are
12 costs incurred by one company that are for the benefit of either
13 (a) all of the APUC companies or (b) all of the regulated
14 companies, and which are charged to the benefited companies
15 using a methodology and set of logical allocation factors that
16 establish a reasonable link between cost causation and cost
recovery. Again, this is consistent with the NARUC
Guidelines where "Indirect Costs" are defined as "costs that
cannot be identified with a particular service or product. This
includes but not limited to overhead costs, administrative,
general, and taxes."

17 **Q. WHAT COSTS ARE ALLOCATED UNDER THE CAM?**

18 A. Costs relating to financial services, human resources, internal audit, compliance
19 and access to capital markets are all allocated in accordance with the CAM.
20 Various service centers within our business model provide these and other services
21 necessary for our regulated utilities to provide utility service to customers.
22 By service centers, I mean an entity or department within the APUC/Liberty
23 Utilities family of companies that provides shared services to other affiliates. For
24 example, APUC provides strategic management, corporate governance, financial
25 controls, and access to capital markets to all entities under the APUC umbrella.
26

1 Liberty Utilities Canada (“LUC”)⁴ provides operations, customer experience,
2 regulatory strategy, and executive management to the regulated utilities owned
3 and operated by Liberty Utilities. LUC also has a shared services business unit
4 called Liberty Algonquin Business Services (“LABS”) that provides shared
5 services benefitting both regulated and unregulated businesses within APUC
6 (i.e., Liberty Utilities and Liberty Power). The services LABS provides include
7 legal, finance, human resources, treasurer, compliance, health and safety, IT and
8 communications services. Liberty Utilities Service Corp. (“LUSC”), a wholly
9 owned subsidiary of Liberty Utilities, is where most regulated utility employees
10 in the U.S. are or will be employed. The shared services provided by LUSC
11 include, but are not limited to, operations, treasury, tax, accounting, IT, regulatory,
12 human resources, and insurance. Finally, Liberty Utilities utilizes regional entities
13 that provide services to the regulated utilities within each region, including
14 customer service, legal, regulatory, finance and accounting, or other similar
15 services. Liberty Black Mountain is located within the Liberty Utilities West
16 region.

17 **III. DESCRIPTION OF SHARED SERVICES AND SERVICE CENTERS.**

18 **Q. THANK YOU, MS. WASHINGTON. CAN YOU OFFER ADDITIONAL**
19 **DETAILS CONCERNING THE SERVICE CENTERS AND THE SHARED**
20 **SERVICES THEY PROVIDE?**

21 A. Yes, I will start with APUC at the top. As the ultimate corporate parent, APUC
22 provides financial, strategic management, corporate governance, administrative
23 and support services to Liberty Utilities and Liberty Power. As a publicly traded
24

25 ⁴ LUC is a wholly owned subsidiary of APUC. LUC is the parent company of Liberty Utilities. Liberty
26 Black Mountain is a wholly owned subsidiary of Liberty Utilities (Sub) Corp. Liberty Utilities (Sub)
Corp. is a wholly owned subsidiary of Liberty Utilities. Liberty Utilities is the holding company for the
regulated utilities in thirteen states.

1 holding company, APUC also provides access to capital markets, which makes
2 capital for infrastructure investment available. APUC sells units to public
3 investors on the Toronto (“TSX”) and New York (“NYSX”) stock exchanges in
4 order to generate the funding and capital necessary for Liberty Utilities’
5 subsidiaries to invest in infrastructure. In connection with the provision of these
6 financing and governance services, APUC incurs the following types of costs:
7 (i) strategic management costs (board of director, third-party legal services,
8 accounting services, tax planning and filings, insurance, and required auditing);
9 (ii) capital access costs (communications, investor relations, trustee fees, escrow
10 and transfer agent fees); (iii) financial control costs (audit and tax expenses); and
11 (iv) administrative (rent, depreciation, general office costs). These APUC costs
12 are pooled and allocated to Liberty Utilities and Liberty Power using the “multi-
13 factor” method summarized in Table 1 of the CAM.

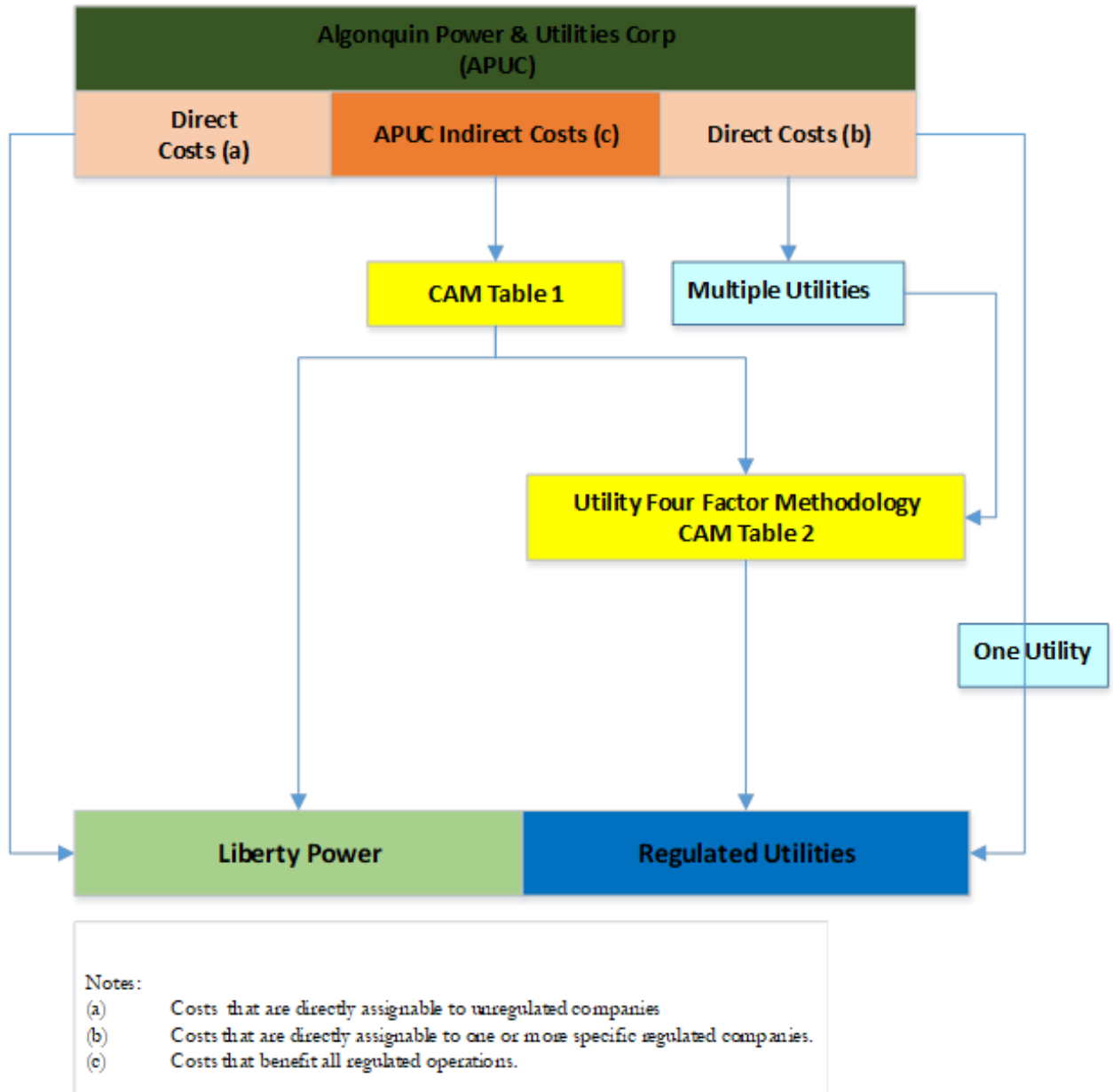
14 **Q. HOW DO LIBERTY BLACK MOUNTAIN AND THE OTHER**
15 **REGULATED UTILITIES IN ARIZONA BENEFIT FROM THESE**
16 **ACTIVITIES BY APUC?**

17 A. The services provided by APUC are necessary for Liberty Utilities and its
18 regulated subsidiaries to have access to capital markets for capital projects. This
19 case is an excellent illustration. The customers and community wanted the
20 wastewater treatment plant closed, it cost over \$10 million and the Company never
21 had to work to raise the necessary capital. But maintaining that sort of access to
22 capital has a continuing cost, and that is the primary source of the costs allocated
23 down from APUC.

24 **Q. WOULD YOU PLEASE ILLUSTRATE COST ALLOCATION FROM**
25 **APUC?**

26 A. Generally, APUC allocates costs under the CAM as set forth in the following flow

1 chart (Figure 2 of the CAM):



23 **Q. WHAT SPECIFIC TYPES OF COSTS DOES APUC INCUR TO**
24 **MAINTAIN CONTINUOUS ACCESS TO CAPITAL FOR INVESTMENT**
25 **IN UTILITY INFRASTRUCTURE?**

26 **A. Many of the costs incurred by APUC are requirements of being a publicly traded**

1 entity on the TSX and NYSE.⁵ As a publicly traded entity, APUC must issue
2 certain communications under TSX and NYSE rules and regulations. For
3 example, Section 714 of the TSX Company Manual states “TSX may delist the
4 securities of a listed issuer that has failed to comply with the TSX’s Timely
5 Disclosure Policy ... or with disclosure requirements under any securities law to
6 which the issuer is subject.” Additionally, Section 406 of the TSX Company
7 Manual in part states “[i]t is a cornerstone policy of the Exchange that all persons
8 investing in securities listed on the Exchange have equal access to information
9 that may affect their investment decisions.... Companies whose securities are
10 listed on the Exchange are legally obligated to comply with the provisions on
11 timely disclosure...” Finally, Ontario Securities Commission National Policy 51-
12 201 states in Section 4.5 “Companies who do not comply with an exchange’s
13 requirements could find themselves subject to an administrative proceeding before
14 a provincial securities regulator.”

15 These requirements and related costs are no different than publicly traded
16 companies on the NYSE, including some of the sample companies used to
17 determine cost of capital in Arizona rate cases. NYSE’s Listed Company Manual,
18 Section 202.05 states “[a] listed company is expected to release quickly to the
19 public any news or information which might reasonably be expected to materially
20 affect the market for its securities. This is one of the most important and
21 fundamental purposes of the listing agreement which the company enters into with
22 the Exchange.” These costs are a necessary and unavoidable part of a publicly
23 traded entity’s cost of doing business.

24
25
26 ⁵ Copies of these pertinent provisions of the TSX and NYSE rules are attached as **Exhibit LW-DT2**.

1 **Q. THANK YOU. PLEASE CONTINUE WITH YOUR DISCUSSION OF**
2 **THE SHARED SERVICE PROVIDERS AND SHARED SERVICES.**

3 A. Generally, LUC and LUSC provide services to regulated utilities that can be
4 categorized as: (a) specifically to Liberty Utilities and its regulated subsidiaries,
5 and (b) to the entire organization through the LABS shared services business unit.
6 I will first address services specific to Liberty Utilities and its regulated entities.

7 Certain corporate employees are grouped as dedicated employees
8 providing services to all or a group of utilities within Liberty Utilities. These
9 services are found within the following departments of LUC: executive,
10 regulatory strategy, operations, and customer experience. The LUSC employees
11 dedicated to providing services to utilities currently do so in some of the following
12 areas: operations, treasury, tax, accounting, IT, regulatory, human resources, and
13 insurance, and can provide other services as outlined in Table 5 of the CAM. LUC
14 and LUSC will assign both direct labor (through timesheets) and direct non-labor
15 attributable to a specific utility. Costs incurred for the benefit of all of its regulated
16 assets (*i.e.*, indirect costs) are allocated using the Utility Four-Factor Methodology
17 described in Table 2 below. The allocation of these services is described below.

18 **Table 2: Utility Four-Factor Methodology Factors and Weightings**

19

20 **CAM Table 2: Utility Four-Factor Methodology Factors and Weightings**

Factor	Weight
Customer Count	40%
Utility Net Plant	20%
Non-Labor Expenses	20%
Labor Expenses	20%
Total	100%

21

22

23

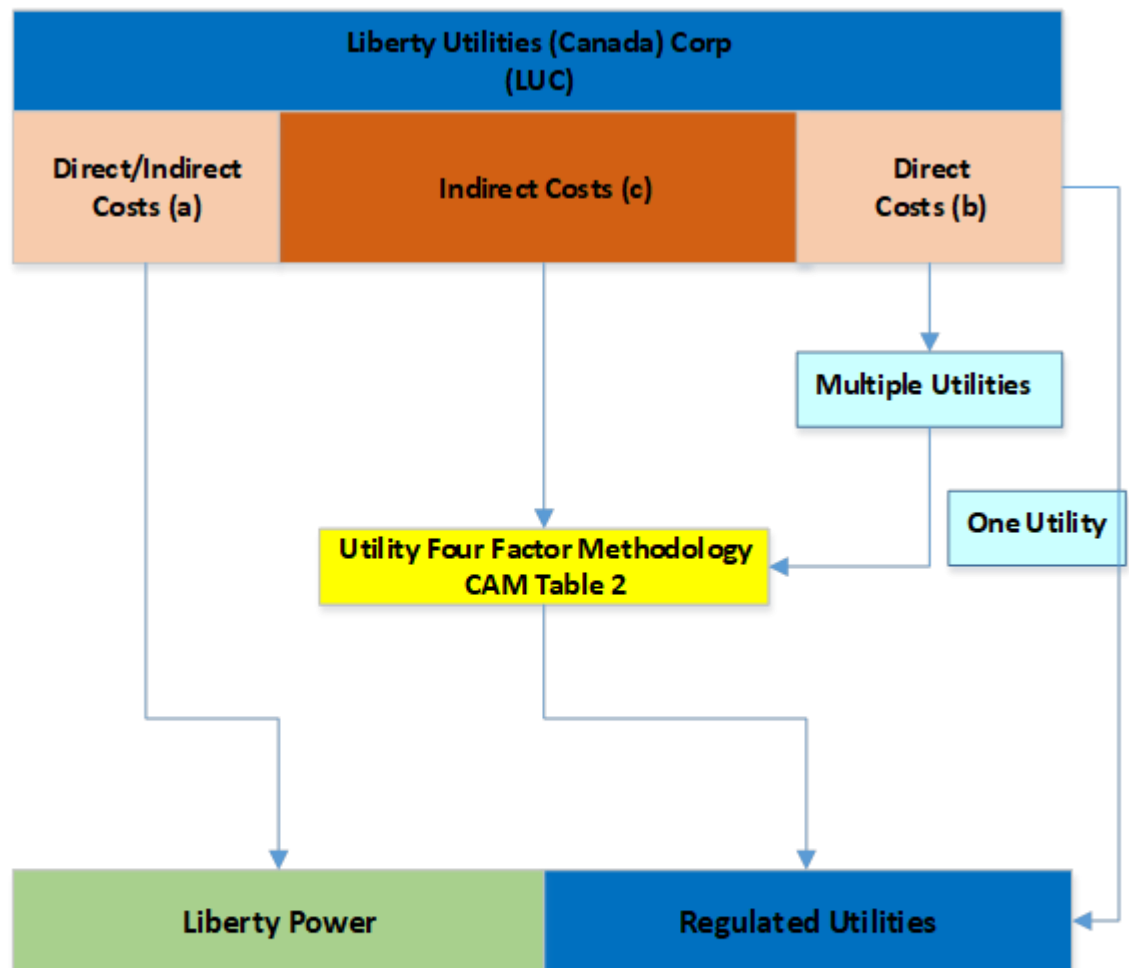
24

25

26

1 **Q. WHAT ALLOCATION METHOD IS USED TO ALLOCATE THESE**
2 **COSTS TO THE REGULATED UTILITIES?**

3 A. Under the CAM, the allocation of costs from LUC is illustrated in the following
4 flowchart (Figure 3 of the CAM):



- 22 (a) Costs (direct and indirect) that are directly assignable to unregulated companies.
23 (b) Costs that are directly assignable to one regulated company, or that benefit all regulated operations.
24 (c) Costs that benefit all regulated operations.

25 Again, consistent with the fundamental design of our cost allocation
26 methodology, LUC and LUSC will also direct charge or assign costs that can be

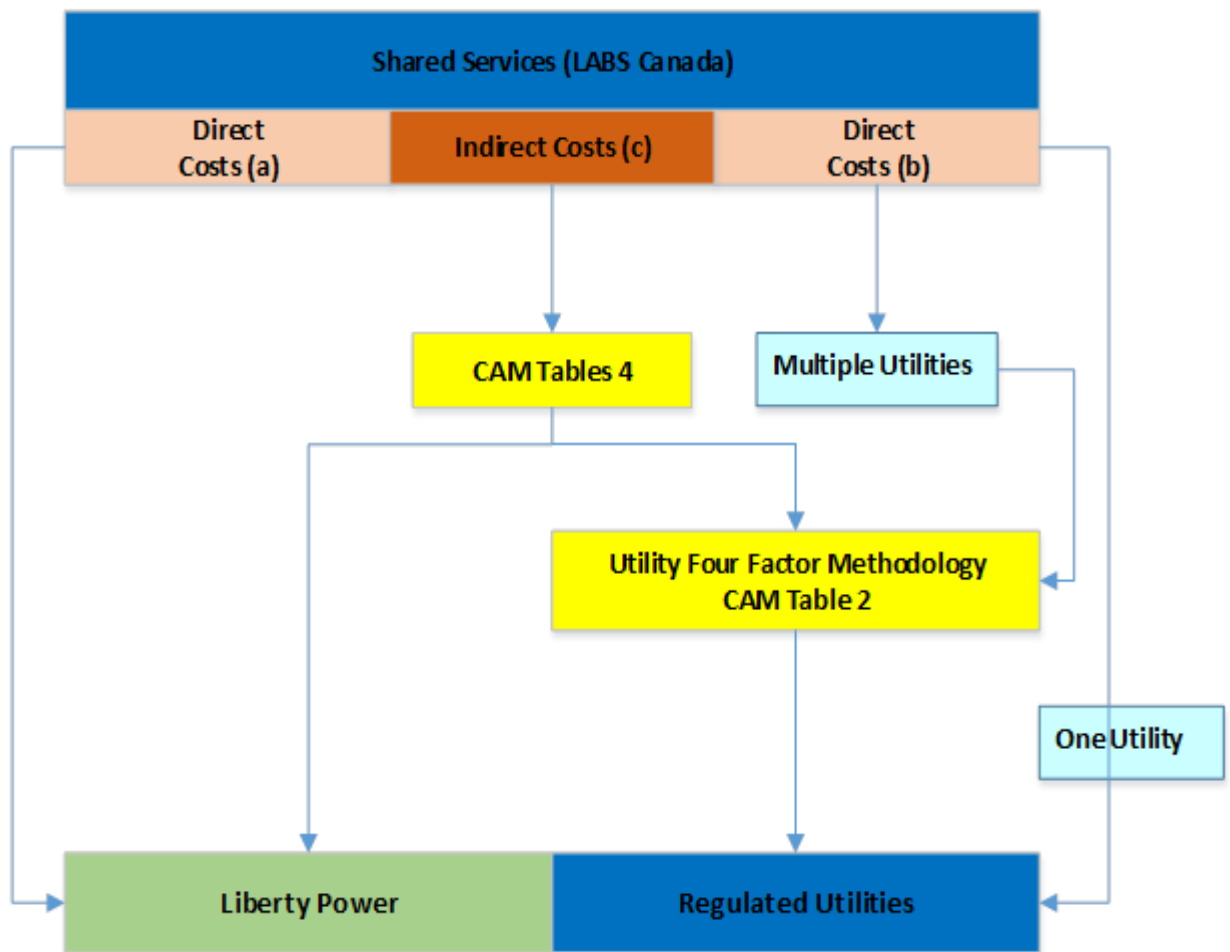
1 directly attributable to a specific utility. Likewise, costs related to services that
2 are applicable to all utilities, allocable to multiple utilities, or are indirect costs
3 that cannot be directly attributed to an individual utility are allocated using the
4 Utility Four-Factor Methodology set forth in Table 2 of the CAM. The Utility
5 Four-Factor Methodology allocates costs by relative size and scope of the utilities.
6 The methodology involves four allocating factors, or drivers: (1) Utility Net Plant;
7 (2) Total Customers; (3) Non-Labor Expenses; and (4) Labor Expenses, with each
8 factor assigned as shown in Table 2 above.

9 **Q. WHAT ABOUT LABS SHARED SERVICES?**

10 A. As stated above, LABS is a business unit found organizationally within LUC and
11 LUSC that serves both regulated and unregulated entities. The LABS services are
12 outlined in Tables 4a and 4b of the CAM. Specific examples of these services
13 include: (i) budgeting, forecasting, and issuing consolidated and standalone
14 financial statements; (ii) treasury functions including cash management (including
15 electronic fund transfers, cash receipts processing), and managing short-term
16 borrowings and investments with third parties; (iii) development of human
17 resource policies and procedures; (iv) selection of information systems and
18 equipment for accounting, engineering, administration, customer service,
19 emergency restoration and other related functions; (v) development, placement
20 and administration of insurance coverages and employee benefit programs,
21 including group insurance and retirement annuities, property inspections and
22 valuations for insurance; (vi) internal audit providing assurance and advisory
23 services in the areas of governance, risk management and internal control, and
24 (vii) purchasing services including requests for proposals and similar solicitations,
25 and vendor and vendor-product evaluations. The allocation of these services is
26 described below.

1 **Q. WHAT METHODOLOGY IS USED TO ALLOCATE LABS COSTS?**

2 A. Under the CAM, the allocation of costs from LABS is shown in the following
3 flowchart (Figure 4 of the CAM):
4



5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21 **Notes:**
22 (a) Costs that are directly assignable to unregulated companies.
23 (b) Costs that are directly assignable to one or more regulated companies.
24 (c) Costs that benefit both unregulated and regulated operations.

25 Consistent with the fundamental CAM principles I explained a little earlier,
26 direct charges from LABS that can be directly attributable to a specific utility are
directly assigned and indirect costs are allocated using the “multi-factor”

1 methodology shown in Tables 4a and 4b of the CAM. Tables 4a and 4b include:
2 (a) each type of cost incurred by shared services functions within LUC that is to
3 be allocated between regulated and unregulated parts of the business; (b) the
4 factors used to allocate each type of cost between regulated and unregulated
5 activity; (c) the rationale for selecting the factors that are used for allocation; and
6 (d) examples of the specific allocated costs. Those factors are designed to closely
7 align costs with the driver of the activity.

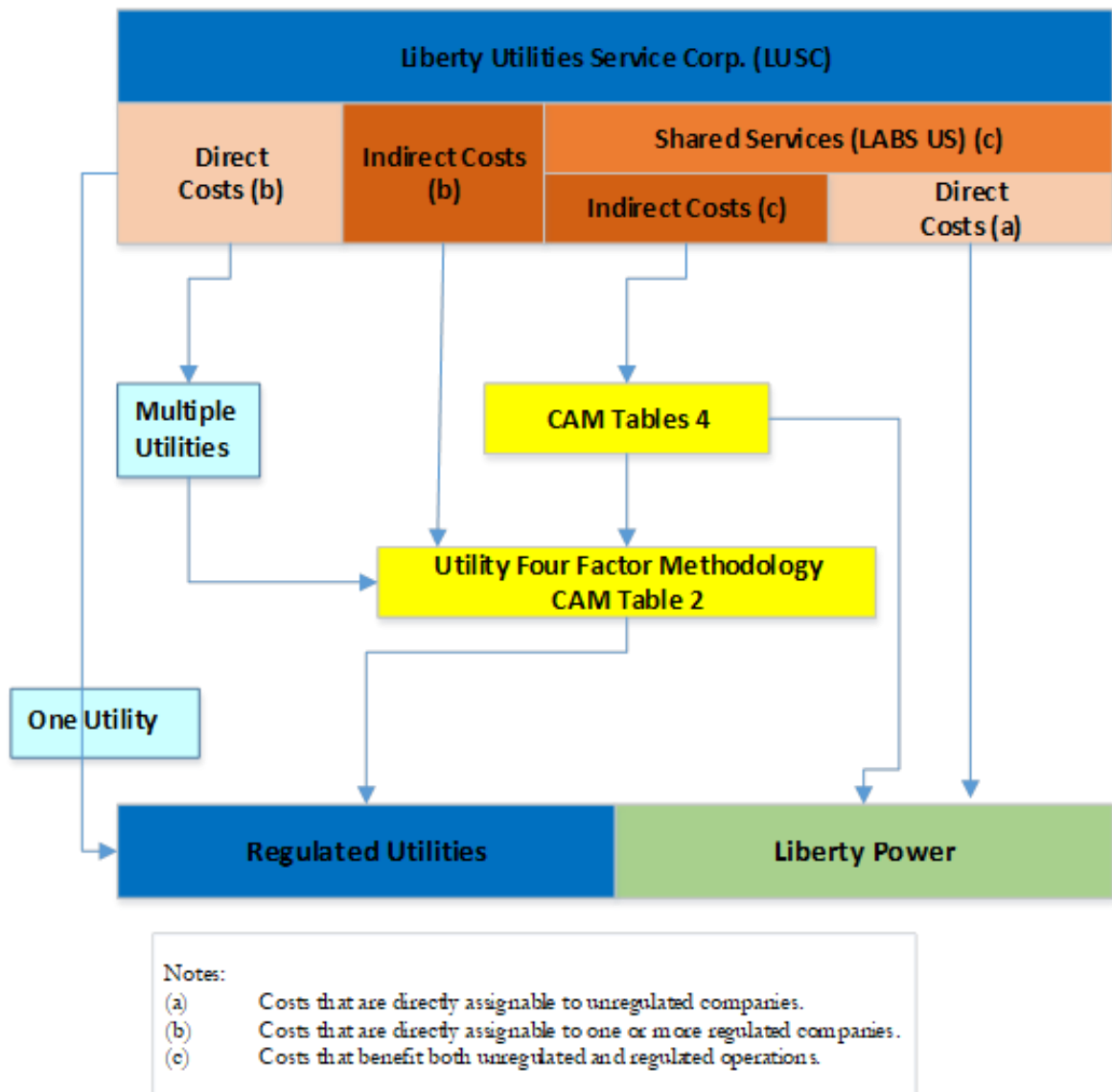
8 **Q. IS THIS WHERE STEP TWO OF THE TWO-STEP PROCESS HAPPENS?**

9 A. Yes. Once indirect costs are allocated between Liberty Power and Liberty
10 Utilities, the indirect labor and indirect non-labor costs, including indirect capital
11 costs, attributable to Liberty Utilities are then reallocated to its regulated utilities
12 using the Utility Four-Factor Methodology set forth in Table 2 of the CAM as
13 indicated above.

14 **Q. HOW DOES LUSC FIT INTO THE SHARED SERVICES MODEL?**

15 A. LUSC is where most regulated utility employees in the United States are or will
16 be employed. This streamlines administration of payroll across the U.S. based
17 companies. Employee costs, such as salaries, benefits, insurance, etc. are paid by
18 LUSC and direct charged to the extent possible to the regulated utility for which
19 the employee performs dedicated work. As described above, within LUSC there
20 are individuals who provide shared services (listed in Tables 4a, 4b, and 5 of the
21 CAM) grouped in two categories: (1) services that benefit both Liberty Utilities
22 and Liberty Power businesses (i.e., LABS U.S. employees) and (2) services that
23 benefit some or all of the regulated utilities within Liberty Utilities. As per the
24 principles of the CAM, the LUSC shared services employees will direct charge
25 their services when they are directly attributable to a specific affiliate company.
26 Costs that benefit both the Liberty Utilities entities and Liberty Power are

1 allocated as per Tables 4a and 4b, and then allocated to the regulated utilities as
 2 per the Utility Four-Factor Methodology (Table 2 of the CAM). The dedicated
 3 shared services to the regulated utilities are allocated using Utility Four-Factor
 4 methodology (Table 2 of the CAM). Figure 5 of the CAM illustrates the LUSC
 5 cost distributions:



1 **Q. WHAT SPECIFIC BENEFITS DO LIBERTY BLACK MOUNTAIN AND**
2 **THE OTHER REGULATED UTILITIES IN ARIZONA RECEIVE FROM**
3 **THE SHARED SERVICES YOU’VE DESCRIBED BY LUC, LUSC AND**
4 **LABS THAT ARE NOT PROVIDED BY APUC AS DESCRIBED ABOVE?**

5 A. The significant benefits include:

- 6 1. **Access to Skilled Strategic Management.** This means Liberty Black
7 Mountain enjoys access to wide ranging expertise and resources that are
8 typically not available to small utilities. That is a direct result of the
9 nationwide utility footprint of Liberty Utilities and our shared services
10 model.
- 11 2. **Controls and Processes.** Through this business model, controls and
12 processes are in place to ensure that accounting methodologies are
13 consistent with generally accepted accounting principles and fully adhere
14 to Sarbanes-Oxley compliance and other appropriate internal controls.
15 That means Liberty Black Mountain benefits from sound accounting,
16 capital investment and operational expertise.
- 17 3. **Lower Costs and Economies of Scale.** By sharing resources with other
18 utilities, Liberty Black Mountain enjoys the benefits of lower overall cost
19 structures while at the same time maintaining a local flavor in its day-to-
20 day operations and customer contact.

21 **Q. ARE SHARED SERVICES COSTS ALLOCATED FROM THE**
22 **REGIONAL OR STATE UTILITY LEVEL?**

23 A. Yes. In 2017, Liberty Utilities organized into three operation regions—West,
24 Central and East. The West region currently consists of water and wastewater
25 utilities located in Arizona, Texas, and California, and one electric utility located
26 in California. Within the regions, certain services (e.g., finance, legal, regulatory,

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

government relations) are provided to optimize resources and provide oversight of local/regional functions. For example, the finance/accounting function for the West region is a regional function that focuses on providing general accounting support for the operations of all the utilities within that region. The employees in the West region finance group are located in Arizona and California and are classified as regional employees. These costs and services are directly assigned to the extent possible and distributed over the utilities within the state or region for which they are provided. Any services and costs that cannot be directly assigned are allocated to the utilities within the region or state using the Regional Four-Factor Methodology (25 percent weighting for the factors of: customer count, utility net plan, non-labor expenses, and labor expenses).

Q. DO YOU BELIEVE THAT THE SHARED SERVICES COSTS YOU HAVE DESCRIBED ABOVE ARE REASONABLE AND NECESSARY COSTS OF SERVICE FOR LIBERTY BLACK MOUNTAIN?

A. Yes, absolutely. The shared services I've described and the benefits received by Liberty Black Mountain are reasonable and necessary for the Company to provide safe and reliable sewer utility services at a fair and reasonable cost for the reasons I discussed in this section of my testimony, and these costs are allocated using a reasonable and rationale methodology as I address further in the next section of my direct testimony.

Q. WHAT WAS THE CORPORATE COST EXPENSE ALLOCATION AMOUNT FOR LIBERTY BLACK MOUNTAIN IN THE TEST YEAR?

A. The corporate cost expense allocation was \$131,553 for Liberty Black Mountain in the 2018 test year. This equates to each customer paying just under \$5 per month for the benefits mentioned above.

1 **IV. ALLOCATION OF INDIRECT OVERHEAD (INDOH).**

2 **Q. WHAT IS INDOH?**

3 A. Indirect overhead, or INDOH as it is often abbreviated, is a means of apportioning
4 labor and related services as part of the cost of plant, i.e., rate base. Under
5 accepted rate making, indirect overhead is the capitalization of services provided
6 in support of capital activities and projects. For example, the Engineering and
7 Development Services departments in Arizona provide engineering and
8 development services for capital projects. Their costs are direct charged to capital
9 projects and, in turn, capitalized.

10 **Q. WHAT ABOUT CORPORATE COSTS?**

11 A. With respect to corporate services and costs, INDOH refers to that portion of
12 administration and general (A&G) costs that support capital projects and, in turn,
13 are capitalized.

14 **Q. WHY CAN'T LIBERTY UTILITIES JUST CAPITALIZE SUCH COSTS
15 DIRECTLY WITH THE ASSOCIATED CAPITAL PROJECTS?**

16 A. Because it would fail to capture the indirect costs associated with the process of
17 asset creation and management of capital projects and activities. Various
18 departments are tasked with overseeing and managing capital projects and these
19 departments exist to support capital projects. Therefore, there needs to be a way
20 to capitalize and recover those costs of capital investment in used and useful plant.
21 The same is true of the senior management, accounting and regulatory personnel
22 at APUC and LUC that provide services that support capital projects. Those are
23 all capital improvement costs that also should be capitalized.

24

25

26

1 **Q. BUT AREN'T THE SALARIES FOR ALL THESE EMPLOYEES**
2 **INCLUDED IN LIBERTY BLACK MOUNTAIN'S REVENUE**
3 **REQUIREMENT?**

4 A. Not directly, and not in full, and that is the way shared services models achieve
5 economies of scale. Liberty Black Mountain could not afford to hire skilled labor
6 in all of the service areas covered by the shared service centers on a stand-alone
7 basis. But, under our shared services approach, the Company obtains all of those
8 benefits for a proportionate share of the total cost.

9 **Q. DOES NARUC ALLOW CAPITALIZATION OF INDOH?**

10 A. Yes, under NARUC USOA Account Instruction 20(A), “[a]ll overhead
11 construction costs, such as engineering, supervision, general office salaries and
12 expenses, construction engineering and supervision by others than the accounting
13 utility, legal expenses, insurance, injuries and damages, relief and pensions, taxes
14 and allowances for funds used during construction shall be charged to particular
15 jobs or units on the basis of the amounts of such overheads reasonably applicable
16 thereto, so that each job or unit shall bear its equitable proportion of such costs
17 and that the entire costs of the unit, both direct and overhead, shall be deducted
18 from the plant accounts at the time the property is retired.” Instruction 20(B)
19 further provides that “[a]s far as practicable, the determination of payroll charges
20 includible in construction overheads shall be based on time card distribution
21 thereof. Where this procedure is impractical, special studies shall be made
22 periodically of the time of supervisory employees devoted to construction
23 activities so that only such overhead costs as have a definite relation to
24 construction shall be capitalized. The addition to direct construction costs of
25 arbitrary percentages or amounts to cover assumed overhead costs is not
26 permitted.”

1 **Q. HAS LIBERTY UTILITIES COMPLIED WITH THOSE NARUC**
2 **REQUIREMENTS?**

3 A. Yes. In 2018, Liberty Utilities conducted a capitalization survey to determine the
4 amount of time spent by employees of APUC and LUC in support of capital
5 projects for utilities. That detailed survey outlines the departments and activities
6 provided in support of capital projects. The survey and its results are attached to
7 my direct testimony as **Exhibit LW-DT3**. As a result of that survey, Liberty
8 Black Mountain has used a 32.08 percent INDOH rate for indirect overhead.

9 **Q. DID LIBERTY UTILITIES DO ANYTHING TO VERIFY THE**
10 **ACCURACY AND REASONABLENESS OF THE INDOH SURVEY?**

11 A. After completion of that INDOH survey, Liberty Utilities hired PA Consulting
12 Group to conduct an independent analysis of that INDOH survey. A copy of PA
13 Consulting's April 8, 2019 report is attached to my direct testimony as **Exhibit**
14 **LW-DT4**. As set forth in that report, "the approach used by the Company in
15 completing the APUC/LUC indirect overhead study is reasonable and within
16 common industry practices, and the calculated INDOH percentages for
17 APUC/LUC (32.55 percent for 2018 and 32.08 percent for 2019) resulting from
18 the study are reasonable."⁶

19 **Q. THANK YOU. WHAT IS THE INDOH RATE APPLIED TO,**
20 **MS. WASHINGTON?**

21 A. For the corporate costs incurred at APUC and LUC that get allocated down to
22 Liberty Utilities (Sub) Corp., 32 percent of those costs are capitalized as INDOH.
23 From there, those INDOH costs are allocated to individual Arizona utilities,
24 including Liberty Black Mountain, each month based on active Construction
25

26 ⁶ **Exhibit LW-DT4** at 4.

1 Work in Progress (CWIP).

2 **Q. DOES THAT MEAN THERE IS SOME SORT OF DOUBLE RECOVERY**
3 **ON 32 PERCENT OF THE ALLOCATED COSTS, MS. WASHINGTON?**

4 A. Not at all. Thirty-two percent of the allocated costs are capitalized because the
5 shared services do not just generate operating expenses, they support capital
6 projects. The portion of the shared services costs that support capital projects
7 should be included in rate base and the remainder, roughly 68 percent using the
8 current INDOH rate, are operating expenses.

9 **Q. DO YOU BELIEVE A 32 PERCENT INDOH RATE IS REASONABLE**
10 **AND JUSTIFIED?**

11 A. Yes. Liberty Utilities conducted an extensive and detailed survey of the time spent
12 by corporate employees in support of capital projects. In today's utility industry,
13 the importance of capital activities can't be understated. The PA Consulting
14 Group report establishes that a 32 percent INDOH rate is well within accepted
15 industry standards for regulated utilities. Overall, I believe customers benefit
16 from the capital support activities provided by personnel at APUC and LUC,
17 which in turn allow Liberty Black Mountain and all of our Arizona utilities to have
18 continued and guaranteed access to capital markets and capital funding. I also
19 would note that the increase in the INDOH rate from the previous 21 percent rate
20 to 32 percent decreases operating expenses in the test year by a like amount.

21 **Q. WHAT WOULD HAPPEN IF THE COMMISSION DID NOT APPROVE**
22 **SUCH A LEVEL OF CAPITALIZED OVERHEAD?**

23 A. To the extent that the Commission did not approve the 32 percent capitalization
24 rate for INDOH in the test year, or declined to include some or all of the INDOH
25 in rate base, then that amount of corporate costs would need to be added to Liberty
26 Black Mountain's operating expenses in the test year. Again, these are part of the

1 reasonable and prudent cost of capital projects and this is a fair method for their
2 recovery.

3 **Q. DO YOU BELIEVE IT IS FAIR TO ADD ROUGHLY \$1 MILLION TO**
4 **THE COST OF THE CLOSURE OF THE BOULDERS WWTP FOR**
5 **INDOH?**

6 A. Yes, I do. The plant closure project took Liberty Black Mountain a decade to
7 accomplish and there was continuous corporate support for that project at multiple
8 levels. If we do not add INDOH to the costs, then we would be asking the
9 corporate parents to subsidize almost 10 percent of the cost of that project. I look
10 at it in this manner – if Liberty Black Mountain had had to pay a third-party to
11 provide all of the support for the closure of the Boulders WWTP that its corporate
12 partners provided, those contractors would have charged at least 18-24 percent of
13 the cost as administration and overhead, pretty standard in large construction
14 projects. Liberty Utilities provided all of the necessary support for under
15 10 percent of the cost of the plant closure. Yes, I think it is fair.

16 **V. TARIFF CHANGES.**

17 **Q. IS LIBERTY BLACK MOUNTAIN PROPOSING ANY CHANGES OR**
18 **MODIFICATIONS TO ITS TARIFF?**

19 A. Yes. The Company is proposing a low income tariff, a deployed military
20 personnel tariff, and other tariff changes. A copy of the new proposed tariff is
21 attached to the rate application as Attachment 2. Some changes in the proposed
22 tariff are intended to further our effort to standardize all of the tariffs for Liberty
23 Utilities' operating subsidiaries in Arizona. Standardizing our tariffs is intended
24 to promote efficiency by streamlining administration and accounting for all of our
25 Arizona utilities, and reducing confusion. Other changes are intended to mirror
26 recent tariff additions and improvements approved by the Commission for other

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

utilities.

Q. WILL YOU SUMMARIZE THE PROPOSED CHANGES?

A. Yes.

Rates: The Company’s proposed new rates have been inserted consistent with Mr. Bourassa’s H schedules.

Additional Charges: The Company is proposing to increase the insufficient funds fee from \$10 to \$25.

Influent Meter Installation: The Company is proposing to install influent meters at cost for non-residential customers in the event water data is not available from the water service provider.

Taxes and Assessments: The Company is proposing to collect developers’ share of income taxes related to contributed and/or advanced funds. This change is complies with the Gross-up Sharing Method policy adopted by the Commission in Decision No. 76974.

Termination of Service: The Company is proposing to add language to state that Liberty Black Mountain has authority to terminate service due to violations of the Company’s wastewater terms and conditions, presence of public health hazards, or non-payment for wastewater services.

Customer Assistance Programs: The Company is seeking to add a low income tariff and a deployed military personnel tariff.

Q. PLEASE EXPLAIN THE NEED FOR AND BENEFITS OF THESE TARIFF CHANGES.

A. The rates change is needed in order for the Company to earn a fair return on and of its investment in the utility’s infrastructure and operating expenses as discussed in Mr. Bourassa’s testimony. The changes to additional charges, influent meter installation, and taxes and assessments are intended to create better alignment between cost drivers and payment of said costs. This means costs caused by specific cost drivers are paid by the customer who caused and/or benefited from the situation instead of spreading the costs to all or a class of customers to the

1 greatest extent possible. Lastly, the addition of the customer assistance programs
2 will further standardize low income tariffs across all the Arizona utilities as well
3 as begin to expand the available assistance to customers, including military
4 personnel and deployed service members.

5 **Q. WHAT CHANGES IS LIBERTY BLACK MOUNTAIN PROPOSING FOR**
6 **ITS PRE-TREATMENT TARIFF?**

7 A. Liberty Black Mountain requests two changes to its Industrial Pretreatment Tariff.
8 First, the Company has added language in the Industrial Pre-Treatment Program
9 to specifically identify the enforcement actions that may be taken by the Company
10 relating to compliance with the tariff requirements, and the Company also has
11 included a section on enforcement timeframes. Those tariff changes will provide
12 better clarity to customers qualifying as Industrial Users under the Industrial Pre-
13 Treatment Program relating to enforcement actions for non-compliance. Second,
14 we have added language in the statement of charges to allow the Company to
15 recover its costs incurred for customers that qualify as Industrial Users and are
16 subject to compliance with the Company's Industrial Pretreatment Program. On
17 this issue, we have included language requiring such Industrial Users to pay the
18 actual costs incurred by Liberty Black Mountain relating to our review of such
19 customer's discharges, and actual costs incurred by Liberty Black Mountain for
20 engineering and design of necessary Pre-Treatment requirements and agreements.
21 That language is necessary for Liberty Black Mountain to recover its costs
22 incurred for customers that require Pre-Treatment of wastewater discharges.

23 **VI. ADJUSTER MECHANISMS.**

24 **Q. IS THE COMPANY SEEKING APPROVAL OF ANY ADJUSTER**
25 **MECHANISMS?**

26 A. Yes. The Company is seeking approval of three adjuster mechanisms: (1) a

1 PPAM, (2) a PTAM, and (3) a WTAM.

2 **Q. THANK YOU. WOULD YOU PLEASE SUMMARIZE THE PPAM?**

3 A. The PPAM allows Liberty Black Mountain to increase or decrease rates in order
4 to address changes in purchased power costs resulting from changes in the rates
5 charged by APS, our electric utility provider. These changes in APS's rates only
6 come about due to an order of the Commission, which, again, is something beyond
7 our control.

8 **Q. WHAT IS THE PURPOSE OF THE PPAM AND HOW DOES THE PPAM**
9 **WORK?**

10 A. The proposed PPAM would allow Liberty Black Mountain to pass-through those
11 increases or decreases without going through a general rate case.

12 **Q. IS PURCHASED POWER A SIGNIFICANT EXPENSE FOR THE**
13 **COMPANY?**

14 A. Yes, purchased power is a significant expense of Liberty Black Mountain in
15 providing wastewater service to customers, and the rates APS charges are entirely
16 beyond the Company's control.

17 **Q. HOW DOES THE PPAM ACTUALLY WORK?**

18 A. Under the PPAM, the increases or decreases in power costs will be allocated on a
19 per customer basis and passed-through to customers as a separate line item on the
20 customer bill. The PPAM Plan of Administration ("POA"), attached to the
21 Application as Attachment 3, outlines the implementation and filing requirements
22 as well as how the surcharge will be computed. The form of the PPAM is
23 consistent with the form of PPAM approved in Decision No. 76799 (August 15,
24 2018) for Liberty Litchfield Park and in a number of other unaffiliated water and
25 wastewater utility rate cases.⁷

26 ⁷ *E.g., Arizona Water Company*, Decision No. 76598 (February 26, 2018); *Pima Utility Company*,

1 **Q. AND THE PPAM LOWERS THE COMPANY'S RATES FOR SERVICE**
2 **IF APS' ELECTRIC RATES GO DOWN?**

3 A. Yes, adjusters like the PPAM are fair because they work whether costs go up or
4 down. This is likely one of the reasons that the Commission has approved and
5 recognized purchased power and other similar adjusters for electric and gas
6 utilities for many years.

7 **Q. DOES THE PTAM WORK IN A SIMILAR MANNER?**

8 A. Yes, the only difference is that the PTAM would allow rates to adjust, up or down,
9 based on changes in the property tax rate and/or assessment ratios. Like the rates
10 for power charged by APS, these factors are outside of our control. Also, like
11 increases in purchased power, increases in property taxes, if unrecovered, will
12 undermine the Company's ability to earn its authorized return. The PTAM
13 addresses this in a manner similar to that in which the PPAM addresses changes
14 in the rates for power.

15 **Q. IS THERE A PTAM POA TOO?**

16 A. Yes. The PTAM POA, attached to the Application as Attachment 4, outlines
17 implementation and filing requirements as well as how the surcharge will be
18 computed.

19 **Q. WHAT IS THE PURPOSE OF THE WTAM?**

20 A. The proposed WTAM allows the Company to pass through increases or decreases
21 in its wastewater treatment costs due to changes in City of Scottsdale's non-
22 uniform discharger, large volume and industrial user charges.

23 **Q. HOW DOES THE WTAM WORK?**

24 A. The increases or decreases in wastewater treatment costs related to the
25

26

Decision No. 76540 (January 3, 2018).

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

aforementioned charges will be allocated on a per customer basis and passed-through to customers as a separate line item on the customer bill. The WTAM POA, attached to the Application as Attachment 5, outlines the implementation and filing requirements as well as how the surcharge will be computed.

Q. DON'T ADJUSTERS REMOVE THE UTILITY'S INCENTIVE TO DILIGENTLY MANAGE THEIR OPERATING EXPENSES?

A. Absolutely not. I've heard that suggestion before and I disagree with the premise. Setting aside that profitable companies diligently manage their business expenses if they want to stay profitable, the expenses proposed for adjusters are necessary and reasonable costs of service that are almost entirely out of the Company's control. How are we failing to manage the rate we pay APS for power? Or the federal tax rate or state property tax rates? And why would businesses trying to make a profit pay extra money for these operating expenses? There would be no benefit to our customers, shareholders, or employees to do so, which I believe reflects that the argument that operating expenses will run rampant if utilities are allowed to have adjuster mechanisms just doesn't make sense.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

EXHIBIT LW-DT1

ALGONQUIN POWER & UTILITIES CORP.

COST ALLOCATION MANUAL

V2017 Effective: January 1st, 2017

TABLE OF CONTENTS

1. INTRODUCTION..... 3

2. THE APUC CORPORATE STRUCTURE..... 4

3. SCOPE OF SERVICES FROM APUC AND HOW THOSE COSTS ARE DISTRIBUTED 5

4. SCOPE OF SERVICES PROVIDED BY LUC AND HOW COSTS ARE DISTRIBUTED 11

 4.1 Overview of LUC Services and Costs 11

 4.2 LUC Services and Costs Provided to Liberty Utilities and Liberty Power ... 13

 4.3 Shared Services from LUC..... 16

5. LIBERTY UTILITIES SERVICE CORP.21

 5.1 Shared Services from LUSC..... 22

6. COST DISTRIBUTION AT THE REGIONAL OR STATE UTILITY LEVEL.....25

7. CORPORATE CAPITAL.....25

8. CAM TEAM AND TRAINING.....26

9. AUDIT, RECORD KEEPING & AFFILIATE TRANSACTION RULES.....26

10. UPDATING ALLOCATIONS26

11. APPENDICES27

 APPENDIX 1 - NARUC GUIDELINES FOR COST ALLOCATIONS..... 27

 APPENDIX 2 – DETAILED EXPLANATION OF APUC COSTS..... 34

 1. APUC STRATEGIC MANAGEMENT COSTS 34

 2. ACCESS TO CAPITAL MARKETS..... 35

 3. APUC FINANCIAL CONTROLS..... 35

 4. APUC ADMINISTRATIVE COSTS..... 36

 APPENDIX 3 – LIFE OF AN APUC INVOICE..... 37

 APPENDIX 4 – LIFE OF A LIBERTY UTILITIES INVOICE 38

 APPENDIX 5 – LIFE OF A SHARED SERVICES INVOICE..... 39

COST ALLOCATION MANUAL

APPENDIX 6 – COMPOSITE ILLUSTRATION OF ORGANIZATIONAL COST DISTRIBUTION..... 40

APPENDIX 7 – GLOSSARY OF TERMS..... 41

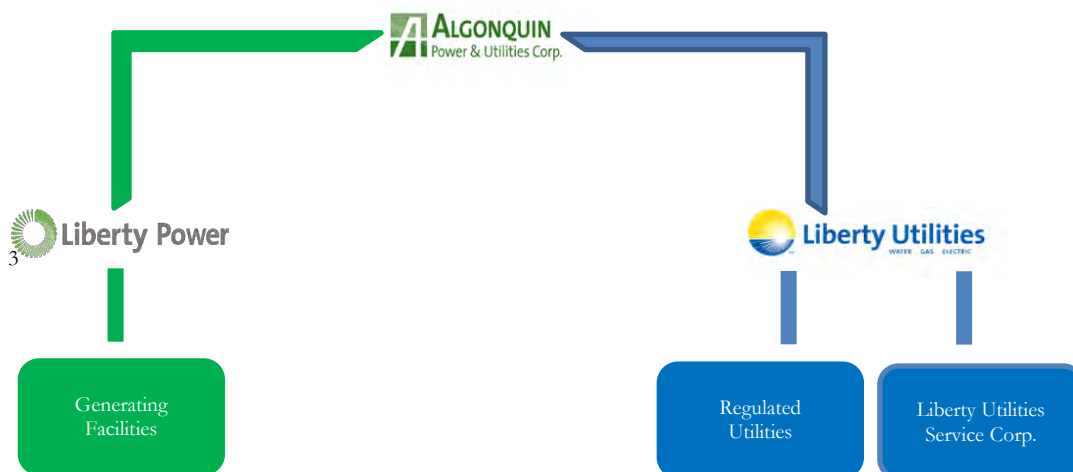
APPENDIX 8 - VERSION LOG..... 43



1. INTRODUCTION

The purpose of this manual is to provide a detailed explanation of services provided by Algonquin Power & Utilities Corp (“APUC”) and its affiliates to other entities within the APUC family of businesses and to describe the Direct Charge¹ and Indirect Charge² Methodologies used for those services. The following organization chart identifies, at a high level, the corporate structure of APUC.

Figure 1: Simplified APUC Corporate Structure



This Cost Allocation Manual (“CAM”) has been completed in accordance and conformance with the *NARUC Guidelines for Cost Allocations and Affiliate Transactions* (“NARUC Guidelines”). More specifically, the founding principles of this Cost Allocation Manual are to a) directly charge as much as possible to the entity that procures any specific service, and b)

¹ Direct charges (sometimes referred to as assigned costs) are costs incurred by one company for the exclusive benefit of, or specifically identified with, one or more other companies, and which are directly charged (or assigned) to the company or companies that specifically benefited. Under the NARUC Guidelines, “Direct Costs” are defined as “costs which can be specifically identified with a specific service or product.”

² Indirect charges (sometimes referred to as allocated costs) are costs incurred by one company that are for the benefit of either (a) all of the APUC companies or (b) all of the regulated companies, and which are charged to the benefited companies using a methodology and set of logical allocation factors that establish a reasonable link between cost causation and cost recovery. Under the NARUC Guidelines, “Indirect Costs” are defined as “costs that cannot be identified with a particular service or product. This includes but not limited to overhead costs, administrative, general, and taxes.”

³ As of April 2017, Algonquin Power Co. (APCo) is doing business under the name Liberty Power. All Liberty Power employees in Canada will become employed by Liberty Utilities (Canada) Corp. in 2017. Liberty Power employees in the United States will remain employed by Algonquin Power Fund (America) Inc.

to ensure that unauthorized subsidization of unregulated activities by regulated activities, and vice versa, does not occur. For ease of reference, the NARUC Guidelines are attached as Appendix 1.

Costs allocated can take the form of: direct labor, direct material, direct purchased services and indirect charges (as described in Tables 1, 4a and 4b in this CAM). These costs are charged by the providing party to the receiving part at fully distributed costs.

2. THE APUC CORPORATE STRUCTURE

APUC owns a widely diversified portfolio of independent power production facilities and regulated utilities⁴ consisting of water distribution, wastewater treatment, electric and gas distribution utilities. While power production facilities are located in both Canada and the United States, regulated distribution utility operations are located in the United States.⁵ APUC is publicly traded on the New York Stock Exchange and the Toronto Stock Exchange⁶. APUC's structure as a publicly traded holding company provides substantial benefits to its regulated utilities through access to capital markets.

APUC is the ultimate corporate parent that provides financial and strategic management, corporate governance, and oversight of administrative and support services to Liberty Utilities (Canada) Corp. ("LUC") and its subsidiaries as well as to Algonquin Power Co. ("APCo") d/b/a Liberty Power and its subsidiaries. The services provided by APUC are necessary for all affiliates, including LUC and the regulated utility subsidiaries of Liberty Utilities Co. (referred to as "Liberty Utilities"), to have access to capital markets for capital projects and operations. These services are expensed at APUC and are performed for the benefit of Liberty Power and Liberty Utilities and their respective businesses.

APUC and its affiliates benefit from APUC's expertise and access to the capital markets through the use of certain shared services, which maximizes economies of scale and minimizes redundancy. In short, it provides for maximum expertise at lower costs. Further,

⁴ All distribution and transmission utilities are owned, either directly or indirectly, by Liberty Utilities Co., which is itself indirectly owned by Liberty Utilities (Canada) Corp.

⁵ Algonquin Tinker Gen Co. owns transmission assets in New Brunswick, Canada, which are subject to regulation by the New Brunswick Energy and Utilities Board.

⁶ Common shares, preferred shares, and instalment receipts of APUC are traded on the Toronto Stock Exchange under the symbols AQN, AQN.PR.A, AQN.PR.D, and AQN.IR. APUC's common shares are also listed on the New York Stock Exchange under the symbol AQN. Additional corporate information can be found at the company's website, algonquinpower.com.

the use of shared expertise allows each of the entities to receive a benefit it may not be able to achieve on a stand-alone basis such as strategic management advice and access to capital at more competitive rates.

3. SCOPE OF SERVICES FROM APUC AND HOW THOSE COSTS ARE DISTRIBUTED

This section provides an overview of the services provided from APUC, and method used to distribute the associated costs for these services throughout the organization.

3.1 Services and Cost Allocation from APUC to Liberty Utilities and Liberty Power

3.1.1 Description of APUC Services and Costs

APUC provides benefits to its subsidiaries by providing financing, financial control, legal, executive and strategic management and related services. APUC charges labor rates for these shared services at cost, which is the dollar hourly rate per employee as recorded in APUC's payroll systems, grossed up for burdens such as payroll taxes, health benefits, retirement plans, other insurance provided to employees, and other employee benefits. These labor costs are charged directly to the entity incurring these costs based on timesheets to the extent possible. If labor is for the benefit of all subsidiaries then the allocation methodologies used for indirect costs are applied. See Appendix 2 for a more detailed discussion of the costs incurred by APUC.

APUC also charges non-labor services which includes Financing Services. Financing Services means the selling of units to public investors in order to generate the funding and capital necessary (be it short term or long term funding, including equity and debt) for the entire organization, including subsidiaries of Liberty Utilities and Liberty Power, as well as providing legal services and other associated costs in connection with the issuance of debt and equity.

In connection with the provision of Financing Services, APUC incurs the following types of costs: (i) strategic management costs (board of director, third-party legal services, accounting services, tax planning and filings, insurance, and required auditing); (ii) capital access costs (communications, investor relations, trustee fees, escrow and transfer agent fees); (iii) financial control costs (audit and tax expenses); and (iv) other administrative costs (examples: rent, depreciation, general office costs).

The capital raised by APUC is used by Liberty Utilities (and its regulated subsidiaries) and Liberty Power for current and future capital investments. The services provided by APUC are critical and necessary to Liberty Utilities and its regulated subsidiaries and Liberty Power because without those services they would not have a readily available source of capital funding. Further, relatively small utilities may have difficulty attracting capital on a stand-alone basis.

Indirect costs from APUC, excluding corporate capital, are pooled and allocated to LUC (and subsequently, to LUC’s subsidiaries) and Liberty Power using the method summarized in Table 1. Each corporate cost type, or function, has been reviewed to properly identify the factors driving those costs. Each function or cost type is typically driven by more than one factor and each has been assigned an appropriate weighting. Table 1 includes a brief commentary on the rationale for each cost driver and weighting, along with examples for each cost type.

The services provided by APUC optimize the performance of the utilities, keeping rates low for customers while ensuring access to capital is available. If the utilities did not have access to the services provided by APUC, they would be forced to incur associated costs for financing, capital investment, audits, taxes and other similar services on a stand-alone basis, which would substantially increase such costs. Simply put, without incurring these costs, APUC would not be able to invest capital in its subsidiaries, including the regulated utilities.

Table 1: Summary of Corporate Allocation Method of APUC Indirect Costs

Type of Cost	Allocation Methodology	Rationale	Examples						
Legal Costs	<table border="0"> <tr> <td>Net Plant</td> <td>33.3%</td> </tr> <tr> <td>Number of Employees</td> <td>33.3%</td> </tr> <tr> <td>O&M</td> <td>33.3%</td> </tr> </table>	Net Plant	33.3%	Number of Employees	33.3%	O&M	33.3%	This function is driven by factors which include Net Plant, as typically the higher the value of plant, the more legal work it attracts; similarly, a greater number of	Employee labor and related administration and programs; Third party legal services
Net Plant	33.3%								
Number of Employees	33.3%								
O&M	33.3%								

COST ALLOCATION MANUAL

			employees are typically more indicative of larger facilities that require greater levels of attention; and O&M costs tend to be a third factor indicative of size and legal complexity.	
Tax Services	Revenue 33.3% O&M 33.3% Net Plant 33.3%		This function is driven by a variety of factors that influence the size and relative tax complexity, including Revenues, O&M and Net Plant. Tax activity can be driven by each of these factors.	Employee labor and related administration and programs, including Third party tax advice and services
Audit	Revenue 33.3% O&M 33.3% Net Plant 33.3%		This function is driven by a variety of factors that influence the size and complexity of Audit, including Revenues, O&M and Net Plant. Audit activity can be driven by each of these factors.	Employee labor and related administration and programs, including third party accounting and audit services
Investor Relations	Revenue 33.3% O&M 33.3% Net Plant 33.3%		This function is driven by factors which reflect the relative size and	Employee labor and related administration and programs,

COST ALLOCATION MANUAL

			scope of each affiliate - Revenues, Net Plant and O&M costs.	including third party Investor day communications and materials
Director Fees and Insurance	Revenue O&M Net Plant	33.3% 33.3% 33.3%	This function is driven by factors which reflect the relative size and scope of each affiliate - Revenues, Net Plant and O&M costs.	Board of Director fees, insurance and administration
Licenses, Fees and Permits	Revenue O&M Net Plant	33.3% 33.3% 33.3%	This function is driven by factors which reflect the relative size and scope of each affiliate - Revenues, Net Plant and O&M costs.	Third party costs
Escrow and Transfer Agent Fees	Revenue O&M Net Plant	33.3% 33.3% 33.3%	This function is driven by factors which reflect the relative size and scope of each affiliate - Revenues, Net Plant and O&M costs.	Third party costs
Other Professional Services	Revenue O&M Net Plant	33.3% 33.3% 33.3%	This function is driven by factors which reflect the relative size and scope of each affiliate - Revenues, Net Plant and O&M costs.	Third party costs

COST ALLOCATION MANUAL

Other Administration Costs	Oakville Employees 50% Total Employees 50%	This function is driven by factors which are indicative of number of employees.	Office administration costs. Employee labor and related administration
Executive and Strategic Management	Revenue 33.3% O&M 33.3% Net Plant 33.3%	This function is driven by factors which reflect the relative size and scope of each affiliate - Revenues, Net Plant and O&M costs.	Employee labor and related administration that is not directly attributable to any entity

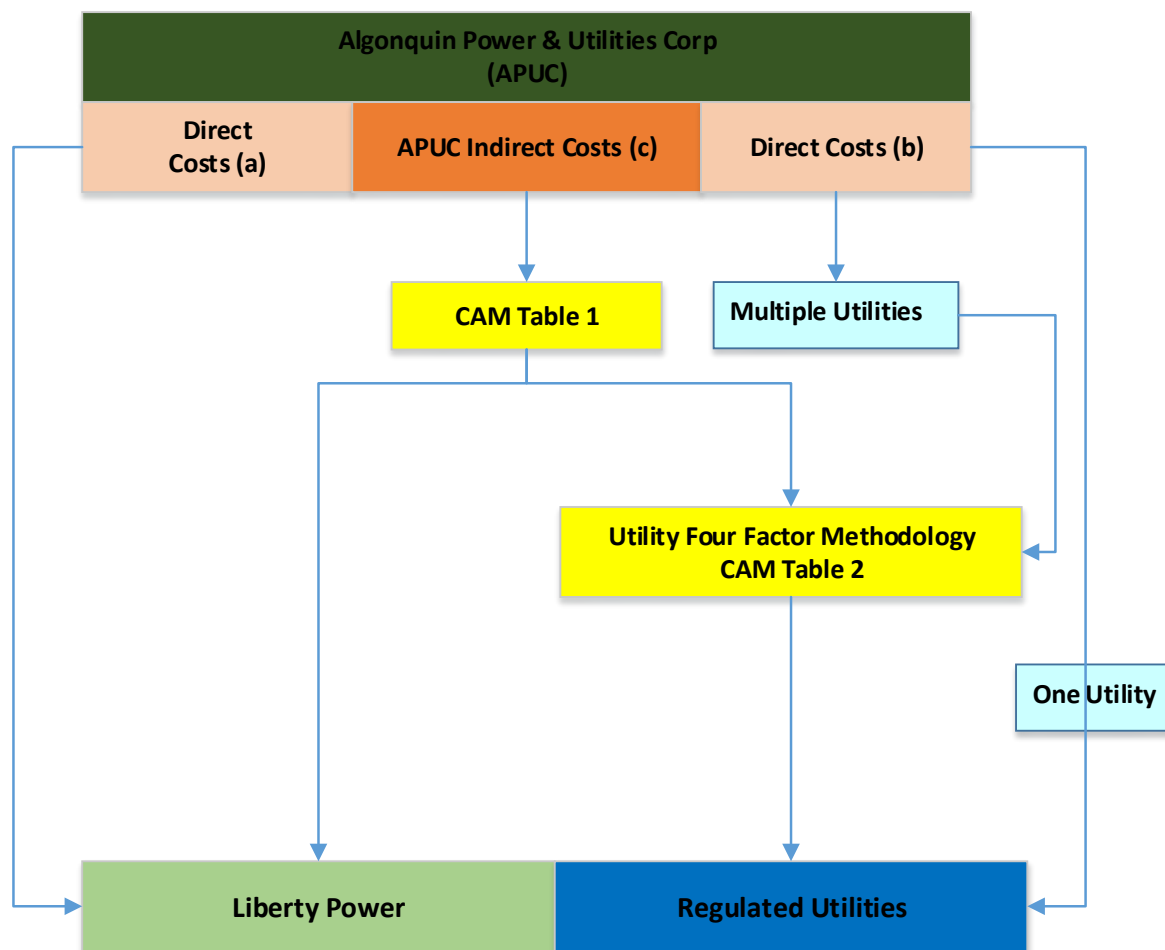
Notwithstanding the above, if a charge is related either solely to the regulated utility business or to the power generation business Liberty Power, then all of those costs will be direct charged, or assigned, to the business segment for which they are incurred. If a cost can be directly attributable to a specific entity, it will be directly charged to that entity.

In the event that organizational realignments occur, resulting in certain other services or costs to come from APUC, any allocations (if any) will be done as per the “Executive and Strategic Management” line in Table 1 above until the CAM is updated.

3.1.2 Description of the APUC Cost Flows

Please refer to Figure 2 for a diagram of the various flows of costs from APUC.

Figure 2: Illustration of APUC Corporate Cost Distributions



- (a) Costs that are directly assignable to unregulated companies.
- (b) Costs that are directly assignable to one regulated company, or that benefit all regulated operations.
- (c) Costs that benefit both unregulated and regulated operations.

As illustrated in Figure 2 and as described above, APUC incurs three types of costs that are passed on to its direct and indirect subsidiaries. The first type is APUC’s costs that directly benefit a particular specific unregulated company, which are directly assigned to that unregulated company (i.e., Liberty Power or one of its subsidiaries). The second type is APUC’s costs that directly benefit a particular regulated company, which are directly assigned to that regulated company⁷. The third type are APUC’s remaining costs that benefit the entire

⁷ This could be directly to LUC (which would subsequently be allocated over utility subsidiaries of LUC) or to a specific utility for which the service was necessary.

enterprise (both regulated and unregulated), which are allocated between regulated and unregulated company groups pursuant to CAM Table 1. Information within Table 1 includes: (a) each type of cost incurred by APUC that is to be allocated between regulated and unregulated parts of the business; (b) the factors used to allocate each type of cost between regulated and unregulated activity; (c) the rationale for selecting the factors that are used for allocation; and (d) examples of the specific allocated costs. The costs allocated to the regulated companies as a group are then reallocated to individual utility companies using the Utility Four-Factor allocation methodology set forth in CAM Table 2 (described below), resulting in utility-specific allocated charges from APUC.

For an example of how an APUC invoice would be assigned or allocated, please see Appendix 3.

Certain costs, which are incurred for the benefit of APUC's businesses, are not allocated to any utility subsidiary. These costs include certain corporate travel and certain overheads.

4. SCOPE OF SERVICES PROVIDED BY LUC AND HOW COSTS ARE DISTRIBUTED

This section provides an overview of the services and the cost methodology for LUC.

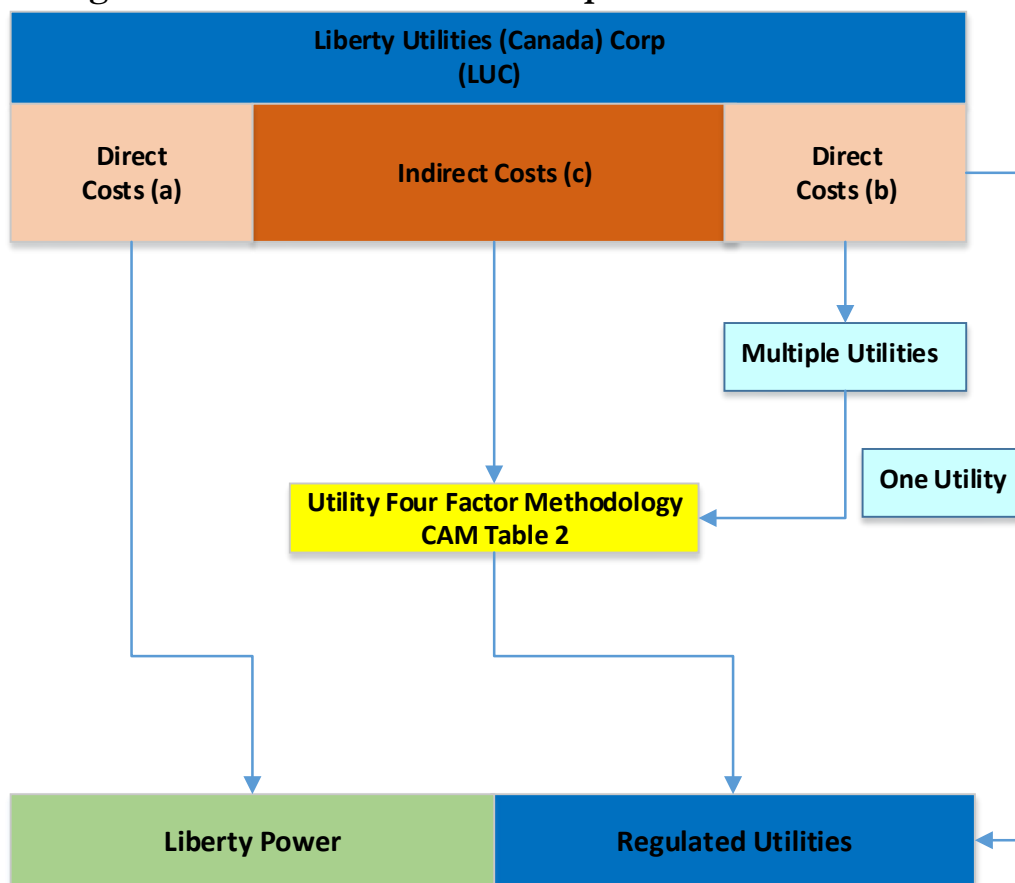
4.1 Overview of LUC Services and Costs

Various services and methods of cost distribution arise from LUC and can be categorized as those provided: (a) specifically to regulated utilities, (b) specifically to Liberty Power, or (c) to the entire organization (under the business unit of Liberty Algonquin Business Services ("LABS")). Figure 3 identifies the flow of costs from dedicated utility support and dedicated Liberty Power staff within LUC. Figure 4 identifies the flow of costs from the shared business and corporate services staff and functions ("LABS") within LUC. Both Figures 3 and 4 are depicted below in this section.

As illustrated in Figure 3, LUC incurs three types of costs. The first type is an LUC cost that directly benefits a particular Liberty Utilities affiliate (i.e., regulated company), which is directly assigned to that regulated company. The second type is an LUC cost that benefits all of the Liberty Utilities regulated companies, and which is allocated using the Utility Four-Factor Methodology described in CAM Table 2. The third type is a cost that only benefits and is directly charged to Liberty Power. All three of these cost types are described in section 4.2 below.

As illustrated in Figure 4, shared services costs arising from LUC are those from shared services⁸ that benefit both the regulated group of companies and the unregulated group of companies within the APUC family; which are allocated between the two groups pursuant to the methodology described in section 4.3 and as set forth in CAM Table 4.

Figure 3: Illustration of LUC Corporate Cost Distributions

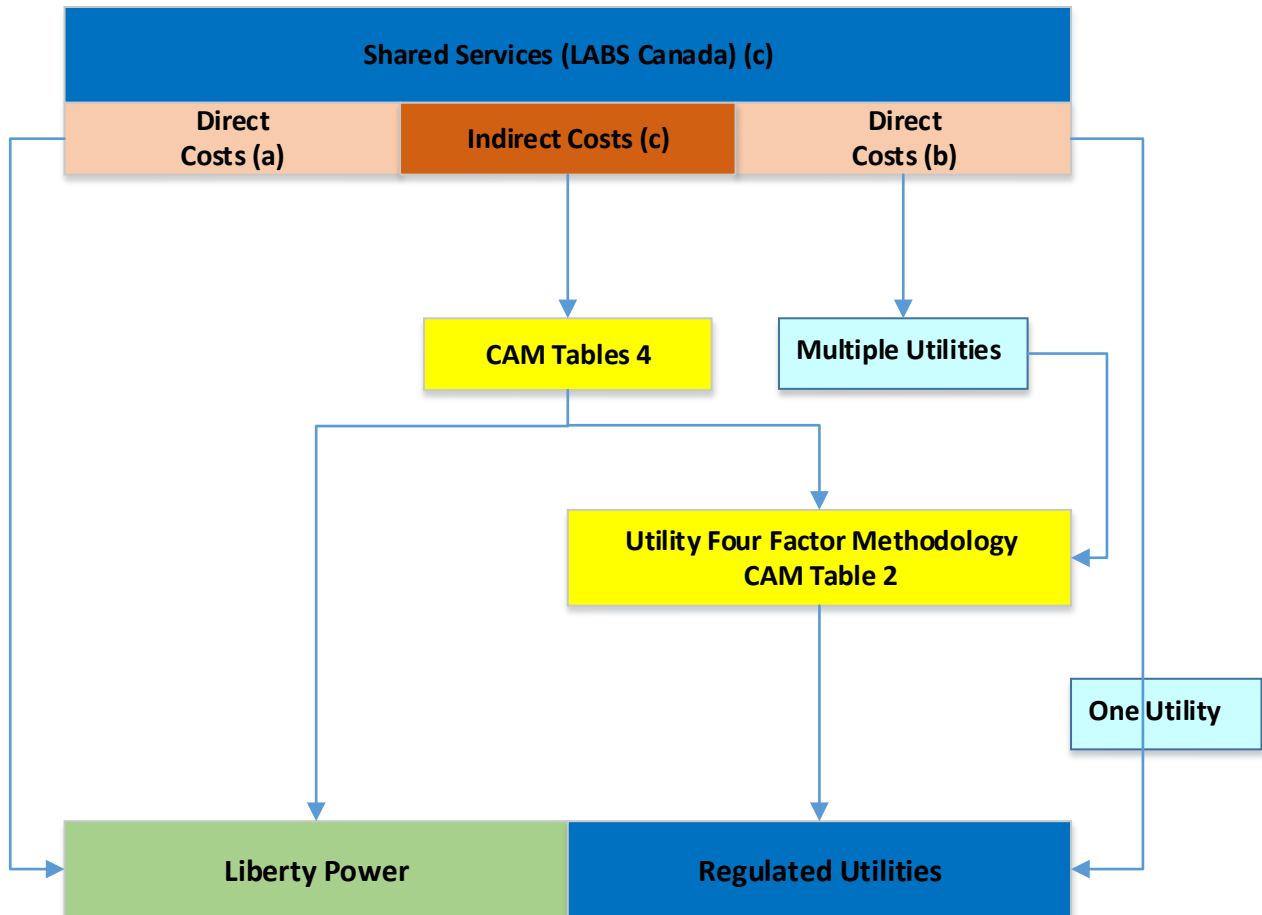


Notes:

- (a) Costs that are directly assignable to unregulated companies
- (b) Costs that are directly assignable to one or more specific regulated companies.
- (c) Costs that benefit all regulated operations.

⁸ As discussed later, shared support services that benefit both regulated and unregulated businesses within APUC are provided within Liberty Algonquin Business Services (“LABS”), which is a business unit with staff employed within LUC and LUSC. Shared services staff serve both regulated and unregulated entities. LABS staff within the corporate office in Canada are employed within LUC; LABS staff in the US are employed within LUSC. As new U.S.-based utilities are added to the Liberty-Algonquin organization, there could be a transitional period in which some of these shared services staff and functions may also remain employed within the new utility until such time that they may be transitioned to become an employee of Liberty Utilities Service Corp. (“LUSC”).

Figure 4: Illustration of LUC Shared Services Cost Distributions



Notes:

- (a) Costs that are directly assignable to unregulated companies.
- (b) Costs that are directly assignable to one or more regulated companies.
- (c) Costs that benefit both unregulated and regulated operations.

4.2 LUC Services and Costs Provided to Liberty Utilities and Liberty Power

4.2.1 Services to Liberty Utilities

LUC provides services to Liberty Utilities such as: executive, regulatory strategy, energy procurement, operations, utility planning, administration, and customer experience.

LUC will assign costs that can be directly attributable to a specific utility. These include direct labor and direct non-labor costs. However, because the indirect LUC costs cannot be directly attributed to an individual utility, LUC allocates its indirect labor and indirect non-labor costs, including capital costs, to its regulated utilities using a Utility Four-Factor Methodology⁹. LUC uses the Utility Four-Factor Methodology to allocate costs incurred for the benefit of all of its regulated assets (“System-Wide Costs”) to all of its utilities.

The Utility Four-Factor Methodology allocates costs by relative size and scope of the utilities. The methodology used by LUC involves four allocating factors, or drivers: (1) Utility Net Plant; (2) Total Customers; (3) Non-Labor Expenses; and (4) Labor Expenses, with each factor assigned an equal weight, as shown in Table 2 below.

Table 2: Utility Four-Factor Methodology Factors and Weightings

Factor	Weight
Customer Count	40%
Utility Net Plant	20%
Non-Labor Expenses	20%
Labor Expenses	20%
Total	100%

LUC uses the Utility Four-Factor Methodology to allocate to its regulated utilities the system-wide indirect labor and indirect non-labor costs within LUC (from its utility-dedicated staff, and from the shared services functions within LUC).

Table 3 provides a simplified hypothetical example to demonstrate how the Utility Four-Factor Methodology would be calculated based on ownership of only two hypothetical utilities.

⁹ Please note, indirect costs sent to utilities via the 4-factor will consist of 1) indirect costs from LUC’s utility-dedicated staff and services, plus 2) the indirect costs from APUC, 3) the indirect costs retained within LUC from LABS (the shared services staff and services within LUC), and 4) the indirect costs allocated from LUSC.

Table 3: Utility Four-Factor Methodology Example

Factor	Utility 1	Utility 2	Total All Utilities	Utility 1 % of Total	Factor Weight	Utility 1 Allocation
Utility Net Plant (\$)	727	371	1098	66%	20%	13%
Customer Count (#)	6000	2000	8000	75%	40%	30%
Labor Expenses (\$)	57	32	89	64%	20%	13%
Non-Labor Expenses (\$)	108	41	149	72%	20%	14%
Total Allocation						71%

As can be seen from these hypothetical numbers in Table 3, Utility 1 would be allocated 71% of the total indirect costs incurred by LUC, based on its relative size and application of the Utility Four-Factor Methodology. Utility 2 would be allocated the remaining 29%. LUC has developed and utilized this methodology to better allocate costs, recognizing that larger utilities require more time and management attention and incur greater costs than smaller ones.

On occasion there may be costs which are incurred for the benefit of two or more utilities, but not all of the utilities. These costs are directly assigned to utilities as per the vendor invoice, or, if the invoice doesn't specify a share for each utility, the Utility Four-Factor Methodology is used. In this situation, the weighting is determined by only including the utilities that benefited from the service and excluding the utilities that did not receive the service. For an example of how an LUC invoice would be assigned or allocated, please see Appendix 4.

4.2.2 LUC Services to Liberty Power.

A sub-set of LUC employees provide dedicated services to Liberty Power such as: executive, energy services, asset management, business development, and operations. All costs (labor and non-labor) incurred for these services will be directly charged to Liberty Power (no

indirect costs are allocated from this group). Labor costs are tracked through timesheets and directly charged to Liberty Power.

4.3 Shared Services from LUC

The last type of costs arising from LUC are those from shared services¹⁰ that benefit both the regulated group of subsidiary companies owned by Liberty Utilities and Liberty Power.

Consistent with the organization practices described earlier, shared services and costs (within LUC¹¹) are assigned when they are directly attributable to a specific affiliate company (such as a specific distribution utility) or business unit¹² (such as Liberty Utilities or Liberty Power). Labor charges for LUC shared services staff are assigned using timesheets that depict the amount of time that is to be direct charged to either Liberty Utilities or Liberty Power (or a specific subsidiary within Liberty Utilities. or Liberty Power).

Please refer to Figure 4 above for a diagram of the various flows of costs that may arise from the shared services staff and functions within LUC¹³.

Indirect costs for services from the shared services functions that cannot be directly assigned are allocated between the regulated and unregulated business units, Liberty Utilities and Liberty Power, pursuant to the methodology set forth in CAM Tables 4a and 4b. Similar to Table 1, Tables 4a and 4b include: (a) each type of cost incurred by shared services functions within LUC that is to be allocated between regulated and unregulated parts of the business; (b) the factors used to allocate each type of cost between regulated and unregulated activity; (c) the rationale for selecting the factors that are used for allocation; and (d) examples of the specific allocated costs. The costs allocated to the regulated companies as a group are then reallocated to individual companies using the Utility Four-Factor Methodology set forth in CAM Table 2, resulting in utility-specific allocated charges from LUC.

¹⁰ Liberty Algonquin Business Services (“LABS”) is a business unit found organizationally within LUC and LUSC that serves both regulated and unregulated entities. The LABS business unit provides shared services throughout the organization. LABS employees and functions provided from Canada are employed within LUC; LABS employees and functions located in the U.S. are typically employed within LUSC.

¹¹ As will be discussed further in section 5, shared services to the entire APUC organization are also provided from staff within LUSC.

¹² To clarify, if a LABS service is for only one specific organization, such as the unregulated generation business, Liberty Power, the cost will be directly charged to that business unit.

¹³ Sometimes referred to as “LABS Canada.”

For an example of how an invoice or cost within LUC’s shared services (LABS) would be assigned or allocated, please see Appendix 5.

4.3.1 Business Services and Corporate Services

LUC shared services that would be provided to the entire company, i.e., Liberty Power and Liberty Utilities, are internally referenced under two names - Business Services and Corporate Services. The services and functions within each category are shown in the tables below¹⁴. Indirect costs from Business Services and Corporate Services are allocated using the following methodology shown in Tables 4a and 4b, respectively, which are designed to closely align the costs with the driver of the activity.

Table 4a: Summary of Corporate Allocation Method of LUC¹⁵ Business Services Indirect Costs

Type of Cost	Allocation Methodology	Rationale	Examples
Information Technology	Number of Employees 90% O&M 10%	IT function is driven by factors which include number of employees and O&M. The larger the number of employees, the more support, software and IT infrastructure is required.	Enterprise wide support, architecture, etc. Third party fees
Human Resources	Number of Employees 100%	HR function is driven by number of employees. A greater number of employees requires	HR policies, payroll processing, benefits,

¹⁵ And LUSC shared services functions.

COST ALLOCATION MANUAL

		additional HR support	employee surveys
Training	Number of Employees 100%	Training is directly proportional to the number of employees per function	Courses, lectures, in house training sessions by third party providers
Facilities and Building Rent	Oakville Employees 100%	Office space occupied by employees accurately reflects space requirements of each subsidiary	Corporate office building
Environment, Health, Safety and Security	Number of Employees 100%	EHSS training, etc. is directly proportional to the number of employees per function	Enterprise wide programs, employee labor and related administration
Procurement	O&M 50% Capital Expenditures 50%	Procurement function is based on typical proportion of expenditures	Enterprise wide support and related administration
Executive and Strategic Management	Revenue 33.3% O&M 33.3% Net Plant 33.3%	This function is driven by factors which reflect the relative size and scope of each affiliate - Revenues, Net Plant and O&M costs.	Employee labor and related administration that is not directly attributable to any entity

Technical Services	Net Plant 33.3% Revenue 33.3% O&M 33.3%	This function is driven by factors which reflect the relative size and scope of each affiliate-Revenues, Net Plant and O&M costs.	Employee labor and related administration that is not directly attributable to any entity
Utility Planning	Net Plant 33.3% Revenue 33.3% O&M 33.3%	This function is driven by factors which reflect the scope of each affiliate Management - Revenues, Net Plant and O&M costs.	Employee labor and related administration that is not directly attributable to any entity

Table 4b: Summary of Corporate Allocation Method of LUC¹⁶ Corporate Services Indirect Costs

Risk Management	Net Plant 33.3% Revenue 33.3% O&M 33.3%	This function is driven by factors which reflect the relative size and complexity of Risk Management - Revenues, Net Plant and O&M costs.	Employee labor and related administration, Software platform, fees and administration
-----------------	--	---	---

¹⁶ And LUSC shared services functions.

COST ALLOCATION MANUAL

Financial Reporting, Planning and Administration	Revenue 33.3% O&M 33.3% Net Plant 33.3%	This function is driven by factors which reflect the relative size and complexity of Financial Reporting and Admin. - Revenues, Net Plant and O&M costs.	Employee labor and related administration and third party fees
Treasury	Capital Expenditures 25% O&M 50% Net Plant 25%	Treasury activity is typically guided by the amount of necessary capex/plant for each utility, and operating costs/cash flow	Third party financing, employee labor and related administration and programs
Internal Audit	Net Plant 25% O&M 75%	This function is driven by factors which reflect the relative size and complexity of Internal audit activity. Larger Plant and operating costs of a given facility drive more activity from IA.	Third party fees, employee labor and related administration and programs
External Communications	Total Employees 100%	Communications cost is directly proportional to the number of employees	Enterprise wide support and related administration
Legal Costs	Net Plant 33.3%	This function is driven by factors	Employee labor and related

	Number of Employees 33.3% O&M 33.3%	which include Net Plant, as typically the higher the value of plant, the more legal work it attracts; similarly, a greater number of employees are typically more indicative of larger facilities that require greater levels of attention; and O&M costs tend to be a third factor indicative of size and legal complexity.	administration and programs, including third party legal
Compliance	Revenue 33.3% O&M 33.3% Net Plant 33.3%	This function is driven by factors which reflect the relative size and scope of each affiliate - Revenues, Net Plant and O&M costs.	Employee labor and related administration that is not directly attributable to any entity

5. LIBERTY UTILITIES SERVICE CORP.

This section provides an overview of some of the services (as outlined in Table 5) and the cost methodology for Liberty Utilities Service Corp. (“LUSC”).

Most U.S.-based utility employees are employed by LUSC and are dedicated to serve particular utilities. All employees’ labor costs, such as salaries, and associated labor costs, such as benefits, insurance etc. are to be paid by LUSC and direct charged to the company to which the employee is dedicated and performs work. Services provided by employees within LUSC

to each regulated utility shall be distributed on a time sheet basis to the extent possible. In infrequent instances where time sheeting may not be possible, the allocation factors shown in Tables 4a and 4b are to be used, as will be explained below.

5.1 Shared Services from LUSC

LUSC employs some individuals who provide shared services (listed in Table 5 below). Costs distributed by LUSC will include those from shared services employees: (a) where the function benefits both Liberty Utilities and Liberty Power businesses and (b) where the function benefits some or all of the regulated utilities within Liberty Utilities (e.g., energy procurement services).

Consistent with the organizational shared services practices described earlier, shared services and costs (within LUSC) are assigned when they are directly attributable to a specific affiliate company (such as a specific distribution utility, for example) or business unit (such as Liberty Utilities or Liberty Power). Labor charges for LUSC shared services staff are assigned using timesheets that depict the amount of time that is to be direct charged to either Liberty Utilities or Liberty Power (or a specific subsidiary within Liberty Utilities or Liberty Power).

The type of U.S. shared services that benefits both Liberty Utilities and Liberty Power businesses is referred to as LABS U.S. The LABS U.S. indirect costs for services from the shared services staff and functions within LUSC that cannot be directly assigned are allocated between the regulated and unregulated business units, Liberty Utilities and Liberty Power, and are distributed in the same manner per CAM Tables 4a and 4b described for shared services staff and functions within LUC. Consistent with the practices within LUC, the costs allocated from LUSC to the regulated companies as a group (i.e. to Liberty Utilities) are then reallocated to individual utility companies within the Liberty Utilities structure using the Utility Four-Factor Methodology set forth in CAM Table 2, resulting in utility-specific allocated charges from LUSC.

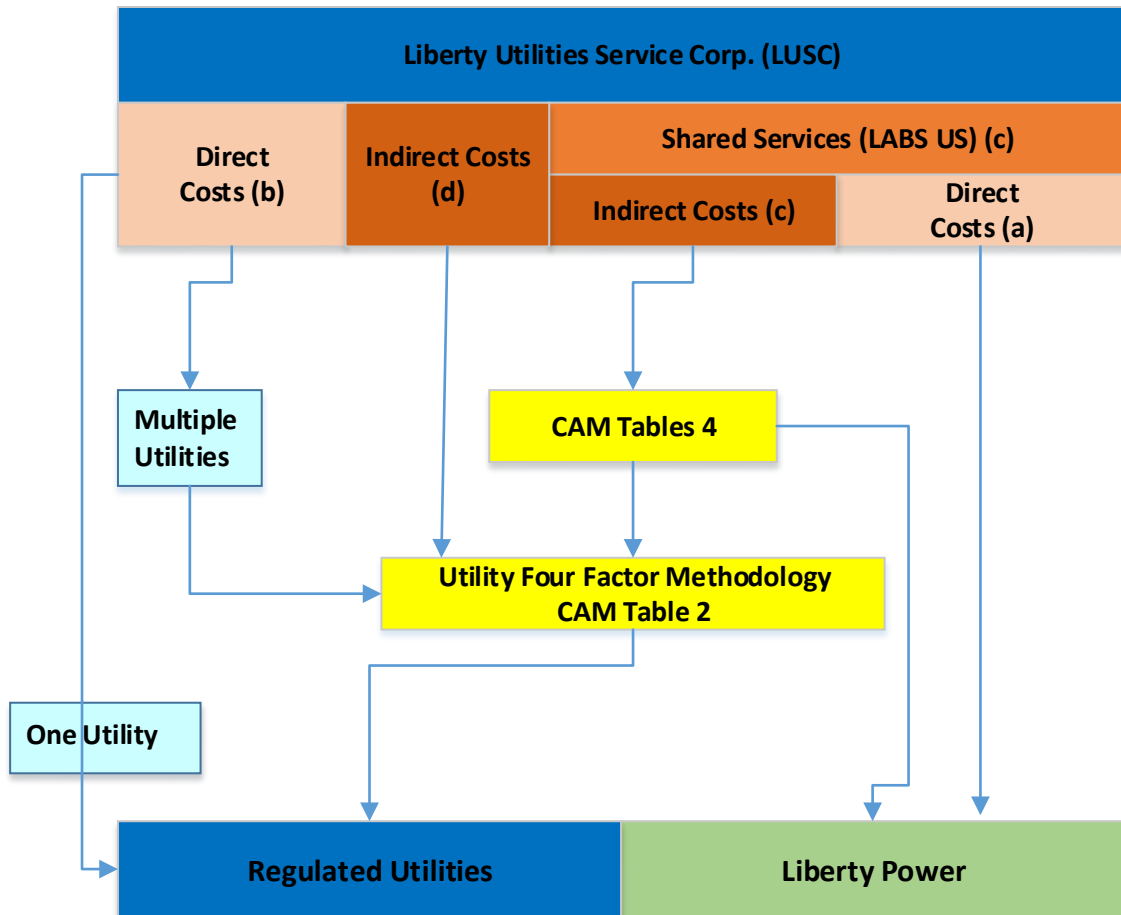
The indirect costs from the U.S. shared services that only benefit the regulated utilities are distributed using the Utility Four-Factor Methodology set forth in CAM Table 2, resulting in utility-specific allocated charges from LUSC.

Figure 5 below depicts the various flows of costs from LUSC.

Table 5 – List of Shared Services provided by Liberty Utilities Service Corp.

Customer Care and Billing
IT/Tech Support
Human Resources
Gas Control
Legal
Compliance
Regulatory & Government Relations
Environmental, Health, Safety and Security
Procurement
Operations
Engineering; Dispatch and Control
Outage Management
GIS/Mapping
Vegetation Management
Energy Procurement
Accounting and Finance
Managerial
Utility Planning
Customer Communication

Figure 5: Illustration of LUSC Cost Distributions



Notes:

- (a) Costs that are directly assignable to unregulated companies.
- (b) Costs that are directly assignable to regulated companies.
- (c) Costs that benefit both unregulated and regulated operations.

The allocation methodology may be adjusted based on the number of participating utilities. For example, Customer Service representatives who serve only the New Hampshire utilities will only have their indirect costs allocated, if any, to the two utilities within New Hampshire. Labor costs associated with energy procurement are directly billed to the utilities requiring energy procurement services using timesheets.

6. COST DISTRIBUTION AT THE REGIONAL OR STATE UTILITY LEVEL

Within the Liberty Utilities organization, the organizational structure and reporting relationships may evolve as the organization grows and develops. Costs and services provided to the regional or state utility level from other corporate entities are directly assigned to the extent possible and distributed over the utilities within the state or region for which they are provided. Any services and costs which cannot be directly assigned will be allocated to the utilities within the region or state using the Regional Four-Factor Methodology (25% weighting for the factors of: customer count, utility net plan, non-labor expenses, and labor expenses), unless another method of allocation is legally required.

In addition, each of the regulated entities will distribute costs amongst their affiliated entities in accordance with applicable laws/rules and affiliated service agreements. These cost allocation methods are consistent with the principles of this CAM.

7. CORPORATE CAPITAL

APUC or LUC will make capital investments such as corporate headquarters, IT systems, etc. that benefit the various operating businesses. The costs of these investments may be distributed monthly in the form of an intercompany operating expense charge, that captures the depreciation expense and cost of capital associated with the particular assets, or an alternate method of capital allocation based on the particular needs of the project. All costs associated to service the investment will be allocated to Liberty Power and Liberty Utilities, if applicable, typically based on the allocation method from which the capital investment is made. For example, if the capital investment is made in Human Resources then the allocation methodology used for Human Resources to allocate non-capital indirect costs as shown in Table 4a will be used to allocate the charge associated with the corporate capital expenditures, including the cost of capital, depreciation, and all other associated costs. From time to time, the distribution of costs associated with a corporate capital investment may use an alternate

method. Any corporate capital charges allocated or assigned to LUC are then reallocated to individual Liberty Utilities distribution utilities, or a sub-set of one or multiple distribution utilities, using the Utility Four-Factor Methodology set forth in CAM Table 2.

8. CAM TEAM AND TRAINING

The oversight of the CAM is the responsibility of the corporate Regulatory Department. Any updates or revisions are coordinated and completed by this Department. A CAM Team will be created consisting of trained employees to oversee the operations and management of the CAM principles throughout the organization.

The CAM, and any support material, is available to all employees via the Company intranet. Employee training on the CAM will be provided via the Company's Learning Management System.

9. AUDIT, RECORD KEEPING & AFFILIATE TRANSACTION RULES

Records of each company will be maintained such that all affiliate transactions are auditable. The records will document the cost of transactions, the methods used to distribute the costs, and descriptions of the services provided. The records will be retained for a minimum of three years or as required by law or regulation. The regulator will have access to records, consistent with applicable laws, regarding transactions between the regulated utility and its affiliates. All companies subject to affiliate transaction rules, whether state or federal, will comply with such requirements.

10. UPDATING ALLOCATIONS

Allocation percentages¹⁷ are updated annually. These annual updates to the allocation percentages are based on the most recent audited financial statements and other actual, year-end information. The updated percentages come into effect each April 1st and are valid through to the following March 31st. The Utility Four-Factor Methodology allocation percentages are also updated as an entity is either acquired or sold.

¹⁷ To clarify, the factors and weightings are expected to remain constant. It is the underlying information used to calculate the allocation percentages that is updated annually, such as the most recent net plant figures, or the most recent numbers of employees, for example.

11. APPENDICES

APPENDIX 1 - NARUC GUIDELINES FOR COST ALLOCATIONS

Guidelines for Cost Allocations and Affiliate Transactions:

The following Guidelines for Cost Allocations and Affiliate Transactions (Guidelines) are intended to provide guidance to jurisdictional regulatory authorities and regulated utilities and their affiliates in the development of procedures and recording of transactions for services and products between a regulated entity and affiliates. The prevailing premise of these Guidelines is that allocation methods should not result in subsidization of non-regulated services or products by regulated entities unless authorized by the jurisdictional regulatory authority. These Guidelines are not intended to be rules or regulations prescribing how cost allocations and affiliate transactions are to be handled. They are intended to provide a framework for regulated entities and regulatory authorities in the development of their own policies and procedures for cost allocations and affiliated transactions. Variation in regulatory environment may justify different cost allocation methods than those embodied in the Guidelines.

The Guidelines acknowledge and reference the use of several different practices and methods. It is intended that there be latitude in the application of these guidelines, subject to regulatory oversight. The implementation and compliance with these cost allocations and affiliate transaction guidelines, by regulated utilities under the authority of jurisdictional regulatory commissions, is subject to Federal and state law. Each state or Federal regulatory commission may have unique situations and circumstances that govern affiliate transactions, cost allocations, and/or service or product pricing standards. For example, The Public Utility Holding Company Act of 1935 requires registered holding company systems to price "at cost" the sale of goods and services and the undertaking of construction contracts between affiliate companies.

The Guidelines were developed by the NARUC Staff Subcommittee on Accounts in compliance with the Resolution passed on March 3, 1998 entitled "Resolution Regarding Cost Allocation for the Energy Industry" which directed the Staff Subcommittee on Accounts together with the Staff Subcommittees on Strategic Issues and Gas to prepare for NARUC's consideration, "Guidelines for Energy Cost Allocations." In addition, input was requested from other industry parties. Various levels of input were obtained in the development of the Guidelines from the Edison Electric Institute, American Gas Association, Securities and Exchange Commission, the Federal Energy Regulatory Commission, Rural Utilities Service

and the National Rural Electric Cooperatives Association as well as staff of various state public utility commissions.

In some instances, non-structural safeguards as contained in these guidelines may not be sufficient to prevent market power problems in strategic markets such as the generation market. Problems arise when a firm has the ability to raise prices above market for a sustained period and/or impede output of a product or service. Such concerns have led some states to develop codes of conduct to govern relationships between the regulated utility and its non-regulated affiliates. Consideration should be given to any "unique" advantages an incumbent utility would have over competitors in an emerging market such as the retail energy market. A code of conduct should be used in conjunction with guidelines on cost allocations and affiliate transactions.

A. DEFINITIONS

1. Affiliates - companies that are related to each other due to common ownership or control.
2. Attestation Engagement - one in which a certified public accountant who is in the practice of public accounting is contracted to issue a written communication that expresses a conclusion about the reliability of a written assertion that is the responsibility of another party.
3. Cost Allocation Manual (CAM) - an indexed compilation and documentation of a company's cost allocation policies and related procedures.
4. Cost Allocations - the methods or ratios used to apportion costs. A cost allocator can be based on the origin of costs, as in the case of cost drivers; cost-causative linkage of an indirect nature; or one or more overall factors (also known as general allocators).
5. Common Costs - costs associated with services or products that are of joint benefit between regulated and non-regulated business units.
6. Cost Driver - a measurable event or quantity which influences the level of costs incurred and which can be directly traced to the origin of the costs themselves.
7. Direct Costs - costs which can be specifically identified with a particular service or product.

COST ALLOCATION MANUAL

8. Fully Allocated costs - the sum of the direct costs plus an appropriate share of indirect costs.
9. Incremental pricing - pricing services or products on a basis of only the additional costs added by their operations while one or more pre-existing services or products support the fixed costs.
10. Indirect Costs - costs that cannot be identified with a particular service or product. This includes but not limited to overhead costs, administrative and general, and taxes.
11. Non-regulated - that which is not subject to regulation by regulatory authorities.
12. Prevailing Market Pricing - a generally accepted market value that can be substantiated by clearly comparable transactions, auction or appraisal.
13. Regulated - that which is subject to regulation by regulatory authorities.
14. Subsidization - the recovery of costs from one class of customers or business unit that are attributable to another.

B. COST ALLOCATION PRINCIPLES

The following allocation principles should be used whenever products or services are provided between a regulated utility and its non-regulated affiliate or division.

1. To the maximum extent practicable, in consideration of administrative costs, costs should be collected and classified on a direct basis for each asset, service or product provided.
2. The general method for charging indirect costs should be on a fully allocated cost basis. Under appropriate circumstances, regulatory authorities may consider incremental cost, prevailing market pricing or other methods for allocating costs and pricing transactions among affiliates.
3. To the extent possible, all direct and allocated costs between regulated and non-regulated services and products should be traceable on the books of the applicable regulated utility to the applicable Uniform System of Accounts. Documentation should be made available to the appropriate regulatory authority upon request regarding transactions between the regulated utility and its affiliates.

COST ALLOCATION MANUAL

4. The allocation methods should apply to the regulated entity's affiliates in order to prevent subsidization from, and ensure equitable cost sharing among the regulated entity and its affiliates, and vice versa.
5. All costs should be classified to services or products which, by their very nature, are either regulated, non-regulated, or common to both.
6. The primary cost driver of common costs, or a relevant proxy in the absence of a primary cost driver, should be identified and used to allocate the cost between regulated and non-regulated services or products.
7. The indirect costs of each business unit, including the allocated costs of shared services, should be spread to the services or products to which they relate using relevant cost allocators.

C. COST ALLOCATION MANUAL (NOT TARIFFED)

Each entity that provides both regulated and non-regulated services or products should maintain a cost allocation manual (CAM) or its equivalent and notify the jurisdictional regulatory authorities of the CAM's existence. The determination of what, if any, information should be held confidential should be based on the statutes and rules of the regulatory agency that requires the information. Any entity required to provide notification of a CAM(s) should make arrangements as necessary and appropriate to ensure competitively sensitive information derived therefrom be kept confidential by the regulator. At a minimum, the CAM should contain the following:

1. An organization chart of the holding company, depicting all affiliates, and regulated entities.
2. A description of all assets, services and products provided to and from the regulated entity and each of its affiliates.
3. A description of all assets, services and products provided by the regulated entity to non-affiliates.
4. A description of the cost allocators and methods used by the regulated entity and the cost allocators and methods used by its affiliates related to the regulated services and products provided to the regulated entity.

D. AFFILIATE TRANSACTIONS (NOT TARIFFED)

The affiliate transactions pricing guidelines are based on two assumptions. First, affiliate transactions raise the concern of self-dealing where market forces do not necessarily drive prices. Second, utilities have a natural business incentive to shift costs from non-regulated competitive operations to regulated monopoly operations since recovery is more certain with captive ratepayers. Too much flexibility will lead to subsidization. However, if the affiliate transaction pricing guidelines are too rigid, economic transactions may be discouraged.

The objective of the affiliate transactions' guidelines is to lessen the possibility of subsidization in order to protect monopoly ratepayers and to help establish and preserve competition in the electric generation and the electric and gas supply markets. It provides ample flexibility to accommodate exceptions where the outcome is in the best interest of the utility, its ratepayers and competition. As with any transactions, the burden of proof for any exception from the general rule rests with the proponent of the exception.

1. Generally, the price for services, products and the use of assets provided by a regulated entity to its non-regulated affiliates should be at the higher of fully allocated costs or prevailing market prices. Under appropriate circumstances, prices could be based on incremental cost, or other pricing mechanisms as determined by the regulator.
2. Generally, the price for services, products and the use of assets provided by a non-regulated affiliate to a regulated affiliate should be at the lower of fully allocated cost or prevailing market prices. Under appropriate circumstances, prices could be based on incremental cost, or other pricing mechanisms as determined by the regulator.
3. Generally, transfer of a capital asset from the utility to its non-regulated affiliate should be at the greater of prevailing market price or net book value, except as otherwise required by law or regulation. Generally, transfer of assets from an affiliate to the utility should be at the lower of prevailing market price or net book value, except as otherwise required by law or regulation. To determine prevailing market value, an appraisal should be required at certain value thresholds as determined by regulators.
4. Entities should maintain all information underlying affiliate transactions with the affiliated utility for a minimum of three years, or as required by law or regulation.

E. AUDIT REQUIREMENTS

1. An audit trail should exist with respect to all transactions between the regulated entity and its affiliates that relate to regulated services and products. The regulator should have complete access to all affiliate records necessary to ensure that cost allocations and affiliate transactions are conducted in accordance with the guidelines. Regulators should have complete access to affiliate records, consistent with state statutes, to ensure that the regulator has access to all relevant information necessary to evaluate whether subsidization exists. The auditors, not the audited utilities, should determine what information is relevant for a particular audit objective. Limitations on access would compromise the audit process and impair audit independence.
2. Each regulated entity's cost allocation documentation should be made available to the company's internal auditors for periodic review of the allocation policy and process and to any jurisdictional regulatory authority when appropriate and upon request.
3. Any jurisdictional regulatory authority may request an independent attestation engagement of the CAM. The cost of any independent attestation engagement associated with the CAM, should be shared between regulated and non-regulated operations consistent with the allocation of similar common costs.
4. Any audit of the CAM should not otherwise limit or restrict the authority of state regulatory authorities to have access to the books and records of and audit the operations of jurisdictional utilities.
5. Any entity required to provide access to its books and records should make arrangements as necessary and appropriate to ensure that competitively sensitive information derived therefrom be kept confidential by the regulator.

F. REPORTING REQUIREMENTS

1. The regulated entity should report annually the dollar amount of non-tariffed transactions associated with the provision of each service or product and the use or sale of each asset for the following:
 - a. Those provided to each non-regulated affiliate.
 - b. Those received from each non-regulated affiliate.
 - c. Those provided to non-affiliated entities.

COST ALLOCATION MANUAL

2. Any additional information needed to assure compliance with these Guidelines, such as cost of service data necessary to evaluate subsidization issues, should be provided.

Source:

<http://www.naruc.org/Publications/Guidelines%20for%20Cost%20Allocations%20and%20Affiliate%20Transactions.pdf>

APPENDIX 2 – DETAILED EXPLANATION OF APUC COSTS

1. APUC STRATEGIC MANAGEMENT COSTS

Strategic management decisions are critical for any public utility. The need for strategic management is even more pronounced for APUC as a publicly traded company, which depends on access to capital funding through public sales of units. APUC seeks to hire talented strategic managers that aid in running each facility owned by the company as efficiently and effectively as possible. This ensures the long term health of each utility and ensures that rates are kept as low as possible without compromising the level of service. It also facilitates each regulated utility's access to necessary capital funding at reduced costs. The costs included in Strategic Management Costs fall into the following categories.

a. Board of Directors

The Board of Directors provides strategic oversight on all company affairs including high level approvals of strategy, operation and maintenance budgets, capital budgets, etc. In addition, the Board of Directors provides corporate governance and ensures that capital and costs are incurred prudently, which ultimately protects ratepayers.

b. General Legal Services

General legal services involve legal matters not specific to any single facility, including review of audited financial statements, annual information filings, Sedar filings, review of contracts with credit facilities, incorporation, tax issues of a legal nature, market compliance, and other similar legal costs. These legal services are required in order for APUC to provide capital funding to individual utilities, without which the utilities could not provide adequate service. Additionally, the services ensure that APUC's subsidiaries remain compliant in all aspects of operations and prevent those entities from being exposed to unnecessary risks.

c. Professional Services

Professional Services including strategic plan reviews, capital market advisory services, ERP System maintenance, benefits consulting, and other similar professional services. By providing these services at a parent level, the subsidiaries are able to benefit from economies of scale. Additionally, some of these services improve APUC's access to capital which benefits all of its subsidiaries.

2. ACCESS TO CAPITAL MARKETS

One of APUC's primary functions is to ensure its subsidiaries have access to quality capital. APUC is listed on the New York Stock Exchange ("NYSE") and the Toronto Stock Exchange ("TSX"), leading financial markets. In order to allow its subsidiaries to have continued access to those capital markets, APUC incurs the following costs. These services and costs are a prerequisite to the subsidiaries continued access to those capital markets.

a. License and Permit Fees

In connection with APUC's participation in the NYSE and the TSX, APUC incurs certain license and permit fees such as Sedar fees, annual filing fees, licensing fees, etc. These licensing and permit fees are required in order to sell units on the NYSE and the TSX, which in turn provides funding for utility operations.

b. Escrow Fees

In connection with the payment of dividends to unit holders, APUC incurs escrow fees. Escrow fees are incurred to ensure continued access to capital and ensure continuing and ongoing investments by shareholders. Without such escrow fees, APUC's subsidiaries would not have a readily available source of capital funding.

c. Unit Holder Communications

Unit holder communication costs are incurred to comply with filing and regulatory requirements of the NYSE and the TSX and meet the expectations of shareholders. These costs include items such as news releases and unit holder conference calls. In the absence of shareholder communication costs, investors would not invest in the units of APUC, and in turn, APUC would not have capital to invest in its subsidiaries. With such communications services, the subsidiaries would not have a readily available source of capital funding.

3. APUC FINANCIAL CONTROLS

Financial control costs incurred by APUC include costs for audit services and tax services. These costs are necessary to ensure that the subsidiaries are operating in a manner that meets audit standards and regulatory requirements, which have strong financial and operational controls, and financial transactions are recorded accurately and prudently. Without these services, the regulated utilities would not have a readily available source of capital funding.

a. Audit Fees

Audits are done on a yearly basis and reviews are performed quarterly on all facilities owned by APUC on an aggregate level. These corporate parent level audits reduce the cost of the stand-alone audits significantly for utilities which must perform its own separate audits. Where stand-alone audits are not required, ratepayers receive benefits of additional financial rigor, as well as access to capital, and financial soundness checks by third parties. Finally, during rate cases, the existence of audits provides staff and intervenors additional reliance on the company records, thus reducing overall rate case costs. The aggregate audit is necessary for the regulated utilities to have continued access to capital markets and unit holders.

b. Tax Services

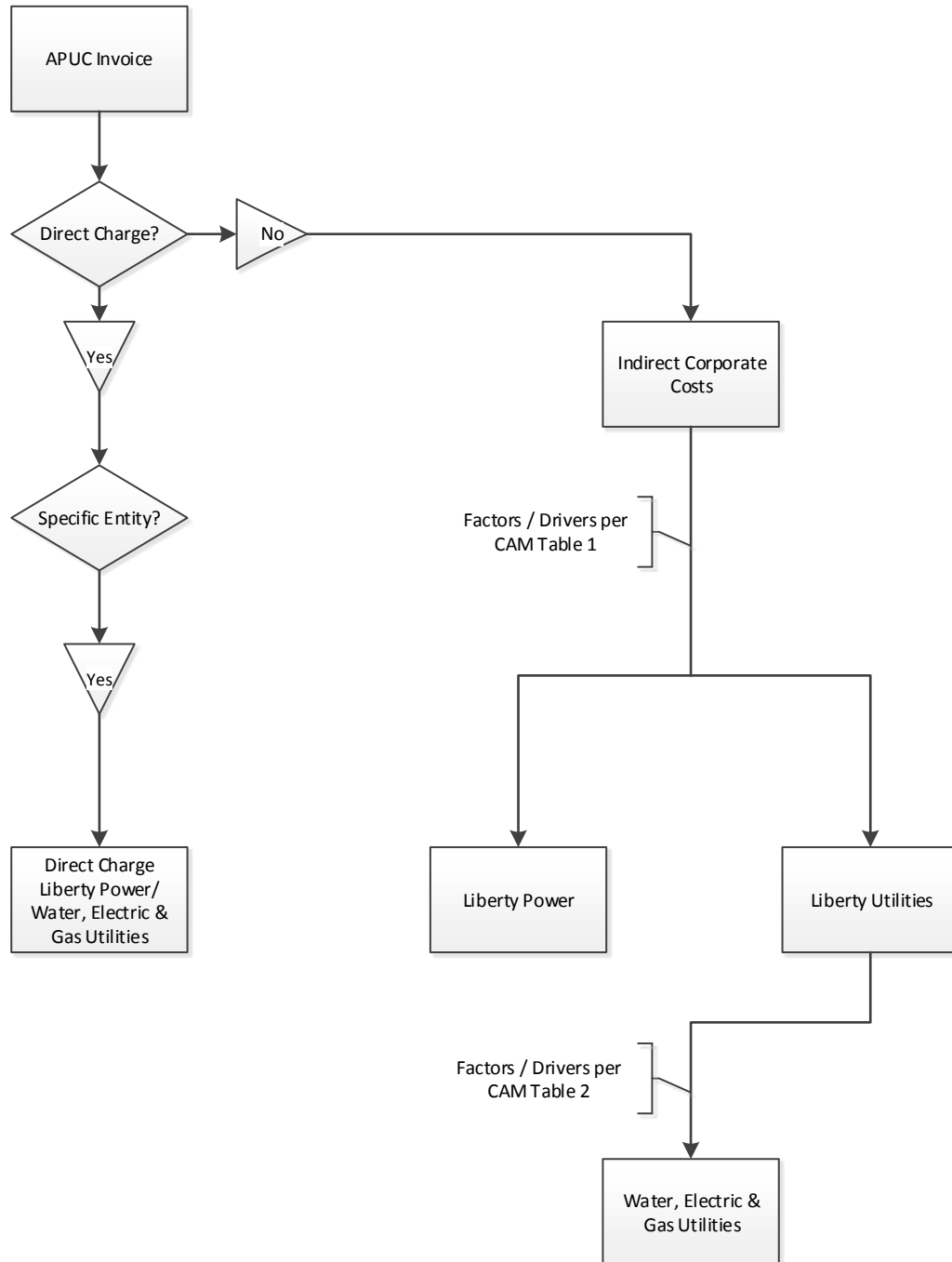
Taxes are paid on behalf of the regulated utilities at the parent level as part of a consolidated United States tax return. Tax services such as planning and filing are provided by third parties. Filing tax returns on a consolidated basis benefits each regulated utility by reducing the costs that otherwise would be incurred by such utility in filing its own separate tax return.

4. APUC ADMINISTRATIVE COSTS

Finally, administrative costs incurred by APUC, in some cases via other corporate entities, such as rent, depreciation of office furniture, depreciation of computers, and general office costs are required to house all the services mentioned above. Without these administrative costs, the employees throughout the APUC organization could not perform their work and provide the necessary services to the regulated utilities. These administrative costs also include training for corporate employees.

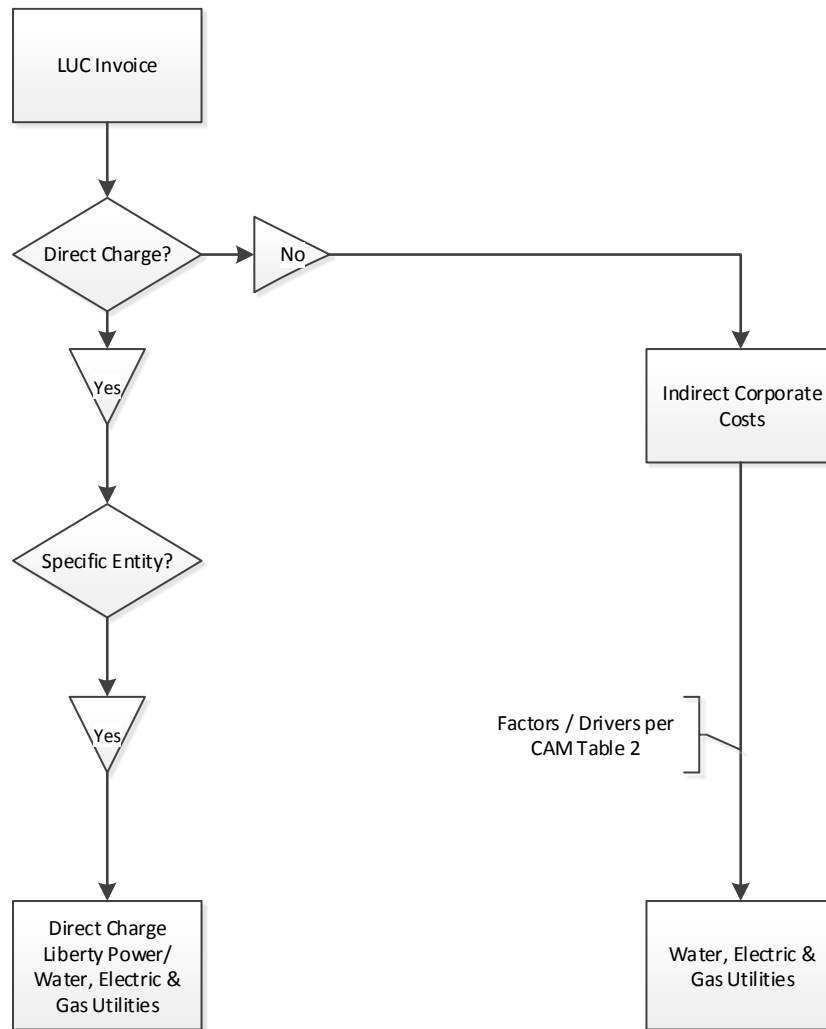
APPENDIX 3 – LIFE OF AN APUC INVOICE

A schematic is provided below showing the trail of an invoice received by APUC for services to be charged to its subsidiaries. The schematic is intended to visually explain the distribution of charges from APUC to Liberty Power and Liberty Utilities companies.



APPENDIX 4 – LIFE OF A LIBERTY UTILITIES INVOICE

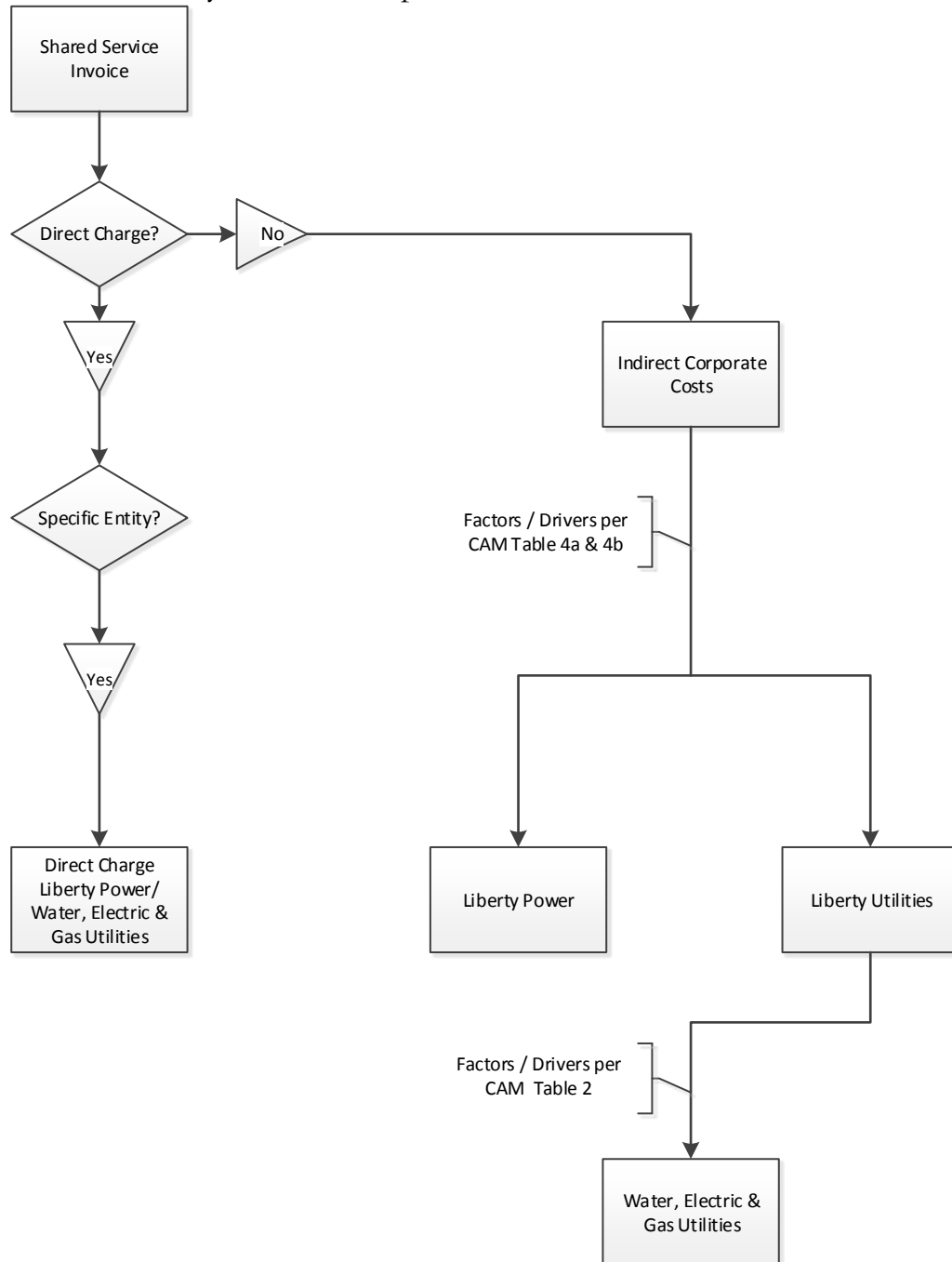
A schematic is provided below showing the trail of an invoice received by Liberty Utilities (LUC) for services to be charged to its utility subsidiaries¹⁸. The schematic is intended to visually explain the distribution of charges from LUC to Liberty Utilities companies.



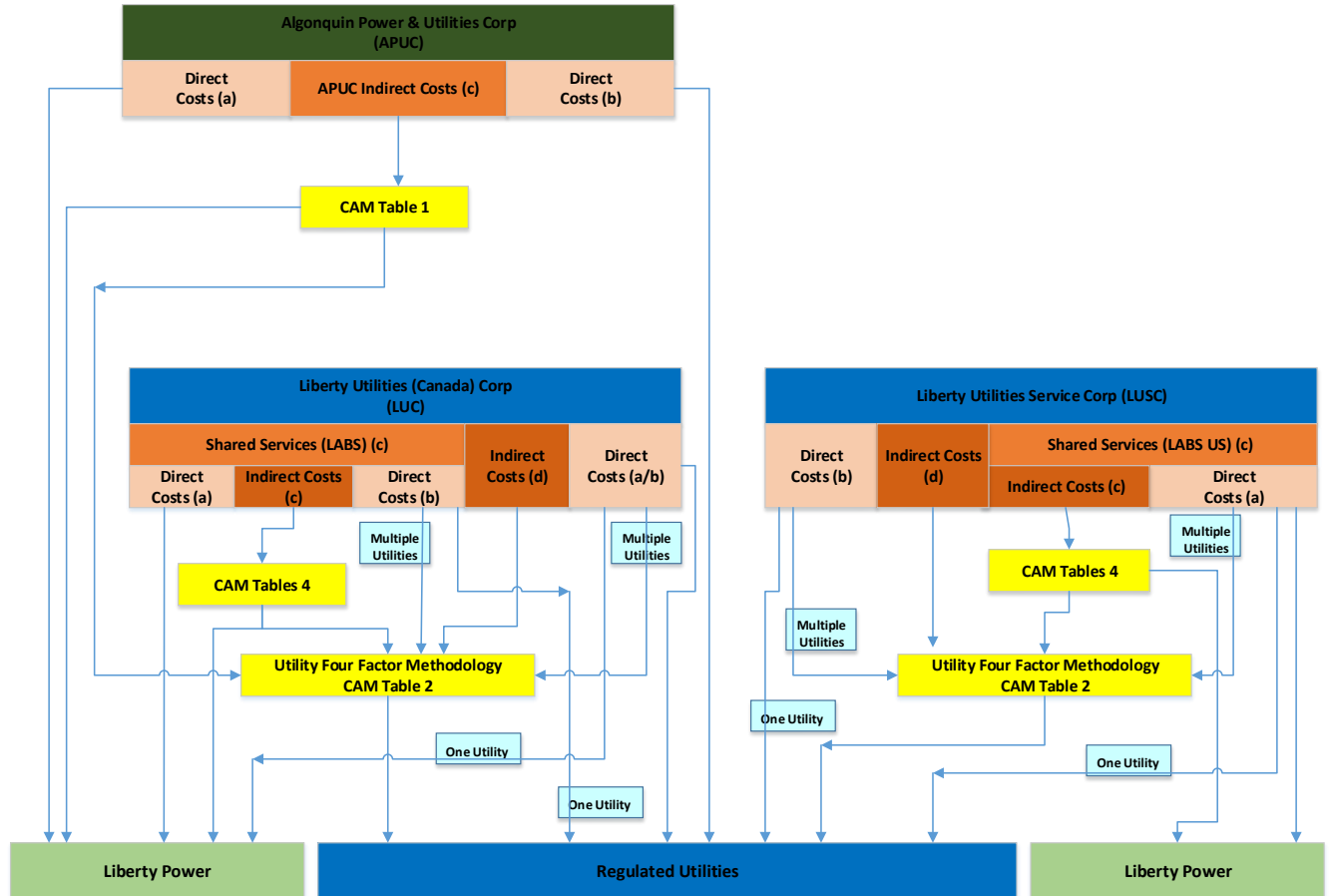
¹⁸ This is for utility-dedicated LUC staff and services (not shared services staff).

APPENDIX 5 – LIFE OF A SHARED SERVICES INVOICE

A schematic is provided below showing the trail of an invoice for shared services provided within Liberty Utilities or LUSC for services to be charged to affiliates and subsidiaries. The schematic is intended to visually explain the distribution of charges from shared services to Liberty Power and Liberty Utilities companies.



APPENDIX 6 – COMPOSITE ILLUSTRATION OF ORGANIZATIONAL COST DISTRIBUTION



Notes:

- (a) Costs that are directly assignable to unregulated companies.
- (b) Costs that are directly assignable to regulated companies.
- (c) Costs that benefit both unregulated and regulated operations
- (d) Costs that benefit all regulated operations.

APPENDIX 7 – GLOSSARY OF TERMS

Algonquin Power & Utilities Corp. (“APUC”)- is a publicly traded company and the ultimate corporate parent of Liberty Utilities and Liberty Power subsidiaries. It provides financial and strategic management, corporate governance, and oversight of administrative and support services to all its subsidiaries.

Algonquin Power Co. (“Liberty Power”)- is a subsidiary of APUC whose primary business is in energy generation through renewal (solar and wind) sources and thermal generating facilities.

Cost Allocation Manual (CAM) – a document that explains how service company costs are assigned to affiliate companies and explains the nature of the services to be provided between affiliates.

Direct Costs- (sometimes referred to as assigned costs)- costs incurred by one company for the exclusive benefit of, or specifically identified with, one or more other companies, and which are directly charged (or assigned) to the company or companies that specifically benefited.

Fully Distributed Cost (FDC)– means a methodology that examines all costs of an enterprise in relation to all the goods and services that are produced. FDC requires recognition of all costs incurred directly or indirectly used to produce a good or service. Costs are assigned either through a direct or allocated approach. Costs that cannot be directly assigned or indirectly allocated (e.g. general and administrative) must also be included in the FDC calculation through a general allocation.

Indirect Costs- costs that cannot be identified with a particular service or product. This includes but not limited to overhead costs, administrative, general, and taxes.

Liberty Utilities Co.- is a subsidiary of APUC and the direct or indirect owner of regulated utilities.

Liberty Utilities (Canada) Corp. (“LUC”) - is a subsidiary of APUC and employs Canadian-based employees.

Liberty Utilities Service Corp. (“LUSC”)-is a subsidiary of APUC and employs U.S.-based distribution utility employees and those U.S. based employees providing shared services.

COST ALLOCATION MANUAL

Liberty Algonquin Business Services (“LABS”)- is a business unit with staff employed within LUC and LUSC. These employees provide shared services to both the utility and non-utility businesses within APUC.

NARUC – National Association of Regulatory Utility Commissioners.

Service Agreement – a written agreement specifying the terms and conditions upon which services are provided to and from affiliated entities.

Utility Four-Factor – is an allocation methodology used to allocate indirect costs to regulated utilities based on the following factors: Utility Net Plant, Customer Count, Non-Labor expenses, and labor expenses.

APPENDIX 8 - VERSION LOG

1. Base Year- January 1 2014
2. V2014, July 1, 2015
3. V2017, January 1 2017 (Includes April 2017 Updates)

EXHIBIT LW-DT2



TSX Company Manual

[Table of Contents](#) | [View Updates](#) | [Bookmark](#) | [Print All](#)

Keyword search [Go](#) [Advanced Search](#)

[Text only](#) | [Print](#) | [Print Manager](#) | [Link](#)

TSX Company Manual:

- TSX Company Manual
 - Part I Introduction
 - Part II Why List on the Toronto Stock Exchange?
 - Part III Original Listing Requirements
 - Part IV Maintaining a Listing – General Requirements
 - Part V Special Requirements for Non-Exempt Issuers
 - Part VI Changes in Capital Structure of Listed Issuers
 - Part VII Halting of Trading, Suspension and Delisting of Securities
 - A. General
 - B. Halting of Trading
 - C. Suspension and Delisting
 - D. Delisting Criteria
 - (1) Insolvency
 - (2) Financial Condition and/or Operating Results
 - (3) Market Value and Public Distribution
 - (4) Failure To Comply With TSX Requirements & Policies
 - Listing Agreement
 - Disclosure Policies
 - Sec. 714.
 - Payment of Fees or Charges
 - Management
 - (5) Change In Business
 - E. Reinstatement of Listing
 - F. Review of Delisting Decisions
 - G. Voluntary Delisting
 - H. Effect of Amendments on Existing Reviews and Suspensions
 - Part VIII Fees Payable by Listed Companies
 - Part IX Dealing with the News Media
 - Part X Special Purpose Acquisition Corporations (SPACs)
 - Part XI Requirements Applicable to Non-Corporate Issuers
 - Provisions Respecting Conflict of Interest and Competitors of TMX Group Limited
 - Forms
 - Appendices
 - Notices of Approval
 - Requests for Comments
 - Staff Notices to Applicants, Listed Issuers, Securities Lawyers and Participating Organizations
 - Archive

Accelerated by
THOMSON REUTERS
ACCELUS™

[Back to top](#)

Location: TSX Company Manual > Part VII Halting of Trading, Suspension and Delisting of Securities > D. Delisting Criteria > (4) Failure To Comply With TSX Requirements & Policies > Disclosure Policies > Sec. 714.

[« Disclosure Policies](#)

[Payment of Fees or Charges »](#)

Sec. 714.

TSX may delist the securities of a listed issuer that has failed to comply with TSX's Timely Disclosure policy (see Sections 406 to 423.8 and 472 to 475) or with disclosure requirements under any securities law to which the listed issuer is subject. In addition, TSX may delist the securities of a listed issuer that is engaged in the business of mineral exploration, development or production if such listed issuer has failed to comply with TSX's "Disclosure Standards for Companies Engaged in Mineral Exploration, Development & Production" (see Appendix B).

[« Disclosure Policies](#)

[Payment of Fees or Charges »](#)

© TSX Inc. All rights reserved. Do not copy, distribute, sell or modify this document without TSX Inc.'s prior written consent. TSX materials, including manuals, trading rules, policies and forms, are reproduced by Complinet with the permission of TSX Inc. and TSX Venture Exchange Inc. under a non-exclusive license. Neither TSX Inc. nor any of its affiliated companies guarantees the accuracy, adequacy, completeness or availability of any information and nor shall they be responsible for any errors or omissions or otherwise.

TMX GROUP | [Toronto Stock Exchange](#) | [TSX Venture Exchange](#) | [TMX Select](#) | [Alpha](#) | [Montréal Exchange](#) | [BOX](#) | [NGX](#) | [Shorcan](#) | [The Canadian Depository for Securities Limited](#) | [Canadian Derivatives Clearing Corporation](#) | [TMX Datalinx](#) | [TMX Atrium](#) | [TMX Technology Solutions](#) | [TMX Equicom](#) | [TMX Equity Transfer Services](#)

Copyright © 2013 TMX Group Limited All rights reserved.



TSX Company Manual

Table of Contents View Updates Bookmark Print All Keyword search Go Advanced Search

Text only Print Print Manager Link

TSX Company Manual:

- TSX Company Manual
 - Part I Introduction
 - Part II Why List on the Toronto Stock Exchange?
 - Part III Original Listing Requirements
 - Part IV Maintaining a Listing – General Requirements
 - A. General
 - B. Timely Disclosure
 - Introduction
 - Sec. 406.
 - Material Information
 - Market Surveillance
 - Announcements of Material Information
 - Trading Halts
 - Confidentiality
 - Insider Trading
 - C. Company Reporting Forms
 - D. Dividends and Other Distributions to Security Holders
 - E. Debenture Interest Changes
 - F. Financial Statements
 - G. Shareholders' Meetings and Proxy Solicitation
 - H. Notices and Reports to Security Holders
 - I. Charter Amendments
 - J. Change in Evidence of Security Ownership or Change in Security Certificate
 - K. Proposed Issuance of Securities
 - L. Secondary Distributions
 - M. Corporate Governance
 - Part V Special Requirements for Non-Exempt Issuers
 - Part VI Changes in Capital Structure of Listed Issuers
 - Part VII Halting of Trading, Suspension and Delisting of Securities
 - Part VIII Fees Payable by Listed Companies
 - Part IX Dealing with the News Media
 - Part X Special Purpose Acquisition Corporations (SPACs)
 - Part XI Requirements Applicable to Non-Corporate Issuers
 - Provisions Respecting Conflict of Interest and Competitors of TMX Group Limited
 - Forms
 - Appendices
 - Notices of Approval
 - Requests for Comments
 - Staff Notices to Applicants, Listed Issuers, Securities Lawyers and Participating Organizations
 - Archive

Accelerated by
THOMSON REUTERS
ACCELUS™

Location: TSX Company Manual > Part IV Maintaining a Listing – General Requirements > B. Timely Disclosure > Introduction > Sec. 406.

« Introduction

Material Information »

Sec. 406.

It is a cornerstone policy of the Exchange that all persons investing in securities listed on the Exchange have equal access to information that may affect their investment decisions. Public confidence in the integrity of the Exchange as a securities market requires timely disclosure of material information concerning the business and affairs of companies listed on the Exchange, thereby placing all participants in the market on an equal footing.

The timely disclosure policy of the Exchange is the primary timely disclosure standard for all TSX listed issuers. National Policy 51-201 *Disclosure Standards* of the CSA, "Disclosure Standards", assists issuers in meeting their legislative disclosure requirements. While the legislative and Exchange timely disclosure requirements differ somewhat, the CSA clearly state in National Policy 51-201 *Disclosure Standards* that they expect listed issuers to comply with the requirements of the Exchange.

To minimize the number of authorities that must be consulted in a particular matter, in the case of securities listed on the Exchange, the Exchange is the relevant contact. The issuer may, of course, consult with the government securities administrator of the particular jurisdiction. In the case of securities listed on more than one stock market, the issuer should deal with each market.

The requirements of the Exchange and National Policy 51-201 *Disclosure Standards* are in addition to any applicable statutory requirements. The Exchange enforces its own policy. Companies whose securities are listed on the Exchange are legally obligated to comply with the provisions on timely disclosure set out in section 75 of the OSA and the Regulation under the Act. Reference should also be made to National Instrument 71-102 *continuous Disclosure and Other Exemptions Relating to Foreign Issuers*, National Instrument 55-102 *System for Electronic Disclosure by Insiders*, and National Instrument 62-103 *The Early Warning System and Related Take-Over bid and Insider Reporting Issues*.

In addition to the foregoing requirements, companies whose securities are listed on the Exchange and who engage in mineral exploration, development and/or production, must follow the "Disclosure Standards for Companies Engaged in Mineral Exploration, Development and Production" as outlined in Appendix B of this Manual for both their timely and continuous disclosure.

The Market Surveillance Division monitors the timely disclosure policy on behalf of the Exchange.

« Introduction

Material Information »

© TSX Inc. All rights reserved. Do not copy, distribute, sell or modify this document without TSX Inc.'s prior written consent. TSX materials, including manuals, trading rules, policies and forms, are reproduced by Complinet with the permission of TSX Inc. and TSX Venture Exchange Inc. under a non-exclusive license. Neither TSX Inc. nor any of its affiliated companies guarantees the accuracy, adequacy, completeness or availability of any information and nor shall they be responsible for any errors or omissions or otherwise.

Back to top

TMX GROUP Toronto Stock Exchange | TSX Venture Exchange | TMX Select | Alpha | Montréal Exchange | BOX | NGX | Shorcan |
The Canadian Depository for Securities Limited | Canadian Derivatives Clearing Corporation | TMX Datalinx | TMX Atrium |
TMX Technology Solutions | TMX Equicom | TMX Equity Transfer Services

Securities Law & Instruments



PDF Version (/documents/en/Securities-Category5/pol_20020712_51-201.pdf)

NATIONAL POLICY 51-201 DISCLOSURE STANDARDS

Part I - Introduction

1.1 Purpose

(1) It is fundamental that everyone investing in securities have equal access to information that may affect their investment decisions. The Canadian Securities Administrators ("the CSA" or "We") are concerned about the selective disclosure of material corporate information by companies to analysts, institutional investors, investment dealers and other market professionals. Selective disclosure occurs when a company discloses material nonpublic information to one or more individuals or companies and not broadly to the investing public. Selective disclosure can create opportunities for insider trading and also undermines retail investors' confidence in the marketplace as a level playing field.

(2) This policy provides guidance on "best disclosure" practices in a difficult area involving competing business pressures and legislative requirements. Our recommendations are not intended to be prescriptive. We encourage companies to adopt the suggested measures, but they should be implemented flexibly and sensibly to fit the situation of individual companies.

(3) The timely disclosure requirements and prohibitions against selective disclosure are substantially similar everywhere in Canada, but there are differences among the provinces and territories, so companies should carefully review the legislation which is applicable to them for the details.

in government policy that affects most companies in a particular industry does not require an announcement, but if it affects only one or a few companies in a material way, such companies should make an announcement.

4.5 Exchange Policies

(1) The Toronto Stock Exchange Inc. (the "TSX") and the TSX Venture Exchange Inc. ("TSX Venture") each have adopted timely disclosure policy statements which include many examples of the types of events or information which may be material. Companies should also refer to the guidance provided in these policies when trying to assess the materiality of a particular fact, change or piece of information.

(2) The TSX and TSX Venture policies require the timely disclosure of "material information". Material information includes both material facts and material changes relating to the business and affairs of a company. The timely disclosure obligations in the exchanges' policies exceed those found in securities legislation. It is not uncommon, or inappropriate, for exchanges to impose requirements on their listed companies which go beyond those imposed by securities legislation.³¹ We expect listed companies to comply with the requirements of the exchange they are listed on. Companies who do not comply with an exchange's requirements could find themselves subject to an administrative proceeding before a provincial securities regulator.³²

Part V - Risks Associated with Certain Disclosures

5.1 Private Briefings with Analysts, Institutional Investors and other Market Professionals

[What's New](#)[Sections](#)[Help](#)[Search](#)

About the Listed Company Manual

The New York Stock Exchange Listed Company Manual is the comprehensive rulebook for listed companies. The Manual also details original and continued listing requirements of the Exchange and sets forth NYSE rules and policies on such matters as corporate governance, shareholder communications, and shareholder approval.



Listed Company Manual

Sections

- [General Organization](#)
- [Section 1 - The Listing Process](#)
- [Section 2 - Disclosure and Reporting Material Information](#)
- [Section 3 - Corporate Responsibility](#)
- [Section 4 - Shareholders' Meetings and Proxies](#)
- [Section 5 - Certificates](#)
- [Section 6 - Agencies, Depositories, Trustees](#)
- [Section 7 - Listing Applications](#)
- [Section 8 - Suspension and Delisting](#)
- [Section 9 - Exchange Forms](#)

Special Initial Margin and Capital Requirements—

Occasionally, a listed issue may be placed under special initial margin and capital requirements. Such a restriction in no way reflects upon the quality of corporate management, but, rather indicates a determination by the Floor Officials of the Exchange that the market in the issue has assumed a speculative tenor and has become volatile due to the influence of credit, which, if ignored, may lead to unfair and disorderly trading.

The determination to impose restrictions is based on a careful inspection of the trading for the latest one week period, defined as the previous Friday through subsequent Thursday, matched against various criteria. Other factors, such as the capitalization turnover, the ratio of last year's average weekly volume to the volume for the period considered, arbitrage, stop order bans, short position, earnings and recent corporate news are also reviewed.

The restriction itself is aimed primarily at eliminating the extension of credit to those who buy a security and sell it the same day seeking a short term profit. Such customers must have the full purchase value in the account prior to the entry of an order. Concomitantly, a broader requirement is usually imposed on all other margin customers in that they must put up the full purchase price within five business days, rather than only the percentage required by the Federal Reserve Board. Cash customers, of course, must in all instances put up 100% of the cost in seven days.

Amended: September 2, 2015 (NYSE-2015-38).

202.05 Timely Disclosure of Material News Developments

A listed company is expected to release quickly to the public any news or information which might reasonably be expected to materially affect the market for its securities. This is one of the most important and fundamental purposes of the listing agreement which the company enters into with the Exchange.

A listed company should also act promptly to dispel unfounded rumors which result in unusual market activity or price variations.

The issuer of income deposit securities traded as a unit shall publicize any change in the terms of the unit, such as changes to the terms and conditions of any of the components (including changes with respect to any original issue discount or other significant tax attributes of any component), or to the ratio of the components within the unit. Such publication shall be made as soon as practicable in relation to the effective date of the change, and should otherwise be made in accordance with the procedures specified in Section 202.06 below. In addition, the issuer must provide information regarding the terms and conditions of the components of the unit (including information with respect to any original issue discount or other significant tax attributes of any component), and the ratio of the components comprising the unit on its website.

202.06 Procedure for Public Release of Information; Trading Halts

(A) Immediate Release Policy

Information required to be released quickly to the public under Section 202.05 above should be disclosed by means of any Regulation FD compliant method (or

EXHIBIT LW-DT3

PRIVILEGED & CONFIDENTIAL

Company Code & Department Cost Code	Department Category	LUC/LABS Report account descriptions	Person Completing the Survey	Response Survey Signed on Date	Survey Response Email received Date	Email Response Received from
2200-9860	Executive and Strategic Management	LABS - Executive	George Trisc	10-Sep-18	14-Sep-18	George Trisc
2100-9835	Energy Procurement	LUC - Energy Procurement	William Killen	13-Aug-18	13-Aug-18	William Killen
2100-9865	Customer Experience	LUC - Customer Experience	Brent Baker	5-Sep-18	7-Sep-18	Pratfull Koli
2200-9800	Information Technology	LABS - Corporate IT	John Lowson	1-Dec-18	19-Nov-18	John Lowson
2200-9801	Information Technology	LABS - Business IT	John Lowson	1-Dec-18	19-Nov-18	John Lowson
2200-9815	Environment, Health, Safety and Security	LABS - EH&S	Timothy Deppmeyer	30-Nov-18	30-Nov-18	Timothy Deppmeyer
2200-9825	Procurement	LABS - Purchasing	Luiza de Camarel	2-Nov-18	2-Nov-18	Luiza de Camarel

PRIVILEGED & CONFIDENTIAL

Company Code & Department Cost Code	Department Category	LUC/LABS Report account descriptions	Person Completing the Survey	Response Survey Signed on Date	Survey Response Email received Date	Email Response Received from
2200-9821	Risk Management	LABS - Insurance & Risk Management	Marianna Michael	23-Aug-18	3-Oct-18	Marianna Michael
2200-9820	Financial Reporting, Planning and Administration	LABS - Accounting & Admin	Todd Mooney	26-Oct-18	26-Oct-18	Irene Trumble
2200-9827	Financial Reporting, Planning and Administration	LABS - FPA	Frank Coschignano	10-Oct-18	10-Oct-18	Manasa Rao
2200-9822	Treasury	LABS - Treasury	Arthur Kacprzak	4-Oct-18	4-Oct-18	Arthur Kacprzak
2200-9824	Internal Audit	LABS - Internal Audit	Dan Gilpin	16-Nov-18	16-Nov-18	Dan Gilpin
2200-9823	Legal Costs	LABS - Legal	Jen Tindale	10-Oct-18	10-Oct-18	Corinne Brough
2200-9828	Compliance	LABS - Compliance	Lisa Jeffrey	4-Oct-18	4-Oct-18	Peter Etcher
2100-9830	Regulatory Strategy	LUC - Regulatory	Gaelana Girardi	31-Oct-18	31-Oct-18	Gaelana Girardi

PRIVILEGED & CONFIDENTIAL

Company Code & Department Cost Code	Department Category	LUC/LABS Report account descriptions	Person Completing the Survey	Response Survey Signed on Date	Survey Response Email received Date	Email Response Received from
2100-9850	Executive, Operations & Administration	LUC - Operations	Gerald Tremblay	18-Sep-18	1-Nov-18	Gerald Tremblay
2200-9868	Executive and Strategic Management	Strategy	Michael Griffin	11-Sep-18	11-Sep-18	Michael Griffin
2100-9868	Executive, Operations & Regulatory Strategy	LUC - Strategic Planning	Peter Eichler	7-Sep-18	7-Sep-18	Peter Eichler
2200-9870	External Communications	LABS - Investor Relations & Communication	Ian Tharp	11-Sep-18	11-Sep-18	Ian Tharp
2200-9881	Information Technology	Sustainment	Luisa Read	14-Sep-18	14-Sep-18	Luisa Read

PRIVILEGED & CONFIDENTIAL

Company Code & Department Cost Code	Department Category	LUC/LABS Report account descriptions	Person Completing the Survey	Response Survey Signed on Date	Survey Response Email received Date	Email Response Received from
2200-9874	Information Technology	Customer First	Luisa Read	14-Sep-18	14-Sep-18	Luisa Read
2200-9875	Information Technology	Transformation-CIS	Katy Cook	2-Nov-18	2-Nov-18	Katy Cook
2200-9876	Information Technology	Transformation-EAM	David Holmes	17-Sep-18	17-Sep-18	David Holmes

PRIVILEGED & CONFIDENTIAL

Company Code & Department Cost Code	Department Category	LUC/LABS Report account descriptions	Person Completing the Survey	Response Survey Signed on Date	Survey Response received Date	Email Response Received from
2200-9877	Information Technology	Transformation	David Pasieka	7-Nov-18	7-Nov-18	Gaetana Girardi
2200-9810	Human Resources	LABS - HR	Theresa Petros			
2200-9811	Human Resources	LABS - Rewards	Punam Maini			
2200-9812	Training	LABS - Learning & Development	Daina Datchko			
2200-9817	Human Resources	Communications	Daina Datchko			

Since these departments provide support to the Canadian shared services employees so their % is the overall calculated average

PRIVILEGED & CONFIDENTIAL

Company Code & Department Cost Code	Department Category	LUC/LABS Report account descriptions	Person Completing the Survey	Response Survey Signed on Date	Survey Response Email received Date	Email Response Received from
-------------------------------------	---------------------	--------------------------------------	------------------------------	--------------------------------	-------------------------------------	------------------------------

2200-9826 Facilities and Building Rent LABS - Building Gary Sommer

2200-9815 Environment, Health, Safety and Security LABS - EH&S Timothy Deppmeyer

Company Code & Cost Code	Department Category	APUC Report account descriptions	Person Completing the Survey	Response Signed on Date	Survey Response Email received Date	Email Response Received from
1050-9860	Executive and Strategic Management	Vice Chairman	David Bronicheski	5-Nov-18		David Bronicheski
1050-9860	Executive and Strategic Management	Chief Executive Officer	David Bronicheski	5-Nov-18		David Bronicheski
1050-9860	Executive and Strategic Management	Chief Financial Officer	David Bronicheski	5-Nov-18		David Bronicheski

Prepared by Roshan Ranshinge Date 14-Dec-18

First Review by Elaine Peach Date 17-Dec-18

Final Review & Approval Gaetana Girardi Date _____

Oct-18

Department Description	Total employee % of time spent indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %	Response Status	Number of Employees as per HR Data
LABS Executive is a department consisting of senior leaders of shared services functions. It includes the Senior VP of Shared Services, the VP of Human Resources, the Chief Administrative Officer/Corporate Secretary and the Business Unit Compliance Director.	20	2	10.00	Received	2
EP is a corporate shared resource group that provides short term and long term energy supply planning, gas and electric procurement services, gas scheduling, and demand forecasting services to Liberty's natural gas utilities Liberty's electric utilities in CA and NH. The team is led centrally in Oakville, with staff located in two U.S. states.	25	1	25.00	Received	1
Corporate customer experience exists to provide the regions with consistent support & Vendor management and project support ensuring knowledgeable answers to operational issues, and initiatives. Five key areas of focus: <ul style="list-style-type: none"> • Customer Care - Support customer inquiries from all channels • Meter Data Services / Billing Set up and billing of customers • Credit and Collections - Secure timely payments • Customer Marketing & Communications • Commitment to Communities 	115	8	14.38	Received	9
IT Corporate represents employees and the work they perform, and 3rd party expenses (e.g. IT service providers, hardware and software maintenance, etc.) that follow a companywide standard and are essentially mandatory for the business units. Areas covered are system architecture, network, server, security, end user services and helpdesk.	805	16.1	50.00	Received	23
IT Business represents employees and the work they perform, and 3rd party expenses that are required and/or requested by the business. The various business units have a more explicit say in what work is performed and how it is paid for. Areas covered are transition, project management and application support.	525	10.5	50.00	Received	15
A group of professionals with a mandate to support operations in recognizing and controlling workplace hazards to prevent environmental, safety or security non-conformances. On-going resource to assist operations in reducing workplace risk for personnel and contractors through the administration of EHS monitoring and measuring programs. Measuring and managing security risk controls in conjunction with operations.	190	4	47.50	Received	10
Corporate Procurement department is in charge of developing company-wide policies and procedures on company procurement as well as developing a procurement, warehousing, fleet corporate strategy. The group is involved in negotiating company-wide contracts to support multiple Liberty Utilities' entities.	210	3	70.00	Received	3

Oct-18

Department Description	Total employee % of time spent indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %	Response Status	Number of Employees as per HR Data
<p>Pre-construction cost modeling, securing required information and completing application forms, insurance quotation procurement, contract wording reviews, assist various business units with risk assessment to understand the implications of entering in various service/construction contracts, insurance policies placement, working with independent insurance consultants to complete lender reviews in various states of funding, claim reporting, negotiation of claim settlements, claim payment collections, paperwork relating to securing claim settlements, contractor insolvencies/contract violations meetings – advising and guiding in-house and outside council, third party subrogation demands, assist various business units with contract negotiations with contractors/vendors, budget preparation, bond procurement and placement, invoice allocation and payment.</p>	50	1	50.00	Received	1
<p>Accounting, Tax, Reporting and Administrative Support</p>	147.35	22	6.70	Received	32
<p>The Financial Planning & Analysis department is responsible for managing the long term planning, budgeting, forecasting and management reporting activities and processes for APUC.</p>	230	7	32.86	Received	14
<p>The Treasury department is responsible for corporate, subsidiary and project financing, enterprise wide cash management, enterprise financial risk management (FX and Interest rate) and Capital Planning</p>	360	7	51.43	Received	7
<p>The Internal Audit (IA) Department is an independent and objective assurance and consulting activity that is guided by a philosophy of adding value to improve the operations of APUC and its subsidiaries. It assists APUC in accomplishing its objectives by bringing a systematic and disciplined approach to evaluate and improve the effectiveness of the organization's governance, risk management, and internal control.</p>	80	6	13.33	Received	6
<p>Provide legal support to all areas of business as needed</p>	175	8	21.88	Received	8
<p>Enterprise Risk Management team supports the company with the identification, assessment, and mitigation of its risks.</p>	90	3	30.00	Received	3
<p>The Regulatory Strategy Department is responsible for managing the regulatory strategy for all of Liberty Utilities' natural gas, electricity, and water entities in the U.S. Currently Liberty Utility operates in 12 states, and approval to operate in New York state is pending.</p>	40	2	20.00	Received	2

Department Description	Total employee % of time spent indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %	Response Status	Number of Employees as per HR Data
<ul style="list-style-type: none"> • Establish annual and long term targets and ensure that the annual plans are built for operational and financial success. • Drive financial and operational achievement of the approved business and local plans through the use of Balanced Scorecards. • Develop overall organizational growth strategy and long term business plans • Standardize functional processes to ensuring a common approach is used regardless of location. • Support the development of a health and safety culture at Liberty Utilities that improves the quality of the workplace environment, provides an injury-free workplace and protects public security and safety. 	30	1	30.00	Received	1
<p>Strategic Planning</p> <p>Oversight of regulatory strategy, business & community development, control & dispatch, and energy procurement teams.</p>	15	1	15.00	Received	1
<p>The Investor Relations group is responsible for all interactions, corporate messaging, and disclosures to Algonquin's institutional and retail investors.</p> <p>The Investor Relations group works on a number of matters that benefit Liberty Utilities with respect to issuing/preparing press releases, completing regulatory filings (as required by Canadian and U.S. securities laws), managing investor relationships and investor programs (e.g., conferences, analyst meetings, conference calls, etc.), managing relationships with external service providers such as Transfer Agent, newswire dissemination services, Bloomberg, etc., managing relationships with the Toronto and New York Stock Exchanges, preparing investor presentation decks (equity, debt, earnings calls, acquisitions, AGM, etc.), preparing the Annual Report and Corporate Responsibility Reports and managing their printing and distribution, assisting with AGM preparations including preparation of the proxy voting materials, and managing internal and external media news.</p>	75	3	25.00	Received	3
<p>Included under Transformation is the Sustainment department 9881. The department is responsible for managing the ERP system (currently Great Plains) for finance. They support Finance as well as the Customer First program in activities related to Great Plains, Concur Expense, and Hyperion Financial Management (HFM). Some example of the activities performed by this department are running reports, extracting data, managing the integrations of 3rd party software applications to Great Plains and troubleshooting data issues and supporting users.</p>	30	3	10.00	Received	3

Oct-18					
Department Description	Total employee % of time spent indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %	Response Status	Number of Employees as per HR Data
<p>The Transformation department includes the Customer First program. The Customer First program is a transformational set of initiatives that enables APUC's vision and creates opportunities arising from the disruption and change in the utility industry. The Customer First program will deploy a set of leading practice business processes, technology solutions and operating models that enable APUC to deliver compelling customer-centric product and service offerings in regulated and non-regulated markets. The overall Customer First solution is comprised of a number of "best-in-class" technologies including SAP, AMI, GIS, ADMS, and others that will enable the capabilities that are needed to deliver the service offerings or standards to customers and stakeholders. This department is focused strictly on ERP specific technologies and capabilities.</p>	180	6	30.00	Received	6
<p>The Transformation department includes the Customer First program. The Customer First program is a transformational set of initiatives that enables APUC's vision and creates opportunities arising from the disruption and change in the utility industry. The Customer First program will deploy a set of leading practice business processes, technology solutions and operating models that enable APUC to deliver compelling customer-centric product and service offerings in regulated and non-regulated markets. The overall Customer First solution is comprised of a number of "best-in-class" technologies including SAP, AMI, GIS, ADMS, and others that will enable the capabilities that are needed to deliver the service offerings or standards to customers and stakeholders. This department is focused strictly on CIS specific technologies and capabilities.</p>	60	2	30.00	Received	2
<p>The Transformation department includes the Customer First program. The Customer First program is a transformational set of initiatives that enables APUC's vision and creates opportunities arising from the disruption and change in the utility industry. The Customer First program will deploy a set of leading practice business processes, technology solutions and operating models that enable APUC to deliver compelling customer-centric product and service offerings in regulated and non-regulated markets. The overall Customer First solution is comprised of a number of "best-in-class" technologies including SAP, AMI, GIS, ADMS, and others that will enable the capabilities that are needed to deliver the service offerings or standards to customers and stakeholders. This department is focused strictly on EAM specific technologies and capabilities.</p>	60	2	30.00	Received	3

Oct-18

Department Description	Total employee % of time spent indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %	Response Status	Number of Employees as per HR Data
<p>The Transformation department includes the Customer First program. The Customer First program is a transformational set of initiatives that enables APUC's vision and creates opportunities arising from the disruption and change in the utility industry. The Customer First program will deploy a set of leading practice business processes, technology solutions and operating models that enable APUC to deliver compelling customer-centric product and service offerings in regulated and non-regulated markets. The overall Customer First solution is comprised of a number of "best-in-class" technologies including SAP, AMI, GIS, ADMS, and others that will enable the capabilities that are needed to deliver the service offerings or standards to customers and stakeholders.</p> <p>This department is focused strictly on OCM and PMO specific activities related to the Customer First program.</p>	110	4	27.50	Received	4
<p>HR Operations Support to employees in Oakville : Generalized HR Support, Talent Acquisition, Policies and Procedures, Performance Management, Coaching & Organizational Design</p>	147.75	5	29.55		5
<p>Oversee and administer Total Rewards for Company, including compensation, payroll and benefits, as well as HR Systems.</p> <ul style="list-style-type: none"> • Provide a framework for: <ul style="list-style-type: none"> o learning and development policies and activities o developing people through individual learning strategies • Develop Organizational programs to meet business and employee needs • Consult with the business about L&D needs by conducting training needs analysis • Establish priorities and plans for training activities and resources • Advise on training budgets and resources • Ensure trainers are qualified to deliver training • Manage enterprise-wide Learning Management System 	472.80	16	29.55		16
<ul style="list-style-type: none"> • Provide a framework for: <ul style="list-style-type: none"> o Communication policies and activities o Create Communication strategies o Drive and Support Organizational programs to drive culture • Consult with the business about communication needs by conducting communication needs analysis • Establish priorities and plans for communication activities and resources • Advise on Commis budgets and resources • Ensure a consistent corporate message is being driven across organization • Communicate Organizational Changes • Work directly with CEO and E-Team on Corporate Culture and direction • Supporting and Organizing Corporate driven events 	59.10	2	29.55		2
	3652.35	123.6	29.55		

		Oct-18				
Department Description	Total employee % of time spent indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %	Response Status	Number of Employees as per HR Data	
Reception courier, lunch order, building maintenance, supply orders, landlord services, Leasehold improvements	0.00	0	29.55		0	
Response received. The following 4 employees: Kathy Turlinski, Mike, Eden, Irene Raposo, and Sherin Surrao perform Oakville facilities and maintenance support functions.	118.20	4	29.55			
	4598	156	29.55			

Job Description	Total employee % of time spent indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %	Response Status	Number of Employees as per HR Data
The executive team is responsible for the overall planning, budgeting, approving, and strategizing (including regulatory/rate cases) on a number of capital investments throughout the organization (e.g., infrastructure, IT, plant and equipment, vehicles), arranging for capital financing, and preparing and reviewing capital related items/projects for Board approval.	40	1	40	Received	1
The executive team is responsible for the overall planning, budgeting, approving, and strategizing (including regulatory/rate cases) on a number of capital investments throughout the organization (e.g., infrastructure, IT, plant and equipment, vehicles), arranging for capital financing, and preparing and reviewing capital related items/projects for Board approval.	40	1	40	Received	1
The executive team is responsible for the overall planning, budgeting, approving, and strategizing (including regulatory/rate cases) on a number of capital investments throughout the organization (e.g., infrastructure, IT, plant and equipment, vehicles), arranging for capital financing, and preparing and reviewing capital related items/projects for Board approval.	50	1	50	Received	1
APUC Total	130	3	43.3		

2018 INDOH Rate 4727.9 159 29.81

Verification	Comments	Final	Finance verification to reconcile # LU Canadian EEs to HRIS extract
-	Response received, employee data verified with HR Data	Final	
-	Response received, employee data verified with HR Data	Final	
1	Response received, employee data verified with HR Data, 1 excluded employee has left the organization	Final	
7	Response received, employee data verified with HR Data, requested for signed forms. The employee labour adjusted to reflect the survey response form	Final	
5	Response received, employee data verified with HR Data, requested for signed forms, The employee labour adjusted to reflect the survey response form	Final	
2	Response received, The following 4 employees: Kathy Turliński, Mike, Eden, Irene Raposo, and Sherin Surrao are not included on this form as they perform Oakville facilities and maintenance support functions. The 4 employees excluded are included as average percentage. 2 LPCo dedicated employees are excluded	Final	
-	Response received, employee data verified with HR Data	Final	

Verification	Comments	Final	Finance verification to reconcile # LU Canadian EEs to HRIS extract
-	Response received, employee data verified with HR Data	Final	
10	Response received, employee data verified with HR Data, excluded 10 employees - Excluding 9 dedicated LPCo employees & 1 Co-op Student	Final	
7	Response received, employee data verified with HR Data, excluded 7 employees - Excluding 7 dedicated LPCo employees	Final	
-	Response received, employee data verified with HR Data	Final	
-	Response received, employee data verified with HR Data, Survey response included MO employees but this sheet includes only Oakville employees, emailed Dan to include only Oakville employees	Final	
-	Response received, employee data verified with HR Data	Final	
-	Response received, employee data verified with HR Data	Final	
-	Response received, employee data verified with HR Data,	Final	

Verification	Comments	Final	Finance verification to reconcile # LU Canadian EEs to HRIS extract
-	Response received, employee data verified with HR Data,	Final	
-	Response received, employee data verified with HR Data	Final	
-	Response received, employee data verified with HR Data	Final	
-	Response received, employee data verified with HR Data	Final	

Verification	Comments	Final	Finance verification to reconcile # LU Canadian EEs to HRIS extract
-	Response received, employee data verified with HR Data	Final	
-	Response received, employee data verified with HR Data	Final	
(1)	Response received, employee data verified with HR Data	Final	

Verification	Comments	Final	Finance verification to reconcile # LU Canadian EEs to HRIS extract
-	Response received, employee data verified with HR Data	Final	
31			
-			
-			
-			
-			
-			
-			
-			
-			

Verification	Comments	Final	Finance verification to reconcile # LU Canadian EEs to HRIS extract
-	Response received, The following 4 employees: Kathy Turinski, Mike, Eden, Irene Raposo, and Sherin Surrao are not included on EHS form as they perform Oakville facilities and maintenance support functions. Hence, they are applied average percentage		
Verification	Comments	Final	
-	Response received, employee data verified with HR Data	Final	
-	Response received, employee data verified with HR Data	Final	
-	Response received, employee data verified with HR Data	Final	

Finance verification to reconcile # LU Canadian EEs to HRIS extract

#N/A Department not in HRIS but created in budgets

10,000 Department already included above in row 8

PRIVILEGED & CONFIDENTIAL

Company Code & Department Cost Code	Department Category	LUC/LABS Report account descriptions	Person Completing the Survey	Response Survey Signed on Date	Survey Response Email received Date
2200-9860	Executive and Strategic Management	LABS - Executive	George Tristic	10-Sep-18	14-Sep-18
2100-9835	Energy Procurement	LUC - Energy Procurement	William Killien	13-Aug-18	13-Aug-18
2100-9865	Customer Experience	LUC - Customer Experience	Brent Baker	5-Sep-18	7-Sep-18
2200-9800	Information Technology	LABS - Corporate IT	John Lowson	1-Dec-18	1-Dec-18
2200-9801	Information Technology	LABS - Business IT	John Lowson	1-Dec-18	1-Dec-18
2200-9815	Environment, Health, Safety and Security	LABS - EH&S	Timothy Deppmeyer	30-Nov-18	30-Nov-18
2200-9825	Procurement	LABS - Purchasing	Luiza de Camaret	2-Nov-18	2-Nov-18

PRIVILEGED & CONFIDENTIAL

Company Code & Department Cost Code	Department Category	LUC/LABS Report account descriptions	Person Completing the Survey	Response Survey Signed on Date	Survey Response Email received Date
2200-9821	Risk Management	LABS -Insurance & Risk Management	Marianna Michael	23-Aug-18	3-Oct-18
2200-9820	Financial Reporting, Planning and Administration	LABS - Accounting & Admin	Todd Mooney	26-Oct-18	26-Oct-18
2200-9827	Financial Reporting, Planning and Administration	LABS - FPA	Frank Coschignano	10-Oct-18	10-Oct-18
2200-9822	Treasury	LABS - Treasury	Arthur Kacprzak	4-Oct-18	4-Oct-18
2200-9824	Internal Audit	LABS - Internal Audit	Dan Gilpin	16-Nov-18	16-Nov-18
2200-9823	Legal Costs	LABS - Legal	Jen Tindale	10-Oct-18	10-Oct-18
2200-9828	Compliance	LABS - Compliance	Lisa Jeffrey	4-Oct-18	4-Oct-18
2100-9830	Regulatory Strategy	LUC - Regulatory	Gaetana Girardi	31-Oct-18	31-Oct-18
2100-9850	Executive, Operations & Administration	LUC - Operations	Gerald Tremblay	18-Sep-18	1-Nov-18
2200-9868	Executive and Strategic Management	Strategy	Michael Griffin	11-Sep-18	11-Sep-18

PRIVILEGED & CONFIDENTIAL

Company Code & Department Cost Code	Department Category	LUC/LABS Report account descriptions	Person Completing the Survey	Response Survey Signed on Date	Survey Response Email received Date
2100-9868	Executive, Operations & Regulatory Strategy	LUC - Strategic Planning	Peter Eichler	7-Sep-18	7-Sep-18
2200-9870	External Communications	LABS - Investor Relations & Communication	Ian Tharp	11-Sep-18	11-Sep-18
2200-9881	Information Technology	Sustainment	Luisa Read	14-Sep-18	14-Sep-18
2200-9810	Human Resources	LABS - HR	Theresa Pettos		
2200-9811	Human Resources	LABS - Rewards	Punam Maini		
2200-9812	Training	LABS - Learning & Development	Daina Datchko		

PRIVILEGED & CONFIDENTIAL

Company Code & Department Cost Code	Department Category	LUC/LABS Report account descriptions	Person Completing the Survey	Response Survey Signed on Date	Survey Response Email received Date
-------------------------------------	---------------------	--------------------------------------	------------------------------	--------------------------------	-------------------------------------

2200-9817

Human Resources

Communications

Daina Datchko

2200-9826

Facilities and Building Rent

LABS - Building

Gary Sommer

2200-9815

Environment, Health, Safety and Security

LABS - EH&S

Timothy Deppmeyer

Employees excluded for 2019

2200-9874

Information Technology

Customer First

Luisa Read

14-Sep-18

PRIVILEGED & CONFIDENTIAL

Company Code & Department Cost Code	Department Category	LUC/LABS Report account descriptions	Person Completing the Survey	Response Survey Signed on Date	Survey Response Email received Date
-------------------------------------	---------------------	--------------------------------------	------------------------------	--------------------------------	-------------------------------------

2200-9875 Information Technology Transformation-CIS Katy Cook 14-Sep-18

2200-9876 Information Technology Transformation-EAM David Holmes 17-Sep-18

2200-9877 Information Technology Transformation David Pasieka 7-Nov-18

--	--	--	--	--	--

Company Code & Cost Code	Department Category	APUC Report account descriptions	Person Completing the Survey	Response Received on	Column1
--------------------------	---------------------	----------------------------------	------------------------------	----------------------	---------

PRIVILEGED & CONFIDENTIAL

Company Code & Department Cost Code	Department Category	LUC/LABS Report account descriptions	Person Completing the Survey	Response Survey Signed on Date	Survey Response Email received Date
1050-9860	Executive and Strategic Management	Vice Chairman	David Bronicheski	5-Nov-18	
1050-9860	Executive and Strategic Management	Chief Executive Officer	David Bronicheski	5-Nov-18	
1050-9860	Executive and Strategic Management	Chief Financial Officer	David Bronicheski	5-Nov-18	

Prepared by Roshan Ranshing Date 30 Nov, 2018

First Review by Elaine Peach Date _____

Final Review & Approval Gaetana Girardi Date _____

Oct-18

Email Response Received from	Department Description	Total employee % of time spent indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %
George Trisc	LABS Executive is a department consisting of senior leaders of shared services functions. It includes the Senior VP of Shared Services, the VP of Human Resources, the Chief Administrative Officer/Corporate Secretary and the Business Unit Compliance Director.	20	2	10.00
William Killeen	EP is a corporate shared resource group that provides short term and long term energy supply planning, gas and electric procurement services, gas scheduling, and demand forecasting services to Liberty's natural gas utilities Liberty's electric utilities in CA and NH. The team is led centrally in Oakville, with staff located in two U.S. states.	25	1	25.00
Pratfull Koli	<p>Corporate customer experience exists to provide the regions with consistent support & Vendor management and project support ensuring knowledgeable answers to operational issues, and initiatives. Five key areas of focus:</p> <ul style="list-style-type: none"> • Customer Care - Support customer inquiries from all channels • Meter Data Services / Billing Set up and billing of customers • Credit and Collections - Secure timely payments • Customer Marketing & Communications • Commitment to Communities 	115	8	14.38
John Lowson	IT Corporate represents employees and the work they perform, and 3rd party expenses (e.g. IT service providers, hardware and software maintenance, etc.) that follow a companywide standard and are essentially mandatory for the business units. Areas covered are system architecture, network, server, security, end user services and helpdesk.	805	16.1	50.00
John Lowson	IT Business represents employees and the work they perform, and 3rd party expenses that are required and/or requested by the business. The various business units have a more explicit say in what work is performed and how it is paid for. Areas covered are transition, project management and application support.	525	10.5	50.00
Timothy Deppmeyer	A group of professionals with a mandate to support operations in recognizing and controlling workplace hazards to prevent environmental, safety or security non-conformances. On-going resource to assist operations in reducing workplace risk for personnel and contractors through the administration of EHS monitoring and measuring programs. Measuring and managing security risk controls in conjunction with operations.	190	4	47.50
Luiza de Camarel	Corporate Procurement department is in charge of developing company-wide policies and procedures on company procurement as well as developing a procurement, warehousing, fleet corporate strategy. The group is involved in negotiating company-wide contracts to support multiple Liberty Utilities' entities.	210	3	70.00

Oct-18

Email Response Received from	Department Description	Total employee % of time spent indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %
Marianna Michael	Pre-construction cost modeling, securing required information and completing application forms, insurance quotation procurement, contract wording reviews, assist various business units with risk assessment to understand the implications of entering in various service/construction contracts, insurance policies placement, working with independent insurance consultants to complete lender reviews in various states of funding, claim reporting, negotiation of claim settlements, claim payment collections, paperwork relating to securing claim settlements, contractor insolvencies/contract violations meetings – advising and guiding in-house and outside council, third party subrogation demands, assist various business units with contract negotiations with contractors/vendors, budget preparation, bond procurement and placement, invoice allocation and payment.	50	1	50.00
Irene Trumble	Accounting, Tax, Reporting and Administrative Support	147.35	22	6.70
Manasa Rao	The Financial Planning & Analysis department is responsible for managing the long term planning, budgeting, forecasting and management reporting activities and processes for APUC.	230	7	32.86
Arthur Kacprzak	The Treasury department is responsible for corporate, subsidiary and project financing, enterprise wide cash management, enterprise financial risk management (FX and Interest rate) and Capital Planning	360	7	51.43
Dan Gilpin	The Internal Audit (IA) Department is an independent and objective assurance and consulting activity that is guided by a philosophy of adding value to improve the operations of APUC and its subsidiaries. It assists APUC in accomplishing its objectives by bringing a systematic and disciplined approach to evaluate and improve the effectiveness of the organization's governance, risk management, and internal control.	80	6	13.33
Corinne Brough	Provide legal support to all areas of business as needed	175	8	21.88
Peter Eichler	Enterprise Risk Management team supports the company with the identification, assessment, and mitigation of its risks.	90	3	30.00
Gaelana Girardi	The Regulatory Strategy Department is responsible for managing the regulatory strategy for all of Liberty Utilities' natural gas, electricity, and water entities in the U.S. Currently Liberty Utility operates in 12 states, and approval to operate in New York state is pending.	40	2	20.00
Gerald Tremblay	<ul style="list-style-type: none"> Establish annual and long term targets and ensure that the annual plans are built for operational and financial success. Drive financial and operational achievement of the approved business and local plans through the use of Balanced Scorecards. Develop overall organizational growth strategy and long term business plans Standardize functional processes to ensuring a common approach is used regardless of location. Support the development of a health and safety culture at Liberty Utilities that improves the quality of the workplace environment, provides an injury-free workplace and protects public security and safety. 	30	1	30.00
Michael Griffin	Strategic Planning	15	1	15.00

		Oct-18		
Email Response Received from	Department Description	Total employee % of time spent indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %
Peter Eichler	Oversight of regulatory strategy, business & community development, control & dispatch, and energy procurement teams.	30	1	30.00
Ian Tharp	<p>The Investor Relations group is responsible for all interactions, corporate messaging, and disclosures to Algonquin's institutional and retail investors.</p> <p>The Investor Relations group works on a number of matters that benefit Liberty Utilities with respect to issuing/preparing press releases, completing regulatory filings (as required by Canadian and U.S. securities laws), managing investor relationships and investor programs (e.g., conferences, analyst meetings, conference calls, etc.), managing relationships with external service providers such as Transfer Agent, news wire dissemination services, Bloomberg, etc., managing relationships with the Toronto and New York Stock Exchanges, preparing investor presentation decks (equity, debt, earnings calls, acquisitions, AGM, etc.), preparing the Annual Report and Corporate Responsibility Reports and managing their printing and distribution, assisting with AGM preparations including preparation of the proxy voting materials, and managing internal and external media news.</p>	75	3	25.00
Luisa Read	<p>Included under Transformation is the Sustainment department 9881. The department is responsible for managing the ERP system (currently Great Plains) for finance. They support Finance as well as the Customer First program in activities related to Great Plains, Concur Expense, and Hyperion Financial Management (HFM). Some example of the activities performed by this department are running reports, extracting data, managing the integrations of 3rd party software applications to Great Plains and troubleshooting data issues and supporting users.</p>	30	3	10.00
	<p>HR Operations Support to employees in Oakville : Generalized HR Support, Talent Acquisition, Policies and Procedures, Performance Management, Coaching & Organizational Design</p> <p>Overssee and administer Total Rewards for Company, including compensation, payroll and benefits, as well as HR Systems.</p> <ul style="list-style-type: none"> • Provide a framework for: <ul style="list-style-type: none"> o learning and development policies and activities o developing people through individual learning strategies • Develop Organizational programs to meet business and employee needs • Consult with the business about L&D needs by conducting training needs analysis • Establish priorities and plans for training activities and resources • Advise on training budgets and resources • Ensure trainers are qualified to deliver training • Manage enterprise-wide Learning Management System 	147.92	5	29.58
		473.34	16	29.58
		3242.35	109.6	29.58
		147.92	5	29.58
		473.34	16	29.58
		147.92	5	29.58

Oct-18

Email Response Received from	Department Description	Total employee % of time spent indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %
	<ul style="list-style-type: none"> • Provide a framework for: <ul style="list-style-type: none"> o Communication policies and activities o Create Communication strategies • Drive and Support Organizational programs to drive culture • Consult with the business about communication needs by conducting communication needs analysis • Establish priorities and plans for communication activities and resources • Advise on Comms budgets and resources • Ensure a consistent corporate message is being driven across organization • Communicate Organizational Changes • Work directly with CEO and E-Team on Corporate Culture and direction • Supporting and Organizing Corporate driven events 	59.17	2	29.58
	<p>Reception courier, lunch order, building maintenance, supply orders, landlord services, Leasehold improvements</p>	0.00	0	29.58
	<p>Response received, The following 4 employees: Kathy Turlinski, Mike, Eden, Irene Raposo, and Sherin Surrao perform Oakville facilities and maintenance support functions.</p>	118.33	4	29.58
		4189	142	29.58
Luisa Read	<p>The Transformation department includes the Customer First program. The Customer First program is a transformational set of initiatives that enables APUC's vision and creates opportunities arising from the disruption and change in the utility industry. The Customer First program will deploy a set of leading practice business processes, technology solutions and operating models that enable APUC to deliver compelling customer-centric product and service offerings in regulated and non-regulated markets. The overall Customer First solution is comprised of a number of "best-in-class" technologies including SAP, AML, GIS, ADMS, and others that will enable the capabilities that are needed to deliver the service offerings or standards to customers and stakeholders. This department is focused strictly on ERP specific technologies and capabilities.</p>	0	6	0.00

Oct-18

Email Response Received from	Department Description	Total employee % of time spent Indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %
Kaly Cook	<p>The Transformation department includes the Customer First program. The Customer First program is a transformational set of initiatives that enables APUC's vision and creates opportunities arising from the disruption and change in the utility industry. The Customer First program will deploy a set of leading practice business processes, technology solutions and operating models that enable APUC to deliver compelling customer-centric product and service offerings in regulated and non-regulated markets. The overall Customer First solution is comprised of a number of "best-in-class" technologies including SAP, AML, GIS, ADMS, and others that will enable the capabilities that are needed to deliver the service offerings or standards to customers and stakeholders. This department is focused strictly on CIS specific technologies and capabilities.</p>	0	2	0.00
David Holmes	<p>The Transformation department includes the Customer First program. The Customer First program is a transformational set of initiatives that enables APUC's vision and creates opportunities arising from the disruption and change in the utility industry. The Customer First program will deploy a set of leading practice business processes, technology solutions and operating models that enable APUC to deliver compelling customer-centric product and service offerings in regulated and non-regulated markets. The overall Customer First solution is comprised of a number of "best-in-class" technologies including SAP, AML, GIS, ADMS, and others that will enable the capabilities that are needed to deliver the service offerings or standards to customers and stakeholders. This department is focused strictly on EAM specific technologies and capabilities.</p>	0	3	0.00
David Pasieka	<p>The Transformation department includes the Customer First program. The Customer First program is a transformational set of initiatives that enables APUC's vision and creates opportunities arising from the disruption and change in the utility industry. The Customer First program will deploy a set of leading practice business processes, technology solutions and operating models that enable APUC to deliver compelling customer-centric product and service offerings in regulated and non-regulated markets. The overall Customer First solution is comprised of a number of "best-in-class" technologies including SAP, AML, GIS, ADMS, and others that will enable the capabilities that are needed to deliver the service offerings or standards to customers and stakeholders. This department is focused strictly on OCM and PMO specific activities related to the Customer First program.</p>	0	4	0.00
		0	15	0.00

Response Received from	Job Description	Total employee % of time spent Indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %
------------------------	-----------------	---	---	--------------------

Oct-18

Email Response Received from	Department Description	Total employee % of time spent indirectly on capital related projects	Number of Employees as per Survey Response Form	Total Department %
David Bronicheski	The executive team is responsible for the overall planning, budgeting, approving, and strategizing (including regulatory rate cases) on a number of capital investments throughout the organization (e.g., infrastructure, IT, plant and equipment, vehicles), arranging for capital financing, and preparing and reviewing capital related items/projects for Board approval.	40	1	40
David Bronicheski	The executive team is responsible for the overall planning, budgeting, approving, and strategizing (including regulatory rate cases) on a number of capital investments throughout the organization (e.g., infrastructure, IT, plant and equipment, vehicles), arranging for capital financing, and preparing and reviewing capital related items/projects for Board approval.	40	1	40
David Bronicheski	The executive team is responsible for the overall planning, budgeting, approving, and strategizing (including regulatory rate cases) on a number of capital investments throughout the organization (e.g., infrastructure, IT, plant and equipment, vehicles), arranging for capital financing, and preparing and reviewing capital related items/projects for Board approval.	50	1	50
APUC Total		130	3	43.3

2019 INDOH Rate

4319

145

29.87

Finance verification to reconcile # LU Canadian EES to HRIS extract

Response Status	Number of Employees as per HR Data	Verification	Comments	Final
Received	2	-	Response received, employee data verified with HR Data	Final
Received	1	-	Response received, employee data verified with HR Data	Final
Received	9	1	Response received, employee data verified with HR Data, 1 excluded employee has left the organization	Final
Received	23	7	Response received, employee data verified with HR Data, requested for signed forms	Final
Received	15	5	Response received, employee data verified with HR Data, requested for signed forms	Final
Received	10	2	Response received, The following 4 employees: Kathy Turlinski, Mike, Eden, Irene Raposo, and Sherin Surrao are not included on this form as they perform Oakville facilities and maintenance support functions. The 4 employees excluded are included as average percentage	Final
Received	3	-	Response received, employee data verified with HR Data	Final

Response Status	Number of Employees as per HR Data	Verification	Comments	Final
Received	1	-	Response received, employee data verified with HR Data	Final
Received	32	10	Response received, employee data verified with HR Data, excluded 10 employees - Excluding 9 dedicated LPCo employees & 1 Co-op Student	Final
Received	14	7	Response received, employee data verified with HR Data, excluded 7 employees - Excluding 7 dedicated LPCo employees	Final
Received	7	-	Response received, employee data verified with HR Data	Final
Received	6	-	Response received, employee data verified with HR Data, Survey response included MO employees but this sheet includes only Oakville employees, emailed Dan to include only Oakville employees	Final
Received	8	-	Response received, employee data verified with HR Data	Final
Received	3	-	Response received, employee data verified with HR Data	Final
Received	2	-	Response received, employee data verified with HR Data,	Final
Received	1	-	Response received, employee data verified with HR Data,	Final
Received	1	-	Response received, employee data verified with HR Data	Final

Finance verification to reconcile # LU Canadian EES to HRIS extract

Finance verification to reconcile # LU Canadian EEs to HRIS extract

Response Status	Number of Employees as per HR Data	Verification	Comments	Final
Received	1	-	Response received, employee data verified with HR Data	Final
Received	3	-	Response received, employee data verified with HR Data	Final
Received	3	-	Response received, employee data verified with HR Data	Final
	5	-		
	16	-		
	5	-		
	31			

Response Status	Number of Employees as per HR Data	Verification	Comments	Final
	2	-		
	0	-	Response received, The following 4 employees: Kathy Turlinski, Mike, Eden, Irene Raposo, and Sherin Surrao are not included on EHS form as they perform Oakville facilities and maintenance support functions. Hence, they are applied average percentage	
Received	6	-	Response received, employee data verified with HR Data	Final

Finance verification to reconcile # LU Canadian EES to HRIS extract

Department not in HRIS but created in budgets #N/A

Department already included above in row 8 10.00

Finance verification to reconcile # LU Canadian EEs to HRIS extract

Response Status	Number of Employees as per HR Data	Verification	Comments	Final
Received	2	-	Response received, employee data verified with HR Data	Final
Received	3	-	Response received, employee data verified with HR Data	Final
Received	4	-	Response received, employee data verified with HR Data	Final
Response Status	Number of Employees as per HR Data	Verification	Comments	Final

Finance
 verification to
 reconcile # LU
 Canadian EES
 to HRIS extract

Response Status	Number of Employees as per HR Data	Verification	Comments	Final
Received	1	-	Response received, employee data verified with HR Data	Final
Received	1	-	Response received, employee data verified with HR Data	Final
Received	1	-	Response received, employee data verified with HR Data	Final

EXHIBIT LW-DT4



LIBERTY UTILITIES 2018 & 2019 INDIRECT OVERHEAD CAPITALIZATION STUDY RESULTS

PA CONSULTING GROUP

April 8, 2019

CONTENTS

CONTENTS	2
EXECUTIVE SUMMARY	3
CHAPTER 1: PA STUDY APPROACH, OBSERVATIONS AND RECOMMENDATIONS	5
OVERVIEW	5
PA APPROACH	7
SUMMARY OF FINDINGS AND RECOMMENDATIONS	8
CONCLUSION	9
CHAPTER 2: LIBERTY UTILITIES 2018 AND 2019 INDIRECT OVERHEAD (INDOH) STUDY PROCESS	10
STEPS IN THE APUC/LUC INDOH STUDY PROCESS	10
INDIRECT OVERHEAD CAPITALIZATION FORM	10
REVIEW AND VERIFICATION PROCESS	12
CHAPTER 3: 2018 AND 2019 INDOH STUDY RESULTS	14



EXECUTIVE SUMMARY

Corporate services play an important role in a utility's capital program. The following administrative activities, among others, are all essential elements of a successful capital program.

- Attending a capital budget meeting or preparing a capital budget.
- Preparing financial statements for capital expenditures.
- Ordering materials for capital projects.
- Accounting duties performed on capital projects.
- Customer communications for capital projects.
- Attending capital project requirement, resource and vendor meetings.
- Preparing a business case for capital projects.

Further, active involvement in the capital program by executive management to provide leadership and oversight are also important elements of a successful capital program.

Fully accounting for the corporate services aspects of a capital project is important in that the complete cost of a project provides important information to all involved in the process. Further, including appropriate amounts of administrative and support services costs (referred to as indirect overheads in this report) as a component of the cost of long-lived utility plant assets contributes to intergenerational equity among customers.

Organizationally, employees providing administrative and support services to the regulated utilities of Liberty Utilities Co. ("Liberty Utilities") are primarily located in three business units: Algonquin Power & Utilities Corp. ("APUC"), Liberty Utilities (Canada) Corp. ("LUC" or the "Company"), and Liberty Utilities Service Corp. ("LUSC"). APUC and LUC employees are located in Oakville, Ontario and depending on the nature of the function, provide shared services to both Liberty Utilities and Liberty Power or individually to either Liberty Utilities or Liberty Power. Virtually all US-based employees of Liberty Utilities are LUSC employees.¹ LUSC shared services employees are organized similar to the Canadian employees in that some employees support both Liberty Utilities and Liberty Power while others support only Liberty Utilities. Among the employees supporting only Liberty Utilities, some are regional employees supporting multiple regulated utilities located in either the East, Central or West Regions. LUSC "non-shared" employees are dedicated to specific utilities.

PA Consulting Group (PA) was retained by the Company to review the reasonableness of the approach used by the Company for completing the 2018 and 2019 Indirect Overhead ("INDOH") Study ("Study") for APUC and LUC and the calculation of the 2018 and 2019 INDOH rates using the results of the study. This was accomplished by comparing the Company's current practices to common industry practices based on similar studies performed by PA and studies reviewed by PA. Industry practices to account for indirect capital overheads, typically referred to as "capitalized A&G", are guided by FERC and NARUC regulatory accounting standards.

¹ California employees working for CalPeco, Apple Valley, and Park utilities are employed by those utilities, not by LUSC.

The increase in APUC/LUC INDOH percentages from 21% based on the 2013 study to 32.55% and 32.08%% (2018 and 2019 rates respectively) based on the current Study in large part reflects increasing levels of capital spend; for example, in 2013, Liberty Utilities had \$98.5 million in additions to utility plants, while in 2017, this amount had increased to \$397.9 million. The Company forecasts capital expenditures to average \$1.0 billion annually for the period 2019 through 2022.

In our opinion, the approach used by the Company in completing the APUC/LUC indirect overhead study is reasonable and within common industry practices, and the calculated INDOH percentages for APUC/LUC (32.55% for 2018 and 32.08% for 2019) resulting from the study are reasonable.



CHAPTER 1: PA STUDY APPROACH, OBSERVATIONS AND RECOMMENDATIONS

OVERVIEW

PA Consulting Group (PA) was retained by the Company to review the reasonableness of the approach used by the Company for completing the 2018 and 2019 Indirect Overhead (“INDOH”) Study (“Study”) for APUC and LUC and the calculation of the INDOH rates using the results of that study. This was accomplished by comparing the Company’s current practices to common industry practices based on similar studies performed by PA and studies reviewed by PA.

Since 2010, PA has completed six A&G/indirect overhead capitalization studies on behalf of U.S. regulated utilities, has reviewed practices at several other North American utilities in connection with other regulatory accounting engagements, and has reviewed A&G capitalization studies at other regulated utilities as part of our research in this area. Our prior experience with industry practices as well as our familiarity with regulatory accounting guidance forms the basis for the conclusions reached in performing this review,

Industry practices to account for indirect capital overheads, typically referred to as “capitalized A&G”, are guided by FERC and NARUC regulatory accounting standards. In our opinion, an approach which assesses a cost’s eligibility to be capitalized based on whether that A&G work and/or cost would be eliminated over time if the construction program were eliminated is consistent with both the NARUC USoA and common industry practices. This is the approach taken by the Company in completing the 2018 and 2019 Study.

The Company recently completed its 2018 and 2019 indirect overhead study based on a survey of all cost center managers to identify the percentage of time cost center employees spend supporting capital projects. These survey results formed the basis of the calculation of the combined indirect overhead rate for APUC/LUC. The indirect overhead rate is used by Liberty Utilities’ regulated utilities operating in the United States to apportion allocations from APUC and LUC to specific capital projects.

Both FERC and NARUC provide guidance to U.S. regulated utilities related to the capitalization of the costs of services provided in support of capital activities as shown in the table below.

Source	Guidance
Utility Plant Instruction No. 3 included in the FERC Uniform System of Accounts (Gas & Electric)	(12) General administration capitalized includes the portion of the pay and expenses of the general officers and administrative and general expenses applicable to construction work.
Utility Plant Instruction No. 4 included in the FERC Uniform System of Accounts (Gas & Electric)	A. All overhead construction costs, such as engineering, supervision, general office salaries and expenses, construction engineering and supervision by others than the accounting utility, law expenses, insurance, injuries and damages, relief and pensions, taxes and interest, shall be charged to particular jobs or units on the basis of the

	<p>amounts of such overheads reasonably applicable thereto, to the end that each job or unit shall bear its equitable proportion of such costs and that the entire cost of the unit, both direct and overhead, shall be deducted from the plant accounts at the time the property is retired.</p> <p>B. As far as practicable, the determination of pay roll charges includible in construction overheads shall be based on time card distributions thereof. Where this procedure is impractical, special studies shall be made periodically of the time of supervisory employees devoted to construction activities to the end that only such overhead costs as have a definite relation to construction shall be capitalized. The addition to direct construction costs of arbitrary percentages or amounts to cover assumed overhead costs is not permitted.</p> <p>C. For major utilities, the records supporting the entries for overhead construction costs shall be so kept as to show the total amount of each overhead for each year, the nature and amount of each overhead expenditure charged to each construction work order and to each electric plant account, and the bases of distribution of such costs.</p>
<p>Interpretation No. 59 of the NARUC USoA² (Gas & Electric)</p>	<p>In general, it is believed that the incremental cost basis is the preferred method of determining amounts of administrative and general expenses which should be capitalized. Under this method only the costs specifically incurred for construction - costs which would not be incurred if construction were not undertaken - are chargeable to construction. The use of this plan will avoid the effect of showing greater net income merely because of increased construction work. Where the incremental cost basis is not employed, general and administrative expenses can properly be distributed to construction only if studies are made to determine the amounts thereof which relate to construction activities. In the case of compensation for personal services, such studies should be based upon time records or periodic surveys of the activities of employees. Where daily time reports are not in effect, periodic studies should be made at least once a year and more frequently if construction activities fluctuate considerably. Such studies should show each employee's activities and the proportion of his time which is includible in construction account. Where the expenditures relate to other than compensation for personal services, it must be shown (1) that the expenditure has a relationship to construction activities and (2) that a reasonable basis has been evolved for determining the amount of proportion properly capitalizable. In no event is it permissible to assign to construction a proportion or percentage of a particular class of expenditures without first having established the relationship of the expenditures in question to construction work.</p> <p>The records supporting allocations of administrative and general expenses to construction should; therefore, show (1) the relationship of the particular function to construction activities, (2) the proportion of each employee's time or each particular expenditure allocable to construction, and (3) the method of determining (2), that is time studies, daily time reports, etc.</p>
<p>Uniform System of Accounts for Class A Water and Wastewater Utilities (NARUC, 1996)</p>	<p>19. Utility Plant - Components of Construction Cost</p> <p>(12) "General administration capitalized" includes the portion of the pay and expenses of the general officers and administrative and general expenses applicable to construction work.</p> <p>20. Utility Plant - Overhead Construction Costs</p>

² Source: Interpretations of Uniform System of Accounts for Electric and Gas Utilities, September 1988, National Association of Regulatory Utility Commissioners

	<p>A. All overhead construction costs, such as engineering, supervision, general office salaries and expenses, construction engineering and supervision by others than the accounting utility, legal expenses, insurance, injuries and damages, relief and pensions, taxes and allowance for funds used during construction, shall be charged to particular jobs or units on the basis of the amounts of such overheads reasonably applicable thereto, so that each job or unit shall bear its equitable proportion of such costs and that the entire costs of the unit, both direct and overhead, shall be deducted from the plant accounts at the time the property is retired.</p> <p>B. As far as practicable, the determination of payroll charges includible in construction overheads shall be based on time card distributions thereof. Where this procedure is impractical, special studies shall be made periodically of the time of supervisory employees devoted to construction activities so that only such overhead costs as have a definite relation to construction shall be capitalized. The addition to direct construction costs of arbitrary percentages or amounts to cover assumed overhead costs is not permitted.</p> <p>C. The records supporting the entries for overhead construction costs shall be so kept as to show the total amount of each overhead for each year, the nature and amount of each overhead expenditure charged to each construction work order and to each utility plant account, and the basis of distribution of such costs.</p>
--	---

In the following section we describe in detail the approach used to complete the requested work.

PA APPROACH

To complete the assessment of the Company's current practices for capitalizing indirect overheads for APUC/LUC, PA completed the following tasks.

- Identified those corporate organizations providing support services to the regulated utilities, both company and department.
- Identified current practices used to capitalize indirect overheads for the services provided by APUC and LUC.
- We reviewed the approach taken to complete the APUC/LUC 2018 and 2019 indirect overhead study and performed the following.
- Assessed the instructions provided to cost center managers when completing the survey to identify work performed in support of capital activities against NARUC and FERC USoA guidance and common industry practices. Based on previous studies completed by PA, these activities may include, but not be limited to, the following:³
 - ✓ Providing leadership regarding capital expenditure resource allocation decisions and spend levels (i.e., senior executives)
 - ✓ Developing long-term plans and forecasts of capital expenditures
 - ✓ Developing capital budgets
 - ✓ Processing, validating, correcting time cards with charges to construction projects
 - ✓ Processing, validating, correcting vouchers for charges to construction projects
 - ✓ All tasks associated with closing construction and retirement work orders
 - ✓ Monitoring actual expenditures compared to budget for capital expenditures and explaining budget variances
 - ✓ Recruiting and hiring employees performing construction activities
 - ✓ Labor negotiations for represented employees performing construction activities
 - ✓ Providing insurance coverage for construction activities
 - ✓ Auditing construction activities
 - ✓ Workers comp claims for field workers

³ For Liberty Utilities, some of the activities on this list are performed by LUSC employees rather than APUC/LUC employees.

- ✓ Time spent arranging financing for capital projects
 - ✓ Legal work for construction contracts
 - ✓ Manage IT infrastructure (e.g., networks, telecommunications, computer hardware, etc.) and information systems supporting construction
 - ✓ Time spent by Procurement on capital related projects
 - ✓ Time devoted to Resource Planning, Scheduling and Dispatching related to capital projects
 - ✓ Directing and supervising employees with responsibilities for any of the above.
- Reviewed survey responses for consistency with the above guidance.
 - Assessed whether the study process considered the use of statistical bases for the determination of capitalization percentages where appropriate.
 - Assessed whether the study process separately assessed non-labor expenses (e.g., external audit fees, hardware / software maintenance fees) where appropriate.
 - Reviewed the methodology used to develop the indirect overhead capitalization percentage based on the survey results.
 - Developed conclusions and recommendations based on the work performed.

Based on our review of current capitalization practices at Liberty Utilities, PA believes that current policies are reasonable while providing opportunities for enhancement as allowed for by the USoA to more fully align with common industry practices.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. The definition of capital related activities as described in the completed surveys are consistent with those activities considered to be capital-related as used by PA Consulting when completing similar A&G capitalization studies for U.S. regulated utilities. In our opinion, this definition of capital-related activities is consistent with FERC and NARUC guidance.
2. The calculated combined percentages for APUC/LUC appropriately reflect the relative cost of services provided by APUC and LUC.
3. The survey form does not currently ask cost center heads to identify the percentage of departmental labor which direct charges capital projects. This question should be asked with the calculation of the weighted average then adjusted to reflect only departmental labor which is expensed. As an example, see the IT discussion below. We expect that other administrative departments, for example, Legal, also direct charge specific capital projects.
4. For Human Resources (HR) and Information Technology (IT), PA has generally found when completing similar studies that the connection between services provided and how those services support capital activities is less direct and requires a statistical solution rather than a “survey” solution in developing the capitalization percentage.
 - a. Human Resources – The current study uses the overhead study’s overall capitalization percentage for the HR cost centers. While this is a statistical-type approach, PA suggests that a more theoretically-supportable approach is to develop a percentage based on the percentage of total employees (utility, regional and APUC/LUC) benefiting from the specific services provided who directly or indirectly charge construction projects. Based on a preliminary analysis, differences between the current study results and the recommended approach are not significant enough to warrant adjustment as part of the current study. PA recommends that the approach for these HR departments (as well as Training and EH&S) be re-visited in subsequent studies.
 - b. Information Technology – To complement survey responses, PA recommends a multi-step analytical / statistical approach such as the following to develop capitalization percentages for IT costs.⁴
 - i. Identify and categorize IT services. While this categorization can quickly become very granular, we recommend a higher-level categorization of no more than a half dozen or so cost pools. One suggested categorization is Applications, Operations and Infrastructure. In previous studies, we’ve found a need to breakdown the “Applications” cost pool as different groups of employees often benefit from different applications.

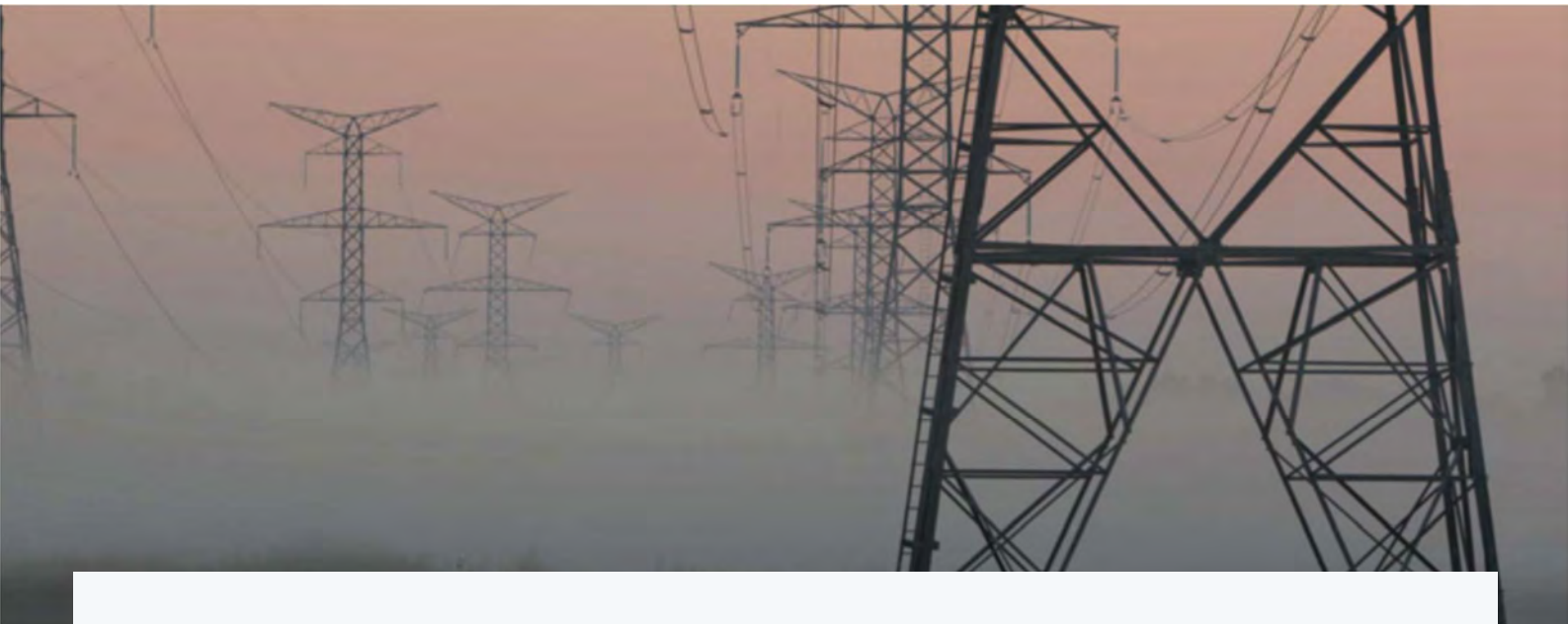
⁴ About 80% of IT non-labor costs are direct charged to the utilities and are excluded from the pool of dollars capitalized based on the results of this study. There are differing practices in place at the individual utilities regarding the capitalization of these, and other, direct charged costs.

- ii. Identify appropriate cost drivers by category. These cost drivers may be based on a survey approach depending on the nature of the services provided.
 - iii. Develop a capitalization percentage that properly weights both labor and non-labor spend.
 - c. Information Technology – For certain IT cost centers, the survey responses were revised based on our review to more clearly describe the breakdown between labor direct charged to capital projects and labor expensed; and for expensed labor, to better reflect the percent of time spent supporting capital project.
5. To develop the final combined APUC/LUC INDOH rate for 2018, the Company adjusted the study results calculated prior to our review for the issues identified in 4.c. above and then weighted the 2018 individual APUC and LUC INDOH rates based on 2018 budgeted APUC and LUC allocated shared services dollars.
6. To develop the final combined APUC/LUC INDOH rate for 2019, the Company weighted the individual 2019 APUC and LUC INDOH rates based on 2019 budgeted APUC and LUC allocated shared services dollars.
7. During calendar 2018, the regulated utilities properly used the calculated percentage from the prior study (21%) to capitalized allocated APUC/LUC costs. Now that the 2018 study is complete, we recommend that the updated INDOH percentage be used in place of the prior study percentage.
8. Now that the 2019 study is complete, we recommend that the 2019 INDOH percentage should be used in place of the 2018 percentage going forward.

CONCLUSION

The increase in INDOH percentages from 21% (based on the 2013 study) to 32.55% and 32.08%, for 2018 and 2019 respectively, based on the current study in large part reflects increasing levels of capital spend; for example, in 2013, Liberty Utilities had \$98.5 million in additions to utility plants, while in 2017, this amount had increased to \$397.9 million. The Company forecasts capital expenditures to average \$1.0 billion annually for the period 2019 through 2022.

In our opinion, the approach used by the Company in completing its 2018 and 2019 APUC/LUC indirect overhead study is reasonable and within common industry practices and the calculated INDOH percentages for APUC/LUC resulting from the study (32.55% for 2018 and 32.08% for 2019) are reasonable.



CHAPTER 2: LIBERTY UTILITIES 2018 AND 2019 INDIRECT OVERHEAD (INDOH) STUDY PROCESS

STEPS IN THE APUC/LUC INDOH STUDY PROCESS

In late 2018, the Company completed an indirect overhead study for the Canadian employees of Liberty Utilities (Canada) Corp. (LUC) and Algonquin Power & Utilities Corp. (APUC). The previous study was completed in 2013. A survey process was used to identify the time spent indirectly supporting capital projects by department.

The design of the survey form was based on the collaborative efforts of the Corporate Accounting and Regulatory teams.

The study was kicked-off in mid-July with a WebEx meeting to explain the new INDOH survey form and provide guidance to the department heads (or their representatives) on how the form should be completed. Completed surveys were required for each APUC/LUC department. A supporting presentation along with a completed survey example was provided and then later emailed to the teams.

It is the Company's intention that these surveys will be refreshed periodically (between every 3-5 years based on standard rate case cycle).

INDIRECT OVERHEAD CAPITALIZATION FORM

The blank survey form sent to department heads at the start of the study process is provided below.



**LIBERTY UTILITIES
INDIRECT OVERHEAD CAPITALIZATION FORM**

BACKGROUND: A capital project is defined as a fixed asset that is used to provide utility services to customers; such as land, buildings, equipment, plant, computer hardware and software, and other similar projects. Capital expenses consist of two components: direct costs (time/expenses coded to a specific budgeted capital project) and indirect overhead that supports capital projects excluding acquisition projects (percentage of indirect costs).

PURPOSE OF FORM: To be completed by Liberty Utilities (Canada) Corp and Algonquin Power & Utilities Corp., departments to help determine and support the derived indirect overhead percentage.

INSTRUCTIONS: Review your department's duties applicable to regulated utilities and time spent on tasks related to capital projects during the past year and provide the average percentage of time spent on such activities, along with a few responsibilities that are performed for time spent on capital projects.

The following are some examples of capital project related activities:

- Attending a capital budget meeting or preparing a capital budget.
- Preparing financial statements for capital expenditures.
- Ordering materials for capital projects.
- Accounting duties performed on capital projects.
- Customer communications for capital projects.
- Attending capital project requirement, resource and vendor meetings.
- Preparing a business case for capital projects.



**LIBERTY UTILITIES
INDIRECT OVERHEAD CAPITALIZATION FORM**

Department: _____

Company Code & Cost Code: _____

Number of Oakville employees: _____

Department Description:

--

Capital Activities:

How much of your group's time is spent on capital projects or supporting capital projects?
List a few responsibilities that are performed if you have any time spent on capital projects.

Department Staff –Canadian Employees Only

List the names, job titles, and percentage of time spent indirectly on capital related projects of all employees for Liberty Utilities

First Name	Last Name	Job Title	%
		Total %	

On average, our Department spends about ____% (Total employee % /Number of employees) of our time indirectly on capital related projects for Liberty Utilities

_____ Department Manager Company Name (LUC or APUC)

_____ Signature (PRINT INITIALS) Date

By indicating my initials above, I confirm the above percentage has been reviewed and agreed with by my manager.

REVIEW AND VERIFICATION PROCESS

Upon receipt of the completed surveys, Regulatory personnel entered the survey data into a spreadsheet and performed the following tasks.

- Confirmed that all required responses were received. Followed-up with departments for whom responses were not received.
- Reviewed responses for completeness.
- Reconciled the total number of employees reported to data provided from HRIS.
- Adjusted the reported data for employees dedicated to Liberty Power or whose time was direct charged to capital projects.
- Calculated the overall percentage for LUC for all departments except HR, Training, Facilities and Rent, and EH&S.
- Used the LUC percentage for the remaining departments and calculated a 2018 and 2019 total percentage for LUC.
- Calculated the indirect overhead percentage for APUC.
- Calculated a combined INDOH rate for both 2018 and 2019 for APUC/LUC by weighting the indirect overhead percentages for APUC and LUC individually with their respective allocated shared services 2018 and 2019 budget amounts as provided by Corporate Accounting.
- Activities related to business development and utility acquisitions were not included in the survey.

Following the work completed by Regulatory to develop the overall 2018 and 2019 weighted INDOH %, Corporate Finance performed the following first level review:

- Ensured departmental submissions reconciled to '2018 capitalization survey' tab and the '2019' tab
- Reconciled department and employee lists to HRIS Excel extract to ensure completeness

- Reviewed department submissions greater than 50% (threshold is based on collective experience as anything >50% seems high and should be investigated)
- Confirmed accuracy of average department calculations
- Reviewed average calculation in column K on '2018 Capitalization survey' tab and '2019' tab

The Director, Regulatory Accounting performed a following second level review:

- Ensured departmental submissions reconciled to '2018 capitalization survey' tab and '2019' tab
- Liaised with department with submissions greater than 50%
- Reviewed average calculation in column K on '2018 Capitalization survey' tab and '2019' tab
- Reviewed department listing to ensure it was complete

CHAPTER 3: 2018 AND 2019 INDOH STUDY RESULTS

The combined APUC/LUC indirect overhead percentage for 2018 (based on 2018 budgeted APUC and LUC allocated shared services costs) resulting from the study process described in the preceding section is 32.55% as shown in the following table.⁵

	2018 Budget (\$)	% of 2018 Budget	Calculated INDOH %	Weighted INDOH %
LUC	38,891,360	78%	29.55%	23.12%
APUC	10,807,854	22%	43.33%	9.42%
Total	49,699,214	100%	NA	32.55%

The combined APUC/LUC indirect overhead percentage for 2019 resulting from the study process described in the preceding section is 32.08% as shown in the following table.

	2019 Budget (\$)	% of 2019 Budget	Calculated INDOH %	Weighted INDOH %
LUC	38,371,335	82%	29.58%	24.21%
APUC	8,520,063	12%	43.33%	7.87%
Total	46,891,398	100%	NA	32.08%



PA Consulting Group.

Make the Difference.

An independent firm of over 2,600 people, we operate globally from offices across the Americas, Europe, the Nordics, the Gulf and Asia Pacific.

We are experts in consumer, defence and security, energy and utilities, financial services, government, healthcare, life sciences, manufacturing, and transport, travel and logistics.

Our deep industry knowledge together with skills in management consulting, technology and innovation allows us to challenge conventional thinking and deliver exceptional results that have a lasting impact on businesses, governments and communities worldwide.

Our clients choose us because we challenge convention to find the solutions that really work in practice, not just on paper. Then we roll up our sleeves and get the job done.

PA. Make the Difference.

New York Office

PA Consulting Group Inc.
45th Floor
The Chrysler Building
405 Lexington Avenue

New York
NY 10174
USA
+1 212 973 5900

paconsulting.com

This report has been prepared by PA Consulting Group on the basis of information supplied by the client, third parties (if appropriate) and that which is available in the public domain. No representation or warranty is given as to the achievability or reasonableness of future projections or the assumptions underlying them, targets, valuations, opinions, prospects or returns, if any, which have not been independently verified. Except where otherwise indicated, the report speaks as at the date indicated within the report.

All rights reserved

© PA Knowledge Limited 2019

This report is confidential to the organisation named herein and may not be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical or otherwise, without the prior written permission of PA Consulting Group. In the event that you receive this document in error, you should return it to PA Consulting Group, PA Consulting Group Inc., 45th Floor, The Chrysler Building, 405 Lexington Avenue, New York, NY 10174, USA. PA Consulting Group accepts no liability whatsoever should an unauthorised recipient of this report act on its contents.

1 SHAPIRO LAW FIRM, P.C.
Jay L. Shapiro (No. 014650)
2 1819 E. Morten Avenue, Suite 280
Phoenix, Arizona 85020
3 Telephone (602) 559-9575
jay@shapslawaz.com

4 LIBERTY UTILITIES
5 Todd C. Wiley (No. 015358)
12725 W. Indian School Road, Suite D-101
6 Avondale, Arizona 85392
Todd.Wiley@LibertyUtilities.com

7 Attorneys for Liberty Utilities (Black Mountain Sewer) Corp.
8

9 **BEFORE THE ARIZONA CORPORATION COMMISSION**

10
11 IN THE MATTER OF THE APPLICATION
OF LIBERTY UTILITIES (BLACK
12 MOUNTAIN SEWER) CORP., AN
ARIZONA CORPORATION, FOR A
13 DETERMINATION OF THE FAIR VALUE
OF ITS UTILITY PLANTS AND
14 PROPERTY AND FOR INCREASES IN ITS
RATES AND CHARGES FOR UTILITY
15 SERVICE BASED THEREON.

DOCKET NO: SW-02361A-19-

16
17
18 **DIRECT TESTIMONY**

19 **OF**

20 **THOMAS J. BOURASSA**

21
22 **RATE BASE, INCOME STATEMENT & RATE DESIGN**

23
24 **June 27, 2019**

25

26

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

TABLE OF CONTENTS

I. INTRODUCTION AND PURPOSE OF TESTIMONY 1

II. OVERVIEW OF APPLICATION 3

III. RATE BASE, INCOME STATEMENT AND SUMMARY SCHEDULES 4

 A. A, E, and F Schedules 4

 B. B Schedules (Rate Base) 5

 1. Plant-in-Service (PIS) and Accumulated Depreciation (A/D) 6

 2. Contributions-in-Aid of Construction (CIAC) 9

 3. Advances-in-Aid of Construction (AIAC) 9

 4. Deferred Regulatory Assets 10

 5. Accumulated Deferred Income Taxes (ADIT) 13

IV. C SCHEDULES (INCOME STATEMENT) 14

V. RATE DESIGN (H SCHEDULES) 18

1 **I. INTRODUCTION AND PURPOSE OF TESTIMONY.**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Thomas J. Bourassa. My business address is 139 W. Wood Drive,
4 Phoenix, Arizona 85029.

5 **Q. WHAT IS YOUR PROFESSION AND BACKGROUND?**

6 A. I am a self-employed, Certified Public Accountant providing consulting and
7 general accounting services to utility companies. I have a B.S. in Chemistry and
8 Accounting from Northern Arizona University (1980), and an M.B.A. with an
9 emphasis in Finance from the University of Phoenix (1991).

10 **Q. WOULD YOU BRIEFLY SUMMARIZE YOUR PRIOR WORK AND**
11 **REGULATORY EXPERIENCE?**

12 A. Prior to becoming a private consultant, I was employed by High-Tech Institute,
13 Inc., and served as controller and chief financial officer. Prior to working for
14 High-Tech Institute, I worked as a division controller for the Apollo Group, Inc.
15 Before joining the Apollo Group, I was employed at Kozoman & Kermode, CPAs.
16 In that position, I prepared compilations and other write-up work for water and
17 wastewater utilities, as well as tax returns.

18 In my private practice, I have prepared and/or assisted in the preparation of
19 dozens of water and wastewater utilities rate applications before the Arizona
20 Corporation Commission (“Commission”). I have also testified in regulatory
21 proceedings before public utility commissions in Texas, California, Montana,
22 Arkansas and Alaska. A copy of my regulatory work experience is attached as
23 **Exhibit TJB-RB-DT1.**

24 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?**

25 A. On behalf of Liberty Utilities (Black Mountain Sewer) Corp. (“Liberty Black
26 Mountain” or the “Company”). Liberty Black Mountain is seeking a determination

1 of its fair value rate base (“FVRB”) and the setting of rates and charges for
2 wastewater utility service based on that finding. For convenience, my direct
3 testimony is being filed in two volumes.

4 **Q. WHAT IS THE PURPOSE OF THIS VOLUME OF YOUR DIRECT**
5 **TESTIMONY?**

6 A. To address all the components of the revenue requirement and rates, except the
7 cost of capital. I address rate base, income statement (revenue and operating
8 expenses), required increase in revenue, and rate design and proposed rates and
9 charges for service. I am sponsoring the direct schedules (A through C and E, F,
10 and H), which are filed concurrently herewith. I was responsible for the
11 preparation of these schedules based on my investigation and review of Liberty
12 Black Mountain’s relevant books and records.

13 **Q. WHAT IS COVERED IN THE SECOND VOLUME OF YOUR DIRECT**
14 **TESTIMONY**

15 A. In a second, separate volume of my direct testimony, I address cost of capital and
16 sponsor the D schedules. As shown on the D-1 Schedules, the proposed capital
17 structure for the Company is 46 percent debt and 54 percent equity. Liberty Black
18 Mountain’s proposed weighted cost of long-term debt is 3.56 percent and required
19 cost of common equity is 10.50 percent. The weighted average cost of capital
20 (“WACC”) for the Company is 7.31 percent.

21 **Q. WHAT IS THE COMPANY’S PROPOSED CAPITAL STRUCTURE?**

22 A. In the Company’s 2015 rate case, the Commission authorized a capital structure of
23 70 percent equity and 30 percent debt. In this rate case, the Company is proposing
24 a capital structure of 54 percent equity and 46 percent debt.

25
26

1 **II. OVERVIEW OF APPLICATION.**

2 **Q. PLEASE SUMMARIZE LIBERTY BLACK MOUNTAIN'S APPLICATION.**

3 A. Liberty Black Mountain's FVRB is \$14,408,605 and the Company is seeking total
4 revenues of \$3,352,176. The increase in annual revenues necessary to provide for
5 recovery of Company's operating expenses and a 7.31 percent return on rate base is
6 approximately \$878,785, an increase of approximately 35.53 percent over the
7 adjusted and annualized test year revenues of \$2,473,391.

8 **Q. WHAT ARE THE MAIN DRIVERS OF THE COMPANY'S REQUESTED**
9 **INCREASE IN THIS CASE?**

10 A. The main driver of the requested revenue increase in this case is costs incurred by
11 Liberty Black Mountain to shut down the Boulder's Wastewater Treatment Plant
12 ("Boulders WWTP").

13 **Q. HOW MUCH DID THE PLANT CLOSURE COST?**

14 A. Matthew Garlick, the Company's President has a table identifying the specific
15 plant closure costs in his direct testimony and the total comes to approximately
16 \$11 million.¹ Some of these costs have been recognized in the prior rate case. For
17 example, \$1,133,080 of costs were dealt with in the last rate case where \$825,080
18 was recognized as a deferred regulatory asset, \$108,000 was recognized through
19 additional revenues through an increased effluent rate to the Boulders Resort, and
20 the Company agreed to forego recovery of \$200,000 of costs.² In the instant case,
21 the Company is seeking recognition of \$8,698,508 of additional plant closure
22 costs,³ about \$210,000 of non-plant closure related post-test year plant, and
23 \$1,200,000 of additional City of Scottsdale wastewater treatment capacity

24 ¹ Direct Testimony of Matthew Garlick ("Garlick Dt.") at 20.

25 ² Decision 75510 (April 22, 2016) at 12:26 – 13:6.

26 ³ About \$7,175,909 was placed into service in 2018 but not transferred from construction work in progress as of the end of 2018, and the remaining \$1,522,597 will be placed into service in 2019.

1 purchased in 2018. I will discuss the ratemaking treatment of these costs later in
2 my testimony.

3 **III. RATE BASE, INCOME STATEMENT AND SUMMARY SCHEDULES.**

4 **A. A, E and F Schedules.**

5 **Q. PLEASE DESCRIBE THE SCHEDULES LABELED AS A, E, AND F.**

6 A. The A-1 Schedule is a summary of the rate base, operating income, current
7 operating margin, required operating margin, operating income deficiency, and the
8 increase in gross revenue. The return on FVRB, proposed increase in the revenue
9 requirement, and revenues at present and proposed and customer classifications are
10 also shown on this schedule.

11 The A-2 Schedule is a summary of results of operations for the test year,
12 prior years, and a projected year at present rates and proposed rates.

13 Schedule A-3 contains the capital structure for the test year and the two
14 prior years.

15 Schedule A-4 contains the plant construction and plant-in-service for the test
16 year and prior years. The projected plant additions are also shown on this
17 schedule.

18 Schedule A-5 is the summary of the changes in financial position (cash
19 flow) for the prior two years, the test year at present rates, and a projected year at
20 present and proposed rates.

21 The E Schedules are based on Liberty Black Mountain's actual operating
22 results, as reported in annual reports filed with the Commission. The E-1 Schedule
23 contains the comparative balance sheet data the years 2016, 2017, and 2018 ending
24 on December 31.

25 Schedule E-2, page 1, contains the income statement for the years 2016,
26 2017, and 2018 ending on December 31.

1 Schedule E-3 contains the statements of changes in Liberty Black
2 Mountain's financial position for the test year and the two prior years.

3 Schedule E-4 provides the changes in stockholder equity.

4 Schedule E-5 contains plant-in-service at the end of the test year, and one
5 year prior to the end of the test year.

6 Schedule E-7 contains operating statistics for the years ended 2016, 2017,
7 and 2018 ending on December 31.

8 Schedule E-8 contains the taxes charged to operations.

9 The accountant's notes to the financial statements and the financial
10 assumptions used in preparing the rate filing schedules are shown on Schedules E-9
11 and F-4, respectively, in accordance with the Commission's standard filing
12 requirements.

13 Schedule F-1 contains the results of operations at the present rates (actual
14 and adjusted), and at proposed rates.

15 Schedule F-2 contains the summary of changes in financial position (cash
16 flow) for the prior two years, the test year at present rates, and a projected year at
17 present and proposed rates.

18 Schedule F-3 shows projected construction requirements for 2019, 2020,
19 and 2021.

20 Schedule F-4 contains the assumptions used in developing the adjustments
21 and projections contained in the rate filing.

22 **B. B Schedules (Rate Base).**

23 **Q. WOULD YOU EXPLAIN THE RATE BASE SCHEDULES, WHICH ARE**
24 **LABELED AS THE B SCHEDULES?**

25 A. Yes. I will start with Schedule B-5, which is the cash working capital allowance.
26 The Company is proposing working capital of a negative \$59,801 based upon my

1 lead-lag study.

2 **Q. PLEASE CONTINUE.**

3 A. The Company did not file Schedules B-3 and B-4. To limit issues in dispute,
4 Liberty Black Mountain is requesting that its original cost rate base (“OCRB”) be
5 used as its FVRB.

6 **Q. HAVE YOU PREPARED SCHEDULES SHOWING ADJUSTMENTS TO**
7 **THE ORIGINAL COST RATE BASE?**

8 A. Yes. Schedule B-2 shows adjustments to the OCRB cost rate base proposed by
9 Liberty Black Mountain. Schedules B-2, pages 2 through 7, provide the
10 supporting information.

11 **1. Plant-in-Service (PIS) and Accumulated Depreciation (A/D).**

12 **Q. PLEASE DISCUSS THE PIS ADJUSTMENTS.**

13 A. B-2 adjustment number 1, as shown on Schedule B-2, page 2, adjusts plant-in-
14 service (“PIS”). There are six PIS adjustments included in Adjustment 1. These
15 are shown on Schedule B-2, page 3, and are labeled as adjustments “A,” “B,” “C,”
16 “D,” “E,” and “F.”

17 Adjustment A of B-2 adjustment number 1 increases PIS by \$210,857 for
18 post-test year plant. The Company is seeking inclusion of the following post-test
19 year plant in this case. Specifically, Liberty Black Mountain has \$210,856.61 of
20 post-test-year plant, including \$119,819.90 for vehicle replacements, \$89,168.77
21 for inflow and infiltration manholes under the Scottsdale Capacity agreement, and
22 \$1,867.94 for lift station pump replacements.

23 Adjustment B of B-2 adjustment number 1 increases PIS by \$8,698,506 for
24 Boulders WWTP plant closure costs. About \$7,175,909 of these costs were in
25 service by the end of 2018 but were not transferred from construction work-in-
26 progress at the end of 2018, and the remaining \$1,522,597 will be placed into

1 service in 2019. The Commission ordered closure of the Boulders WWTP in
2 Liberty Black Mountain's prior rate case, Decision No. 75510.

3 Adjustment C of B-2 adjustment number 1 reduces PIS for projected post-
4 test year retirements, which are primarily related to plant closure.

5 Adjustment D of B-2 adjustment number 1 reduces PIS for allocated
6 corporate plant.

7 Adjustment E of B-2, adjustment number 1, adjusts PIS to reflect the
8 reconciliation of the reconstruction of the Company's PIS reflected on Schedule B-
9 2, pages 3.6 to 3.10, to recorded general ledger amounts as shown on Schedule E-
10 1.

11 **Q. PLEASE DISCUSS THE A/D ADJUSTMENTS.**

12 A. B-2 adjustment number 2, as shown on Schedule B-2, page 2, adjusts A/D. There
13 are seven A/D adjustments included in Adjustment 1. These are shown on
14 Schedule B-2, page 4, and are labeled as adjustments "A," "B," "C," "D," and "E."

15 Adjustment A of B-2 adjustment number 2 reflects A/D (using half-year
16 convention) related to post-test year plant proposed in Adjustment "A" of B-2
17 adjustment number 1. As has been the historical practice, this adjustment reflects a
18 half-year of depreciation.

19 Adjustment B of B-2 adjustment number 2 increases A/D for post-in-service
20 depreciation on the plant closure costs and is related to PIS B-2 adjustment 1-B.
21 The A/D of the costs of closure reflects depreciation through June 30, 2020.

22 **Q. WHY DID YOU CALCULATE DEPRECIATION THROUGH JUNE 30,**
23 **2020?**

24 A. For two reasons. First, June 30, 2020 is an approximation of when new rates will
25 be put into effect from this rate case. If the rate case takes longer than expected,
26 the A/D will be adjusted accordingly. Second, it reflects the date through which the

1 Company would record depreciation and which would be offset by an equivalent
2 amount of deferred depreciation as a regulatory asset, both of which would be
3 recognized in rate base and new rates. I will discuss deferred depreciation further a
4 bit later in my direct testimony when I discuss the Company's proposed regulatory
5 assets.

6 **Q. THANK YOU, MR. BOURASSA. PLEASE CONTINUE.**

7 A. Adjustment C of B-2 adjustment number 2 reflects the adjustment to A/D and is
8 related to the post-test year retirements from B-2 adjustment 1-C.

9 Adjustment D of B-2 adjustment number 2 reflects the A/D related to
10 allocated corporate plant.

11 Adjustment E of B-2, adjustment number 2, adjusts A/D to reflect the
12 reconciliation of the reconstruction of the Company's A/D reflected on Schedule
13 B-2, pages 3.6 to 3.10, to recorded general ledger amounts as shown on Schedule
14 E-1.

15 **Q. DO THE PLANT IN SERVICE AND ACCUMULATED DEPRECIATION**
16 **SHOWN ON SCHEDULE B-2 REFLECT THE LAST COMMISSION RATE**
17 **ORDER FOR LIBERTY BLACK MOUNTAIN?**

18 A. Yes. The Company's reconstruction of the PIS and A/D balances started with the
19 PIS and A/D balance approved in the last rate case. Reconciliation to the starting
20 balances for PIS and A/D are shown on Schedule B-2, page 3.6. Plant additions
21 and retirements since the end of the last test year have been added to and deducted
22 from total plant shown on Schedule B-2, pages 3.6 to 3.10. Pages 3.6 to 3.10 of
23 the schedule also show the details for the A/D from the end of the last test year
24 through the end of the test year using the half-year convention for depreciation.

25
26

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

2. Contributions-in-Aid of Construction (CIAC).

Q. PLEASE DISCUSS THE CIAC ADJUSTMENTS.

A. B-2 adjustment number 3, as shown on Schedule B-2, page 2, adjusts CIAC and accumulated amortization (“A.A.”) to the reconstructed balances shown on Schedule B-2, page 5.1 and summarized on Schedule B-2, page 5.

Q. DO THE CIAC AND A.A. BALANCES SHOWN ON SCHEDULE B-2 REFLECT THE LAST COMMISSION RATE ORDER?

A. Yes. The starting CIAC and A.A. balances shown in the reconstruction are the balances approved in the last rate order. Additional CIAC recorded since the end of the last year has been added to CIAC and are shown on Schedule B-2, page 5.1. Computed amortization for each year based upon the annual composite depreciation rate for plant has been added to A.A. and is also shown on Schedule B-2, page 5.1.

3. Advances-in-Aid of Construction (AIAC).

Q. PLEASE DISCUSS THE AIAC ADJUSTMENT.

A. B-2 adjustment number 4, as shown on Schedule B-2, page 2, adjusts AIAC to the reconstructed amounts shown on Schedule B-2, page 6.1 and summarized on Schedule B-2, page 6.

Q. DOES THE AIAC BALANCE SHOWN ON SCHEDULE B-2 REFLECT THE LAST COMMISSION RATE ORDER?

A. Yes. The starting AIAC balance shown in the reconstruction is the balance approved in the last rate order. Additional AIAC recorded since the end of the last year has been added to AIAC and are shown on Schedule B-2, page 6.1.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

4. Deferred Regulatory Assets.

Q. DOES LIBERTY BLACK MOUNTAIN CURRENTLY HAVE A DEFERRED REGULATORY ASSET?

A. Yes, a deferred regulatory asset was approved in the last rate case in order to allow the Company to begin recovering a return on the costs it had already incurred related to closure of the Boulders WWTP.⁴ Now, with the full amount of closure costs known, the deferred regulatory asset needs to be adjusted in this rate case.

Q. PLEASE DISCUSS THE ADJUSTMENTS TO DEFERRED REGULATORY ASSETS THE COMPANY IS PROPOSING IN THIS RATE CASE.

A. B-2 adjustment number 5, as shown on Schedule B-2, page 2, increases deferred regulatory assets for the cost of additional wastewater treatment capacity the Company purchased from the City of Scottsdale (“Additional Capacity”) and for other plant closure costs, along with post-in-service AFUDC and post-in-service depreciation related to these costs. The proposed amounts of post-in-service AFUDC and post-in-service depreciation are shown on B-2 Schedule, page 7. For the Additional Capacity, the post-in-service AFUDC and post-in-service depreciation total \$374,224 (\$254,216 of AFUDC and \$120,008 of depreciation) and are based on a cost of \$1,200,000 incurred in January of 2018. Deferred AFUDC and depreciation are computed through June 30, 2020, which, as mentioned, is the date used for when the Additional Capacity will be recognized in rate base through rates from this case. Again, if the rate case takes longer than expected, the requested AFUDC and deferred depreciation can be adjusted accordingly.

⁴ Decision No. 75510 at 13:2-6.

1 For the plant closure costs, the post-in-service AFUDC and post-in-service
2 depreciation totaling \$1,589,894 (\$1,130,120 of AFUDC and \$459,774 of
3 depreciation) are based on 2018 actual and 2019 projected PIS costs totaling
4 \$8,698,506. Deferred AFUDC and depreciation are computed through June 30,
5 2020 for the reasons mention previously.

6 **Q. ON WHAT BASIS DOES THE COMPANY PROPOSE RECOGNIZING**
7 **POST-IN-SERVICE AFUDC AND POST-IN-SERVICE DEPRECIATION**
8 **ON THESE COSTS RELATED TO CLOSURE OF THE BOULDERS**
9 **WWTP?**

10 A. The basis is the Commission's order adopting the Comprehensive Settlement
11 Agreement in the Company's prior rate case decision.⁵ Regarding the Additional
12 Capacity purchase cost, section 3.3.2.2 of that settlement agreement states:

13 For ratemaking purposes, the Parties agree that the Company
14 shall treat the Replacement Capacity cost as a regulatory asset
15 and that the Company is to be permitted to defer the cost of
16 the Replacement Capacity depreciation expense recorded on
17 the underlying regulatory assets, and to accrue post-in-service
18 Allowance for Funds Used During Construction (AFUDC)
19 for later recovery in rates. The Parties further agree that the
20 post-in service AFUDC rate shall be 7.71 percent, the
weighted average cost of capital set forth in Section 2.4
above, and that the deferred amount shall be depreciated at a
rate of 5 percent *until such time as it is recognized for
inclusion in rate base.*⁶

21 **Q. BUT THAT SECTION OF THE AGREEMENT APPROVED BY THE**
22 **COMMISSION DID NOT MENTION OTHER PLANT CLOSURE COSTS,**
23 **MR. BOURASSA?**

24 A. Correct, the other plant closure costs are addressed in a different section of the

25 ⁵ Decision No. 75510 at 17:28 – 18:1.

26 ⁶ Decision No. 77510, Exhibit B (emphasis added).

1 agreement approved in the Company's prior decision. Section 3.4.2.5 of the
2 Comprehensive Settlement Agreement deals with the plant closure costs and states:

3 The Parties acknowledge that the remaining closure costs can
4 only be estimated at this time, and that despite the Company's
5 best efforts, the final actual remaining closure costs may be
6 higher than the current estimate. Additionally, the Parties
7 agree that the actual, total cost subject to the accrual of post-
8 in-service AFUDC and the deferral of depreciation in
9 accordance with Sections 3.4.2.3 and 3.4.2.4 above shall not
10 exceed \$3,299,700 (\$2,699,700 plus a maximum of
11 \$500,000), which amount is exclusive of the cost of the
12 Replacement Capacity addressed in Section 3.3.2 above. The
Company may seek relief in its next rate case for the actual
construction costs that exceed the maximum amount of
\$3,299,700, if any, that are subject to deferred depreciation
and the accrual of post in-service AFUDC in accordance with
this Comprehensive Settlement.⁷

13 **Q. DOESN'T THAT SECTION OF THE SETTLEMENT AGREEMENT**
14 **LIMIT THE AMOUNT OF PLANT CLOSURE COSTS SUBJECT TO**
15 **POST-IN SERVICE AFUDC AND DEFERRED DEPRECIATION?**

16 A. No. The Parties agreed to limit the amount of closure costs automatically subject
17 to this treatment to \$3,299,700 because that was the only estimate of the closure
18 costs then available. However, the Commission and the parties clearly recognized
19 that the plant closure costs estimates were preliminary and subject to change.⁸ For
20 this reason, the Settlement Agreement expressly contemplated that if the costs
21 exceeded the estimated cap, the Company could seek post-in service AFUDC and
22 deferred depreciation on the total closure cost amount as shown in the excerpt I
23 provided from that agreement.

24
25 ⁷ *Id.*

26 ⁸ Decision No. 75510 at 13:21 – 14:4; Garlick Dt. at 21-22.

1 **Q. WHY DOES LIBERTY BLACK MOUNTAIN BELIEVE AN AMOUNT**
2 **HIGHER THAN THE LIMIT IN THE PRIOR RATE CASE SHOULD BE**
3 **ALLOWED IN THIS CASE?**

4 A. Mr. Garlick discusses the Company's closure of the Boulders WWTP in
5 significant detail in his direct testimony and as he testifies, the Company did what
6 it was ordered to do by the Commission at the behest of the customers and
7 community, it did everything the right way, it did not spend any more than was
8 necessary and the total costs were reasonable and prudent.⁹ It should also be
9 recalled that in the 2015 rate case Liberty Black Mountain gave up the plant
10 closure cost surcharge that was both a condition of its agreement to close the
11 Boulders WWTP and approved by the Commission in the 2009 rate case.¹⁰ That
12 provision was specifically intended to ensure the Company's timely recovery of
13 costs it was required to incur to comply with the Commission's orders to close the
14 plant. The adjustments I have made to include post in service AFUDC and
15 deferred depreciation on the plant closure costs are intended to do the same thing.

16 **5. Accumulated Deferred Income Taxes (ADIT).**

17 **Q. PLEASE DISCUSS THE ADIT ADJUSTMENT.**

18 A. Adjustment number 7, shown on Schedule B-2, page 2, reflects the computed
19 deferred income taxes at the end of the test year. The Company's computation is
20 based on the adjusted PIS, A/D, AIAC, and CIAC balances in the instant case and
21 the adjusted tax basis of its assets using the effective tax rates computed on the
22 Schedule C-3, page 2. The detail of the Company's deferred income tax
23 computation is shown on Schedule B-2, pages 8.0 and 8.1.

24 _____
25 ⁹ Garlick Dt. at 15-16.

26 ¹⁰ See Decision No. 75510 at 14:15-16; Decision No. 73885 at 50:22-25; Decision No. 71865 at 54:7 – 55:7.

1 **IV. C SCHEDULES (INCOME STATEMENT).**

2 **Q. WOULD YOU EXPLAIN THE C SCHEDULES?**

3 A. Schedule C-1, page 1 summarizes the test year actual and adjusted revenues and
4 expenses. Schedule C-1, page 2.1 and 2.2 shows the individual adjustments to the
5 test year. The following is a summary of adjustments shown on Schedule C-1,
6 pages 2.1 and 2.2.

7 Adjustment 1 annualizes depreciation and amortization expense. The
8 proposed depreciation rate for each component of utility plant is shown on
9 Schedule C-2, page 2. The depreciation rates approved in the last rate case were
10 plant account specific. The Company proposes to continue to use account specific
11 rates on a going forward basis. The Company's proposed depreciation and
12 amortization also reflects amortization of CIAC at the composite depreciation rate
13 of depreciable plant, amortization of Excess Accumulated Deferred Income Taxes
14 based upon the weighted average remaining life of depreciable plant at the end of
15 2017, and amortization of Deferred Regulatory Assets based upon a 20-year
16 amortization period.

17 Adjustment 2 increases the property taxes based on proposed revenues and
18 using the Arizona Department of Revenue's valuation method. The property tax
19 rate is reflective of 2018 property tax rates. The details of the computation are
20 shown on Schedule C-2, page 3.

21 Adjustment 3 is intentionally left blank. Typically, Adjustment 3 would be
22 used for rate case expense adjustments.

23 **Q. WHERE IS THE RATE CASE EXPENSE SHOWN?**

24 A. Rate case expense is not reflected in the operating expenses because the Company
25 is requesting recovery through a rate case expense surcharge.

26

1 **Q. WHY IS LIBERTY BLACK MOUNTAIN REQUESTING APPROVAL OF A**
2 **RATE CASE EXPENSE SURCHARGE?**

3 A. I believe this methodology is fair to both customers and the utility because it avoids
4 potential over or under recovery of rate case expense that can happen when rate
5 case expense is treated as a “normalized” expense. Rate case expense is not a
6 normal, regular expense. It is incurred for a limited purpose, outside the test year,
7 and may bear little resemblance to other cases where the expense is incurred.
8 Additionally, the utility pays rate case costs in advance and when treated as a
9 typical expense, any unrecovered rate case expense is forfeited if the utility gets
10 new rates before the amortization period has run. Alternatively, if the utility stays
11 out longer than the amortization period, the utility over recovers. A surcharge
12 avoids both possible outcomes because the utility will be allowed to collect the
13 surcharge until it recovers the authorized level of rate case expense and then the
14 surcharge ceases to be charged. In other words, using a rate case expense
15 surcharge, the Company will recover the amount authorized, no more, and no less.

16 **Q. WHAT IF THE NEXT RATE CASE IS COMPLETE BEFORE THE**
17 **COMPANY COMPLETES ITS RECOVERY OF THE COST OF THIS**
18 **CASE UNDER THE RATE CASE EXPENSE SURCHARGE?**

19 A. A rate case expense surcharge can always be a line item on the customer bill and
20 can include amounts to be recovered from different rate cases. The amount can
21 adjust as needed, up or down. This also has the benefit of making the cost of
22 ratemaking transparent to all stakeholders and another reason that in my
23 experienced professional opinion, rate case expense surcharges should be used in
24 most, if not all, rate cases.

25
26

1 **Q. OKAY, THANK YOU, MR. BOURASSA. WHAT IS THE REQUESTED**
2 **TOTAL RATE CASE EXPENSE?**

3 A. The Company estimates rate case expense of \$450,000 to be recovered over four
4 years, or \$122,500 annually.

5 **Q. HOW WAS THIS AMOUNT DETERMINED?**

6 A. It is an estimate based on the significant combined experience for lead counsel and
7 me before the Commission in rate cases, including the last three rate cases for
8 Liberty Black Mountain. In consultation with the Company's representatives, who
9 themselves have considerable experience in Commission ratemaking procedures,
10 we came up with our estimate taking into account the unique and anticipated
11 circumstances in this rate case, and the lengthy, complicated, often litigious and
12 always expensive history of the Company's closure of the Boulders WWTP. If the
13 estimate turns out to be too low or too high, it can always be revisited as the rate
14 case progresses.

15 **Q. BASED UPON THE TEST YEAR-END NUMBER OF CUSTOMERS,**
16 **WHAT IS THE MONTHLY RATE CASE EXPENSE SURCHARGE?**

17 A. The Company has about 2,200 customers. The proposed annual rate case expense
18 is \$122,500. The resulting monthly surcharge per customer would be \$4.26
19 ($\$122,500/2,200/12$).

20 **Q. WOULD THE COMPANY AGREE TO ANNUAL REPORTING OF THE**
21 **RATE CASE EXPENSE SURCHARGE COLLECTIONS TO THE**
22 **COMMISSION?**

23 A. Yes, if the Commission wishes.

24 **Q. THANK YOU, AGAIN. PLEASE CONTINUE WITH YOUR DISCUSSION**
25 **OF THE EXPENSE ADJUSTMENTS.**

26 A. Adjustment 4 annualizes revenues to the year-end number of customers. The

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

annualization of revenues is based on the year-end number of customers during the test year, compared to the actual number of customers during each month of the test year. Average revenues per customer by month were computed for the test year and then multiplied by the increase (or decrease) in number of customers for each month of the test year. The total of the monthly revenue change comprises the revenue annualization.

Adjustment number 5 reduces reclaimed water revenues to zero as the Company will no longer sell reclaimed water with the closing of the Boulders WWTP.

Adjustment 6 reduces Contractual Services – Professional and reflects a true-up of test-year allocated labor costs and a pro-forma one-year salary increase.

Adjustment 7 increases purchase wastewater treatment expense for expected increases in the treatment costs charged by the City of Scottsdale. The Company also is proposing adjuster mechanisms that are discussed in Ms. Washington’s testimony, including an adjuster for changes in the Additional Capacity charges.¹¹

Adjustments 8 through 12 are intentionally left blank.

Adjustment 13 adjusts interest expense to reflect interest synchronization with rate base.

Adjustment 14 reflects income taxes based upon the Company adjusted test year revenue and expense.

¹¹ Direct Testimony of Leticia Washington at 26-29.

1 **V. RATE DESIGN (H SCHEDULES).**

2 **Q. WHAT ARE THE COMPANY'S PRESENT RATES FOR WASTEWATER**
3 **SERVICE?**

4 The present rates are:¹²

5 Residential Service – Per Month	\$79.20
6 Commercial – per Month	\$85.00
7 Commercial Commodity Charge (per 1,000 gallons) ¹³	\$ 5.13
8 Effluent Sales (Per thousand gallons) ¹⁴	\$1.666585

9 **Q. WHAT ARE THE COMPANY'S PROPOSED RATES FOR**
10 **WASTEWATER SERVICE?**

11 A. The proposed rates are:

12 Residential Service – Per Month	\$104.94
13 Commercial – per Month	\$112.20
14 Commodity Charge (per 1,000 gallons) ¹⁵	\$ 6.758
15 Effluent Sales (Per thousand gallons)	remove

16 **Q. WHY IS THE EFFLUENT RATE BEING REMOVED?**

17 A. Because the Boulders WWTP has ceased to operate and the Company no longer
18 has any effluent to sell.

19 **Q. THANK YOU. IS THE COMPANY PROPOSING ANY OTHER**
20 **SIGNIFICANT CHANGES TO THE RATE DESIGN?**

21 A. No, and all of the proposed rate increases were done by the same percentage.
22

23 _____
24 ¹² Exclusive of Tax Savings Surcredit.

25 ¹³ For commercial customers the commodity charge is based upon monthly water usage.

26 ¹⁴ Including Effluent Add-on charge. See the Company's current Tariff of Rates and Charges.

¹⁵ For commercial customers the commodity charge is based upon monthly water usage.

1 **Q. WHAT WILL BE THE RESIDENTIAL CUSTOMER MONTHLY BILL**
2 **UNDER THE NEW RATES?**

3 A. As shown on Schedule H-2, page 1, the monthly bill under proposed rates for a
4 residential customer is \$104.94 – a \$27.88 increase over the present monthly bill of
5 \$77.06 (including the tax savings credit) or a 36.18 percent increase.

6 **Q. DOES THIS INCLUDE THE RATE CASE EXPENSE SURCHARGE?**

7 A. No. The \$4.26 rate case expense surcharge is in addition to the \$104.94 monthly
8 rate. When taken together, a residential customer will pay \$109.20 (\$104.94 plus
9 \$4.26) – a \$32.14 increase over the present monthly bill or a 41.71 percent
10 increase.

11 **Q. DOES THE H-2 SCHEDULE SHOW THE IMPACT FOR COMMERCIAL**
12 **CLASS?**

13 A. Yes. At an average usage of 34,442 gallons the proposed bill would be \$344.98, an
14 \$86.24 increase over the current bill of \$258.74 (including the tax savings credit)
15 or a 33.33 percent increase.

16 **Q. DOES THIS INCLUDE THE RATE CASE EXPENSE SURCHARGE OR**
17 **THE PLANT CLOSURE SURCHARGE?**

18 A. Again, no. The \$4.26 rate case expense surcharge is in addition to the \$344.58
19 monthly bill at 34,442 gallons. When taken together, a commercial customer using
20 34,442 gallons will pay \$349.24 (\$344.98 plus \$4.26) – a \$90.50 increase over the
21 current bill or a 34.98 percent increase.

22 **Q. HOW MUCH OF THE PROPOSED REVENUES ARE RECOVERED**
23 **FROM THE RESIDENTIAL CLASS AND THE COMMERCIAL CLASS?**

24 A. About 84 percent and 16 percent, respectively, which is about the same as under
25 current rates (after factoring in the tax savings credits provided during the test
26 year).

1 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY ON RATE BASE,**
2 **INCOME STATEMENT AND RATE DESIGN?**

3 A. Yes.

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

EXHIBIT TJB-RB-DT1

RESUME OF THOMAS J. BOURASSA, CPA

EDUCATIONAL BACKGROUND

B.S. Northern Arizona University Chemistry/Accounting (1980)

M.B.A. University of Phoenix with Emphasis in Finance (1991)

C.P.A. State of Arizona (1995)

Continuing Professional Education – In areas of tax, accounting, management, economics, finance, business valuation, consulting, and ethics (80 hrs every two years)

MEMBERSHIPS

Arizona Society of CPAs

Water Utilities Association of Arizona

American Water Works Association

EMPLOYMENT EXPERIENCE

- 1995 – Present CPA - Self Employed
Consultant to utilities on regulatory matters including all aspects of rate applications (rate base, income statement, cost of capital, cost of service, and rate design), rate reviews, certificates of convenience and necessity (CC&N), CC&N extensions, financing applications, accounting order applications, and off-site facilities hook-up fee applications. Provide expert testimony as required.
- Consult on various aspects of business, financial and accounting matters including best business practices, generally accepted accounting principles, generally accepted ratemaking principles, project analysis, cash flow analysis, regulatory treatment of certain expenditures and investments, business valuations, and rate reviews.
- Litigation support services.
- 1992-1995 Employed by High-Tech Institute, Phoenix, Arizona as Controller and C.F.O.
- 1989-1992 Employed by Alta Technical School, a division of University of Phoenix as Division Controller.
- 1985-1989 Employed by M.L.R. Builders, Tampa and Pensacola, Florida as Operations/Accounting Manager
- 1982-1985 Employed by and part owner in Area Sand and Clay Company, Pensacola, Florida.

1981-1982

Employed by Purdue University, West Lafayette, Indiana as
Teaching Assistant.

**SUMMARY OF REGULATORY WORK EXPERIENCE AS SELF EMPLOYED
CONSULTANT**

COMPANY/CLIENT

FUNCTION

(Liberty Utilities (CalPeco Electric) LLC
CPUC Application 18-12-001.

Cost of Capital. Prepared Cost of Capital analysis and testimony.

(Liberty Utilities (Park Water) Corp. and
Liberty Utilities (Apple Valley Ranchos
Water) Corp.
CPUC Applications 18-05-001, et al.

Cost of Capital. Prepared Cost of Capital analysis and testimony.

Truxton Water Company
ACC W-02168A-18-308

Permanent Rate Application –Water.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

Payson Water Company
ACC W-03514A-18-0230

Permanent Rate Application – Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Farmers Water Company
ACC W-01654A-18-0083

Permanent Rate Application – Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Liberty Utilities (Silverleaf Water) Corp.
SOAH DOCKET NO. 473-18-3006.WS
Texas P.U.C. DOCKET NO. 47976

Permanent Rate Application – Water and Wastewater. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Generic Proceeding - Income Tax
“Savings” from reduction in Federal
Income Tax Rate
ACC AU-0000A-17-0379
ACC various dockets

Prepared computations of tax “savings” from the reduction in federal income tax rates and proposal for passing savings to rate payers through bill credits.

Liberty Utilities (Woodmark Sewer) Corp.
Liberty Utilities (Tall Timbers Sewer)
Corp.
SOAH DOCKET NO. 473-17-1641.WS

Develop wastewater rates based upon water usage.

COMPANY/CLIENT

Texas P.U.C. DOCKET NO. 46256

FUNCTION

Cerbat Water Company
ACC W-02391A-18-0018

Permanent Rate Application –Water.
Prepared financing application. Prepared
schedules and testified on Rate Base,
Plant, Income Statement, Revenue
Requirement, and Rate Design.

Ajo Improvement Company
ACC Docket No. WS-01025A-17-0361

Permanent Rate Application – Water,
Wastewater, and Electric. Prepared
schedules and testified on Rate Base,
Plant, Income Statement, Revenue
Requirement, and Rate Design,

East Slope Water Company
ACC Docket No. W-02031A-17-317

Permanent Rate Application –Water
Prepared short-form schedules on Rate
Base, Plant, Income Statement, Revenue
Requirement, and Rate Design.

Kachina Village Improvement District
Flagstaff, Arizona

Prepared rate studies and rate designs.
Participated in Board work sessions,
customer work sessions, and open houses.

Liberty Utilities (Litchfield Park Water &
Sewer) Corp.
ACC Docket No. W-01428AA-17-0059
ACC Docket No. SW-01428AA-17-0058

Permanent Rate Application – Water and
Wastewater. Prepared financing
application. Prepared schedules and
testified on Rate Base, Plant, Income
Statement, Revenue Requirement, Cost of
Service, Rate Design, and Cost of Capital.

Pima Utility Company
ACC Docket No. W-02199A-16-0421
ACC Docket No. SW-02199A-16-0422

Permanent Rate Application – Water and
Wastewater. Prepared financing
application. Prepared schedules and
testified on Rate Base, Plant, Income
Statement, Revenue Requirement, Rate
Design, and Cost of Capital.

Valley Pioneers Water Company
ACC Docket No. W-02033-16-0412

Permanent Rate Application –Water.
Prepared financing application. Prepared
schedules and testified on Rate Base,
Plant, Income Statement, Revenue
Requirement, and Rate Design.

Yarnell Water Co-Op
ACC Docket No. W-02255A-16-0153

Permanent Rate Application –Water
Prepared short-form schedules on Rate

COMPANY/CLIENT

FUNCTION

Oak Creek Water Company No. 1
ACC Docket No. W-01392A-16-0161

Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

Permanent Rate Application –Water
Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

Epcor Water Arizona
ACC Docket No. W-01303A-16-0145

Permanent Rate Application –
Wastewater. Prepared Reconstruction Cost New Less Depreciation Plant for use in determining fair value rate base.

Mountain Water Company
Montana PUC Docket No. D2016.2.15

Testified in the matter investigating whether Mountain Water Company's rates are just and reasonable.

Turner Ranches Water and Sanitation Company

Permanent Rate Application –Water
Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

ACC Docket No. W-01677A-16-0076

Liberty Utilities (Entrada Del Oro Sewer) Corp.
ACC Docket No. W-04316A-16-0078
ACC Docket No. W-04316A-16-0085

Permanent Rate Application –Wastewater. Prepared financing application. Prepared schedules and testified on Rate Base, Original Cost Less Depreciation Plant, Reconstruction Cost New less Depreciation Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Liberty Utilities (Rio Rico Water and Sewer) Corp.
ACC Docket No. WS-02676A-15-0368
ACC Docket No. WS-02676A-15-0371

Permanent Rate Application – Water and Wastewater. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Liberty Utilities (Bella Vista Water) Corp.
ACC Docket No. W-02465A-15-0367
ACC Docket No. W-02465A-15-0370

Permanent Rate Application – Water. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

COMPANY/CLIENT

Community Water of Green Valley
ACC Docket No. W-02304A-15-0263

Sahuarita Water Company
ACC Docket No. W-03718A-15-0213

Liberty Utilities (Black Mountain Sewer)
Corp.
ACC Docket No. SW-0236 1A- 15-0206
ACC Docket No. SW-0236 1A- 15-0207

Tierra Buena Water Company
ACC Docket No. W-02076A-15-013

Red Rock Utilities, LLC
ACC Docket No. W-04245A-14-0295

Quail Creek Water Company
ACC Docket No. W-02514A-14-0370

Tonto Basin Water Company
ACC Docket No. W-03515A-14-0310

Navajo Water
ACC Docket No. W-03511A-14-304

FUNCTION

Permanent Rate Application – Water.
Prepared schedules and testified on Rate
Base, Plant, Income Statement, Revenue
Requirement, and Rate Design.

Permanent Rate Application –Water.
Prepared schedules and testified on Rate
Base, Plant, Income Statement, Revenue
Requirement, Rate Design, and Cost of
Capital.

Permanent Rate Application –Wastewater.
Prepared financing application. Prepared
schedules and testified on Rate Base,
Plant, Income Statement, Revenue
Requirement, Cost of Service Study, Rate
Design, and Cost of Capital.

Permanent Rate Application – Water.
Assisted in preparation of short-form
schedules.

Permanent Rate Application – Water and
Wastewater. Prepared short-form
schedules and testified on Rate Base,
Plant, Income Statement, Revenue
Requirement, Rate Design, and Cost of
Capital.

Permanent Rate Application – Water.
Prepared schedules and testified on Rate
Base, Plant, Income Statement, Revenue
Requirement, Rate Design, and Cost of
Capital.

Permanent Rate Application – Water.
Prepared short-form schedules for Rate
Base, Income Statement, Plant, Bill
Counts, and Rate Design.

Permanent Rate Application – Water.
Prepared short-form schedules for Rate
Base, Income Statement, Plant, Bill
Counts, and Rate Design.

COMPANY/CLIENT

FUNCTION

Alaska Power Company
Regulatory Commission of Alaska
Docket No. U-14-002

Prepared schedules and testified on cost of capital.

Anchorage Municipal Light & Power
Regulatory Commission of Alaska
Docket No. U-13-184

Prepared schedules and testified on cost of capital.

Liberty Utilities (Pine Bluff) Inc.
Arkansas Public Service Commission
Docket No. 14-020-U

Permanent Rate Application – Water.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital.

Abra Water Company
ACC Docket No. W-01782A-14-0084

Permanent Rate Application – Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

EPCOR Water Arizona, Inc.
ACC Docket No. W-01303A-14-0010

Permanent Rate Application – Prepared rate designs and cost of Service studies for Mohave Water District, Mohave Wastewater District, Paradise Valley Water District, Tubac Water District, and Sun City Water District.

Liberty Utilities (Midstates Natural Gas), Inc.
Missouri Public Service Commission
Case No. GR-2014-0152

Permanent Rate Application – Assist in preparing required rate application schedules for Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

Hydro Resources, LLC.
ACC Docket No. W-20770A-13-0313

Certificate of Convenience and Necessity – Water. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, and initial rates.

Little Park Water Company
ACC Docket No. W-02192A-13-0336

Permanent Rate Application – Water. Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.

Utility Source, LLC.

Permanent Rate Application – Water and

COMPANY/CLIENT

FUNCTION

ACC Docket No. WS-04235A-13-0331

Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Payson Water Company
ACC Docket No. W-03514A-13-0111
ACC Docket No. W-03514A-13-0142

Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Financing Application. Prepared financial ratios and debt surcharge mechanism.

Goodman Water Company

Valuation

Verde Santa Fe Wastewater
ACC Docket No. SW-03437A-13-0292

Permanent Rate Application – Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Lago Del Oro Water Company
ACC Docket No. W-01944A-13-0215

Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital.

Chaparral City Water Company
ACC Docket No. W-02113A-13-0118

Permanent Rate Application – Prepared and testified on cost of service study.

Las Quintas Serenas Water Company
ACC Docket No. W-01583A-13-0117

Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Southwest Environmental Utilities. Inc.
ACC Docket No. WS-20878A-13-0065

Certificate of Convenience and Necessity – Water and Wastewater. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, and initial rates.

Litchfield park Service Company
ACC Docket No. SW-01428A-13-0043
ACC Docket No. W-01428A-13-0042

Permanent Rate Application – Water and Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement,

COMPANY/CLIENT

FUNCTION

Beaver Dam Water Company
ACC Docket No. WS-03067A-12-0232

Revenue Requirement, Rate Design, Cost of Service, and Cost of Capital.

Permanent Rate Application. Prepared schedules on Plant, Income Statement, Revenue Requirement, and Rate Design.

Rio Rico Utilities
ACC Docket No. WS-02676A-12-0196

Permanent Rate Application – Water and Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital.

Vail Water Company
ACC Docket No. W-01651B-12-0339

Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital.

Avra Water Co-Op.
ACC Docket No. W-02126A-11-0480

Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital.

Pima Utility Company
ACC Docket No. W-02199A-11-0329
ACC Docket No. SW-02199A-11-0330

Permanent Rate Application – Water and Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital.

Work on financing application.

Liberty Utilities (CALPECO Electric),
LLC)
Docket No. 11202020

Work on preparation of permanent rate application. Prepared schedules on Rate Base, Plant, Income Statement, Revenue Requirement.

Livco Water Company
ACC Docket No. SW-02563A-11-0213

Permanent Rate Application – Water and Sewer. Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.

Orange Grove Water Company
ACC Docket No. W-02237A-11-0180

Permanent Rate Application. Prepared schedules on Plant, Income Statement,

COMPANY/CLIENT

FUNCTION

Goodman Water Company
ACC Docket No. W-02500A-10-0382

Revenue Requirement, and Rate Design.

Permanent Rate Application – Water.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Doney Park Water
ACC Docket No. W-01416A-10-0450

Permanent Rate Application – Water.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

Grimmelmann, et. al. v. Pulte Home Corporation, et. al., case no. CV-08-1878-PHX-FJM, the United States District Court for the District of Arizona.

Consultant to defendant and expert witness for defendant on rates and ratemaking.

Southern Arizona Home Builders Association

Consultant on ratemaking aspects to line extension policies (electric).

H2O Water Company

Valuation

Tierra Linda HOA Water Company

Valuation

Las Quintas Serenas Water Company
ACC Docket No. W-01583A-09-0589

Permanent Rate Application – Water.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Coronado Utilities
ACC Docket No. SW-04305A-09-0291

Permanent Rate Application – Wastewater. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Little Park Water Company
ACC Docket No. W-02192A-09-0531

Permanent Rate Application. Prepared schedules on Plant, Income Statement, Revenue Requirement, and Rate Design.

Sahuarita Water Company
ACC Docket No. W-03718A-09-0359

Permanent Rate Application – Water.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, Cost of

COMPANY/CLIENT

FUNCTION

Bella Vista Water Company
Southern Sunrise Water Company
Northern Sunrise Water Company
ACC Docket No. W-02465A-09-0414
ACC Docket No. W-02453A-09-0414
ACC Docket No. W-02454A-09-0414

Service, and Cost of Capital.

Permanent Rate Application – Water.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, Cost of Service, and Cost of Capital.

Rio Rico Utilities, Inc
ACC Docket No. WS-02676A-09-0257

Permanent Rate Application – Water and Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Litchfield park Service Company
ACC Docket No. SW-01428A-09-0103
ACC Docket No. W-01428A-09-0104

Permanent Rate Application – Water and Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, Cost of Service, and Cost of Capital.

Town of Thatcher v. City of Safford, CV
2007-240, Superior Court of Arizona

Consultant to plaintiff on ratemaking and cost of service.

Valencia Water Company
California Public Utility Commission Case
No. 09-05-002

Cost of Capital

Valley Utilities
ACC Docket No. W-01412A-08-0586

Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

Black Mountain Sewer Company
ACC Docket No. SW-02361A-08-0609

Permanent Rate Application – Sewer.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Far West Water and Sewer Company
ACC Docket No. WS-03478A-08-0608

Interim Rate Application (Emergency Rates)

Farmers Water Company

Permanent Rate Application. Prepared

COMPANY/CLIENT

FUNCTION

ACC Docket No. W-01654A-08-0502

schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

Far West Water and Sewer Company
ACC Docket No. WS-03478A-08-0454

Permanent Rate Application. Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design and Cost of Capital.

Ridgeline Water Company, LLC
ACC Docket No. W-20589A-08-0173

Certificate of Convenience and Necessity – Water. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial rates.

Sacramento Utilities, Inc.
ACC Docket No. SW-20576A-08-0067

Certificate of Convenience and Necessity – Wastewater. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, and financing.

Johnson Utilities
ACC Docket No. WS-02987A-08-0180

Permanent Rate Application. Water and Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design and Cost of Capital.

Participate in 40-252 proceeding.

Orange Grove Water Company
ACC Docket No. W-02237A-08-0455

Permanent Rate Application. Prepared schedules on Plant, Income Statement, Revenue Requirement, and Rate Design.

Far West Water and Sewer Company
ACC Docket No. WS-03478A-07-0442

Financing Application. Prepare schedules to support application.

Oak Creek Water No.1
ACC Docket No. W-01392A-07-0679

Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

ICR Water Users Association
Docket W-02824-07-0388

Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

COMPANY/CLIENT

FUNCTION

Johnson Utilities

Valuation consultant in the matter of the sale of Johnson Utilities assets to the Town of Florence.

H2O, Inc
ACC Docket No. W-02234A-07-0550

Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Chaparral City Water Company
ACC Docket No. W-02113A-07-0551

Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Valley Utilities
ACC Docket No. W-01412A-07-0561

Financing Application. Prepare schedules to support application.

Valley Utilities
ACC Docket No. W-01412A-07-280

Emergency Rate Application. Prepare schedules to support application.

Valley Utilities
ACC Docket No. W-01412A-07-0278

Accounting Order. Assist in preparing definition and scope of costs for deferral for future regulatory consideration and treatment.

Litchfield Park Service Company
ACC Docket No. W-01427A-06-0807

Accounting Order. Assist in preparing definition and scope of costs for deferral for future regulatory consideration and treatment.

Golden Shores Water Company
ACC Docket No. W-01815A-07-0117

Permanent Rate Application. Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Diablo Village Water Company
ACC Docket No. W-02309A-07-0140

Off-site facilities hook-up fee application. Prepare schedules to support application.

Diablo Village Water Company

Permanent Rate Application (Class C).

COMPANY/CLIENT

ACC Docket No. W-02309A-07-0399

Sahuarita Water Company
(Rancho Sahuarita Water Co.)
ACC Docket No. W-03718A-07-0687

Utility Source, L.L.C.
ACC Docket No. WS-04235A-06-0303

Tierra Buena Water Company

Goodman Water Company
ACC Docket No. W-02500A-06-0281

Links at Coyote Wash Utilities
ACC Docket No. SW-04210A-06-0220

New River Utilities
ACC Docket No. W-0173A-06-0171

Johnson Utilities
ACC Docket No. WS-02987A-04-0501
Docket WS-02987A-04-0177

Bachmann Springs Utility
ACC Docket No. WS-03953A-07-0073

FUNCTION

Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Extension Certificate of Convenience and Necessity – Water. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, and financing.

Permanent Rate Application- Water and Wastewater. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Valuation of Tierra Buena Water Company for estate purposes.

Permanent Rate Application (Class C). Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, and Cost of Capital.

Certificate of Convenience and Necessity – Sewer. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial rate design.

Extension Certificate of Convenience and Necessity – Water. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, and financing.

Extension of Certificate of Convenience and Necessity – Sewer. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial rate design.

Permanent Rate Application – Water and Sewer. Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.

COMPANY/CLIENT

FUNCTION

Avra Water Cooperative
ACC Docket No. W-02126A-06-0234

Permanent Rate Application – Water.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

Gold Canyon Sewer Company
ACC Docket No. SW-025191A-06-0015

Permanent Rate Application – Sewer.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

State of Arizona v. Far West Water and Sewer, No. 1 CA-CR 06-0160

Expert witness on behalf of defendant in penalty phase of case.

Far West Water and Sewer Company
ACC Docket No. WS-03478A-05-0801

Permanent Rate Application – Sewer.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Black Mountain Sewer Company
ACC Docket No. SW-02361A-05-0657

Permanent Rate Application – Sewer.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

Balterra Sewer Company
ACC Docket No. SW-02304A-05-0586

Certificate of Convenience and Necessity – Sewer. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial rate design.

Community Water Company of Green Valley
ACC Docket No. W-02304A-05-0830

Permanent Rate Application – Water.
Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

McClain Water Systems
Northern Sunrise Water
Southern Sunrise Water
ACC Docket No. W-020453A-06-0251

Certificate of Convenience and Necessity – Water. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial rate design.

Valley Utilities Water Company

Off-site facilities hook-up fee application.

COMPANY/CLIENT

FUNCTION

ACC Docket No. W-01412A-04-0376

Prepare schedules to support application.

Valley Utilities Water Company
ACC Docket No. W-01412A-04-0376

Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, and Revenue Requirement. Assisted in preparation of Rate Design.

Beardsley Water Company
ACC Docket No. W-02074A-04-0358

Permanent Rate Application – Water. Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.

Pine Water Company, Inc.
ACC Docket No. W-03512A-03-0279

Interim and Permanent Rate Application, Financing Application - Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Cost of Capital, and Rate Design.

Chaparral City Water Company
ACC Docket No. W-02113A-04-0616

Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, and Income Statement. Assisted in preparation Rate Design.

Tierra Linda Home Owners Association
ACC Docket No. W-0423A-04-0075

Certificate of Convenience and Necessity – Water. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial rate design.

Diamond Ventures - Red Rock Utilities
ACC Docket No. WS-04245A-04-0184

Certificate of Convenience and Necessity – Water and Sewer. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial rate design.

Arizona-American Water Company, Inc.
ACC Docket No. WS-01303A-02-0867
ACC Docket No. WS-01303A-02-0868
ACC Docket No. WS-01303A-02-0869
ACC Docket No. WS-01303A-02-0870
ACC Docket No. WS-01303A-02-0908

Permanent Rate Application Water and Sewer (10 divisions). Prepared schedules and testimony on Rate Base, Plant, Income Statement, and Revenue Requirement. Assisted in preparation of Rate Design.

COMPANY/CLIENT

FUNCTION

Bella Vista Water Company, Inc.
ACC Docket No. W-02465A-01-0776

Permanent Rate Application - Water.
Prepared schedules and testimony on Rate Base, Plant, Income Statement, and Revenue Requirement. Assisted in preparation of Cost of Capital and Rate Design.

Green Valley Water Company
Docket (2000 Not Filed)

Permanent Rate Application. Prepared schedules and testimony on Rate Base, Plant, Income Statement, and Revenue Requirement. Assisted in preparation of Cost of Capital and Rate Design.

Gold Canyon Sewer Company
ACC Docket No. SW-02519A-00-0638

Permanent Rate Application - Sewer.
Prepared schedules and testimony on Rate Base, Plant, Revenue Requirement, and Income Statement. Assisted in preparation of Cost of Capital and Rate Design.

Rio Verde Utilities, Inc.
ACC Docket No. WS-02156A-00-0321

Permanent Rate Application – Water and Sewer. Prepared schedules and testimony on Rate Base, Plant, Revenue Requirement, and Income Statement. Assisted in preparation of Cost of Capital and Rate Design.

Livco Water Company
Livco Sewer Company
ACC Docket No. SW-02563A-05-0820

Permanent Rate Application – Water.
Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.

Livco Water Company
ACC Docket No. SW-02563A-07-0506

Permanent Rate Application – Water and Sewer. Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.

Cave Creek Sewer Company

Revenue Requirement, Rate Adjustment and Rate Design - Sewer.

Avra Water Cooperative
ACC Docket No. W-02126A-00-0269

Permanent Rate Application – Water.
Assisted in preparation of Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.

COMPANY/CLIENT

FUNCTION

Town of Oro Valley

Revenue Requirements, Water Rate Adjustments and Rate Design.

Far West Water Company
ACC Docket No. WS-03478A-99-0144

Permanent Rate Application – Water. Assisted in preparation of schedules for Rate Base, Income Statement, Revenue Requirement, Lead-Lag Study, Cost of Capital, and Rate Design.

MHC Operating Limited Partnership
Sedona Venture Wastewater
ACC Docket No. W-

Permanent Rate Application – Sewer. Assisted in preparation of schedules for Rate Base, Plant, Income Statement, and Rate Design.

Vail Water Company
ACC Docket No. W-01651B-99-0406

Permanent Rate Application. Assisted in preparation of schedules for Rate Base, Plant, Income Statement, and Rate Design.

E&T Water Company
ACC Docket No. W-01409A-95-0440

Permanent Rate Application - Water. Assisted in preparation of schedules for Rate Base, Plant, Income Statement, and Rate Design.

New River Utility
ACC Docket No. W-01737A-99-0633

Permanent Rate Application - Water. Assisted in preparation of schedules for Rate Base, Plant, Income Statement, and Rate Design.

Golden Shores Water
ACC Docket No. W-01815A-98-0645

Permanent Rate Application – Water. Assisted in preparation of schedules for Rate Base, Plant, Income Statement, and Rate Design.

Ponderosa Utility Company
ACC Docket No. W-01717A-99-0572

Permanent Rate Application – Water. Assisted in preparation of schedules for Rate Base, Plant, Income Statement, and Rate Design.

RATE BASE SCHEDULES

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Computation of Increase in Gross Revenue
 Requirements As Adjusted

Exhibit
 Schedule A-1
 Page 1
 Witness: Bourassa

Line
No.

1	Fair Value Rate Base	\$ 14,408,605
2		
3	Adjusted Operating Income	397,226
4		
5	Current Rate of Return	2.76%
6		
7	Required Operating Income	\$ 1,053,093
8		
9	Required Rate of Return on Fair Value Rate Base	7.31%
10		
11	Operating Income Deficiency	\$ 655,867
12		
13	Gross Revenue Conversion Factor	1.3399
14		
15	Increase in Gross Revenue	
16	Requirement	\$ 878,785
17		
18	Adjusted Test Year Revenues	\$ 2,473,391
19	Increase in Gross Revenue Requirement	\$ 878,785
20	Proposed Revenue Requirement	\$ 3,352,176
21	% Increase	35.53%
22		

Customer	Present	Proposed	Dollar	Percent
Classification	Rates	Rates	Increase	Increase
25 Residential	\$ 1,988,852	\$ 2,625,284	\$ 636,432	32.00%
26 Residential HOA (11 units)	10,494	13,852	3,358	32.00%
27 Residential HOA (12 units)	11,448	15,111	3,663	32.00%
28 Residential HOA (18 units)	17,172	22,667	5,495	32.00%
29 Residential HOA (25 units)	23,850	31,482	7,632	32.00%
30 Residential Apartment (8 units)	7,632	10,074	2,442	32.00%
31 Residential Apartment (10 units)	9,540	12,593	3,053	32.00%
32 Residential Apartment (66 units)	62,964	83,112	20,148	32.00%
33 Commercial	411,096	542,647	131,551	32.00%
34				
35 Revenue Annualization	(11,392)	(15,038)	(3,645)	32%
36 Subtotal	\$ 2,531,656	\$ 3,341,786	\$ 810,130	32.00%
37				
38 Miscellaneous Revenues	11,106	11,106	-	0.00%
39 Tax Savings Credit	(68,878)	-	68,878	-100.00%
40 Reconciling Amount	(493)	(715)	(222)	45.03%
41			(1)	0.00%
42 Total of Water Revenues	\$ 2,473,391	\$ 3,352,176	\$ 878,785	35.53%
43				

44
 45 SUPPORTING SCHEDULES:
 46 B-1
 47 C-1
 48 C-3
 49 H-1

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Summary of Results of Operations

Exhibit
Schedule A-2
Page 1
Witness: Bourassa

Line No.	Description	Prior Years Ended		Test Year		Projected Year	
		12/31/2016	12/31/2017	Actual 12/31/2018	Adjusted 12/31/2018	Present Rates 12/31/2019	Proposed Rates 12/31/2019
1	Gross Revenues	\$ 2,534,794	\$ 2,558,143	\$ 2,491,430	\$ 2,473,391	\$ 2,473,391	\$ 3,352,176
2							
3	Revenue Deductions and	1,990,299	1,652,340	1,968,199	2,076,165	2,076,165	2,299,084
4	Operating Expenses						
5							
6	Operating Income	\$ 544,494	\$ 905,803	\$ 523,231	\$ 397,226	\$ 397,226	\$ 1,053,093
7							
8	Other Income and	(205,846)	15,288	27,880	27,880	27,880	27,880
9	Deductions						
10							
11	Interest Expense	(15,981)	(63,339)	(67,247)	(168,878)	(168,878)	(168,878)
12							
13	Net Income	\$ 322,668	\$ 857,752	\$ 483,864	\$ 256,228	\$ 256,228	\$ 912,094
14							
15	Common Shares	1,000	1,000	1,000	1,000	1,000	1,000
16							
17	Earned Per Average						
18	Common Share	322.67	857.75	483.86	256.23	256.23	912.09
19							
20	Dividends Paid	-	-	-	-	-	-
21							
22	Dividends Per						
23	Common Share	-	-	-	-	-	-
24							
25	Payout Ratio	-	-	-	-	-	-
26							
27	Return on Average						
28	Invested Capital	4.67%	11.55%	4.36%	1.67%	1.44%	5.13%
29							
30	Return on Year End						
31	Capital	4.60%	10.94%	3.37%	1.57%	1.33%	4.74%
32							
33	Return on Average						
34	Common Equity	6.55%	18.47%	11.01%	5.92%	3.97%	14.15%
35							
36	Return on Year End						
37	Common Equity	6.34%	20.41%	10.55%	5.75%	3.09%	10.98%
38							
39	Times Bond Interest Earned						
40	Before Income Taxes	34.07	14	12.61	2.04	2.04	7.84
41							
42	Times Total Interest and						
43	Preferred Dividends Earned						
44	After Income Taxes	33.23	15	9.59	3.42	3.42	5.96
45							
46							
47							
48							
49							
50	<u>SUPPORTING SCHEDULES</u>						
51	C-1						
52	E-2						
53	F-1						
54							

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Summary of Capital Structure

Exhibit
 Schedule A-3
 Page 1
 Witness: Bourassa

Line No.	Description:	Prior Years Ended		Test Year	Projected Year
		<u>12/31/2016</u>	<u>12/31/2017</u>	<u>12/31/2018</u>	<u>12/31/2019</u>
1					
2					
3	Short-Term Debt	-	-	-	-
4	Long-Term Debt	70,461	1,801,139	1,966,116	7,074,201
5					
6	Total Debt	\$ 70,461	\$ 1,801,139	\$ 1,966,116	\$ 7,074,201
7					
8					
9	Preferred Stock	-	-	-	-
10					
11	Common Equity	5,085,526	4,202,657	4,587,605	8,304,496
12					
13					
14	Total Capital & Debt	\$ 5,155,987	\$ 6,003,796	\$ 6,553,721	\$ 15,378,697
15					
16					
17	Capitalization Ratios:				
18					
19	Long-Term Debt	1.37%	30.00%	30.00%	46.00%
20					
21	Total Debt	1.37%	30.00%	30.00%	46.00%
22					
23					
24	Preferred Stock	-	-	-	-
25					
26	Common Equity	98.63%	70.00%	70.00%	54.00%
27					
28					
29	Total Capital	100.00%	100.00%	100.00%	100.00%
30					
31					
32	Weighted Cost of				
33	Senior Capital	0.00%	1.01%	1.01%	1.64%
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45	<u>SUPPORTING SCHEDULES:</u>				
46	E-1				
47	D-1				
48					
49					
50					

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Construction Expenditures
 and Gross Utility Plant in Service

Exhibit
 Schedule A-4
 Page 1
 Witness: Bourassa

Line No.	<u>Construction Expenditures</u>	<u>Net Plant Placed in Service</u>	<u>Gross Utility Plant in Service</u>
1			
2			
3			
4	Prior Year Ended 12/31/2016	(931,222)	(931,222) 13,939,311
5			
6	Prior Year Ended 12/31/2017	1,363,320	128,210 14,067,522
7			
8	Test Year Ended 12/31/2018	7,069,076	66,039 14,133,561
9			
10	Projected Year Ended 12/31/2019	87,481	6,518,059 20,651,620
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34	<u>SUPPORTING SCHEDULES:</u>		
35	B-2		
36	E-5		
37	F-3		
38			
39			
40			

Liberty Utilities (Black Mountain Sewer) Corp.

Test Year Ended December 31, 2018

Summary Statements of Cash Flows

Exhibit

Schedule A-5

Page 1

Witness: Bourassa

Line

No.

1

2

3

4

5 Cash Flows from Operating Activities

6 Net Income

7 Adjustments to reconcile net income to net cash

8 provided by operating activities:

9 Depreciation and Amortization

10 Other -Adjustments

11 Changes in Certain Assets and Liabilities:

12 Restricted Cash

13 Accounts Receivable

14 Other Receivables

15 Materials and Supplies Inventory

16 Prepaid Expenses

17 Deferred Regulatory Assets/Liabilities

18 Deferred Income Taxes

19 Receivables/Payables to Associated Co.

20 Accounts Payable

21 Interest Payable

22 Customer Meter and Security Deposits

23 Taxes Payable

24 Other assets and liabilities

25 Rounding

26 Net Cash Flow provided by Operating Activities

27 Cash Flow From Investing Activities:

28 Capital Expenditures

29 Plant Held for Future Use

30 Changes in debt reserve fund

31 Net Cash Flows from Investing Activities

32 Cash Flow From Financing Activities

33 Change in Restricted Cash

34 Proceeds from Long-Term Debt

35 Net receipt of contributions in aid of construction

36 Net receipts of advances in aid of construction

37 Long-Term Debt

38 Distributions/Dividends Paid

39 Deferred Financing Costs

40 Paid in Capital

41 Net Cash Flows Provided by Financing Activities

42 Increase(decrease) in Cash and Cash Equivalents

43 Cash and Cash Equivalents at Beginning of Year

44 Cash and Cash Equivalents at End of Year

45

46

47

48

49 SUPPORTING SCHEDULES:

50 E-3

51 F-2

52

53

	Prior Year Ended <u>12/31/2016</u>	Prior Year Ended <u>12/31/2017</u>	Test Year Ended <u>12/31/2018</u>	Projected Year Present Rates <u>12/31/2019</u>	Projected Year Proposed Rates <u>12/31/2019</u>
5 Cash Flows from Operating Activities					
6 Net Income	\$ 322,668	\$ 857,752	\$ 483,864	\$ 256,228	\$ 912,094
7 Adjustments to reconcile net income to net cash					
8 provided by operating activities:					
9 Depreciation and Amortization	749,003	485,748	475,416	732,550	732,550
10 Other -Adjustments	(569,694)	(188,722)	(140,787)	(2,125,265)	(2,125,265)
11 Changes in Certain Assets and Liabilities:					
12 Restricted Cash	(118,306)	(15,787)	(31,101)	-	-
13 Accounts Receivable	(222,659)	54,447	24,412	-	-
14 Other Receivables	(129,579)	-	129,579	-	-
15 Materials and Supplies Inventory	-	-	-	-	-
16 Prepaid Expenses	(8,524)	2,489	5,751	-	-
17 Deferred Regulatory Assets/Liabilities	(1,050,703)	114,334	401,644	(2,956,596)	(2,956,596)
18 Deferred Income Taxes	-	-	(50,523)	-	-
19 Receivables/Payables to Associated Co.	485,551	(52,438)	5,599,498	(4,000,000)	(4,000,000)
20 Accounts Payable	602	-	-	-	-
21 Interest Payable	-	-	-	-	-
22 Customer Meter and Security Deposits	(51,112)	5,362	4,017	-	-
23 Taxes Payable	-	-	-	-	-
24 Other assets and liabilities	198,905	71,467	102,249	243,036	243,036
25 Rounding	(2)	2	1	1	1
26 Net Cash Flow provided by Operating Activities	<u>\$ (393,850)</u>	<u>\$ 1,334,654</u>	<u>\$ 7,004,020</u>	<u>\$ (7,850,046)</u>	<u>\$ (7,194,179)</u>
27 Cash Flow From Investing Activities:					
28 Capital Expenditures	931,222	(1,363,320)	(7,069,076)	(87,481)	(87,481)
29 Plant Held for Future Use	-	-	-	-	-
30 Changes in debt reserve fund	-	-	-	-	-
31 Net Cash Flows from Investing Activities	<u>\$ 931,222</u>	<u>\$ (1,363,320)</u>	<u>\$ (7,069,076)</u>	<u>\$ (87,481)</u>	<u>\$ (87,481)</u>
32 Cash Flow From Financing Activities					
33 Change in Restricted Cash	-	-	-	-	-
34 Proceeds from Long-Term Debt	(147,575)	1,730,678	164,977	-	-
35 Net receipt of contributions in aid of construction	883,712	153,475	7,500	-	-
36 Net receipts of advances in aid of construction	(1,130,412)	(128,683)	-	-	-
37 Long-Term Debt	-	-	-	5,108,085	5,108,085
38 Distributions/Dividends Paid	-	-	-	-	-
39 Deferred Financing Costs	-	-	-	-	-
40 Paid in Capital	-	(1,740,621)	(98,916)	3,460,663	2,804,799
41 Net Cash Flows Provided by Financing Activities	<u>\$ (394,275)</u>	<u>\$ 14,849</u>	<u>\$ 73,561</u>	<u>\$ 8,568,748</u>	<u>\$ 7,912,884</u>
42 Increase(decrease) in Cash and Cash Equivalents	143,097	(13,817)	8,505	631,221	631,224
43 Cash and Cash Equivalents at Beginning of Year	(140,055)	3,041	(10,776)	(2,271)	(2,271)
44 Cash and Cash Equivalents at End of Year	<u>\$ 3,041</u>	<u>\$ (10,776)</u>	<u>\$ (2,271)</u>	<u>\$ 628,950</u>	<u>\$ 628,953</u>

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Summary of Rate Base

Exhibit
Schedule B-1
Page 1
Witness: Bourassa

Line No.		Original Cost Rate base	Fair Value Rate Base
1			
2	Gross Utility Plant in Service	\$ 20,708,639	\$ 20,708,639
3	Less: Accumulated Depreciation	8,126,120	8,126,120
4			
5	Net Utility Plant in Service	\$ 12,582,518	\$ 12,582,518
6			
7	<u>Less:</u>		
8	Advances in Aid of Construction	-	-
9			
10	Contributions in Aid of Construction	6,957,144	6,957,144
11			
12	Accumulated Amortization of CIAC	(5,599,846)	(5,599,846)
13			
14	Customer Meter Deposits	21,507	21,507
15	Customer Security Deposits	-	-
16	Accumulated Deferred Income Tax	192,513	192,513
17	Deferred Regulatory Liability - Tax (EADIT)	313,801	313,801
18			
19	<u>Plus:</u>		
20	Deferred Reg. Asset - Plant Closure	3,762,697	3,762,697
21		-	-
22	Prepayments	8,309	8,309
23	Materials and Supplies	-	-
24	Cash Working Capital	(59,801)	(59,801)
25			
26			
27	Total Rate Base	<u>\$ 14,408,605</u>	<u>\$ 14,408,605</u>
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42	<u>SUPPORTING SCHEDULES:</u>		
43	B-2		
44	B-3		
45	B-5		
46	E-1		
47			
48			
49			
50			
51			

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments

Exhibit
 Schedule B-2
 Page 1
 Witness: Bourassa

Line No.		Actual at End of <u>Test Year</u>	Proforma <u>Adjustment</u>	Adjusted at end of <u>Test Year</u>
1	Gross Utility			
2	Plant in Service	\$ 14,133,561	6,575,078	\$ 20,708,639
3				
4	Less:			
5	Accumulated			
6	Depreciation	10,001,351	(1,875,231)	8,126,120
7				
8				
9	Net Utility Plant			
10	in Service	\$ 4,132,210		\$ 12,582,518
11				
12	Less:			
13	Advances in Aid of			
14	Construction	(0)	0	-
15				
16	Contributions in Aid of			
17	Construction - Gross	6,957,144	0	6,957,144
18				
19	Accumulated Amortization of CIAC	(5,568,860)	(30,987)	(5,599,846)
20				
21	Customer Meter Deposits	21,507		21,507
22	Customer Security Deposits	-	-	-
23	Accumulated Deferred Income Tax	(50,523)	243,036	192,513
24	Deferred Regulatory Liability - Tax (EADIT)	313,801	-	313,801
25				-
26				
27	Plus:			
28	Deferred Reg. Asset - Plant Closure	806,101	2,956,596	3,762,697
29	Deferred Reg. Asset - Plant Closure Ph2	-	-	-
30	Prepayments	8,309	-	8,309
31	Materials and Supplies	-	-	-
32	Cash Working capital	-	(59,801)	(59,801)
33				-
34				
35	Total	\$ 3,273,551		\$ 14,408,605

46 SUPPORTING SCHEDULES:
 47 B-2, pages 2
 48 E-1
 49
 50
 51

RECAP SCHEDULES:
 B-1

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments

Exr Exhibit
 Scr Schedule B-2
 Paç Page 2
 Wit Witness: Bourassa

Line No.	Description	Actual at End of Test Year	Proforma Adjustments							Adjusted at end of Test Year
			1 Plant-in-Service	2 Accumulated Depreciation	3 CIAC	4 AIAC	5 Deferred Regulatory Assets	6 ADIT	7 Working Capital	
1	Gross Utility									
2	Plant in Service	\$ 14,133,561	6,575,078							\$ 20,708,639
3										
4	Less:									
5	Accumulated									
6	Depreciation	10,001,351		(1,875,231)						8,126,120
7										
8										
9	Net Utility Plant									
10	in Service	\$ 4,132,210	\$ 6,575,078	\$ 1,875,231	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,582,518
11										
12	Less:									
13	Advances in Aid of									
14	Construction	(0)				0				-
15										
16	Contributions in Aid of									
17	Construction (CIAC)	6,957,144			0					6,957,144
18										
19	Accumulated Amort of CIAC	(5,568,860)			(30,987)					(5,599,846)
20										
21	Customer Deposits	21,507								21,507
22	Customer Security Deposits	-								-
23	Accumulated Deferred Income Taxes	(50,523)						243,036		192,513
24	Deferred Regulatory Liability - Tax (EADIT)	313,801								313,801
25										
26	Plus:									
27	Deferred Reg. Asset - Plant Closure	\$ 806,101						\$ 2,956,596		3,762,697
28										-
29	Prepayments	8,309								8,309
30	Materials and Supplies	-								-
31	Cash Working Capital	-							(59,801)	(59,801)
32										
33	Total	\$ 3,273,551	\$ 6,575,078	\$ 1,875,231	\$ 30,987	\$ (0)	\$ 2,956,596	\$ (243,036)	\$ (59,801)	\$ 14,408,605

37 SUPPORTING SCHEDULES:
 38 B-2, pages 3-5
 39 E-1
 40
 41

RECAP SCHEDULES:
 B-1

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 1

Exhibit
 Schedule B-2
 Page 3
 Witness: Bourassa

Plant-in-Service

Line	Acct.	Description	Actual Original Cost	Adjustments					Adjusted Original Cost
				A PTY Plant	B Plant Closure	C PTY Retirements	D Allocated Corporate Plant	E Adjustments to Reconcile Plant to Reconstruction	
1	106	Plant not Classified	-	-	-	-	-	-	-
2	351	Organization	-	-	-	-	-	-	-
3	352	Franchise	-	-	-	-	-	-	-
4	353	Land	472,524	-	13,987	-	-	(0)	486,511
5	354	Structures & Improvements	2,849,358	-	1,983,535	(784,276)	-	165,416	4,214,032
6	355	Power Generation	9,000	-	-	-	-	-	9,000
7	360	Collection Sewer Forced	1,199,215	-	4,304,298	(482,097)	-	(1,952)	5,019,464
8	361	Collection Sewers Gravity	4,760,938	89,169	824,080	(108,990)	-	27,055	5,592,253
9	362	Special Collecting Structures	3,052	-	855,550	(93,166)	-	-	765,437
10	363	Customer Services	264,495	-	-	-	-	(5,711)	258,784
11	364	Flow Measuring Devices	63,044	-	58,701	(53,163)	-	-	68,582
12	365	Flow Measuring Installations	180,051	-	-	-	-	0	180,051
13	366	Reuse Services	-	-	-	-	-	-	-
14	367	Reuse Meters And Installation	-	-	-	-	-	-	-
15	370	Receiving Wells	773,931	-	-	-	-	(0)	773,931
16	371	Pumping Equipment	1,104,255	1,868	452,709	(335,319)	-	3,946	1,227,460
17	374	Reuse Distribution Reservoirs	-	-	-	-	-	-	-
18	375	Reuse Trans. and Dist. System	-	-	-	-	-	-	-
19	380	Treatment & Disposal Equipment	340,043	-	58,947	(29,977)	-	59,758	428,771
20	381	Plant Sewers	116,917	-	24,561	(10,700)	-	4,028	134,805
21	382	Outfall Sewer Lines	-	-	-	-	-	-	-
22	389	Other Sewer Plant & Equipment	967,267	-	122,138	(59,992)	-	(26,804)	1,002,608
23	390	Office Furniture & Equipment	226,994	-	-	-	-	(142,253)	84,741
24	390.1	Computers and Software	68,954	-	-	(33,999)	-	15,090	50,044
25	391	Transportation Equipment	65,584	119,820	-	(7,845)	-	(10,642)	166,916
26	392	Stores Equipment	-	-	-	-	-	-	-
27	393	Tools, Shop And Garage Equip	36,243	-	-	(2,005)	-	(162)	34,076
28	394	Laboratory Equip	14,398	-	-	(616)	-	437	14,219
29	395	Power Operated Equip	-	-	-	-	-	-	-
30	396	Communication Equip	124,111	-	-	(1,699)	-	10,631	133,043
31	397	Miscellaneous Equip.	6,892	-	-	-	-	-	6,892
32	398	Other Tangible Plant	486,294	-	-	(486,294)	-	-	-
33									
34		SUBTOTAL	14,133,561	210,857	8,698,506	(2,490,139)	-	98,836	20,651,620
35									
36	903	Land and Land Rights	-	-	-	-	-	-	-
37	904	Structures and Improvements	-	-	-	-	12,847	-	12,847
38	940	Office Furniture & Equipment	-	-	-	-	359	-	359
39	940.1	Computers and Software	-	-	-	-	43,813	-	43,813
40									
41									
42		Plant Held for Future Use							
43		TOTALS	\$ 14,133,561	\$ 210,857	\$ 8,698,506	\$ (2,490,139)	\$ 57,019	\$ 98,836	\$ 20,708,639
44									
45		Plant-in-Service per Books							\$ 14,133,561
46									
47		Increase (decrease) in Plant-in-Service							\$ 6,575,078
48									
49		Adjustment to Plant-in-Service							\$ 6,575,078
50									

SUPPORTING SCHEDULES

B-2, pages 3.1 to 3.5

53

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 1 - A
 Post Test-Year Plant

Exhibit
 Schedule B-2
 Page 3.1
 Witness: Bourassa

Line No.	Acct.	Description	Amount
1	351	Organization	\$ -
2	352	Franchise	-
3	353	Land	-
4	354	Structures & Improvements	-
5	355	Power Generation	-
6	360	Collection Sewer Forced	-
7	361	Collection Sewers Gravity	89,169
8	362	Special Collecting Structures	-
9	363	Customer Services	-
10	364	Flow Measuring Devices	-
11	365	Flow Measuring Installations	-
12	366	Reuse Services	-
13	367	Reuse Meters And Installation	-
14	370	Receiving Wells	-
15	371	Pumping Equipment	1,868
16	374	Reuse Distribution Reservoirs	-
17	375	Reuse Trans. and Dist. System	-
18	380	Treatment & Disposal Equipment	-
19	381	Plant Sewers	-
20	382	Outfall Sewer Lines	-
21	389	Other Sewer Plant & Equipment	-
22	390	Office Furniture & Equipment	-
23	390.1	Computers and Software	-
24	391	Transportation Equipment	119,820
25	392	Stores Equipment	-
26	393	Tools, Shop And Garage Equip	-
27	394	Laboratory Equip	-
28	395	Power Operated Equip	-
29	396	Communication Equip	-
30	397	Miscellaneous Equip.	-
31	398	Other Tangible Plant	-
32			-
33		TOTAL	<u>\$ 210,857</u>
34			
35			
36			
37			
38			
39			
40			
41			
42			
43		<u>SUPPORTING SCHEDULE</u>	
44		Testimony	
45		Work papers	

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 1 - B
 Plant Closure

Exhibit
 Schedule B-2
 Page 3.2
 Witness: Bourassa

Line No.	Acct.	Description	Amount
1	351	Organization	\$ -
2	352	Franchise	-
3	353	Land	13,987
4	354	Structures & Improvements	1,983,535
5	355	Power Generation	-
6	360	Collection Sewer Forced	4,304,298
7	361	Collection Sewers Gravity	824,080
8	362	Special Collecting Structures	855,550
9	363	Customer Services	-
10	364	Flow Measuring Devices	58,701
11	365	Flow Measuring Installations	-
12	366	Reuse Services	-
13	367	Reuse Meters And Installation	-
14	370	Receiving Wells	-
15	371	Pumping Equipment	452,709
16	374	Reuse Distribution Reservoirs	-
17	375	Reuse Trans. and Dist. System	-
18	380	Treatment & Disposal Equipment	58,947
19	381	Plant Sewers	24,561
20	382	Outfall Sewer Lines	-
21	389	Other Sewer Plant & Equipment	122,138
22	390	Office Furniture & Equipment	-
23	390.1	Computers and Software	-
24	391	Transportation Equipment	-
25	392	Stores Equipment	-
26	393	Tools, Shop And Garage Equip	-
27	394	Laboratory Equip	-
28	395	Power Operated Equip	-
29	396	Communication Equip	-
30	397	Miscellaneous Equip.	-
31	398	Other Tangible Plant	-
32			-
33		TOTAL	<u>\$ 8,698,506</u>
34			
35			
36			
37			
38			
39			
40			
41			
42			
43		<u>SUPPORTING SCHEDULE</u>	
44		Testimony	
45		Work papers	

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 1 - C
 Post Test-Year Retirements

Exhibit
 Schedule B-2
 Page 3.3
 Witness: Bourassa

Line No.	Acct.	Description	Amount
1	351	Organization	\$ -
2	352	Franchise	-
3	353	Land	-
4	354	Structures & Improvements	(784,276)
5	355	Power Generation	-
6	360	Collection Sewer Forced	(482,097)
7	361	Collection Sewers Gravity	(108,990)
8	362	Special Collecting Structures	(93,166)
9	363	Customer Services	-
10	364	Flow Measuring Devices	(53,163)
11	365	Flow Measuring Installations	-
12	366	Reuse Services	-
13	367	Reuse Meters And Installation	-
14	370	Receiving Wells	-
15	371	Pumping Equipment	(335,319)
16	374	Reuse Distribution Reservoirs	-
17	375	Reuse Trans. and Dist. System	-
18	380	Treatment & Disposal Equipment	(29,977)
19	381	Plant Sewers	(10,700)
20	382	Outfall Sewer Lines	-
21	389	Other Sewer Plant & Equipment	(59,992)
22	390	Office Furniture & Equipment	-
23	390.1	Computers and Software	(33,999)
24	391	Transportation Equipment	(7,845)
25	392	Stores Equipment	-
26	393	Tools, Shop And Garage Equip	(2,005)
27	394	Laboratory Equip	(616)
28	395	Power Operated Equip	-
29	396	Communication Equip	(1,699)
30	397	Miscellaneous Equip.	-
31	398	Other Tangible Plant	(486,294)
32			-
33		TOTAL	<u>\$ (2,490,139)</u>
34			
35			
36			
37			
38			
39			
40			
41			
42			
43		<u>SUPPORTING SCHEDULE</u>	
44		Testimony	
45		Work papers	

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Original Cost Rate Base Proforma Adjustments
Adjustment Number 1 - D
Allocated Corporate Plant

Exhibit
Schedule B-2
Page 3.4
Witness: Bourassa

Line No.	Acct.	Description	Amount
1	903	Land and Land Rights	\$ -
2	904	Structures and Improvements	12,847
3	940	Office Furniture & Equipment	359
4	940.1	Computers and Software	43,813
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33		TOTAL	<u>\$ 57,019</u>
34			
35			
36			
37			
38			
39			
40			
41			
42			
43		<u>SUPPORTING SCHEDULE</u>	
44		Testimony	
45		Work papers	

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 1 - E

Exhibit
 Schedule B-2
 Page 3.5
 Witness: Bourassa

Line						
<u>No.</u>						
1	<u>Reconciliation of Plant to Plant Reconstruction</u>					
2						
3						
4	Acct.	Original	B-2	Adjusted	Plant	
5	<u>No.</u>	<u>Cost</u>	<u>Adjustments</u>	<u>Original</u>	<u>Per</u>	<u>Difference</u>
6	106	\$ -	\$ -	\$ -	\$ -	\$ -
7	351	-	-	-	-	-
8	352	-	-	-	-	-
9	353	472,524	13,987	486,511	486,511	(0)
10	354	2,849,358	1,199,258	4,048,616	4,214,032	165,416
11	355	9,000	-	9,000	9,000	-
12	360	1,199,215	3,822,201	5,021,416	5,019,464	(1,952)
13	361	4,760,938	804,259	5,565,197	5,592,253	27,055
14	362	3,052	762,385	765,437	765,437	-
15	363	264,495	-	264,495	258,784	(5,711)
16	364	63,044	5,538	68,582	68,582	-
17	365	180,051	-	180,051	180,051	0
18	366	-	-	-	-	-
19	367	-	-	-	-	-
20	370	773,931	-	773,931	773,931	(0)
21	371	1,104,255	119,259	1,223,514	1,227,460	3,946
22	374	-	-	-	-	-
23	375	-	-	-	-	-
24	380	340,043	28,970	369,013	428,771	59,758
25	381	116,917	13,860	130,777	134,805	4,028
26	382	-	-	-	-	-
27	389	967,267	62,145	1,029,412	1,002,608	(26,804)
28	390	226,994	-	226,994	84,741	(142,253)
29	390.1	68,954	(33,999)	34,955	50,044	15,090
30	391	65,584	111,974	177,559	166,916	(10,642)
31	392	-	-	-	-	-
32	393	36,243	(2,005)	34,238	34,076	(162)
33	394	14,398	(616)	13,782	14,219	437
34	395	-	-	-	-	-
35	396	124,111	(1,699)	122,412	133,043	10,631
36	397	6,892	-	6,892	6,892	-
37	398	486,294	(486,294)	-	-	-
38		-	-	-	-	-
39						
40						
41						
42	Plant Held for Future Use					-
43	TOTALS	\$ 14,133,561	\$ 6,419,223	\$ 20,552,784	\$ 20,651,620	\$ 98,836
44						
45						
46	<u>SUPPORTING SCHEDULE</u>					
47	B-2, pages 3.1 through 3.4					
48	B-2, pages 3.6 through 3.10					

Line No.	NARUC Account No.	Description	Allowed Deprec. Rate	Decision 75510		2015							
				Per Decision Plant	Per Decision Accum.	Adjusted Plant	Adjusted Plant	Salvage	Deprecation	Plant	Accum.	Net	
				Balance	Deprec.	Additions	Retirements	A/D Only	(Calculated)	Balance	Deprec.	Plant	
1	351	Organization	0.00%	-	-	-	-	-	-	-	-	-	-
2	352	Franchises	0.00%	-	-	-	-	-	-	-	-	-	-
3	353	Land and Land Rights	0.00%	472,524	-	-	-	-	-	472,524	-	-	472,524
4	354	Structures and Improvements	3.33%	2,939,259	1,640,932	54,122	-	-	98,778	2,993,381	1,739,710	-	1,253,671
5	355	Power Generation Equipment	5.00%	3,839	480	5,160	-	-	321	9,000	801	-	8,199
6	360	Collection Sewers - Force	2.00%	1,130,430	344,633	-	535	-	22,603	1,129,895	366,701	-	763,194
7	361	Collection Sewers - Gravity	2.00%	4,555,181	3,561,782	141,607	-	-	92,520	4,696,789	3,654,302	-	1,042,487
8	362	Special Collecting Structures	2.00%	-	-	-	-	-	-	-	-	-	-
9	363	Services to Customers	2.00%	260,435	172,651	-	-	-	5,209	260,435	177,860	-	82,575
10	364	Flow Measuring Devices	10.00%	31,668	31,668	-	-	-	-	31,668	31,668	-	0
11	365	Flow Measuring Installations	10.00%	180,051	165,638	-	-	-	14,134	180,051	179,772	-	279
12	366	Reuse Services	2.00%	-	-	-	-	-	-	-	-	-	-
13	367	Reuse Meters And Installation	8.33%	-	-	-	-	-	-	-	-	-	-
14	370	Receiving Wells	3.33%	1,028,182	505,000	(254,251)	-	(50,799)	30,005	773,931	484,206	-	289,725
15	371	Effluent Pumping Equipment	12.50%	1,023,485	724,929	78,647	7,735	-	63,802	1,094,397	780,996	-	313,401
16	374	Reuse Distribution Reservoirs	2.50%	-	-	-	-	-	-	-	-	-	-
17	375	Reuse Trans. and Dist. System	2.50%	-	-	-	-	-	-	-	-	-	-
18	380	Treatment and Disposal Equipment	5.00%	320,285	109,926	17,285	-	-	16,446	337,571	126,373	-	211,198
19	381	Plant Sewers	5.00%	124,527	124,527	(7,610)	-	-	(7,610)	116,917	116,917	-	0
20	382	Outfall Sewer Lines	3.33%	-	-	-	-	-	-	-	-	-	-
21	389	Other Plant and Misc. Equipment	6.67%	959,832	659,389	7,610	-	-	64,275	967,442	723,664	-	243,779
22	390	Office Furniture and Equipment	6.67%	227,290	169,457	(317)	-	-	15,150	226,973	184,606	-	42,367
23	390.1	Computers and Software	20.00%	62,224	18,667	317	-	-	12,477	62,541	31,144	-	31,397
24	391	Transportation Equipment	20.00%	80,215	56,967	5,590	-	-	6,189	85,804	63,156	-	22,648
25	392	Stores Equipment	4.00%	-	-	-	-	-	-	-	-	-	-
26	393	Tools, Shop and Garage Equipment.	5.00%	28,942	4,654	1,327	-	-	1,480	30,269	6,134	-	24,134
27	394	Laboratory Equipment	10.00%	10,683	7,277	-	-	-	689	10,683	7,966	-	2,717
28	395	Power Operated Equipment	5.00%	-	-	-	-	-	-	-	-	-	-
29	396	Communication Equipment	10.00%	103,290	42,700	14,786	-	-	11,068	118,076	53,768	-	64,308
30	397	Miscellaneous Equip.	10.00%	-	-	6,892	-	-	345	6,892	345	-	6,547
31	398	Other Tangible Plant	10.00%	486,294	413,350	-	-	-	48,629	486,294	461,980	-	24,314
32		TOTAL		14,028,638	8,754,626	71,165	8,271	(50,799)	496,510	14,091,532	9,192,067	-	4,899,465

Line No.	NARUC Account No.	Description	Allowed Deprec. Rate	2016						
				Adjusted Plant Additions	Adjusted Plant Retirements	Salvage A/D Only	Deprecation (Calculated)	Plant Balance	Accum. Deprec.	Net Plant
1	351	Organization	0.00%	-	-	-	-	-	-	-
2	352	Franchises	0.00%	-	-	-	-	-	-	-
3	353	Land and Land Rights	0.00%	-	-	-	-	472,524	-	472,524
4	354	Structures and Improvements	3.33%	20,823	7,783	-	99,897	3,006,421	1,831,824	1,174,597
5	355	Power Generation Equipment	5.00%	-	-	-	450	9,000	1,251	7,749
6	360	Collection Sewers - Force	2.00%	37,288	14,497	-	22,826	1,152,686	375,029	777,657
7	361	Collection Sewers - Gravity	2.00%	4,301	15,747	-	93,821	4,685,343	3,732,376	952,967
8	362	Special Collecting Structures	2.00%	3,052	-	-	31	3,052	31	3,021
9	363	Services to Customers	2.00%	4,400	6,050	-	5,192	258,784	177,001	81,783
10	364	Flow Measuring Devices	10.00%	34,489	21,224	-	1,724	44,933	12,168	32,765
11	365	Flow Measuring Installations	10.00%	-	-	-	43	180,051	179,815	236
12	366	Reuse Services	2.00%	-	-	-	-	-	-	-
13	367	Reuse Meters And Installation	8.33%	-	-	-	-	-	-	-
14	370	Receiving Wells	3.33%	-	-	-	25,772	773,931	509,977	263,953
15	371	Effluent Pumping Equipment	12.50%	79,643	133,759	-	73,695	1,040,281	720,932	319,349
16	374	Reuse Distribution Reservoirs	2.50%	-	-	-	-	-	-	-
17	375	Reuse Trans. and Dist. System	2.50%	-	-	-	-	-	-	-
18	380	Treatment and Disposal Equipment	5.00%	43,109	-	-	17,956	380,679	144,329	236,350
19	381	Plant Sewers	5.00%	4,028	-	-	101	120,945	117,018	3,927
20	382	Outfall Sewer Lines	3.33%	-	-	-	-	-	-	-
21	389	Other Plant and Misc. Equipment	6.67%	5,059	31,863	-	63,634	940,638	755,435	185,203
22	390	Office Furniture and Equipment	6.67%	-	142,232	-	10,396	84,741	52,770	31,971
23	390.1	Computers and Software	20.00%	-	-	-	12,508	62,541	43,652	18,889
24	391	Transportation Equipment	20.00%	7,358	38,221	-	7,484	54,942	32,420	22,522
25	392	Stores Equipment	4.00%	-	-	-	-	-	-	-
26	393	Tools, Shop and Garage Equipment.	5.00%	527	-	-	1,527	30,796	7,661	23,135
27	394	Laboratory Equipment	10.00%	7,677	4,454	-	703	13,905	4,215	9,691
28	395	Power Operated Equipment	5.00%	-	-	-	-	-	-	-
29	396	Communication Equipment	10.00%	4,334	-	-	12,024	122,410	65,792	56,618
30	397	Miscellaneous Equip.	10.00%	-	-	-	689	6,892	1,034	5,858
31	398	Other TangiblePlant	10.00%	-	-	-	24,315	486,294	486,294	-
32		TOTAL		256,089	415,831	-	474,788	13,931,790	9,251,024	4,680,766

Line No.	NARUC Account No.	Description	Allowed Deprec. Rate	2017						
				Adjusted Plant Additions	Adjusted Plant Retirements	Salvage A/D Only	Deprecation (Calculated)	Plant Balance	Accum. Deprec.	Net Plant
1	351	Organization	0.00%	-	-	-	-	-	-	-
2	352	Franchises	0.00%	-	-	-	-	-	-	-
3	353	Land and Land Rights	0.00%	-	-	-	-	472,524	-	472,524
4	354	Structures and Improvements	3.33%	820	79	-	100,126	3,007,162	1,931,871	1,075,291
5	355	Power Generation Equipment	5.00%	-	-	-	450	9,000	1,701	7,299
6	360	Collection Sewers - Force	2.00%	30,718	3,462	-	23,326	1,179,942	394,894	785,048
7	361	Collection Sewers - Gravity	2.00%	59,038	6,853	-	94,229	4,737,528	3,819,752	917,776
8	362	Special Collecting Structures	2.00%	-	-	-	61	3,052	92	2,960
9	363	Services to Customers	2.00%	-	-	-	5,176	258,784	182,177	76,607
10	364	Flow Measuring Devices	10.00%	18,111	-	-	4,354	63,044	16,523	46,521
11	365	Flow Measuring Installations	10.00%	-	-	-	43	180,051	179,858	193
12	366	Reuse Services	2.00%	-	-	-	-	-	-	-
13	367	Reuse Meters And Installation	8.33%	-	-	-	-	-	-	-
14	370	Receiving Wells	3.33%	-	-	-	25,772	773,931	535,749	238,181
15	371	Effluent Pumping Equipment	12.50%	50,127	32,895	-	81,172	1,057,513	769,209	288,304
16	374	Reuse Distribution Reservoirs	2.50%	-	-	-	-	-	-	-
17	375	Reuse Trans. and Dist. System	2.50%	-	-	-	-	-	-	-
18	380	Treatment and Disposal Equipment	5.00%	5,291	52	-	19,165	385,919	163,442	222,477
19	381	Plant Sewers	5.00%	-	-	-	201	120,945	117,219	3,726
20	382	Outfall Sewer Lines	3.33%	-	-	-	-	-	-	-
21	389	Other Plant and Misc. Equipment	6.67%	-	-	-	62,741	940,638	818,175	122,463
22	390	Office Furniture and Equipment	6.67%	-	-	-	5,652	84,741	58,422	26,319
23	390.1	Computers and Software	20.00%	6,434	-	-	13,152	68,975	56,804	12,171
24	391	Transportation Equipment	20.00%	-	-	-	7,698	54,942	40,117	14,825
25	392	Stores Equipment	4.00%	-	-	-	-	-	-	-
26	393	Tools, Shop and Garage Equipment.	5.00%	367	240	-	1,543	30,923	8,964	21,959
27	394	Laboratory Equipment	10.00%	-	-	-	1,087	13,905	5,302	8,603
28	395	Power Operated Equipment	5.00%	-	-	-	-	-	-	-
29	396	Communication Equipment	10.00%	2,110	1,223	-	12,285	123,296	76,854	46,442
30	397	Miscellaneous Equip.	10.00%	-	-	-	689	6,892	1,723	5,169
31	398	Other TangiblePlant	10.00%	-	-	-	-	486,294	486,294	-
32		TOTAL		173,015	44,804	-	458,923	14,060,000	9,665,142	4,394,858

Line No.	NARUC Account No.	Description	Allowed Deprec. Rate	2018				
				Adjusted Plant Additions	Adjusted Plant Retirements	Salvage A/D Only	Deprecation (Calculated)	Plant Balance Before PTY ADJ
1	351	Organization	0.00%	-	-	-	-	-
2	352	Franchises	0.00%	-	-	-	-	-
3	353	Land and Land Rights	0.00%	-	-	-	-	472,524
4	354	Structures and Improvements	3.33%	7,612	-	-	100,265	3,014,774
5	355	Power Generation Equipment	5.00%	-	-	-	450	9,000
6	360	Collection Sewers - Force	2.00%	18,241	920	-	23,772	1,197,263
7	361	Collection Sewers - Gravity	2.00%	50,465	-	-	95,255	4,787,994
8	362	Special Collecting Structures	2.00%	-	-	-	61	3,052
9	363	Services to Customers	2.00%	0	-	-	5,176	258,784
10	364	Flow Measuring Devices	10.00%	-	-	-	5,260	63,044
11	365	Flow Measuring Installations	10.00%	-	-	-	43	180,051
12	366	Reuse Services	2.00%	-	-	-	-	-
13	367	Reuse Meters And Installation	8.33%	-	-	-	-	-
14	370	Receiving Wells	3.33%	-	-	-	25,772	773,931
15	371	Effluent Pumping Equipment	12.50%	53,976	3,287	-	78,413	1,108,201
16	374	Reuse Distribution Reservoirs	2.50%	-	-	-	-	-
17	375	Reuse Trans. and Dist. System	2.50%	-	-	-	-	-
18	380	Treatment and Disposal Equipment	5.00%	13,882	-	-	18,971	399,801
19	381	Plant Sewers	5.00%	-	-	-	201	120,945
20	382	Outfall Sewer Lines	3.33%	-	-	-	-	-
21	389	Other Plant and Misc. Equipment	6.67%	-	176	-	62,735	940,462
22	390	Office Furniture and Equipment	6.67%	-	-	-	5,652	84,741
23	390.1	Computers and Software	20.00%	15,069	-	-	9,079	84,044
24	391	Transportation Equipment	20.00%	-	-	-	7,176	54,942
25	392	Stores Equipment	4.00%	-	-	-	-	-
26	393	Tools, Shop and Garage Equipment.	5.00%	5,159	-	-	1,675	36,081
27	394	Laboratory Equipment	10.00%	929	-	-	1,134	14,835
28	395	Power Operated Equipment	5.00%	-	-	-	-	-
29	396	Communication Equipment	10.00%	11,446	-	-	10,045	95,240
30	397	Miscellaneous Equip.	10.00%	-	-	-	689	6,892
31	398	Other TangiblePlant	10.00%	-	-	-	-	486,294
32		TOTAL		176,779	4,382	-	451,824	14,192,894

Line No.	NARUC Account No.	Description	Allowed Deprec. Rate	Post Test Year							
				PTY Plant	Plant Closure	Plant Closure A/D	PTY Retirement	Plant Balance	Accum. Deprec.	Net Plant	
1	351	Organization	0.00%	-	-	-	-	-	-	-	-
2	352	Franchises	0.00%	-	-	-	-	-	-	-	-
3	353	Land and Land Rights	0.00%	-	13,987	-	-	486,511	-	-	486,511
4	354	Structures and Improvements	3.33%	-	1,983,535	-	87,850	784,276	4,214,032	1,335,709	2,878,323
5	355	Power Generation Equipment	5.00%	-	-	-	-	-	9,000	2,151	6,849
6	360	Collection Sewers - Force	2.00%	-	4,304,298	-	172,172	482,097	5,019,464	107,821	4,911,643
7	361	Collection Sewers - Gravity	2.00%	89,169	824,080	892	32,934	108,990	5,592,253	3,839,843	1,752,410
8	362	Special Collecting Structures	2.00%	-	855,550	-	34,222	93,166	765,437	(58,791)	824,228
9	363	Services to Customers	2.00%	-	-	-	-	-	258,784	187,353	71,431
10	364	Flow Measuring Devices	10.00%	-	58,701	-	4,839	53,163	68,582	(26,541)	95,123
11	365	Flow Measuring Installations	10.00%	-	-	-	-	-	180,051	179,901	150
12	366	Reuse Services	2.00%	-	-	-	-	-	-	-	-
13	367	Reuse Meters And Installation	8.33%	-	-	-	-	-	-	-	-
14	370	Receiving Wells	3.33%	-	-	-	-	-	773,931	561,521	212,410
15	371	Effluent Pumping Equipment	12.50%	1,868	452,709	117	108,749	335,319	1,227,460	617,882	609,578
16	374	Reuse Distribution Reservoirs	2.50%	-	-	-	-	-	-	-	-
17	375	Reuse Trans. and Dist. System	2.50%	-	-	-	-	-	-	-	-
18	380	Treatment and Disposal Equipment	5.00%	-	58,947	-	2,947	29,977	428,771	155,383	273,387
19	381	Plant Sewers	5.00%	-	24,561	-	1,228	10,700	134,805	107,948	26,857
20	382	Outfall Sewer Lines	3.33%	-	-	-	-	-	-	-	-
21	389	Other Plant and Misc. Equipment	6.67%	-	122,138	-	14,832	59,992	1,002,608	835,574	167,033
22	390	Office Furniture and Equipment	6.67%	-	-	-	-	-	84,741	64,075	20,667
23	390.1	Computers and Software	20.00%	-	-	-	-	33,999	50,044	31,884	18,160
24	391	Transportation Equipment	20.00%	119,820	-	11,982	-	7,845	166,916	51,429	115,487
25	392	Stores Equipment	4.00%	-	-	-	-	-	-	-	-
26	393	Tools, Shop and Garage Equipment.	5.00%	-	-	-	-	2,005	34,076	8,634	25,442
27	394	Laboratory Equipment	10.00%	-	-	-	-	616	14,219	5,820	8,398
28	395	Power Operated Equipment	5.00%	-	-	-	-	-	-	-	-
29	396	Communication Equipment	10.00%	-	-	-	-	1,699	133,043	85,200	47,844
30	397	Miscellaneous Equip.	10.00%	-	-	-	-	-	6,892	2,412	4,480
31	398	Other TangiblePlant	10.00%	-	-	-	-	486,294	-	0	(0)
32		TOTAL		210,857	8,698,506	12,990	459,774	2,490,139	20,651,620	8,095,209	12,556,411

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 2

Exhibit
 Schedule B-2
 Page 4
 Witness: Bourassa

Accumulated Depreciation

Line No.	Acct. No. Description	Per Books Accum. Depr.	A PTY Plant A/D	B Plant Closure Depreciation	Adjustments C PTY Retirements	D Allocated Corporate Plant	E Adjustments to Reconcile A/D to Reconstruction	Adjusted Accum. Depr.
1								
2								
3								
4								
5								
6	351	Organization	-	-	-	-	-	-
7	352	Franchise	-	-	-	-	-	-
8	353	Land	-	-	-	-	-	-
9	354	Structures & Improvements	1,957,228	-	87,850	(784,276)	74,907	1,335,709
10	355	Power Generation	2,131	-	-	-	20	2,151
11	360	Collection Sewer Forced	429,767	-	172,172	(482,097)	(12,020)	107,821
12	361	Collection Sewers Gravity	3,854,807	892	32,934	(108,990)	60,201	3,839,843
13	362	Special Collecting Structures	137	-	34,222	(93,166)	15	(58,791)
14	363	Customer Services	182,798	-	-	-	4,555	187,353
15	364	Flow Measuring Devices	19,832	-	4,839	(53,163)	1,951	(26,541)
16	365	Flow Measuring Installations	142,185	-	-	-	37,716	179,901
17	366	Reuse Services	-	-	-	-	-	-
18	367	Reuse Meters And Installation	564	-	-	-	(564)	-
19	370	Receiving Wells	710,973	-	-	-	(149,452)	561,521
20	371	Pumping Equipment	615,811	117	108,749	(335,319)	228,524	617,882
21	374	Reuse Distribution Reservoirs	-	-	-	-	-	-
22	375	Reuse Trans. and Dist. System	-	-	-	-	-	-
23	380	Treatment & Disposal Equipment	144,150	-	2,947	(29,977)	38,263	155,383
24	381	Plant Sewers	112,889	-	1,228	(10,700)	4,531	107,948
25	382	Outfall Sewer Lines	-	-	-	-	-	-
26	389	Other Sewer Plant & Equipment	800,417	-	14,832	(59,992)	80,317	835,574
27	390	Office Furniture & Equipment	202,933	-	-	-	(138,858)	64,075
28	390.1	Computers and Software	-	-	-	(33,999)	65,883	31,884
29	391	Transportation Equipment	24,437	11,982	-	(7,845)	22,856	51,429
30	392	Stores Equipment	-	-	-	-	-	-
31	393	Tools, Shop And Garage Equip	12,633	-	-	(2,005)	(1,994)	8,634
32	394	Laboratory Equip	4,976	-	-	(616)	1,460	5,820
33	395	Power Operated Equip	-	-	-	-	-	-
34	396	Communication Equip	82,576	-	-	(1,699)	4,323	85,200
35	397	Miscellaneous Equip.	2,183	-	-	-	230	2,412
36	398	Other Tangible Plant	485,847	-	-	(486,294)	447	-
37			-	-	-	-	-	-
38	108	Accumulated Depreciation	212,076				(212,076)	-
39		SUBTOTAL	10,001,351	12,990	459,774	(2,490,139)	-	8,095,209
40								
41	903	Land and Land Rights						-
42	904	Structures and Improvements				1,703		1,703
43	940	Office Furniture & Equipment				142		142
44	940.1	Computers and Software				29,067		29,067
45								-
46		Plant Held for Future Use						-
47		TOTALS	\$ 10,001,351	\$ 12,990	\$ 459,774	\$ (2,490,139)	\$ 30,911	\$ 8,126,120
48								
49		Accumulated Depreciation per Books						\$ 10,001,351
50								
51		Increase (decrease) in Accumulated Depreciation						\$ (1,875,231)
52								
53		Adjustment to Accumulated Depreciation						\$ (1,875,231)
54								
55		<u>SUPPORTING SCHEDULES</u>						
56		B-2, pages 4.1 through 4.5						

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 2 - A
 Post Test-Year Plant Depreciation

Exhibit
 Schedule B-2
 Page 4.1
 Witness: Bourassa

Line No.	Acct.	Description	Amount	Depr. Rate	Depreication (1/2 yr conv.)
1	351	Organization	\$ -	0.0%	\$ -
2	352	Franchise	-	0.0%	-
3	353	Land	-	0.0%	-
4	354	Structures & Improvements	-	3.3%	-
5	355	Power Generation	-	5.0%	-
6	360	Collection Sewer Forced	-	2.0%	-
7	361	Collection Sewers Gravity	89,169	2.0%	892
8	362	Special Collecting Structures	-	2.0%	-
9	363	Customer Services	-	2.0%	-
10	364	Flow Measuring Devices	-	10.0%	-
11	365	Flow Measuring Installations	-	10.0%	-
12	366	Reuse Services	-	2.0%	-
13	367	Reuse Meters And Installation	-	8.3%	-
14	370	Receiving Wells	-	3.3%	-
15	371	Pumping Equipment	1,868	12.5%	117
16	374	Reuse Distribution Reservoirs	-	2.5%	-
17	375	Reuse Trans. and Dist. System	-	2.5%	-
18	380	Treatment & Disposal Equipment	-	5.0%	-
19	381	Plant Sewers	-	5.0%	-
20	382	Outfall Sewer Lines	-	3.3%	-
21	389	Other Sewer Plant & Equipment	-	6.7%	-
22	390	Office Furniture & Equipment	-	6.7%	-
23	390.1	Computers and Software	-	20.0%	-
24	391	Transportation Equipment	119,820	20.0%	11,982
25	392	Stores Equipment	-	4.0%	-
26	393	Tools, Shop And Garage Equip	-	5.0%	-
27	394	Laboratory Equip	-	10.0%	-
28	395	Power Operated Equip	-	5.0%	-
29	396	Communication Equip	-	10.0%	-
30	397	Miscellaneous Equip.	-	10.0%	-
31	398	Other Tangible Plant	-	10.0%	-
32					
33		TOTAL	<u>\$ 210,857</u>		<u>\$ 12,990</u>

43 SUPPORTING SCHEDULE
 44 Testimony
 45 Work papers

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 2 - B
 Post-Test Year Depreciation on Plant Closure Costs

Exhibit
 Schedule B-2
 Page 4.2
 Witness: Bourassa

Line No.	Acct.	Description	Amount	Depr. Rate	Post-inService Depreciation thru 2019 to 6/30/2020 (1/2 yr conv.)	Total A/D
1	351	Organization	\$ -	0.0%	\$ -	\$ -
2	352	Franchise	-	0.0%	-	-
3	353	Land	13,987	0.0%	-	-
4	354	Structures & Improvements	1,983,535	3.3%	87,850	87,850
5	355	Power Generation	-	5.0%	-	-
6	360	Collection Sewer Forced	4,304,298	2.0%	172,172	172,172
7	361	Collection Sewers Gravity	824,080	2.0%	32,934	32,934
8	362	Special Collecting Structures	855,550	2.0%	34,222	34,222
9	363	Customer Services	-	2.0%	-	-
10	364	Flow Measuring Devices	58,701	10.0%	4,839	4,839
11	365	Flow Measuring Installations	-	10.0%	-	-
12	366	Reuse Services	-	2.0%	-	-
13	367	Reuse Meters And Installation	-	8.3%	-	-
14	370	Receiving Wells	-	3.3%	-	-
15	371	Pumping Equipment	452,709	12.5%	108,749	108,749
16	374	Reuse Distribution Reservoirs	-	2.5%	-	-
17	375	Reuse Trans. and Dist. System	-	2.5%	-	-
18	380	Treatment & Disposal Equipment	58,947	5.0%	2,947	2,947
19	381	Plant Sewers	24,561	5.0%	1,228	1,228
20	382	Outfall Sewer Lines	-	3.3%	-	-
21	389	Other Sewer Plant & Equipment	122,138	6.7%	14,832	14,832
22	390	Office Furniture & Equipment	-	6.7%	-	-
23	390.1	Computers and Software	-	20.0%	-	-
24	391	Transportation Equipment	-	20.0%	-	-
25	392	Stores Equipment	-	4.0%	-	-
26	393	Tools, Shop And Garage Equip	-	5.0%	-	-
27	394	Laboratory Equip	-	10.0%	-	-
28	395	Power Operated Equip	-	5.0%	-	-
29	396	Communication Equip	-	10.0%	-	-
30	397	Miscellaneous Equip.	-	10.0%	-	-
31	398	Other Tangible Plant	-	10.0%	-	-
32			-	5.0%	-	-
33		TOTAL	\$ 8,698,506		\$ 459,774	\$ 459,774

SUPPORTING SCHEDULES

Work papers

41
42
43
44
45

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 2 - C
 Post Test-Year Retirements

Exhibit
 Schedule B-2
 Page 4.3
 Witness: Bourassa

Line No.	Acct.	Description	A/D Amount
1	351	Organization	\$ -
2	352	Franchise	-
3	353	Land	-
4	354	Structures & Improvements	(784,276)
5	355	Power Generation	-
6	360	Collection Sewer Forced	(482,097)
7	361	Collection Sewers Gravity	(108,990)
8	362	Special Collecting Structures	(93,166)
9	363	Customer Services	-
10	364	Flow Measuring Devices	(53,163)
11	365	Flow Measuring Installations	-
12	366	Reuse Services	-
13	367	Reuse Meters And Installation	-
14	370	Receiving Wells	-
15	371	Pumping Equipment	(335,319)
16	374	Reuse Distribution Reservoirs	-
17	375	Reuse Trans. and Dist. System	-
18	380	Treatment & Disposal Equipment	(29,977)
19	381	Plant Sewers	(10,700)
20	382	Outfall Sewer Lines	-
21	389	Other Sewer Plant & Equipment	(59,992)
22	390	Office Furniture & Equipment	-
23	390.1	Computers and Software	(33,999)
24	391	Transportation Equipment	(7,845)
25	392	Stores Equipment	-
26	393	Tools, Shop And Garage Equip	(2,005)
27	394	Laboratory Equip	(616)
28	395	Power Operated Equip	-
29	396	Communication Equip	(1,699)
30	397	Miscellaneous Equip.	-
31	398	Other Tangible Plant	(486,294)
32			-
33		TOTAL	<u>\$ (2,490,139)</u>
34			
35			
36			
37			
38			
39			
40			
41			
42			
43		<u>SUPPORTING SCHEDULE</u>	
44		Testimony	
45		Work papers	

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Original Cost Rate Base Proforma Adjustments
Adjustment Number 2 - D
Allocated Corporate Plant A/D

Exhibit
Schedule B-2
Page 4.4
Witness: Bourassa

Line No.	Acct.	Description	Amount
1	903	Land and Land Rights	
2	904	Structures and Improvements	1,703
3	940	Office Furniture & Equipment	142
4	940.1	Computers and Software	29,067
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33		TOTAL	<u>\$ 30,911</u>
34			
35			
36			
37			
38			
39			
40			
41			
42			
43		<u>SUPPORTING SCHEDULE</u>	
44		Testimony	
45		Work papers	

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment Number 2 - E

Exhibit
 Schedule B-2
 Page 4.5
 Witness: Bourassa

Line
No.

Reconciliation of A/D to A/D Reconstruction

Acct. No.	Description	A/D Original Cost	B-2 Adjustments	Adjusted A/D Original Cost	A/D Per Reconstruction	Difference
351	Organization	-	-	-	-	-
352	Franchise	-	-	-	-	-
353	Land	-	-	-	-	-
354	Structures & Improvements	1,957,228	(696,427)	1,260,802	1,335,709	74,907
355	Power Generation	2,131	-	2,131	2,151	20
360	Collection Sewer Forced	429,767	(309,926)	119,841	107,821	(12,020)
361	Collection Sewers Gravity	3,854,807	(75,165)	3,779,642	3,839,843	60,201
362	Special Collecting Structures	137	(58,944)	(58,806)	(58,791)	15
363	Customer Services	182,798	-	182,798	187,353	4,555
364	Flow Measuring Devices	19,832	(48,323)	(28,492)	(26,541)	1,951
365	Flow Measuring Installations	142,185	-	142,185	179,901	37,716
366	Reuse Services	-	-	-	-	-
367	Reuse Meters And Installation	564	-	564	-	(564)
370	Receiving Wells	710,973	-	710,973	561,521	(149,452)
371	Pumping Equipment	615,811	(226,453)	389,358	617,882	228,524
374	Reuse Distribution Reservoirs	-	-	-	-	-
375	Reuse Trans. and Dist. System	-	-	-	-	-
380	Treatment & Disposal Equipment	144,150	(27,030)	117,121	155,383	38,263
381	Plant Sewers	112,889	(9,472)	103,417	107,948	4,531
382	Outfall Sewer Lines	-	-	-	-	-
389	Other Sewer Plant & Equipment	800,417	(45,160)	755,257	835,574	80,317
390	Office Furniture & Equipment	202,933	-	202,933	64,075	(138,858)
390.1	Computers and Software	-	(33,999)	(33,999)	31,884	65,883
391	Transportation Equipment	24,437	4,137	28,574	51,429	22,856
392	Stores Equipment	-	-	-	-	-
393	Tools, Shop And Garage Equip	12,633	(2,005)	10,628	8,634	(1,994)
394	Laboratory Equip	4,976	(616)	4,361	5,820	1,460
395	Power Operated Equip	-	-	-	-	-
396	Communication Equip	82,576	(1,699)	80,876	85,200	4,323
397	Miscellaneous Equip.	2,183	-	2,183	2,412	230
398	Other Tangible Plant	485,847	(486,294)	(447)	0	447
108	Accumulated Depreciation	212,076	-	212,076	-	(212,076)
Plant Held for Future Use						
TOTALS		\$ 10,001,351	\$ (2,017,375)	\$ 7,983,976	\$ 8,095,209	\$ 111,233

SUPPORTING SCHEDULE

- 47 B-2, pages 4.1 through 4.4
- 48 B-2, pages 3.6 through 3.10

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment 3

Exhibit
 Schedule B-2
 Page 5
 Witness: Bourassa

Contributions-in-Aid of Construction (CIAC) and Accumulated Amortization

Line
No.
 1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34
 35
 36
 37
 38
 39
 40

	<u>Gross CIAC</u>	<u>Accumulated Amortization</u>
Computed balance at end of Test Year	\$ 6,957,144	\$ 5,599,846
Book balance at end of Test Year	<u>\$ 6,957,144</u>	<u>\$ 5,568,860</u>
Increase (decrease)	\$ 0	\$ 30,987
Adjustment to CIAC/AA CIAC	<u>\$ 0</u>	<u>\$ (30,987)</u>
Label	3a	3b

SUPPORTING SCHEDULES

E-1
 B-2, page 5.1

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Original Cost Rate Base Proforma Adjustments
Adjustment 4
Advances-in-Aid of Construction (AIAC)

Exhibit
Schedule B-2
Page 6
Witness: Bourassa

Line
No.
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35

4	Computed balance at End OF Test Year	\$	-
6	Book balance at End of Test Year	\$	<u>(0)</u>
8	Increase (decrease)	\$	0

SUPPORTING SCHEDULES
B-2, page 6.1

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Advances-in-Aid of Construction (AIAC)

Exhibit
 Schedule B-2
 Page 6.1
 Witness: Bourassa

Line
 No.
 1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12
 13
 14

	Per Decision Balance 12/31/2014	2015		2016		2017		2018	
		Activity	Balance 12/31/2015	Activity	Balance 12/31/2016	Activity	Balance 12/31/2017	Activity	Balance 12/31/2018
Advances-on-Aid of Construction	520,749	(363,994)	156,755	(3,072)	153,683	(153,683)	0	-	0
Total AIAC	520,749	(363,994)	156,755	(3,072)	153,683	(153,683)	0	-	0

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment 6
 Deferred Regulatory Assets (DRA)

Exhibit
 Schedule B-2
 Page 7
 Witness: Bourassa

Line No.		DRA Authorized in Prev. Decision	Amortization Thru 2018	Scottsdale Capacity	Amortization Thru July 2020	Post- In-Service AFUDC Thru July 2020	Post In-Service Depreciation Thru July 2020	Total
1	Def. Reg Assets - Phs 1	825,080	(106,573)					\$ 718,507
2	Scottsdale Capacity			1,200,080	(120,008)	\$ 254,216	\$ 120,008	1,454,296
3	Plant Closure					\$ 1,130,120	\$ 459,774	1,589,894
4	Total					\$ 1,384,336	\$ 579,782	\$ 3,762,697
5								
6	Test Year Deferred Regulatory Assets							<u>806,101</u>
7								
8	Increase (Decrease) in Deferred Regulatory Assets							<u>\$ 2,956,596</u>
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19	<u>SUPPORTING SCHEDULE</u>							
20	Testimony							
21	Work papers							

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Original Cost Rate Base Proforma Adjustments
 Adjustment 6

Exhibit
 Schedule B-2
 Page 8.1
 Witness: Bourassa

Line
No.

¹ Per adjusted book balances, land not included, coporate plant not included, AFUDC Equity not included

2	AFUDC Equity		
3	Historical thru 2018 AFUDC Removed	\$	(264,029)
4	A/D Historical thru 2018 AFUDC Removed	\$	(10,009)

² Computation of Net Tax Value December 31, 2018

Based on 2017 Tax Depreciation report (December 31, 2017)
 Unadjusted Cost at December 31, 2017 per federal and state tax depr. report
 Reconciling Items not on tax report:
 2018 Additions
 PTY plant
 Plant Closure (excluding land)
 2018 Retirements
 PTY Retirements
 Deferred Regulatory Assets (excluding AFUDC Equity)

Net Unadjusted Cost tax Basis at December 31, 2018

Reductions
 Basis Reduction 2017 and Prior Years per federal and state tax depr. report
 Accumulated Depreciation 2017 and prior per federal and state tax depr. report
 Projected 2018 Depr. on 2017 and prior assets
 2018 Additions A/D
 PTY Plant A/D
 Plant Closure A/D thru July 2020
 2018 Retirements A/D
 PTY Retirements A/D
 Deferred Regulatory Assets AA

Net Reductions through December 31, 2014
 Net tax value of plant-in-service at December 31, 2014

	FEDERAL		STATE
	\$ 11,169,818		\$ 11,169,818
	176,779		176,779
	210,857		210,857
	8,684,519		8,684,519
	(4,382)		(4,382)
	(2,490,139)		(2,490,139)
	2,795,266		2,795,266
	<u>\$ 20,542,716</u>		<u>\$ 20,331,860</u>
	\$ (3,078,004)		\$ -
	(6,682,686)		(7,667,257)
	(157,969)		(248,808)
	(7,737)		(7,737)
	(13,803)		(13,803)
	(723,710)		(723,710)
	4,382		4,382
	2,490,139		2,490,139
	(270,755)		(270,755)
	<u>(8,440,142)</u>		<u>(6,423,745)</u>
	<u>\$ 12,102,574</u>		<u>\$ 13,908,114</u>

³ CIAC (including impact of change to probability of realization)

Gross CIAC per adjusted book balances
 CIAC reductions/additions
 A.A per adjusted book balances

Net CIAC before unrealized AIAC

Unrealized AIAC Component
 AIAC per adjusted book balances
 Adjusted Net AIAC (see footnote 5 below)
 Unrealized AIAC Component % (1-Realized AIAC Component)
 Total realizable CIAC

	\$ 6,957,144
	\$ (5,599,846)
	<u>(5,599,846)</u>
	\$ 1,357,298
	\$ -
	70.0%
	<u>\$ -</u>
	<u>\$ 1,357,298</u>

⁴ AIAC (including impact of change in probability of realization)

AIAC per adjusted book balances
 Less: Unrealized AIAC (from Note 3, above)

Subtotal
 Meter and Service Line Installation Charges per adjusted book balances
 Total realizable AIAC

	\$ -
	<u>\$ -</u>
	\$ -
	<u>\$ 21,507</u>
	<u>\$ 21,507</u>

⁵ See work papers

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Cash Working Capital

Exhibit
 Schedule B-5
 Page 1
 Witness: Bourassa

Line No.	Description	Proposed Test Year Amount ¹	Revenue Lag (Lead) Days	Expense Lag (Lead) Days	Net Lag (Lead) Days Col. C - Col. D	Lead/Lag Factor Col. E/365	Cash Working Capital Required Col. B * Col. F
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
7	OPERATING EXPENSES						
8	Salaries and Wages	\$ -	19.24	-	19.24	0.05271754	\$ -
9	Purchased Water	3,240	19.24	32.07	(12.83)	(0.03514547)	(114)
10	Purchased Wastewater Treatment	339,388	19.24	36.00	(16.76)	(0.04591259)	(15,582)
11	Sludge Removal	2,700	19.24	53.50	(34.26)	(0.09385780)	(253)
12	Purchased Power	65,592	19.24	33.04	(13.80)	(0.03780300)	(2,480)
13	Fuel for Power Production	-	19.24	-	19.24	0.05271754	-
14	Chemicals	12,019	19.24	6.94	12.30	0.03370384	405
15	Materials and Supplies	10,184	19.24	16.08	3.16	0.00866275	88
16	Contractual Services - Accounting	7,649	19.24	23.49	(4.25)	(0.01163862)	(89)
17	Contractual Services - Legal	1,801	19.24	23.49	(4.25)	(0.01163862)	(21)
18	Contractual Services - Management	346,637	19.24	20.00	(0.76)	(0.00207698)	(720)
19	Contractual Services - Testing	9,862	19.24	8.27	10.97	0.03006001	296
20	Contractual Services - Other	346,847	19.24	21.34	(2.10)	(0.00574821)	(1,994)
21	Equipment Rent	-	19.24	-	19.24	0.05271754	-
22	Building Rent	25,665	19.24	19.22	0.02	0.00006001	2
23	Transportation Expense	9,667	19.24	22.20	(2.96)	(0.00810437)	(78)
24	Insurance - Auto	2,132	19.24	(182.50)	201.74	0.55271754	1,178
25	Insurance - General Liability	7,086	19.24	(182.50)	201.74	0.55271754	3,917
26	Miscellaneous	42,449	19.24	16.22	3.02	0.00827919	351
27							
28							
29							
30	TAXES						
31	General Taxes-Property ¹	\$ 59,140	19.24	213.96	(194.72)	(0.53346967)	\$ (31,550)
32	General Taxes-Other	-	19.24	-	19.24	0.05271754	-
33	Income Tax ¹	270,452	19.24	37.00	(17.76)	(0.04865232)	(13,158)
34							
35	OTHER						
36							
37							
38	TOTAL	<u>\$ 1,562,511</u>			WORKING CASH REQUIREMENT		<u>\$ (59,801)</u>
39							
40	Test Year Cash Working Capital						\$ -
41	Increase(decrease) in Cash Working Capital						<u>\$ (59,801)</u>
42							
43							
44	¹ At proposed rates.						
45							
46							

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Income Statement

Exhibit
 Schedule C-1
 Page 1
 Witness: Bourassa

Line No.		Test Year Book Results	Adjustment	Test Year Adjusted Results	Proposed Rate Increase	Adjusted with Rate Increase
1	Revenues					
2	Sewer Revenues	\$ 2,473,678	\$ (11,392)	\$ 2,462,286	\$ 878,785	\$ 3,341,071
3	Reclaimed Water Revenues	6,647	(6,647)	(0)		(0)
4	Other Sewer Revenues	11,106	-	11,106		11,106
5		<u>\$ 2,491,430</u>	<u>\$ (18,039)</u>	<u>\$ 2,473,391</u>	<u>\$ 878,785</u>	<u>\$ 3,352,176</u>
6	Operating Expenses					
7	Salaries and Wages	\$ -	-	\$ -		\$ -
8	Purchased Water	3,240	-	3,240		3,240
9	Purchased Wastewater Treatment	202,309	137,079	339,388		339,388
10	Sludge Removal	2,700	-	2,700		2,700
11	Purchased Power	65,592	-	65,592		65,592
12	Fuel for Power Production	-	-	-		-
13	Chemicals	12,019	-	12,019		12,019
14	Materials and Supplies	10,184	-	10,184		10,184
15	Contractual Services - Accounting	7,649	-	7,649		7,649
16	Contractual Services - Legal	1,801	-	1,801		1,801
17	Contractual Services - Management	365,425	(18,788)	346,637		346,637
18	Contractual Services - Testing	9,862	-	9,862		9,862
19	Contractual Services - Other	345,046	1,801	346,847		346,847
20	Equipment Rent	-	-	-		-
21	Building Rent	25,665	-	25,665		25,665
22	Transportation Expense	9,667	-	9,667		9,667
23	Insurance - Auto	2,132	-	2,132		2,132
24	Insurance - General Liability	7,086	-	7,086		7,086
25	Regulatory Commission Expense	-	-	-		-
26	Miscellaneous	42,449	-	42,449		42,449
27	Depreciation and Amortization	475,416	257,134	732,550		732,550
28	Bad Debt Expense	4,497	-	4,497	(474)	4,023
29	Taxes Other Than Income	-	-	-		-
30	Property Taxes	50,713	2,155	52,868	6,272	59,140
31	Income Taxes	324,746	(271,414)	53,332	217,121	270,452
32						
33	Total Operating Expenses	<u>\$ 1,968,199</u>	<u>\$ 107,966</u>	<u>\$ 2,076,165</u>	<u>\$ 222,919</u>	<u>\$ 2,299,084</u>
34	Operating Income	<u>\$ 523,231</u>	<u>\$ (126,005)</u>	<u>\$ 397,226</u>	<u>\$ 655,867</u>	<u>\$ 1,053,093</u>
35	Other Income (Expense)					
36	Interest and Dividend Income	-	-	-		-
37	AFUDC Income	121,802	-	121,802		121,802
38	Miscellaneous Non-Utility Expenses	(93,922)	-	(93,922)		(93,922)
39	Interest Expense	(67,247)	(101,631)	(168,878)		(168,878)
40						
41	Total Other Income (Expense)	<u>\$ (39,367)</u>	<u>\$ (101,631)</u>	<u>\$ (140,998)</u>	<u>\$ -</u>	<u>\$ (140,998)</u>
42	Net Profit (Loss)	<u>\$ 483,864</u>	<u>\$ (227,636)</u>	<u>\$ 256,228</u>	<u>\$ 655,867</u>	<u>\$ 912,094</u>

43
 44 SUPPORTING SCHEDULES:
 45 C-1, page 2
 46 E-2
 47

RECAP SCHEDULES:
 A-1

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Income Statement

Exhibit
 Schedule C-1
 Page 2.2
 Witness: Bourassa

Line No.	<u>10</u> Intentionally Left Blank	<u>11</u> Intentionally Left Blank	<u>12</u> Intentionally Left Blank	<u>13</u> Interest Synch.	<u>14</u> Income Taxes	Test Year Adjusted Results	Proposed Rate Increase	Adjusted with Rate Increase
1 Revenues								
2 Sewer Revenues						\$ 2,462,286	\$ 878,785	\$ 3,341,071
3 Reclaimed Water Revenues						(0)		(0)
4 Other Sewer Revenues						11,106		11,106
5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,473,391	\$ 878,785	\$ 3,352,176
6 Operating Expenses								
7 Salaries and Wages						\$ -		\$ -
8 Purchased Water						3,240		3,240
9 Purchased Wastewater Treatment						339,388		339,388
10 Sludge Removal						2,700		2,700
11 Purchased Power						65,592		65,592
12 Fuel for Power Production						-		-
13 Chemicals						12,019		12,019
14 Materials and Supplies						10,184		10,184
15 Contractual Services - Accounting						7,649		7,649
16 Contractual Services - Legal						1,801		1,801
17 Contractual Services - Management						346,637		346,637
18 Contractual Services - Testing						9,862		9,862
19 Contractual Services - Other						346,847		346,847
20 Equipment Rent						-		-
21 Building Rent						25,665		25,665
22 Transportation Expense						9,667		9,667
23 Insurance - Auto						2,132		2,132
24 Insurance - General Liability						7,086		7,086
25 Regulatory Commission Expense						-		-
26 Miscellaneous						42,449		42,449
27 Depreciation and Amortization						732,550		732,550
28 Bad Debt Expense						4,497	(474)	4,023
29 Taxes Other Than Income						-		-
30 Property Taxes						52,868	6,272	59,140
31 Income Taxes					(271,414)	53,332	217,121	270,452
32								
33 Total Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ (271,414)	\$ 2,076,165	\$ 222,919	\$ 2,299,084
34 Operating Income	\$ -	\$ -	\$ -	\$ -	\$ 271,414	\$ 397,226	\$ 655,867	\$ 1,053,093
35 Other Income (Expense)								
36 Interest and Dividend Income						-		-
37 AFUDC Income						121,802		121,802
38 Miscellaneous Non-Utility Expenses						(93,922)		(93,922)
39 Interest Expense				(101,631)		(168,878)		(168,878)
40						-		-
41 Total Other Income (Expense)	\$ -	\$ -	\$ -	\$ (101,631)	\$ -	\$ (140,998)	\$ -	\$ (140,998)
42 Net Profit (Loss)	\$ -	\$ -	\$ -	\$ (101,631)	\$ 271,414	\$ 256,228	\$ 655,867	\$ 912,094

43
 44 SUPPORTING SCHEDULES:
 45 C-2
 46 E-2

RECAP SCHEDULES:
 C-1, page 1

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Adjustments to Revenues and Expenses

Exhibit
 Schedule C-2
 Page 1
 Witness: Bourassa

Line No.	<u>Adjustments to Revenues and Expenses</u>						<u>Subtotal</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	
1							
2							
3	<u>Depreciation</u>	<u>Property Taxes</u>	<u>Rate Case Expense</u>	<u>Revenue Annualization</u>	<u>Reclaimed Water Sales</u>	<u>Corporate Allocations</u>	
4	-	-	-	(11,392)	(6,647)	-	(18,039)
5							
6	257,134	2,155	-	-	-	(16,987)	242,301
7							
8							
9	(257,134)	(2,155)	-	(11,392)	(6,647)	16,987	(260,340)
10							
11							
12							
13							
14							
15							
16							
17	(257,134)	(2,155)	-	(11,392)	(6,647)	16,987	(260,340)
18							
19							
20							
21							
22	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>Subtotal</u>
23	<u>Purchased WW Treatment</u>	<u>Intentionally Left Blank</u>	<u>Intentionally Left Blank</u>	<u>Intentionally Left Blank</u>	<u>Intentionally Left Blank</u>	<u>Intentionally Left Blank</u>	
24	-	-	-	-	-	-	(18,039)
25							
26							
27	137,079	-	-	-	-	-	379,380
28							
29							
30	(137,079)	-	-	-	-	-	(397,419)
31							
32							
33							
34							
35							
36							
37							
38	(137,079)	-	-	-	-	-	(397,419)
39							
40							
41							
42	<u>13</u>	<u>14</u>					<u>Total</u>
43							
44	<u>Interest Synch.</u>	<u>Income Taxes</u>					
45	-	-					(18,039)
46							
47							
48	-	(271,414)					107,966
49							
50							
51	-	271,414					(126,005)
52							
53							
54	(168,878)						(168,878)
55							
56							
57							
58							
59	(168,878)	271,414	-	-	-	-	(294,883)

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Adjustments to Revenues and Expenses
 Adjustment Number 1

Exhibit
 Schedule C-2
 Page 2
 Witness: Bourassa

Depreciation Expense

Line No.	Acct. No.	Description	Adjusted Original Cost	Non-Depr. or Fully Depr. Plant	Depr Original Cost	Proposed Rates	Depreciation Expense
1	351	Organization	\$ -		\$ -	0.00%	\$ -
2	352	Franchise	-		-	0.00%	-
3	353	Land	486,511	(486,511)	-	0.00%	-
4	354	Structures & Improvements	4,214,032		4,214,032	3.33%	140,327
5	355	Power Generation	9,000		9,000	5.00%	450
6	360	Collection Sewer Forced	5,019,464		5,019,464	2.00%	100,389
7	361	Collection Sewers Gravity	5,592,253		5,592,253	2.00%	111,845
8	362	Special Collecting Structures	765,437		765,437	2.00%	15,309
9	363	Customer Services	258,784		258,784	2.00%	5,176
10	364	Flow Measuring Devices	68,582		68,582	10.00%	6,858
11	365	Flow Measuring Installations	180,051	(179,622)	430	10.00%	43
12	366	Reuse Services	-		-	2.00%	-
13	367	Reuse Meters And Installation	-		-	8.33%	-
14	370	Receiving Wells	773,931		773,931	3.33%	25,772
15	371	Pumping Equipment	1,227,460	(188,714)	1,038,746	12.50%	129,843
16	374	Reuse Distribution Reservoirs	-		-	2.50%	-
17	375	Reuse Trans. and Dist. System	-		-	2.50%	-
18	380	Treatment & Disposal Equipment	428,771	(46,322)	382,449	5.00%	19,122
19	381	Plant Sewers	134,805	(106,217)	28,588	5.00%	1,429
20	382	Outfall Sewer Lines	-		-	3.33%	-
21	389	Other Sewer Plant & Equipment	1,002,608		1,002,608	6.67%	66,874
22	390	Office Furniture & Equipment	84,741		84,741	6.67%	5,652
23	390.1	Computers and Software	50,044	(28,225)	21,819	20.00%	4,364
24	391	Transportation Equipment	166,916	(11,219)	155,698	20.00%	31,140
25	392	Stores Equipment	-		-	4.00%	-
26	393	Tools, Shop And Garage Equip	34,076		34,076	5.00%	1,704
27	394	Laboratory Equip	14,219	(2,416)	11,802	10.00%	1,180
28	395	Power Operated Equip	-		-	5.00%	-
29	396	Communication Equip	133,043	(37,803)	95,240	10.00%	9,524
30	397	Miscellaneous Equip.	6,892		6,892	10.00%	689
31	398	Other Tangible Plant	-	-	-	10.00%	-
32			-		-	5.00%	-
33	903	Land and Land Rights	-	-	-	0.00%	-
34	904	Structures and Improvements	12,847		12,847	3.33%	428
35	940	Office Furniture & Equipment	359		359	6.67%	24
36	940.1	Computers and Software	43,813		43,813	20.00%	8,763
37							
38		TOTALS	\$ 20,708,639	\$ (1,087,048)	\$ 19,621,591		\$ 686,905
39							
40		Plus: Deferred Reg. Asset - Plant Closure Amort.	\$ 3,762,697		\$ 3,762,697	5.00%	\$ 188,135
41		Less: Deferred Liability Tax (EADIT) Amort.	\$ 313,801		\$ 313,801	26.16%	\$ (82,102)
42							
43							
44			Gross CIAC	Fully Amortized CIAC	Net CIAC	Amort. Rate	
45		Less: Contributions-in-Aid of Construction Amortization	\$ 6,957,144	\$ (5,232,139)	\$ 1,725,005	3.5008%	\$ (60,388)
46							
47			\$ 6,957,144	\$ (5,232,139)	\$ 1,725,005		
48		Total Depreciation Expense					\$ 732,550
49							
50		Adjusted Test Year Depreciation Expense					\$ 475,416
51							
52		Increase (decrease) in Depreciation Expense					\$ 257,134
53							
54		Adjustment to Revenues and/or Expenses					\$ 257,134
55							
56		<u>SUPPORTING SCHEDULE</u>					
57		B-2, page 3					

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Adjustment to Revenues and Expenses
 Adjustment Number 2

Exhibit
 Schedule C-2
 Page 3
 Witness: Bourassa

Property Taxes

Line No.	DESCRIPTION	Test Year as adjusted	Company Recommended
1	Company Adjusted Test Year Revenues	\$ 2,473,391	\$ 2,473,391
2	Weight Factor	<u>2</u>	<u>2</u>
3	Subtotal (Line 1 * Line 2)	4,946,782	4,946,782
4	Company Recommended Revenue	2,473,391	3,352,176
5	Subtotal (Line 4 + Line 5)	7,420,174	8,298,959
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	2,473,391	2,766,320
8	Department of Revenue Multiplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	4,946,782	5,532,639
10	Plus: 10% of CWIP (intentionally excluded)	-	-
11	Less: Net Book Value of Licensed Vehicles	8,398	8,398
12	Full Cash Value (Line 9 + Line 10 - Line 11)	4,938,384	5,524,241
13	Assessment Ratio	18.0%	18.0%
14	Assessment Value (Line 12 * Line 13)	888,909	994,363
15	Composite Property Tax Rate - Obtained from ADOR	5.9475%	5.9475%
16	Test Year Adjusted Property Tax Expense (Line 14 * Line 15)	\$ 52,868	\$ 59,140
17	Tax on Parcels	-	-
18	Total Property Taxes (Line 16 + Line 17)	<u>\$ 52,868</u>	
19	Test Year Property Taxes	<u>\$ 50,713</u>	
20	Adjustment to Test Year Property Taxes (Line 18 - Line 19)	<u><u>\$ 2,155</u></u>	
21			
22	Property Tax on Company Recommended Revenue (Line 16 + Line 17)		<u>\$ 59,140</u>
23	Company Test Year Adjusted Property Tax Expense (Line 18)		<u>\$ 52,868</u>
24	Increase in Property Tax Due to Increase in Revenue Requirement		<u><u>\$ 6,272</u></u>
25			
26	Increase in Property Tax Due to Increase in Revenue Requirement (Line 24)		\$ 6,272
27	Increase in Revenue Requirement		\$ 878,785
28	Increase in Property Tax Per Dollar Increase in Revenue (Line 26 / Line 27)		0.71371%
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Adjustment to Revenues and Expenses
Adjustment Number 3

Exhibit
Schedule C-2
Page 4
Witness: Bourassa

INTENTIONALLY LEFT BLANK

Line
No.
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Adjustment to Revenues and Expenses
Adjustment Number 4

Exhibit
Schedule C-2
Page 5
Witness: Bourassa

Revenue Annualization

Line
No.
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Revenue Annualization

(11,392)

Total Revenue from Annualization

\$ (11,392)

Adjustment to Revenue and/or Expense

\$ (11,392)

SUPPORTING SCHEDULES

H-1

Work papers

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Adjustment to Revenues and Expenses
Adjustment Number 5

Exhibit
Schedule C-2
Page 6
Witness: Bourassa

Remove Reclaimed Water Sales

Line
No.
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Test Year Reclaimed Water Sales

\$ (6,647)

Adjustment to Revenues and/or Expense

\$ (6,647)

Reference
Testimony

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Adjustment to Revenues and Expenses
Adjustment Number 6

Exhibit
Schedule C-2
Page 7
Witness: Bourassa

Allocated Corporate Cost Adjustment

Line
No.

1			
2	Contractual Services - Management	\$	(18,788)
3	Contractual Services - Other		1,801
4			
5			
6	Adjustment to Contractual Services - Professional	<u>\$</u>	<u>(18,788)</u>
7			
8			
9	Adjustment to Revenue and/or Expense	<u></u>	<u>(18,788)</u>
10			
11			
12			
13			
14			
15			
16			
17	<u>Reference</u>		
18	Testimony		
19	Work papers		
20			

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Adjustment to Revenues and Expenses
Adjustment Number 7

Exhibit
Schedule C-2
Page 8
Witness: Bourassa

Purchased Wastewater Treatment

Line
No.

1

2

Projected 2019 Wastewater Treatment Expense

\$ 339,388

3

Test Year Wastewater Treatment Expense

202,309

4

Increase(decrease) in Purchased Wastewater Treatment Expense

\$ 137,079

5

6

7

8

9

Adjustment to Revenue and/or Expense

\$ 137,079

10

11

12

13

14 Reference

15 Testimony

16 Work papers

17

18

19

20

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Adjustment to Revenues and Expenses
Adjustment Number 8

Exhibit
Schedule C-2
Page 9
Witness: Bourassa

INTENTIONALLY LEFT BLANK

Line
No.
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Adjustment to Revenues and Expenses
Adjustment Number 9

Exhibit
Schedule C-2
Page 10
Witness: Bourassa

INTENTIONALLY LEFT BLANK

Line
No.
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Adjustment to Revenues and Expenses
Adjustment Number 10

Exhibit
Schedule C-2
Page 11
Witness: Bourassa

INTENTIONALLY LEFT BLANK

Line
No.
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Adjustment to Revenues and Expenses
Adjustment Number 11

Exhibit
Schedule C-2
Page 12
Witness: Bourassa

INTENTIONALLY LEFT BLANK

Line
No.
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Adjustment to Revenues and Expenses
Adjustment Number 12

Exhibit
Schedule C-2
Page 13
Witness: Bourassa

INTENTIONALLY LEFT BLANK

Line
No.
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Adjustment to Revenues and Expenses
 Adjustment Number 13

Exhibit
 Schedule C-2
 Page 14
 Witness: Bourassa

Interest Synchronization

Line
No.

1			
2			
3			
4	Fair Value Rate Base	\$ 14,408,605	
5	Weighted Cost of Debt	1.64%	
6	Interest Expense		\$ 236,125
7			
8	Test Year Interest Expense		<u>\$ 67,247</u>
9			
10	Increase (decrease) in Interest Expense		168,878
11			
12			
13			
14	Adjustment to Revenue and/or Expense		<u><u>\$ (168,878)</u></u>

15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30

Weighted Cost of Debt Computation

Pro forma Capital Structure

	<u>Percent</u>	<u>Cost</u>	<u>Weighted</u> <u>Cost</u>
Debt	46.00%	3.56%	1.64%
Equity	<u>54.00%</u>	10.50%	<u>5.67%</u>
Total	100.00%		7.31%

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Adjustment to Revenues and/or Expenses
Adjustment Number 14

Exhibit
Schedule C-2
Page 15
Witness: Bourassa

Line

No.

1 Income Taxes

2

3

4 Computed Income Tax

5 Test Year Income tax Expense

6 Adjustment to Income Tax Expense

7

8

9

10

11

12

13 SUPPORTING SCHEDULE

14 C-3, page 2

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

	<u>Test Year at Present Rates</u>	<u>Test Year at Proposed Rates</u>
	\$ 53,332	\$ 270,452
	-	53,332
	<u>\$ 53,332</u>	<u>\$ 217,121</u>

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Computation of Gross Revenue Conversion Factor

Exhibit
 Schedule C-3
 Page 1
 Witness: Bourassa

Line No.	<u>Description</u>	Percentage of Incremental Gross <u>Revenues</u>
1	Federal Effective Income Tax Rate	19.9710%
2		
3	State Effective Income Tax Rate	4.9000%
4		
5	Uncollectible Rate	-0.0405%
6		
7	Property Taxes	<u>0.5362%</u>
8		
9		
10	Total Tax Percentage	25.367%
11		
12	Operating Income % = 100% - Tax Percentage	74.633%
13		
14		
15		
16		
17	<u>1</u> = Gross Revenue Conversion Factor	
18	Operating Income %	1.3399
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29	<u>SUPPORTING SCHEDULES:</u>	<u>RECAP SCHEDULES:</u>
30	C-3, page 2	A-1
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		

GROSS REVENUE CONVERSION FACTOR

Line No.	Description	(A)	(B)	(C)	(D)	(E)	(F)
<u>Calculation of Gross Revenue Conversion Factor:</u>							
1	Revenue	100.0000%					
2	Uncollectible Factor (Line 11)	0.0000%					
3	Revenues (L1 - L2)	100.0000%					
4	Combined Federal and State Income Tax and Property Tax Rate (Line 23)	25.3667%					
5	Subtotal (L3 - L4)	74.6333%					
6	Revenue Conversion Factor (L1 / L5)	1.339884					
<u>Calculation of Uncollectible Factor:</u>							
7	Unity	100.0000%					
8	Combined Federal and State Tax Rate (L17)	24.8710%					
9	One Minus Combined Income Tax Rate (L7 - L8)	75.1290%					
10	Uncollectible Rate	-0.0539%					
11	Uncollectible Factor (L9 * L10)		-0.0405%				
<u>Calculation of Effective Tax Rate:</u>							
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%					
13	Arizona State Income Tax Rate	4.9000%					
14	Federal Taxable Income (L12 - L13)	95.1000%					
15	Applicable Federal Income Tax Rate (L55, Col E)	21.0000%					
16	Effective Federal Income Tax Rate (L14 x L15)	19.9710%					
17	Combined Federal and State Income Tax Rate (L13 +L16)		24.8710%				
<u>Calculation of Effective Property Tax Factor</u>							
18	Unity	100.0000%					
19	Combined Federal and State Income Tax Rate (L17)	24.8710%					
20	One Minus Combined Income Tax Rate (L18-L19)	75.1290%					
21	Property Tax Factor	0.7137%					
22	Effective Property Tax Factor (L20*L21)		0.5362%				
23	Combined Federal and State Income Tax and Property Tax Rate (L17+L22)			25.3667%			
24	Required Operating Income	\$ 1,053,093					
25	Adjusted Test Year Operating Income (Loss)	\$ 397,226					
26	Required Increase in Operating Income (L24 - L25)		\$ 655,867				
27	Income Taxes on Recommended Revenue (Col. (E), L52)	\$ 270,452					
28	Income Taxes on Test Year Revenue (Col. (B), L54)	\$ 53,332					
29	Required Increase in Revenue to Provide for Income Taxes (L27 - L28)		\$ 217,121				
30	Recommended Revenue Requirement	\$ 3,352,176					
31	Uncollectible Rate	0.1200%					
32	Uncollectible Expense on Recommended Revenue (L24 * L25)	\$ 4,023					
33	Adjusted Test Year Uncollectible Expense	\$ 4,497					
34	Required Increase in Revenue to Provide for Uncollectible Exp.		\$ (474)				
35	Property Tax with Recommended Revenue	\$ 59,140					
36	Property Tax on Test Year Revenue	\$ 52,868					
37	Increase in Property Tax Due to Increase in Revenue (L35-L36)		\$ 6,272				
38	Total Required Increase in Revenue (L26 + L29 + L37)		\$ 878,785				

Line No.	Description	Test Year			Company Recommended		
		(A)	(B)	(C)	(D)	(E)	(F)
<u>Calculation of Income Tax:</u>							
39	Revenue	\$ 2,473,391	\$ 2,473,391		\$ 3,352,176	\$ 3,352,176	
40	Operating Expenses Excluding Income Taxes	\$ 2,022,834	\$ 2,022,834		\$ 2,028,631	\$ 2,028,631	
41	Synchronized Interest (L47)	\$ 236,125	\$ 236,125		\$ 236,125	\$ 236,125	
42	Arizona Taxable Income (L39 - L40 - L41)	\$ 214,433	\$ 214,433		\$ 1,087,420	\$ 1,087,420	
43	Arizona State Effective Income Tax Rate (see work papers)	4.9000%	4.9000%		4.9000%	4.9000%	
44	Arizona Income Tax (L42 x L43)	\$ 10,507	\$ 10,507		\$ 53,284	\$ 53,284	
45	Federal Taxable Income (L42- L44)	\$ 203,926	\$ 203,926		\$ 1,034,137	\$ 1,034,137	
46							
47	Federal Taxes at 21%	\$ 42,824	\$ 42,824		\$ 217,169	\$ 217,169	
48							
49							
50							
51							
52							
53	Total Federal Income Tax	\$ 42,824	\$ 42,824		\$ 217,169	\$ 217,169	
54	Combined Federal and State Income Tax (L35 + L42)	\$ 53,332	\$ 53,332		\$ 270,452	\$ 270,452	

55	COMBINED Applicable Federal Income Tax Rate [Col. (D), L53 - Col. (A), L53 / [Col. (D), L45 - Col. (A), L45]				21.0000%		
56	WASTEWATER Applicable Federal Income Tax Rate [Col. (E), L53 - Col. (B), L53] / [Col. (E), L45 - Col. (B), L45]					21.0000%	
57	WATER Applicable Federal Income Tax Rate [Col. (F), L53 - Col. (C), L53] / [Col. (F), L45 - Col. (C), L45]						0.0000%

<u>Calculation of Interest Synchronization:</u>	
58	Rate Base
59	Weighted Average Cost of Debt
60	Synchronized Interest (L45 X L46)

Sewer	
\$	14,408,605
	1.6388%
\$	236,125

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Comparative Balance Sheets

Exhibit
Schedule E-1
Page 1
Witness: Bourassa

Line No.	Test Year Ended 12/31/2018	Year Ended 12/31/2017	Year Ended 12/31/2016
1	ASSETS		
2	\$ 14,133,561	\$ 14,067,522	\$ 13,939,311
3	-	-	-
4	8,738,855	1,735,818	500,709
5	-	-	-
6	(10,001,351)	(9,601,166)	(9,242,554)
7	<u>\$ 12,871,065</u>	<u>\$ 6,202,174</u>	<u>\$ 5,197,466</u>
8			
9	CURRENT ASSETS		
10	\$ (2,271)	\$ (10,777)	\$ 3,042
11	358,131	327,030	311,243
12	215,504	239,916	294,363
13	-	-	-
14	-	129,579	129,579
15	-	-	-
16	-	-	-
17	8,309	14,060	16,549
18	-	-	-
19	-	-	-
20	<u>\$ 579,673</u>	<u>\$ 699,809</u>	<u>\$ 754,776</u>
21			
22	OTHER ASSETS		
23	\$ 108,667	\$ 181,382	\$ 254,462
24	-	-	-
25	718,507	759,761	801,015
26	87,594	-	-
27	<u>\$ 914,768</u>	<u>\$ 941,143</u>	<u>\$ 1,055,477</u>
28			
29	<u>\$ 14,365,505</u>	<u>\$ 7,843,127</u>	<u>\$ 7,007,719</u>
30			
31			
32	LIABILITIES AND STOCKHOLDER EQUITY		
33			
34	\$ 4,587,605	\$ 4,202,657	\$ 5,085,526
35			
36	\$ 1,966,116	\$ 1,801,139	\$ 70,461
37			
38	CURRENT LIABILITIES		
39	\$ -	\$ -	\$ -
40	-	-	-
41	4,964,183	(635,315)	(582,877)
42	-	-	-
43	-	-	-
44	-	-	297,107
45	-	-	-
46	-	-	-
47	917,725	815,476	744,009
48	<u>\$ 5,881,908</u>	<u>\$ 180,162</u>	<u>\$ 458,238</u>
49			
50	DEFERRED CREDITS		
51	\$ 21,507	\$ 17,490	\$ 12,128
52	(0)	(0)	(143,424)
53	187,839	187,839	162,839
54	-	-	-
55	(50,523)	-	-
56	313,801	-	-
57	61,468	-	-
58	6,957,144	6,957,144	6,803,669
59	(5,568,860)	(5,503,304)	(5,441,718)
60	7,500	-	-
61	-	-	-
62	<u>\$ 1,929,876</u>	<u>\$ 1,659,169</u>	<u>\$ 1,393,494</u>
63			
64	<u>\$ 14,365,505</u>	<u>\$ 7,843,127</u>	<u>\$ 7,007,719</u>
65			
66			
67			
68	SUPPORTING SCHEDULES:		
69	Work papers		
70			
71	* Proforma Equity and Debt for 2017 and 2018 to achieve 30% debt and 70% equity in capital structure per prior Prior Decision 75510.		
72			

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Comparative Income Statements

Exhibit
Schedule E-2
Page 1
Witness: Bourassa

Line No.		Test Year Ended 12/31/2018	Prior Year Ended 12/31/2017	Prior Year Ended 12/31/2016
1	Revenues			
2	Sewer Revenues	\$ 2,473,678	\$ 2,570,769	\$ 2,477,123
3	Reclaimed Water Revenues	6,647	(22,567)	49,374
4	Other Sewer Revenues	11,106	9,941	8,296
5	Total Revenues	<u>\$ 2,491,430</u>	<u>\$ 2,558,143</u>	<u>\$ 2,534,794</u>
6	Operating Expenses			
7	Salaries and Wages	\$ -	\$ -	\$ -
8	Purchased Water	3,240	3,402	3,556
9	Purchased Wastewater Treatment	202,309	210,528	260,260
10	Sludge Removal	2,700	1,350	3,375
11	Purchased Power	65,592	65,482	64,369
12	Fuel for Power Production	-	-	-
13	Chemicals	12,019	19,374	14,568
14	Materials and Supplies	10,184	25,076	15,319
15	Contractual Services - Accounting	7,649	6,800	(167)
16	Contractual Services - Legal	1,801	350	(49,999)
17	Contractual Services - Management	365,425	360,728	439,913
18	Contractual Services - Testing	9,862	10,315	10,050
19	Contractual Services - Other	345,046	306,716	332,656
20	Equipment Rent	-	-	-
21	Building Rent	25,665	26,783	23,505
22	Transportation Expense	9,667	11,725	11,269
23	Insurance - Auto	2,132	2,036	1,803
24	Insurance - General Liability	7,086	9,694	6,928
25	Regulatory Commission Expense	-	-	-
26	Miscellaneous	42,449	53,785	48,474
27	Depreciation and Amortization	475,416	485,748	749,003
28	Bad Debt Expense	4,497	1,763	2,925
29	Taxes Other Than Income	-	-	-
30	Property Taxes	50,713	50,684	52,492
31	Income Taxes	324,746	-	-
32				
33	Total Operating Expenses	<u>\$ 1,968,199</u>	<u>\$ 1,652,340</u>	<u>\$ 1,990,299</u>
34	Operating Income	<u>\$ 523,231</u>	<u>\$ 905,803</u>	<u>\$ 544,494</u>
35	Other Income (Expense)			
36	Interest and Dividend Income	-	-	-
37	AFUDC Income	121,802	15,217	(13,447)
38	Other Income (expense)	(93,922)	72	(192,398)
39	Interest Expense*	(67,247)	(63,339)	(15,981)
40				
41	Total Other Income (Expense)	<u>\$ (39,367)</u>	<u>\$ (48,051)</u>	<u>\$ (221,827)</u>
42	Net Profit (Loss)	<u>\$ 483,864</u>	<u>\$ 857,752</u>	<u>\$ 322,668</u>

* Proforma interest expense for 2017 and 2018 on proforma debt. See E-1.

SUPPORTING SCHEDULES:
Work papers

RECAP SCHEDULES:
A-2

48

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Comparative Statements of Cash Flows

Exhibit
 Schedule E-3
 Page 1
 Witness: Bourassa

Line No.	Test Year Ended <u>12/31/2018</u>	Prior Year Ended <u>12/31/2017</u>	Prior Year Ended <u>12/31/2016</u>
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			

SUPPORTING SCHEDULES:

Work papers

E1

E-2

RECAP SCHEDULES:

A-5

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Statement of Changes in Stockholder's Equity

Exhibit
 Schedule E-4
 Page 1
 Witness: Bourassa

Line No.	Stockholder's Equity	Retained Earnings	Total
1			
2			
3			
4	\$ 4,762,858	\$ -	\$ 4,762,858
5	-		-
6			-
7		322,668	322,668
8			
9	\$ 4,762,858	\$ 322,668	\$ 5,085,526
10	(1,740,621)		(1,740,621)
11			-
12		857,752	857,752
13			
14	\$ 3,022,237	\$ 1,180,420	\$ 4,202,657
15	(98,916)		(98,916)
16			-
17		483,864	483,864
18			
19	<u>\$ 2,923,321</u>	<u>\$ 1,664,283</u>	<u>\$ 4,587,604</u>

20
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30

SUPPORTING SCHEDULES:

RECAP SCHEDULES:

E-1

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Detail of Plant in Service

Exhibit
 Schedule E-5
 Page 1
 Witness: Bourassa

Line No.	Acct. No.	Plant Description	Plant Balance at 12/31/2017	Plant Additions, Reclassifications or Retirements	Plant Balance at 12/31/2018
1					
2	106	Plant Not Classified	\$ -	\$ -	\$ -
3	351	Organization	-	-	-
4	352	Franchise	-	-	-
5	353	Land	472,524	-	472,524
6	354	Structures & Improvements	2,849,358	-	2,849,358
7	355	Power Generation	9,000	-	9,000
8	360	Collection Sewer Forced	1,191,996	7,219	1,199,215
9	361	Collection Sewers Gravity	4,746,109	14,829	4,760,938
10	362	Special Collecting Structures	3,052	-	3,052
11	363	Customer Services	264,495	-	264,495
12	364	Flow Measuring Devices	63,044	-	63,044
13	365	Flow Measuring Installations	180,051	-	180,051
14	366	Reuse Services	-	-	-
15	367	Reuse Meters And Installation	-	-	-
16	370	Receiving Wells	773,931	-	773,931
17	371	Pumping Equipment	1,078,662	25,593	1,104,255
18	374	Reuse Distribution Reservoirs	-	-	-
19	375	Reuse Trans. and Dist. System	-	-	-
20	380	Treatment & Disposal Equipment	330,351	9,692	340,043
21	381	Plant Sewers	116,917	-	116,917
22	382	Outfall Sewer Lines	-	-	-
23	389	Other Sewer Plant & Equipment	967,442	(176)	967,267
24	390	Office Furniture & Equipment	226,994	-	226,994
25	390.1	Computers and Software	68,954	-	68,954
26	391	Transportation Equipment	65,584	-	65,584
27	392	Stores Equipment	-	-	-
28	393	Tools, Shop And Garage Equip	36,243	-	36,243
29	394	Laboratory Equip	14,398	-	14,398
30	395	Power Operated Equip	-	-	-
31	396	Communication Equip	115,229	8,882	124,111
32	397	Miscellaneous Equip.	6,892	-	6,892
33	398	Other Tangible Plant	486,294	-	486,294
34					
35					-
36					-
37					
38					-
39		TOTAL WATER PLANT	\$ 14,067,522	\$ 66,039	\$ 14,133,561
40					
41		<u>SUPPORTING SCHEDULES</u>			<u>RECAP SCHEDULES:</u>
42		Work papers			A-4
43					E-1
44					

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Operating Statistics

Exhibit
 Schedule E-7
 Page 1
 Witness: Bourassa

Line No.		Test Year Ended <u>12/31/2018</u>	Prior Year Ended <u>12/31/2017</u>	Prior Year Ended <u>12/31/2016</u>
1	<u>WASTEWATER STATISTICS:</u>			
2				
3				
4				
5	Total Gallons Treated (in Thousands)	69,842	68,989	84,929
6				
7				
8				
9	Wastewater Revenues from Customers:	\$ 2,491,430	\$ 2,558,143	\$ 2,534,794
10				
11				
12				
13				
14	Year End Number of Customers	2,210	2,207	2,177
15				
16				
17	Annual Gallons (in Thousands)			
18	Treated Per Year End Customer	32	31	39
19				
20				
21				
22	Annual Revenue per Year End Customer	\$ 1,127.34	\$ 1,159.10	\$ 1,164.35
23				
24	Pumping Cost Per 1,000 Gallons	\$ 0.9392	\$ 0.9492	\$ 0.7579
25	Purchased Wastewater Cost per 1,000 Gallons	\$ 2.8967	\$ 3.0516	\$ 3.0644
26				
27				
28				

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Taxes Charged to Operations

Exhibit
Schedule E-8
Page 1
Witness: Bourassa

Line No.	Description	Test Year Ended <u>12/31/2018</u>	Prior Year Ended <u>12/31/2017</u>	Prior Year Ended <u>12/31/2016</u>
1				
2				
3	State Income Taxes	\$ 64,855	\$ -	\$ -
4	Federal Income Taxes	259,891	-	-
5	Payroll Taxes	-	-	-
6	Property Taxes	50,713	50,684	52,492
7				
8	Totals	<u>\$ 375,459</u>	<u>\$ 50,684</u>	<u>\$ 52,492</u>
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Notes To Financial Statements

Exhibit
Schedule E-9
Page 1
Witness: Bourassa

Line
No.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40

The Company does not conduct independent audits, reviews and/or compilations. Accordingly, there are no notes which are typically associated with these financial statements. Management makes the following notations to the financial statements contained herein:

Significant Accounting Policies - The Company prepares its financial statements in accordance with accounting principles generally accepted in the United States of America and the accounting records of the are maintained in accordance with the uniform system of accounts as prescribed by the National Association of Regulatory Utility Commissioners (USOA 1996). Significant accounting policies are as follows:

Utility Plant - Property, plant and equipment is stated at cost less accumulated depreciation provided on a straight-line basis.

Depreciation rates for asset classes of utility property, plant and equipment are established by the Commission. The cost of additions, including betterments and replacements of units of utility fixed assets are charged to utility property, plant and equipment. When units of utility property are replaced, renewed or retired, their cost plus removal or disposal costs, less salvage proceeds, is charged to accumulated depreciation.

Revenue Recognition - Revenues are recognized on the accrual method. Under this method, revenue is recognized when earned rather than when collected, and expenses are recognized when incurred rather than when paid.

Contributions in Aid of Construction - Contributions in aid of construction (CIAC) are nonrefundable contributions by developers and customers for plant expansion. In addition, this amount includes the remaining balance, if any, of advances in aid of construction at the end of the repayment period. The contributions in aid of construction are being amortized at a rate equal to the rate allowed for depreciation, as a reduction of depreciation expense

Advances in Aid of Construction - Customer advances for construction are subject to refund in accordance with agreements approved by the Arizona Corporation Commission. Agreements provide for refunds which are typically equal to 10 percent of annual water revenue generated from the expansion. The repayments are for a maximum agreed upon period or until repaid in full. Any balance remaining at the end of the agreed-upon period for repayment becomes a contribution in aid of construction.

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Projected Income Statements - Present & Proposed Rates

Exhibit
 Schedule F-1
 Page 1
 Witness: Bourassa

Line No.		Test Year Actual Results	At Present Rates Year Ended 12/31/2019	At Proposed Rates Year Ended 12/31/2019
1	Revenues			
2	Metered Water Revenues	\$ 2,473,678	\$ 2,462,286	\$ 3,341,071
3	Unmetered Water Revenues	6,647	(0)	(0)
4	Other Water Revenues	11,106	11,106	11,106
5		<u>\$ 2,491,430</u>	<u>\$ 2,473,391</u>	<u>\$ 3,352,176</u>
6	Operating Expenses			
7	Salaries and Wages	\$ -	\$ -	\$ -
8	Purchased Water	3,240	3,240	3,240
	Purchased Wastewater Treatment	202,309	339,388	339,388
	Sludge Removal	2,700	2,700	2,700
	Purchased Power	65,592	65,592	65,592
	Fuel for Power Production	-	-	-
	Chemicals	12,019	12,019	12,019
9	Materials and Supplies	10,184	10,184	10,184
10	Contractual Services - Accounting	7,649	7,649	7,649
11	Contractual Services - Legal	1,801	1,801	1,801
12	Contractual Services - Management	365,425	346,637	346,637
13	Contractual Services - Testing	9,862	9,862	9,862
14	Contractual Services - Other	345,046	346,847	346,847
15	Equipment Rent	-	-	-
16	Building Rent	25,665	25,665	25,665
17	Transportation Expense	9,667	9,667	9,667
18	Insurance - Auto	2,132	2,132	2,132
19	Insurance - General Liability	7,086	7,086	7,086
20	Regulatory Commission Expense	-	-	-
21	Miscellaneous	42,449	42,449	42,449
22	Depreciation and Amortization	475,416	732,550	732,550
23	Bad Debt Expense	4,497	4,497	4,023
24	Taxes Other Than Income	-	-	-
25	Property Taxes	50,713	52,868	59,140
26	Income Taxes	324,746	53,332	270,452
27	Total Operating Expenses	<u>\$ 1,968,199</u>	<u>\$ 2,076,165</u>	<u>\$ 2,299,084</u>
28	Operating Income	<u>\$ 523,231</u>	<u>\$ 397,226</u>	<u>\$ 1,053,093</u>
29	Other Income (Expense)			
30	Interest and Dividend Income	-	-	-
31	AFUDC Income	121,802	121,802	121,802
32	Miscellaneous Non-Utility Expenses	(93,922)	(93,922)	(93,922)
33	Interest Expense	(67,247)	(168,878)	(168,878)
34				
35	Total Other Income (Expense)	<u>\$ (39,367)</u>	<u>\$ (140,998)</u>	<u>\$ (140,998)</u>
36	Net Profit (Loss)	<u>\$ 483,864</u>	<u>\$ 256,228</u>	<u>\$ 912,094</u>
37				
38				
39	<u>SUPPORTING SCHEDULES:</u>			
40	C-1			
41				
42				
43				

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Projected Statements of Changes in Financial Position
Present and Proposed Rates

Exhibit
Schedule F-2
Page 1
Witness: Bourassa

Line No.	Test Year Ended <u>12/31/2018</u>	At Present Rates Year Ended <u>12/31/2019</u>	At Proposed Rates Year Ended <u>12/31/2019</u>
5	Cash Flows from Operating Activities		
6	\$ 483,864	\$ 256,228	\$ 912,094
7	Adjustments to reconcile net income to net cash		
8	provided by operating activities:		
9	475,416	732,550	732,550
10	(140,787)	(2,125,265)	(2,125,265)
11	Changes in Certain Assets and Liabilities:		
12	(31,101)		
13	24,412		
14	129,579		
15	-		
16	5,751		
17	401,644	(2,956,596)	(2,956,596)
18	(50,523)		
19	5,599,498	(4,000,000)	(4,000,000)
20	-		
21	-		
22	4,017		
23	-		
24	102,249	243,036	243,036
25	1	1	(2)
26	<u>\$ 7,004,020</u>	<u>\$ (7,850,046)</u>	<u>\$ (7,194,182)</u>
27	Cash Flow From Investing Activities:		
28	(7,069,076)	(87,481)	(87,481)
29	-		
30	-		
31	<u>\$ (7,069,076)</u>	<u>\$ (87,481)</u>	<u>\$ (87,481)</u>
32	Cash Flow From Financing Activities		
33	-		
34	164,977		
35	7,500		
36	-		
37	-	5,108,085	5,108,085
38	-		
39	-		
40	(98,916)	3,460,663	2,804,799
41	<u>\$ 73,561</u>	<u>\$ 8,568,748</u>	<u>\$ 7,912,884</u>
42	8,505	631,221	631,221
43	(10,776)	(2,271)	(2,271)
44	<u>\$ (2,271)</u>	<u>\$ 628,950</u>	<u>\$ 628,950</u>

SUPPORTING SCHEDULES:

E-3

50
51
52
53

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Projected Construction Requirements

Exhibit
 Schedule F-3
 Page 1
 Witness: Bourassa

Line No.	Account	Test Year	2019	2020	2021
1					
2	Account				
3	<u>Number</u> <u>Plant Asset:</u>				
4	351 Organization	\$ -	\$ -	\$ -	\$ -
5	352 Franchise	-	-	-	-
6	353 Land	-	-	-	-
7	354 Structures & Improvements	-	-	-	-
8	355 Power Generation	-	-	-	-
9	360 Collection Sewer Forced	7,219	387,500	345,000	345,000
10	361 Collection Sewers Gravity	14,829	100,000	100,000	100,000
11	362 Special Collecting Structures	-	-	-	-
12	363 Customer Services	-	-	-	-
13	364 Flow Measuring Devices	-	-	-	-
14	365 Flow Measuring Installations	-	-	-	-
15	366 Reuse Services	-	-	-	-
16	367 Reuse Meters And Installation	-	-	-	-
17	370 Receiving Wells	25,593	-	-	-
18	371 Pumping Equipment	-	100,950	92,950	92,950
19	374 Reuse Distribution Reservoirs	-	-	-	-
20	375 Reuse Trans. and Dist. System	9,692	-	-	-
21	380 Treatment & Disposal Equipment	-	1,000,000	-	-
22	381 Plant Sewers	-	-	-	-
23	382 Outfall Sewer Lines	(176)	-	-	-
24	389 Other Sewer Plant & Equipment	-	-	-	-
25	390 Office Furniture & Equipment	-	-	-	-
26	390.1 Computers and Software	-	45,000	-	-
27	391 Transportation Equipment	-	-	-	-
28	392 Stores Equipment	-	-	-	-
29	393 Tools, Shop And Garage Equip	-	972	900	900
30	394 Laboratory Equip	-	-	-	-
31	395 Power Operated Equip	8,882	-	-	-
32	396 Communication Equip	-	35,000	25,000	25,000
33	397 Miscellaneous Equip.	-	-	-	-
34	398 Other Tangible Plant	-	-	-	-
35	398.1 Other Tangible Plant - Scottsdale Capacity	-	-	-	-
36					
37	Total	\$ 66,039	\$ 1,669,422	\$ 563,850	\$ 563,850

38
 39
 40

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Assumptions Used in Rate Filing

Exhibit
Schedule F-4
Page 1
Witness: Bourassa

Line
No.

- 1 Property Taxes were computed using the method used by the Arizona Department
- 2 of Revenue modified for ratemaking.
- 3
- 4 Projected construction expenditures are shown on Schedule A-4.
- 5
- 6 Expense adjustments are shown on Schedule C2, and are explained in the testimony.
- 7
- 8 Income taxes were computed using statutory state and federal income tax rates.
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40

Liberty Utilities (Black Mountain Sewer) Corp.
Revenue Summary
With Annualized Revenues to Year End Number of Customers
Test Year Ended December 31, 2018

Exhibit
Schedule H-1
Witness: Bourassa

Line No.	Customer Classification	Present Revenues	Proposed Revenues	Dollar Change	Percent Change	Percent of Present Sewer Revenues	Percent of Proposed Sewer Revenues
1	Residential	1,988,852	2,625,284	636,432	32.00%	80.41%	78.32%
2	Residential HOA (11 units)	10,494	13,852	3,358	32.00%	0.42%	0.41%
3	Residential HOA (12 units)	11,448	15,111	3,663	32.00%	0.46%	0.45%
4	Residential HOA (18 units)	17,172	22,667	5,495	32.00%	0.69%	0.68%
5	Residential HOA (25 units)	23,850	31,482	7,632	32.00%	0.96%	0.94%
6	Residential Apartment (8 units)	7,632	10,074	2,442	32.00%	0.31%	0.30%
7	Residential Apartment (10 units)	9,540	12,593	3,053	32.00%	0.39%	0.38%
8	Residential Apartment (66 units)	62,964	83,112	20,148	32.00%	2.55%	2.48%
9	Commercial	411,096	542,647	131,551	32.00%	16.62%	16.19%
10							
11							
12	Subtotal	\$ 2,543,048	\$ 3,356,823	\$ 813,775	32.00%	102.82%	100.14%
13							
14	<u>Revenue Annualization</u>						
15	Residential	\$ (11,210)	\$ (14,797)	\$ (3,587)	32.00%	-0.45%	-0.44%
16	Commercial	(183)	(241)	(58)	32.00%	-0.01%	-0.01%
17	Total Revenue Annualization	\$ (11,392)	\$ (15,038)	\$ (3,645)	32.00%	-0.46%	-0.45%
18							
19	<u>Misc Service Revenues</u>						
20	Misc Revenues	11,106	11,106	-	0.00%	0.45%	0.33%
21	Tax Savings Credits	(68,878)	-	68,878	-100.00%	-2.78%	0.00%
22	Reconciling Amount to C-1	(493)	(715)	(222)	45.03%	-0.02%	-0.02%
23	Totals	\$ 2,473,391	\$ 3,352,176	\$ 878,786	35.53%	100.00%	100.00%
24							
25							
26							
27							
28							
29							
30							

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Analysis of Revenue by Detailed Class

Schedule H-2
 Page 1
 Witness: Bourassa

Line No.	Customer Classification	Average Number of Customers at 12/31/2014 ¹	Average Usage Gallons (1,000's)	Present Rates	Tax Savings Credit*	Average Bill		Proposed Increase	
						Adj. Present Rates	Proposed Rates	Dollar Amount	Percent Amount
1	Residential	2,073	N/A	\$ 79.50	\$ (2.44)	\$ 77.06	\$ 104.94	\$ 27.88	36.18%
2	Residential HOA (11 units)	1	N/A	874.50	(26.84)	847.66	1,154.34	306.68	36.18%
3	Residential HOA (12 units)	1	N/A	954.00	(29.28)	924.72	1,259.28	334.56	36.18%
4	Residential HOA (18 units)		N/A	1,431.00	(43.92)	1,387.08	1,888.92	501.84	36.18%
5	Residential HOA (25 units)	1	N/A	1,987.50	(61.00)	1,926.50	2,623.50	697.00	36.18%
6	Residential Apartment (8 units)	1	N/A	636.00	(19.52)	616.48	839.52	223.04	36.18%
7	Residential Apartment (10 units)	1	N/A	795.00	(24.40)	770.60	1,049.40	278.80	36.18%
8	Residential Apartment (66 units)	1	N/A	5,247.00	(161.04)	5,085.96	6,926.04	1,840.08	36.18%
9									
10	Commercial	131	34,442	261.35	(2.61)	258.74	344.98	86.24	33.33%
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24	Total	<u>2,210</u>							

*Per Decision 76804, tax savings credit was \$2.44 for residential customers (per unit for multi-unit) and \$2.61 for commercial customers.

Liberty Utilities (Black Mountain Sewer) Corp.
 Present and Proposed Rates
 Test Year Ended December 31, 2018

Exhibit
 Schedule H-3
 Page 1
 Witness: Bourassa

Line No.		Present Rates		Proposed Rates		Dollar Change	Percent Change
1							
2	Customer Classification						
3							
4	Monthly Service Charge:						
5	Residential, per single family unit	\$	79.50	\$	104.94	\$ 25.44	32.00%
6							
7	Commercial	\$	85.00	\$	112.20	\$ 27.20	32.00%
8							
9	Commodity Rate:						
10							
11	Commercial, per 1,000 gals[1]		5.120	\$	6.758	\$ 1.64	32.00%
12							
13		<u>per acre foot</u>	<u>per 1,000 gals</u>	<u>per acre foot</u>	<u>per 1,000 gals</u>		
14	Effluent Charge	\$	150.00	\$	0.460512	Remove	Remove
15							
16	Effluent Add-on Charge [2]	\$	393.00	\$	1.206073	Remove	Remove
17							
18	Total Effluent Charge	\$	543.00		1.666585	Remove	Remove
19							
20							
21							
22							
23							
24							
25							
26	NT = no tariff						
27							
28							
29							
30	[1] Monthly water usage provided by Town of Carfree and City of Scottsdale.						
31	[2] Effluent Add-on charge is for recovery of approximately \$108,804 of plant closure costs not recognized in residential and commercial rates and						
32	will be discontinued after the amount is recovered.						
33							
34							
35							
36							
37							
38							

Liberty Utilities (Black Mountain Sewer) Corp.
 Present and Proposed Rates
 Test Year Ended December 31, 2018

Exhibit
 Schedule H-3
 Page 2
 Witness: Bourassa

Line No.	<u>Other Service Charges</u>	<u>Present Rates</u>	<u>Proposed Rates</u>
1	Establishment	\$ 25.00	\$ 25.00
2	Re-establishment	[1]	[1]
3	Re-connection, Delinquent	[2]	[2]
4	After hours service [4]	\$ 50.00	\$ 50.00
5	Min Deposit Requirement (Residential)	[3]	[3]
6	Min Deposit Requirement (Non-Residential)	[3]	[3]
7	Deposit Interest	6%	6%
8	NSF Check	10.00	25.00
9	Deferred Payment finance charge, Per Month	1.50%	1.50%
10	Late Payment Charge, Per Month	Greater of \$5.00 or 1.50% per month on unpaid balance.	Greater of \$5.00 or 1.50% per month on unpaid balance.
11			
12	Main Extension Tariff	Cost[5]	Cost[5]
13	Off-Site Facilities Hook-up Fee	per Tariff	per Tariff
14			
15			
16	[1] Per A.A.C. R14-2-603.D, Within 12 months. Residential and non-residential customers shall pay the applicable minimum charge		
17	times the number of months disconnected.		
18			
19	[2] Customer shall pay the actual cost of physical disconnection and establishment (if same customer) and		
20	there shall be no charge for disconnection if no physical work is performed.		
21			
22	[3] Per A.A.C. R14-2-603.B Residential - two times the average bill. Non-residential - two and one-half times the average bill.		
23			
24	[4] After Hours Service Charge applies to all services performed after regular business hours at the customer's request or for the customer's		
25	convenience.		
26			
27	[5] Per A.A.C. R14-2-606.B		
28			
29			
30			
31			
32			
33			
34			
35	IN ADDITION TO THE COLLECTION OF REGULAR RATES, THE UTILITY WILL COLLECT FROM		
36	ITS CUSTOMERS A PROPORTIONATE SHARE OF ANY PRIVILEGE, SALES, USE, AND FRANCHISE		
37	TAX. PER COMMISSION RULE (14-2-608.D 5).		
38	ALL ADVANCES AND/OR CONTRIBUTIONS ARE TO INCLUDE LABOR, MATERIALS, OVERHEADS,		
39	AND ALL APPLICABLE TAXES, INCLUDING ALL GROSS-UP TAXES FOR INCOME TAXES.		
40	COST TO INCLUDE LABOR, MATERIALS AND PARTS, OVERHEADS AND ALL APPLICABLE TAXES.		
41			

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Off-Site Facilities Hook-up Fee

Exhibit
Schedule H-3
Page 3
Witness: Bourassa

Line
No.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Off-site Facilities Hook-up Fees

Per rated ERU	\$	1,700.00 [1]	\$ 1,700.00 [2]
---------------	----	--------------	-----------------

[1] ERU = Equivalent Residential Unit and is equivalent to 400 gallons per day (gpd).

[2] ERU = Equivalent Residential Unit and is equivalent to 320 gallons per day (gpd).

Liberty Utilities (Black Mountain Sewer) Corp.
Bill Comparison
Customer Classification
Residential

Exhibit
Schedule H-4
Page 1
Witness: Bourassa

Present	Proposed	Dollar	Percent
<u>Bill</u>	<u>Bill</u>	<u>Increase</u>	<u>Increase</u>
\$ 79.50	\$ 104.94	\$ 25.44	32.00%

Present Rates:

Monthly Charge: \$ 79.50

Proposed Rates:

Monthly Charge: \$ 104.94

Liberty Utilities (Black Mountain Sewer) Corp.
Bill Comparison
Customer Classification
Residential - HOA 11 Units

Exhibit
Schedule H-4
Page 2
Witness: Bourassa

Present <u>Bill</u>	Proposed <u>Bill</u>	Dollar <u>Increase</u>	Percent <u>Increase</u>
\$ 874.50	\$ 1,154.34	\$ 279.84	32.00%

# of Units	11
Rate Per Units	\$ 79.50
Present Rates:	
Monthly Charge:	\$ 874.50

# of Units	11
Rate Per Units	\$ 104.94
Proposed Rates:	
Monthly Charge:	\$ 1,154.34

Liberty Utilities (Black Mountain Sewer) Corp.
Bill Comparison
Customer Classification
Residential - HOA 12 Units

Exhibit
Schedule H-4
Page 3
Witness: Bourassa

Present <u>Bill</u>	Proposed <u>Bill</u>	Dollar <u>Increase</u>	Percent <u>Increase</u>
\$ 954.00	\$ 1,259.28	\$ 305.28	32.00%

# of Units	12
Rate Per Units	\$ 79.50
Present Rates:	
Monthly Charge:	\$ 954.00

# of Units	12
Rate Per Units	\$ 104.94
Proposed Rates:	
Monthly Charge:	\$ 1,259.28

Liberty Utilities (Black Mountain Sewer) Corp.
Bill Comparison
Customer Classification
Residential - HOA 18 Units

Exhibit
Schedule H-4
Page 4
Witness: Bourassa

Present <u>Bill</u>	Proposed <u>Bill</u>	Dollar <u>Increase</u>	Percent <u>Increase</u>
\$ 1,431.00	\$ 1,888.92	\$ 457.92	32.00%

# of Units	18
Rate Per Units	\$ 79.50
Present Rates:	
Monthly Charge:	\$ 1,431.00

# of Units	18
Rate Per Units	\$ 104.94
Proposed Rates:	
Monthly Charge:	\$ 1,888.92

Liberty Utilities (Black Mountain Sewer) Corp.
Bill Comparison
Customer Classification
Residential - HOA 25 Units

Exhibit
Schedule H-4
Page 5
Witness: Bourassa

Present <u>Bill</u>	Proposed <u>Bill</u>	Dollar <u>Increase</u>	Percent <u>Increase</u>
\$ 1,987.50	\$ 2,623.50	\$ 636.00	32.00%

of Units 25
Rate Per Units \$ 79.50
Present Rates:
Monthly Charge: \$ 1,987.50

of Units 25
Rate Per Units \$ 104.94
Proposed Rates:
Monthly Charge: \$ 2,623.50

Liberty Utilities (Black Mountain Sewer) Corp.
Bill Comparison
Customer Classification
Residential - Apartment 11 Units

Exhibit
Schedule H-4
Page 6
Witness: Bourassa

<u>Present</u> <u>Bill</u>	<u>Proposed</u> <u>Bill</u>	<u>Dollar</u> <u>Increase</u>	<u>Percent</u> <u>Increase</u>
\$ 636.00	\$ 839.52	\$ 203.52	32.00%

# of Units	8
Rate Per Units	\$ 79.50
Present Rates:	
Monthly Charge:	\$ 636.00

# of Units	8
Rate Per Units	\$ 104.94
Proposed Rates:	
Monthly Charge:	\$ 839.52

Liberty Utilities (Black Mountain Sewer) Corp.
Bill Comparison
Customer Classification
Residential - Apartments 10 Units

Exhibit
Schedule H-4
Page 7
Witness: Bourassa

<u>Present</u> <u>Bill</u>	<u>Proposed</u> <u>Bill</u>	<u>Dollar</u> <u>Increase</u>	<u>Percent</u> <u>Increase</u>
\$ 795.00	\$ 1,049.40	\$ 254.40	32.00%

# of Units	10
Rate Per Units	\$ 79.50
Present Rates:	
Monthly Charge:	\$ 795.00

# of Units	10
Rate Per Units	\$ 104.94
Proposed Rates:	
Monthly Charge:	\$ 1,049.40

Liberty Utilities (Black Mountain Sewer) Corp.
Bill Comparison
Customer Classification
Residential - Apartments 74 Units

Exhibit
Schedule H-4
Page 8
Witness: Bourassa

Present <u>Bill</u>	Proposed <u>Bill</u>	Dollar <u>Increase</u>	Percent <u>Increase</u>
\$ 5,247.00	\$ 6,926.04	\$ 1,679.04	32.00%

# of Units	66
Rate Per Units	\$ 79.50
Present Rates:	
Monthly Charge:	\$ 5,247.00

# of Units	66
Rate Per Units	\$ 104.94
Proposed Rates:	
Monthly Charge:	\$ 6,926.04

Liberty Utilities (Black Mountain Sewer) Corp.
 Bill Comparison
 Customer Classification
 Commercial

Exhibit
 Schedule H-4
 Page 9
 Witness: Bourassa

	Present <u>Bill</u>	Proposed <u>Bill</u>	Dollar <u>Increase</u>	Percent <u>Increase</u>	
-	\$ 85.00	\$ 112.20	\$ 27.20	32.00%	
1,000	\$ 90.12	\$ 118.96	\$ 28.84	32.00%	Present Rates:
2,000	\$ 95.24	\$ 125.72	\$ 30.48	32.00%	Monthly Charge: \$ 85.00
3,000	\$ 100.36	\$ 132.48	\$ 32.12	32.00%	
4,000	\$ 105.48	\$ 139.23	\$ 33.75	32.00%	
5,000	\$ 110.60	\$ 145.99	\$ 35.39	32.00%	
6,000	\$ 115.72	\$ 152.75	\$ 37.03	32.00%	Charger per \$ 5.120
7,000	\$ 120.84	\$ 159.51	\$ 38.67	32.00%	
8,000	\$ 125.96	\$ 166.27	\$ 40.31	32.00%	
9,000	\$ 131.08	\$ 173.03	\$ 41.95	32.00%	
10,000	\$ 136.20	\$ 179.78	\$ 43.58	32.00%	
12,000	\$ 146.44	\$ 193.30	\$ 46.86	32.00%	Proposed Rates:
14,000	\$ 156.68	\$ 206.82	\$ 50.14	32.00%	Monthly Charge: \$ 112.20
16,000	\$ 166.92	\$ 220.33	\$ 53.41	32.00%	
18,000	\$ 177.16	\$ 233.85	\$ 56.69	32.00%	
20,000	\$ 187.40	\$ 247.37	\$ 59.97	32.00%	Charger per \$ 6.758
25,000	\$ 213.00	\$ 281.16	\$ 68.16	32.00%	
30,000	\$ 238.60	\$ 314.95	\$ 76.35	32.00%	
35,000	\$ 264.20	\$ 348.74	\$ 84.54	32.00%	
40,000	\$ 289.80	\$ 382.54	\$ 92.74	32.00%	
45,000	\$ 315.40	\$ 416.33	\$ 100.93	32.00%	
50,000	\$ 341.00	\$ 450.12	\$ 109.12	32.00%	
60,000	\$ 392.20	\$ 517.70	\$ 125.50	32.00%	
70,000	\$ 443.40	\$ 585.29	\$ 141.89	32.00%	
80,000	\$ 494.60	\$ 652.87	\$ 158.27	32.00%	
90,000	\$ 545.80	\$ 720.46	\$ 174.66	32.00%	
100,000	\$ 597.00	\$ 788.04	\$ 191.04	32.00%	
Average Usage					
34,442	\$ 261.35	\$ 344.98	\$ 83.63	32.00%	
Median Usage					
5,500	\$ 113.16	\$ 149.37	\$ 36.21	32.00%	

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Residential

Exhibit
 Schedule H-5
 Page 1
 Witness: Bourassa

Month	<u>Jan-18</u>	<u>Feb-18</u>	<u>Mar-18</u>	<u>Apr-18</u>	<u>May-18</u>	<u>Jun-18</u>	<u>Jul-18</u>	<u>Aug-18</u>	<u>Sep-18</u>	<u>Oct-18</u>	<u>Nov-18</u>	<u>Dec-18</u>	Total Year	Cumul- ative Billing	
	2,071	2,075	2,107	2,081	2,098	2,091	2,097	2,088	2,072	2,085	2,079	2,073	25,017	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
													-	25,017	
Totals	2,071	2,075	2,107	2,081	2,098	2,091	2,097	2,088	2,072	2,085	2,079	2,073	25,017		
														Average Flow	N/A
														Median Flow	N/A
														Average # Customers	2,085

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Residential - HOA 11 Units

Exhibit
 Schedule H-5
 Page 2
 Witness: Bourassa

Month	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Total Year	Cumul-ative Billing
	1	1	1	1	1	1	1	1	1	1	1	1	12	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
Totals	1	1	1	1	1	1	1	1	1	1	1	1	12	12
													Average Flow	N/A
													Median Flow	N/A
													Average # Customers	1

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Residential - HOA 12 Units

Exhibit
 Schedule H-5
 Page 3
 Witness: Bourassa

Month	<u>Jan-18</u>	<u>Feb-18</u>	<u>Mar-18</u>	<u>Apr-18</u>	<u>May-18</u>	<u>Jun-18</u>	<u>Jul-18</u>	<u>Aug-18</u>	<u>Sep-18</u>	<u>Oct-18</u>	<u>Nov-18</u>	<u>Dec-18</u>	<u>Total Year</u>	<u>Cumul- ative Billing</u>
	1	1	1	1	1	1	1	1	1	1	1	1	12	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
Totals	1	1	1	1	1	1	1	1	1	1	1	1	12	12
													Average Flow	N/A
													Median Flow	N/A
													Average # Customers	1

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Residential - HOA 18 Units

Exhibit
 Schedule H-5
 Page 4
 Witness: Bourassa

Month	<u>Jan-18</u>	<u>Feb-18</u>	<u>Mar-18</u>	<u>Apr-18</u>	<u>May-18</u>	<u>Jun-18</u>	<u>Jul-18</u>	<u>Aug-18</u>	<u>Sep-18</u>	<u>Oct-18</u>	<u>Nov-18</u>	<u>Dec-18</u>	Total Year	Cumul- ative Billing
	1	1	1	1	1	1	1	1	1	1	1	1	12	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
Totals	1	1	1	1	1	1	1	1	1	1	1	1	12	
													N/A	
													N/A	
													1	

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Residential - HOA 25 Units

Exhibit
 Schedule H5
 Page 5
 Witness: Bourassa

Month	<u>Jan-18</u>	<u>Feb-18</u>	<u>Mar-18</u>	<u>Apr-18</u>	<u>May-18</u>	<u>Jun-18</u>	<u>Jul-18</u>	<u>Aug-18</u>	<u>Sep-18</u>	<u>Oct-18</u>	<u>Nov-18</u>	<u>Dec-18</u>	Total Year	Cumul- ative Billing
	1	1	1	1	1	1	1	1	1	1	1	1	12	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
Totals	1	1	1	1	1	1	1	1	1	1	1	1	12	12
													Average Flow	N/A
													Median Flow	N/A
													Average # Customers	1

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Residential - Apartment 11 Units
Residential Flat Rate

Exhibit
 Schedule H-5
 Page 6
 Witness: Bourassa

	<u>Jan-18</u>	<u>Feb-18</u>	<u>Mar-18</u>	<u>Apr-18</u>	<u>May-18</u>	<u>Jun-18</u>	<u>Jul-18</u>	<u>Aug-18</u>	<u>Sep-18</u>	<u>Oct-18</u>	<u>Nov-18</u>	<u>Dec-18</u>	Total Year	Cumul- ative Billing
	1	1	1	1	1	1	1	1	1	1	1	1	12	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
Totals	1	1	1	1	1	1	1	1	1	1	1	1	<u>12</u>	
													Average Flow	N/A
													Median Flow	N/A
													Average # Customers	1

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Residential - Apartments 10 Units
Residential Flat Rate

Exhibit
 Schedule H-5
 Page 7
 Witness: Bourassa

Month	<u>Jan-18</u>	<u>Feb-18</u>	<u>Mar-18</u>	<u>Apr-18</u>	<u>May-18</u>	<u>Jun-18</u>	<u>Jul-18</u>	<u>Aug-18</u>	<u>Sep-18</u>	<u>Oct-18</u>	<u>Nov-18</u>	<u>Dec-18</u>	Total Year	Cumul- ative Billing
	1	1	1	1	1	1	1	1	1	1	1	1	12	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
Totals	1	1	1	1	1	1	1	1	1	1	1	1	12	
													Average Flow	N/A
													Median Flow	N/A
													Average # Customers	1

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Customer Classification
Residential - Apartments 74 Units
Residential Flat Rate

Exhibit
Schedule H-5
Page 8
Witness: Bourassa

Month	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Total Year	Cumulative Billing
	1	1	1	1	1	1	1	1	1	1	1	1	12	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
													-	12
Totals	1	1	1	1	1	1	1	1	1	1	1	1	12	12
													Average Flow	N/A
													Median Flow	N/A
													Average # Customers	1

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Commercial
Water Usage

Exhibit
 Schedule H-5
 Page 9
 Witness: Bourassa

Usage From:	Usage To:	Month	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Total Year	Cumulative Billing	Cumulative Usage (1000's)
-	-	2	4	2	2	2	2	2	3	4	5	3	4	3	36	36	-
-	1,000	26	20	20	18	15	16	19	19	18	23	21	20	19	235	271	136
1,001	2,000	16	22	26	19	19	15	19	21	17	17	19	14	19	226	497	881
2,001	3,000	10	9	4	12	6	17	8	6	7	8	8	13	9	109	606	2,397
3,001	4,000	7	6	7	9	9	4	7	7	4	4	4	4	7	75	681	4,780
4,001	5,000	3	2	9	8	8	6	6	5	7	7	7	6	8	75	756	8,183
5,001	6,000	5	4	4	1	3	5	4	4	7	3	5	5	4	49	805	12,611
6,001	7,000	5	4	6	4	7	3	2	3	1	2	4	4	2	43	848	18,123
7,001	8,000	6	6	3	4	4	1	3	2	-	2	-	2	2	33	881	24,731
8,001	9,000	4	3	3	1	-	2	1	3	4	3	3	3	2	29	910	32,466
9,001	10,000	3	2	2	3	2	2	5	1	-	4	4	4	4	32	942	41,416
10,001	11,000	3	2	2	4	2	3	7	5	5	3	2	2	2	40	982	51,727
11,001	12,000	1	2	2	1	3	1	1	4	3	4	4	2	4	28	1,010	63,343
12,001	13,000	2	2	1	2	4	1	2	4	1	1	3	-	23	1,033	76,256	
13,001	14,000	4	-	5	2	3	3	1	1	1	4	1	1	26	1,059	90,553	
14,001	15,000	2	3	-	2	4	5	2	2	1	2	4	1	28	1,087	106,315	
15,001	16,000	3	5	2	3	3	4	1	-	2	1	2	5	31	1,118	123,645	
16,001	17,000	-	5	1	3	1	2	-	1	1	-	1	3	18	1,136	142,389	
17,001	18,000	-	1	2	1	2	-	-	1	1	2	1	-	11	1,147	162,462	
18,001	19,000	-	1	3	1	-	1	2	-	3	-	3	2	16	1,163	183,978	
19,001	20,000	1	-	-	2	-	1	2	-	-	-	1	3	10	1,173	206,852	
20,001	21,000	2	-	1	-	4	-	1	1	3	3	1	-	16	1,189	231,228	
21,001	22,000	-	1	-	-	-	-	-	3	1	1	-	-	6	1,195	256,921	
22,001	23,000	-	-	-	-	-	3	2	1	-	1	2	-	9	1,204	284,011	
23,001	24,000	1	2	1	-	-	2	1	1	-	-	-	1	9	1,213	312,517	
24,001	25,000	1	-	-	-	1	-	1	1	2	2	1	-	9	1,222	342,457	
25,001	26,000	-	1	1	-	-	1	-	-	-	-	-	2	5	1,227	373,746	
26,001	27,000	-	1	-	-	2	-	-	-	1	1	2	1	8	1,235	406,474	
27,001	28,000	1	1	3	2	-	-	-	1	-	-	2	-	10	1,245	440,712	
28,001	29,000	-	-	-	-	2	2	1	-	-	-	-	-	5	1,250	476,338	
29,001	30,000	-	-	1	1	-	1	1	1	-	-	-	-	5	1,255	513,361	
30,001	31,000	1	-	-	1	-	-	-	1	1	-	1	-	5	1,260	551,792	
31,001	32,000	2	2	-	2	1	1	2	-	1	3	1	-	15	1,275	591,955	
32,001	33,000	1	-	1	-	-	-	-	2	2	-	-	1	7	1,282	633,620	
33,001	34,000	1	-	-	-	-	2	1	-	1	-	-	2	7	1,289	676,803	
34,001	35,000	-	-	-	2	1	-	-	-	-	1	-	-	4	1,293	721,412	
35,001	36,000	1	-	-	1	1	1	-	-	-	1	-	-	5	1,298	767,491	
36,001	37,000	-	2	-	-	1	-	1	-	1	-	1	-	6	1,304	815,088	
37,001	38,000	-	1	-	-	-	-	-	-	-	-	-	1	2	1,306	864,064	
38,001	39,000	-	-	-	-	1	-	1	-	2	1	-	1	6	1,312	914,576	
39,001	40,000	-	-	-	1	1	-	-	2	2	3	-	-	9	1,321	966,757	
40,001	41,000	-	-	-	1	-	-	1	-	1	3	1	1	8	1,329	1,020,582	
41,001	42,000	1	-	-	-	-	1	-	1	-	-	-	-	3	1,332	1,075,860	

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Commercial
Water Usage

Exhibit
 Schedule H-5
 Page 9
 Witness: Bourassa

Usage From:	Usage To:	Month Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Total Year	Cumul- ative Billing	Cumul- ative Usage (1000's)
42,001	43,000	1	-	1	1	-	-	-	-	3	-	-	-	6	1,338	1,132,726
43,001	44,000	-	-	2	-	-	-	1	2	-	-	-	-	5	1,343	1,191,147
44,001	45,000	1	-	-	-	-	-	1	-	-	1	-	-	3	1,346	1,251,045
45,001	46,000	-	1	1	-	-	-	-	1	-	1	1	1	6	1,352	1,312,562
46,001	47,000	-	-	-	-	-	1	-	-	1	-	1	1	4	1,356	1,375,616
47,001	48,000	-	-	-	-	-	2	2	-	-	-	1	-	5	1,361	1,440,264
48,001	49,000	1	-	-	-	-	-	-	1	1	-	-	1	4	1,365	1,506,468
49,001	50,000	-	-	-	1	-	-	-	2	-	-	1	-	4	1,369	1,574,234
50,001	51,000	1	-	-	-	-	-	-	-	1	1	1	-	4	1,373	1,643,571
51,001	52,000	-	-	1	-	-	1	-	-	-	-	-	-	2	1,375	1,714,384
52,001	53,000	-	-	-	-	1	-	-	-	-	-	-	-	1	1,376	1,786,625
53,001	54,000	-	1	-	1	-	-	1	-	-	-	-	3	6	1,382	1,860,563
54,001	55,000	-	-	-	-	-	1	2	-	-	1	-	-	4	1,386	1,936,100
55,001	56,000	-	-	-	1	-	1	-	-	1	-	-	-	3	1,389	2,013,190
56,001	57,000	1	1	1	-	1	-	-	2	-	-	-	-	6	1,395	2,092,009
57,001	58,000	-	-	1	-	-	-	-	1	-	-	-	-	2	1,397	2,172,337
58,001	59,000	-	1	-	-	-	-	-	-	-	-	-	-	1	1,398	2,254,120
59,001	60,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,398	2,337,302
60,001	61,000	1	-	-	1	-	-	-	1	-	-	1	1	5	1,403	2,422,184
61,001	62,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,403	2,508,470
62,001	63,000	-	-	-	-	1	-	1	-	-	-	-	-	2	1,405	2,596,283
63,001	64,000	-	-	-	-	-	-	-	-	-	-	-	1	1	1,406	2,685,564
64,001	65,000	-	1	1	-	-	-	-	-	-	1	-	-	4	1,410	2,776,510
65,001	66,000	-	1	1	2	-	1	-	1	-	-	-	-	6	1,416	2,869,259
66,001	67,000	1	-	-	1	-	1	-	-	-	-	-	-	3	1,419	2,963,623
67,001	68,000	-	-	1	-	-	-	-	-	-	-	-	-	1	1,420	3,059,474
68,001	69,000	-	-	-	-	-	-	-	-	-	-	1	-	1	1,421	3,156,813
69,001	70,000	-	1	-	-	-	1	-	-	-	-	-	-	2	1,423	3,255,712
70,001	71,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,423	3,356,034
71,001	72,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,423	3,457,780
72,001	73,000	-	-	-	1	-	-	-	-	-	-	-	-	1	1,424	3,561,020
73,001	74,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,424	3,665,685
74,001	75,000	1	-	-	-	-	-	1	-	-	-	-	2	4	1,428	3,772,072
75,001	76,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,428	3,879,887
76,001	77,000	-	1	-	-	-	-	-	-	-	-	-	-	1	1,429	3,989,206
77,001	78,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,429	4,099,954
78,001	79,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,429	4,212,131
79,001	80,000	-	-	-	-	-	-	-	1	-	-	-	-	1	1,430	4,325,817
80,001	81,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,430	4,440,933
81,001	82,000	-	-	-	-	-	-	-	-	-	-	1	-	1	1,431	4,557,560
82,001	83,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,431	4,675,618
83,001	84,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,431	4,795,107
84,001	85,000	-	1	-	-	-	-	-	-	-	-	-	1	2	1,433	4,916,196

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Commercial
Water Usage

Exhibit
 Schedule H-5
 Page 9
 Witness: Bourassa

Usage From:	Usage To:	Month Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Total Year	Cumul- ative Billing	Cumul- ative Usage (1000's)
85,001	86,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,433	5,038,719
86,001	87,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,433	5,162,674
87,001	88,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,433	5,288,062
88,001	89,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,433	5,414,883
89,001	90,000	-	-	-	-	1	-	-	-	1	-	1	-	3	1,436	5,543,406
90,001	91,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,436	5,673,365
91,001	92,000	-	-	-	-	1	-	-	-	-	-	-	-	1	1,437	5,804,851
92,001	93,000	-	-	-	-	-	-	-	-	-	1	2	-	3	1,440	5,938,052
93,001	94,000	-	-	-	-	1	-	-	-	-	-	-	-	1	1,441	6,072,786
94,001	95,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,441	6,208,961
95,001	96,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,441	6,346,577
96,001	97,000	-	-	-	-	-	-	-	-	-	1	-	-	1	1,442	6,485,731
97,001	98,000	-	-	-	-	1	-	-	-	-	-	-	-	1	1,443	6,626,424
98,001	99,000	-	-	-	-	-	-	-	-	-	-	-	-	-	1,443	6,768,561
99,001	100,000	-	-	-	-	-	-	-	-	-	-	1	-	1	1,444	6,912,239
100,389	100,389	-	-	-	-	1	-	-	-	-	-	-	-	1	1,445	7,057,301
101,300	101,300	1	-	-	-	-	-	-	-	-	-	-	-	1	1,446	7,203,781
101,980	101,980	-	-	-	-	-	-	-	1	-	-	-	-	1	1,447	7,351,346
104,590	104,590	-	-	1	-	-	-	-	-	-	-	-	-	1	1,448	7,502,793
106,390	106,390	1	-	-	-	-	-	-	-	-	-	-	-	1	1,449	7,656,952
106,510	106,510	-	-	-	-	-	-	-	-	1	-	-	-	1	1,450	7,811,391
112,987	112,987	-	-	-	-	-	-	-	-	-	-	1	-	1	1,451	7,975,335
113,766	113,766	-	-	-	-	-	1	-	-	-	-	-	-	1	1,452	8,140,524
118,000	118,000	-	1	-	-	-	-	-	-	-	-	-	-	1	1,453	8,311,978
118,800	118,800	-	-	-	-	-	-	-	-	1	-	-	-	1	1,454	8,484,713
119,000	119,000	-	-	-	-	-	-	-	-	-	-	-	1	1	1,455	8,657,858
119,800	119,800	-	-	-	-	-	-	-	-	-	-	1	-	1	1,456	8,832,287
120,330	120,330	-	-	-	1	-	-	-	-	-	-	-	-	1	1,457	9,007,607
123,100	123,100	-	-	-	-	-	-	-	-	-	-	-	1	1	1,458	9,187,087
123,200	123,200	1	-	-	-	-	-	-	-	-	-	-	-	1	1,459	9,366,836
123,670	123,670	-	-	1	-	-	-	-	-	-	-	-	-	1	1,460	9,547,394
127,300	127,300	-	-	1	-	-	-	-	-	-	-	-	-	1	1,461	9,733,379
128,930	128,930	-	-	-	-	-	1	-	-	-	-	-	-	1	1,462	9,921,875
132,500	132,500	-	-	-	-	-	-	-	-	-	1	-	-	1	1,463	10,115,723
136,110	136,110	-	-	-	-	-	-	-	-	-	-	-	1	1	1,464	10,314,988
137,095	137,095	-	-	-	-	-	-	1	-	-	-	-	-	1	1,465	10,515,832
137,180	137,180	-	-	-	-	-	-	-	-	-	1	-	-	1	1,466	10,716,938
137,700	137,700	-	-	-	-	1	-	-	-	-	-	-	-	1	1,467	10,918,944
142,363	142,363	-	-	-	-	-	-	1	-	-	-	-	-	1	1,468	11,127,932
143,732	143,732	-	-	-	-	-	1	-	-	-	-	-	-	1	1,469	11,339,075
144,780	144,780	-	-	-	1	-	-	-	-	-	-	-	-	1	1,470	11,551,901
145,760	145,760	-	-	-	-	1	-	-	-	-	-	-	-	1	1,471	11,766,314
149,000	149,000	-	1	-	-	-	-	-	-	-	-	-	-	1	1,472	11,985,642

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Commercial
Water Usage

Exhibit
 Schedule H-5
 Page 9
 Witness: Bourassa

Usage From:	Usage To:	Month Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Total Year	Cumul- ative Billing	Cumul- ative Usage (1000's)
150,050	150,050	-	1	-	-	-	-	-	-	-	-	-	-	1	1,473	12,206,666
160,386	160,386	-	-	-	-	-	-	-	-	1	-	-	-	1	1,474	12,443,075
160,640	160,640	-	-	-	-	-	-	-	-	1	-	-	-	1	1,475	12,680,019
161,700	161,700	-	-	-	-	-	-	-	-	-	-	1	-	1	1,476	12,918,688
164,700	164,700	-	-	-	-	-	1	-	-	-	-	-	-	1	1,477	13,161,950
165,600	165,600	-	-	-	-	-	-	-	-	1	-	-	-	1	1,478	13,406,707
175,603	175,603	-	-	-	-	-	-	-	1	-	-	-	-	1	1,479	13,666,424
176,740	176,740	-	-	-	-	-	-	-	-	-	-	1	-	1	1,480	13,927,999
177,590	177,590	-	-	-	-	-	-	-	1	-	-	-	-	1	1,481	14,191,010
177,650	177,650	-	1	-	-	-	-	-	-	-	-	-	-	1	1,482	14,454,287
177,804	177,804	-	-	-	-	-	-	-	-	-	1	-	-	1	1,483	14,717,970
179,700	179,700	-	-	-	-	1	-	-	-	-	-	-	-	1	1,484	14,984,645
181,480	181,480	-	-	-	-	-	1	-	-	-	-	-	-	1	1,485	15,254,143
182,000	182,000	-	-	-	-	-	-	-	-	-	-	1	-	1	1,486	15,524,595
185,410	185,410	-	-	-	-	-	-	1	-	-	-	-	-	1	1,487	15,800,300
189,400	189,400	1	-	-	-	-	-	-	-	-	-	-	-	1	1,488	16,082,127
189,900	189,900	-	-	-	-	-	-	-	-	-	1	-	-	1	1,489	16,364,888
191,020	191,020	-	-	-	-	-	-	1	-	-	-	-	-	1	1,490	16,649,508
196,700	196,700	-	-	-	1	-	-	-	-	-	-	-	-	1	1,491	16,942,787
197,170	197,170	-	-	-	-	-	-	-	-	-	-	-	1	1	1,492	17,236,965
202,300	202,300	-	-	-	-	-	-	1	-	-	-	-	-	1	1,493	17,538,999
203,000	203,000	-	-	-	-	-	-	-	-	-	-	-	1	1	1,494	17,842,281
211,200	211,200	-	-	-	-	-	-	1	-	-	-	-	-	1	1,495	18,158,025
211,870	211,870	-	-	-	-	-	-	-	1	-	-	-	-	1	1,496	18,474,982
217,500	217,500	-	-	1	-	-	-	-	-	-	-	-	-	1	1,497	18,800,580
218,000	218,000	-	-	-	-	-	-	1	-	-	-	-	-	1	1,498	19,127,144
218,100	218,100	-	-	-	-	-	1	-	-	-	-	-	-	1	1,499	19,454,076
221,100	221,100	-	-	-	-	-	-	-	-	-	-	-	1	1	1,500	19,785,726
224,200	224,200	-	-	-	-	-	-	-	1	-	-	-	-	1	1,501	20,122,250
224,500	224,500	-	-	-	-	1	-	-	-	-	-	-	-	1	1,502	20,459,449
225,200	225,200	-	-	-	-	-	-	-	-	-	-	-	1	1	1,503	20,797,925
229,400	229,400	-	-	-	1	-	-	-	-	-	-	-	-	1	1,504	21,142,942
232,400	232,400	-	-	-	-	-	1	-	-	-	-	-	-	1	1,505	21,492,704
232,600	232,600	-	-	-	1	-	-	-	1	-	-	-	-	2	1,507	21,843,232
236,300	236,300	-	-	-	-	1	-	-	-	-	-	-	-	1	1,508	22,199,573
237,090	237,090	-	-	-	-	-	-	-	-	-	1	-	-	1	1,509	22,557,342
237,200	237,200	-	-	-	-	-	1	-	-	-	-	-	-	1	1,510	22,915,514
237,700	237,700	-	-	-	-	-	-	-	1	-	-	-	-	1	1,511	23,274,678
238,500	238,500	-	-	1	-	-	-	-	-	-	-	-	-	1	1,512	23,635,290
240,600	240,600	-	-	-	-	-	-	1	-	1	-	-	-	2	1,514	23,999,559
244,680	244,680	-	-	-	-	-	-	-	-	1	-	-	-	1	1,515	24,370,249
251,200	251,200	-	-	-	-	-	1	-	-	-	-	-	-	1	1,516	24,751,068
258,500	258,500	-	-	-	-	1	-	-	-	-	-	-	-	1	1,517	25,143,213

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Commercial
Water Usage

Exhibit
 Schedule H-5
 Page 9
 Witness: Bourassa

Usage From:	Usage To:	Month Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Total Year	Cumul- ative Billing	Cumul- ative Usage (1000's)
261,100	261,100	-	-	-	-	-	-	-	-	-	1	-	-	1	1,518	25,539,562
263,000	263,000	-	-	-	-	1	-	-	-	-	-	-	-	1	1,519	25,939,059
268,700	268,700	-	-	-	-	-	-	-	1	-	-	-	-	1	1,520	26,347,483
270,500	270,500	-	-	1	-	-	-	-	-	-	-	-	-	1	1,521	26,758,914
270,800	270,800	-	-	-	1	-	-	-	-	-	-	-	-	1	1,522	27,171,072
272,500	272,500	-	-	1	-	-	-	-	-	-	-	-	-	1	1,523	27,586,089
274,500	274,500	-	-	-	-	-	-	-	-	-	1	-	-	1	1,524	28,004,427
275,400	275,400	-	-	-	-	-	-	-	-	1	-	-	-	1	1,525	28,424,412
279,200	279,200	-	-	-	1	-	-	-	-	-	-	-	-	1	1,526	28,850,471
280,800	280,800	-	-	-	-	-	-	1	-	-	-	-	-	1	1,527	29,279,253
284,900	284,900	-	1	-	-	-	-	-	-	-	-	-	-	1	1,528	29,714,580
287,500	287,500	-	-	1	-	-	-	-	-	-	-	-	-	1	1,529	30,154,168
288,200	288,200	-	-	-	-	-	-	-	-	-	-	1	-	1	1,530	30,595,114
289,500	289,500	-	-	-	1	-	-	-	-	-	-	-	-	1	1,531	31,038,338
290,000	290,000	-	-	-	-	-	-	-	-	1	-	-	-	1	1,532	31,482,618
294,500	294,500	-	1	-	-	-	-	-	-	-	-	-	-	1	1,533	31,934,087
299,700	299,700	-	-	-	-	-	-	-	-	-	-	1	-	1	1,534	32,393,826
303,800	303,800	-	1	-	-	-	-	-	-	-	-	-	-	1	1,535	32,860,159
307,200	307,200	-	-	-	-	-	-	-	-	-	-	-	1	1	1,536	33,332,019
309,800	309,800	-	1	-	-	-	-	-	-	-	-	-	-	1	1,537	33,808,181
309,900	309,900	1	-	-	-	-	-	-	-	-	-	-	-	1	1,538	34,284,807
310,400	310,400	-	-	-	-	-	-	-	1	-	-	-	-	1	1,539	34,762,513
316,407	316,407	-	-	-	-	-	-	-	-	-	-	1	-	1	1,540	35,249,780
316,801	316,801	-	-	-	-	-	-	-	-	1	-	-	-	1	1,541	35,737,970
321,000	321,000	-	-	-	-	-	1	-	-	-	-	-	-	1	1,542	36,232,952
322,600	322,600	1	-	-	-	-	-	-	-	-	-	-	-	1	1,543	36,730,724
326,000	326,000	-	-	-	-	-	-	-	-	-	-	1	-	1	1,544	37,234,068
337,900	337,900	1	-	-	-	-	-	-	-	-	-	-	-	1	1,545	37,756,123
341,600	341,600	1	-	-	-	-	-	-	-	-	-	-	-	1	1,546	38,284,237
342,000	342,000	-	-	-	-	-	-	-	1	-	-	-	-	1	1,547	38,813,311
346,800	346,800	-	-	-	-	-	-	-	-	-	1	-	-	1	1,548	39,350,157
357,100	357,100	-	-	-	-	-	-	-	1	-	-	-	-	1	1,549	39,903,305
361,300	361,300	-	-	-	-	-	1	-	-	-	-	-	-	1	1,550	40,463,320
367,981	367,981	-	-	-	-	-	-	-	-	-	-	-	1	1	1,551	41,034,059
368,600	368,600	-	-	-	-	1	-	-	-	-	-	-	-	1	1,552	41,606,126
370,200	370,200	-	-	-	-	-	-	-	-	-	1	-	-	1	1,553	42,181,047
379,506	379,506	-	-	-	-	-	-	-	-	-	1	-	-	1	1,554	42,770,799
381,800	381,800	-	-	-	-	-	-	-	-	1	-	-	-	1	1,555	43,364,498
388,000	388,000	-	-	-	-	-	-	-	-	-	1	-	-	1	1,556	43,968,226
392,300	392,300	-	-	-	-	-	-	1	-	-	-	-	-	1	1,557	44,579,037
418,804	418,804	-	-	1	-	-	-	-	-	-	-	-	-	1	1,558	45,231,534
424,328	424,328	-	-	-	1	-	-	-	-	-	-	-	-	1	1,559	45,893,061
438,000	438,000	-	-	-	-	-	-	-	-	1	-	-	-	1	1,560	46,576,341

Liberty Utilities (Black Mountain Sewer) Corp.
 Test Year Ended December 31, 2018
 Customer Classification
 Commercial
Water Usage

Exhibit
 Schedule H-5
 Page 9
 Witness: Bourassa

Usage	Usage	Month												Total	Cumul- ative Billing	Cumul- ative Usage (1000's)
From:	To:	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Year		
495,136	495,136	-	-	-	-	-	1	-	-	-	-	-	-	1	1,561	47,349,248
503,293	503,293	-	-	-	-	1	-	-	-	-	-	-	-	1	1,562	48,135,392
528,458	528,458	-	-	-	-	-	-	1	-	-	-	-	-	1	1,563	48,961,372
544,840	544,840	1	-	-	-	-	-	-	-	-	-	-	-	1	1,564	49,813,502
566,062	566,062	-	-	-	-	-	-	-	1	-	-	-	-	1	1,565	50,699,389
605,848	605,848	-	1	-	-	-	-	-	-	-	-	-	-	1	1,566	51,648,147
823,000	823,000	-	-	-	1	-	-	-	-	-	-	-	-	1	1,567	52,937,788
839,000	839,000	-	1	-	-	-	-	-	-	-	-	-	-	1	1,568	54,253,340
977,000	977,000	-	-	-	-	-	1	-	-	-	-	-	-	1	1,569	55,786,253
1,021,000	1,021,000	1	-	-	-	-	-	-	-	-	-	-	-	1	1,570	57,389,223
1,030,000	1,030,000	-	-	1	-	-	-	-	-	-	-	-	-	1	1,571	59,007,353
1,063,000	1,063,000	-	-	-	-	1	-	-	-	-	-	-	-	1	1,572	60,678,389
1,187,000	1,187,000	-	-	-	-	-	-	1	-	-	-	-	-	1	1,573	62,545,540
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,573	62,545,540
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,573	62,545,540
Totals		133	133	132	132	130	130	129	131	131	131	130	131	1,573		
															Average Usage	34,442
															Median Usage	5,500
															Average # Customers	131

1 SHAPIRO LAW FIRM, P.C.
Jay L. Shapiro (No. 014650)
2 1819 E. Morten Avenue, Suite 280
Phoenix, Arizona 85020
3 Telephone (602) 559-9575
jay@shapslawaz.com

4 LIBERTY UTILITIES
5 Todd C. Wiley (No. 015358)
12725 W. Indian School Road, Suite D-101
6 Avondale, Arizona 85392
Todd.Wiley@LibertyUtilities.com

7 Attorneys for Liberty Utilities (Black Mountain Sewer) Corp.
8

9 **BEFORE THE ARIZONA CORPORATION COMMISSION**

10

11 IN THE MATTER OF THE APPLICATION
OF LIBERTY UTILITIES (BLACK
12 MOUNTAIN SEWER) CORP., AN
ARIZONA CORPORATION, FOR A
13 DETERMINATION OF THE FAIR VALUE
OF ITS UTILITY PLANTS AND
14 PROPERTY AND FOR INCREASES IN ITS
RATES AND CHARGES FOR UTILITY
15 SERVICE BASED THEREON.

DOCKET NO: SW-02361A-19-

16

17

18

DIRECT TESTIMONY

19

OF

20

THOMAS J. BOURASSA

21

22

COST OF CAPITAL

23

24

June 27, 2019

25

26

TABLE OF CONTENTS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

I. INTRODUCTION AND PURPOSE OF TESTIMONY 1

II. SUMMARY ON FINDINGS ON COST OF CAPITAL 2

III. THE LEGAL AND ECONOMIC FOUNDATIONS OF A FAIR AND REASONABLE RATE OF RETURN 4

IV. THE PUBLICLY TRADED UTILITIES THAT COMPRISE THE SAMPLE GROUP USED TO ESTIMATE THE COST OF EQUITY 15

V. OVERVIEW OF THE DCF AND RISK PREMIUM METHODS 23

 A. Introduction..... 23

 B. Explanation of the DCF Model and Its Inputs 25

 C. Explanation of the Risk Premium and Its Inputs 33

VI. RECOMMENDED RISK PREMIUM FOR LIBERTY BLACK MOUNTAIN 45

VII. SUMMARY AND CONCLUSIONS..... 48

1 **I. INTRODUCTION AND PURPOSE OF TESTIMONY.**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Thomas J. Bourassa. My business address is 139 W. Wood Drive,
4 Phoenix, Arizona 85029.

5 **Q. WHAT IS THE PURPOSE OF THIS DIRECT TESTIMONY?**

6 A. In this volume of my direct testimony, I will testify in support of the proposed capital
7 structure and rate of return on Applicant Liberty Utilities (Black Mountain Sewer
8 Corp.'s ("Liberty Black Mountain" or "Company") fair value rate base ("FVRB").
9 In connection with this testimony I am sponsoring the D Schedules, which are
10 attached to this testimony, along with my cost of capital tables and exhibits discussed
11 herein. In a separate volume of my direct testimony, I have prepared testimony on
12 rate base, income statement, revenue requirement and rate design, along with the A-
13 C, E-F and H schedules for Liberty Black Mountain. Testimony regarding my
14 background and qualifications is contained in that volume of my direct testimony.

15 **Q. HAVE YOU PREPARED ANY TABLES AND EXHIBITS TO ACCOMPANY**
16 **YOUR TESTIMONY ON THE COST OF CAPITAL?**

17 A. Yes. I have prepared 10 tables that support my cost of capital testimony. I also
18 sponsor exhibits **TJB-COC-DT1, TJB-COC-DT2, TJB-COC-DT3, and TJB-**
19 **COC-DT4** that also support this testimony.

20 **Q. PLEASE DESCRIBE HOW THIS VOLUME OF YOUR DIRECT**
21 **TESTIMONY IS ORGANIZED.**

22 A. In Section II, I summarize my findings on cost of capital for Liberty Black Mountain.
23 In Section III, I discuss the legal and economic bases underlying the requirement that
24 rates be just and reasonable. In Section IV, I discuss the sample of six publicly traded
25 water utilities in my sample group and provide a comparison to Liberty Black
26 Mountain. I then discuss recent developments in the water utility industry and the

1 impact on investments. In Section V, I provide an overview of each of the methods
2 (Discounted Cash Flow (“DCF”), and Risk Premium (or “RP”) (including the
3 Capital Asset Pricing Model (“CAPM”)) that I employ in my analysis. In Section
4 VI, I discuss the additional business risks faced by Liberty Black Mountain, my
5 comparative risk study, and my recommended risk premium for Liberty Black
6 Mountain. Finally, in Section VII, I provide a summary of my findings and
7 recommendations for the equity costs of Liberty Black Mountain.

8 **II. SUMMARY OF FINDINGS ON COST OF CAPITAL.**

9 **Q. PLEASE BRIEFLY SUMMARIZE YOUR FINDINGS CONCERNING**
10 **LIBERTY BLACK MOUNTAIN’S COST OF COMMON EQUITY.**

11 A. I have determined that the cost of equity for the publicly traded water utilities falls
12 in the range of 9.0 percent to 10.8 percent with an average of 9.7 percent. After
13 considering differences in financial risk and business risk between Liberty Black
14 Mountain and the publicly traded water utilities, I have determined the cost of equity
15 for Liberty Black Mountain falls in the range of 9.7 percent to 11.60 percent with an
16 average of 10.5 percent. I am recommending the adoption of a minimum ROE of
17 10.5 percent for Liberty Black Mountain.

18 **Q. CAN YOU ALSO SUMMARIZE THE BASIS FOR YOUR RECOMMENDED**
19 **ROE?**

20 A. My recommendation is based on consideration of (i) cost of equity estimates using a
21 market-based DCF and two market-based risk premium methods, (the CAPM is one
22 of the risk premium methods) using a sample group of publicly traded water utilities,
23 (ii) my review of the economic conditions expected to prevail during the period in
24 which new rates will be in effect, (iii) my judgments about the risks associated with
25 relatively small utilities like Liberty Black Mountain that are not captured by the
26 market data of publicly traded water utilities, (iv) the financial risk associated with

1 the level of debt in Liberty Black Mountain's recommended capital structure, and
2 (v) additional, specific business and operational risks faced by Liberty Black
3 Mountain. The results of the market-based DCF and risk premium methodologies
4 were adjusted upward by 80 basis points to account for Liberty Black Mountain's
5 higher than average business risk compared to the proxy group.

6 **Q. WHAT IS THE RECOMMENDED CAPITAL STRUCTURE FOR LIBERTY**
7 **BLACK MOUNTAIN FOR RATE MAKING PURPOSES?**

8 A. I am using a capital structure consisting of 46 percent debt and 54 percent equity for
9 setting base rates in the instant case. In the Company's 2015 rate case, the
10 Commission authorized a capital structure of 70 percent equity and 30 percent debt.
11 However, the Company intends to file a financing application for approval of
12 additional debt in order to maintain a capital structure of 46 percent debt and
13 54 percent equity.

14 **Q. WHY A 46 PERCENT DEBT AND 54 PERCENT EQUITY CAPITAL**
15 **STRUCTURE?**

16 A. In a recent rate case for Liberty Utilities (Litchfield Park Water and Sewer), Corp.,
17 Liberty Utilities informally agreed with the parties to that case to file the next Liberty
18 Utilities rate case in Arizona using a capital structure of 46 percent debt and
19 54 percent equity. I do not generally advise regulated utilities to agree in advance to
20 a specific capital structure because it ignores too many factors like the cost of debt
21 and other market conditions, but I also understand how utilities in Arizona have
22 grown weary of criticism that they are not using enough debt. Liberty Black
23 Mountain has to balance all of these factors and made a business decision to use this
24 capital structure for this rate case.

25 **Q. WHAT IS THE COMPANY'S PROPOSED WEIGHTED COST OF DEBT?**

26 A. 3.56 percent. For borrowing up to \$3.4 million per Decision No. 75510 (April 22,

1 2016) the cost of debt is the current 10-year U.S. Treasury yield (for 2021) of
2 2.06 percent plus 130 basis points. For borrowing above \$3.4 million the cost of
3 debt is based upon a 15-year U.S. Treasury plus 160 basis points as will be proposed
4 in the Company's financing application. The actual interest rate may be higher or
5 lower depending on the prevailing U.S. Treasury yields at the time the debt is issued.

6 **Q. PLEASE SUMMARIZE THE APPROACH YOU USED TO ESTIMATE THE**
7 **COST OF EQUITY FOR THE COMPANY.**

8 A. The cost of equity for Liberty Black Mountain cannot be estimated directly because
9 the Company's equity is not in the form of a publicly traded security so there is no
10 market data for Liberty Black Mountain. Consequently, I have assessed the market-
11 based common equity cost rates of companies of similar, but not necessarily identical
12 risk, for insight into a recommended common equity cost rate applicable to Liberty
13 Black Mountain. Analysis of a proxy group serves as a starting point because no
14 proxy group can be selected to be identical in risk to Liberty Black Mountain.
15 Therefore, the proxy group's results must be adjusted to reflect the unique, relative
16 financial and/or business risks of Liberty Black Mountain, as I will discuss in detail.
17 I have also assessed the book-based equity returns on companies with comparable
18 risk using a set of comparable risk factors.

19 **III. THE LEGAL AND ECONOMIC FOUNDATIONS OF A FAIR AND**
20 **REASONABLE RATE OF RETURN.**

21 **Q. HAVE THE COURTS SET FORTH ANY CRITERIA THAT GOVERN THE**
22 **RATE OF RETURN THAT A UTILITY'S RATES SHOULD PRODUCE?**

23 A. Yes. In 1923, the U.S. Supreme Court set forth the following criteria for determining
24 whether a rate of return is reasonable in *Bluefield Water Works and Improvement*
25 *Co. v. Public Service Commission of West Virginia*, 262 U.S. 679, 692-93 (1923):
26

1 A public utility is entitled to such rates as will permit it to earn
2 a return on the value of the property which it employs for the
3 convenience of the public equal to that generally being made
4 at the same time and in the same general part of the country on
5 investments in other business undertakings which are attended
6 by corresponding risks and uncertainties ... The return should
7 be reasonably sufficient to assure confidence in the financial
8 soundness of the utility, and should be adequate, under
9 efficient and economical management, to maintain and support
10 its credit and enable it to raise the money necessary for the
11 proper discharge of its public duties. A rate of return may be
12 reasonable at one time and become too high or too low by
13 changes affecting opportunities for investment, the money
14 market, and business conditions generally.

15
16 Then, in *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944),
17 the U.S. Supreme Court stated the following regarding the return to owners of an
18 entity:

19 [T]he return to the equity owner should be commensurate with
20 returns on investments in other enterprises having
21 corresponding risks. That return, moreover, should be
22 sufficient to assure confidence in the financial integrity of the
23 enterprise, so as to maintain its credit and to attract capital.
24 320 U.S. at 603.

25 In summary, under *Hope* and *Bluefield* the rate of return should be: (1) similar to the
26 return in businesses with similar or comparable risks; (2) sufficient to ensure the
confidence in the financial integrity of the utility; and (3) sufficient to maintain and
support the utility's credit.

From the *Hope* and *Bluefield* decisions, two standards emerge: a Capital
Attraction standard and a Comparable Earnings standard. The Capital Attraction
standard focuses on investor's required returns, which are derived from market-
based methods such as the DCF and risk premium.¹ The Comparable Earnings
standard focuses on earned returns on book equity based on an interpretation of the

¹ Morin, Roger A., *New Regulatory Finance* (Vienna, Virginia, Public Utility Reports, Inc. 2006) ("Morin"), p. 381.

1 *Hope* decision that returns are defined as book rates of return on equity.²

2 **Q. HAVE THESE CRITERIA BEEN APPLIED IN REGULATORY**
3 **PROCEEDINGS?**

4 A. Yes, but the application of the “reasonableness” criteria laid down by the Supreme
5 Court has resulted in controversy. The typical method of computing the overall cost
6 of capital is quite straightforward; it is the composite, weighted cost of the various
7 classes of capital (debt, preferred stock, and common equity) used by the utility.
8 Calculating the proportion that each class of capital bears to total capital does the
9 weighting. However, there is no consensus regarding the best method of estimating
10 the cost of equity capital. The increasing regulatory use of market-based finance
11 models in equity return determinations has not, at least to date, led to a universally
12 accepted means of estimating the ROE. In addition, the market-based results are too
13 often applied to a book-value investment base, which, as I will discuss later in my
14 testimony, understates the return expected by investors who invest in actual markets
15 based on market values.

16 With respect to the Capital Attraction standard, the cost of capital is based on
17 the concept of opportunity cost, i.e., the prospective return to investors must be
18 comparable to investments of similar risk. If a utility’s return is less than the returns
19 on investments with similar risk, investors can and will invest elsewhere. As
20 explained by Dr. Roger Morin in his book, *New Regulatory Finance*:

21 The concept of cost of capital is firmly anchored in the
22 opportunity cost notion of economics. The cost of a specific
23 source of capital is basically determined by the riskiness of that
24 investment in light of alternative opportunities and equals
25 investor’s current opportunity cost of investing in the securities
 of that utility. A rational investor is maximizing the
 performance of his or her portfolio only if returns expected on

26 ² *Id.*

1 investor investments of comparable risk are the same. If not,
2 the investor will switch out of those investments yielding low
3 returns at a given risk level in favor of those investments
4 offering higher returns for the same degree of risk. This implies
5 that a utility will be unable to attract capital unless it can offer
returns to capital suppliers comparable to those achieved on
alternate competing investments of similar risk.³

6 The *Bluefield* decision suggests that opportunity cost is an appropriate measure of
7 the actual cost of common equity for a utility. This necessarily involves the direct
8 observation of returns on equity actually earned by firms with comparable risk to
9 ensure that the authorized rate of return is equivalent to the returns those firms are
10 earning.

11 **Q. HOW IS THE COST OF EQUITY TYPICALLY ANALYZED FROM A**
12 **CAPITAL ATTRACTION OR MARKET-BASED PERSPECTIVE?**

13 A. The cost of equity is the rate of return that equity investors expect to receive on their
14 investment. Investors can choose from numerous investment options, not simply
15 publicly traded stocks. Investments have varying degrees of risk, ranging from
16 relatively low risk assets such as Treasury securities to somewhat higher risk
17 corporate bonds to even higher risk common stocks. As the level of risk increases,
18 investors require higher returns on their investment. Finance models used to estimate
19 the cost of equity often rely on this basic concept.

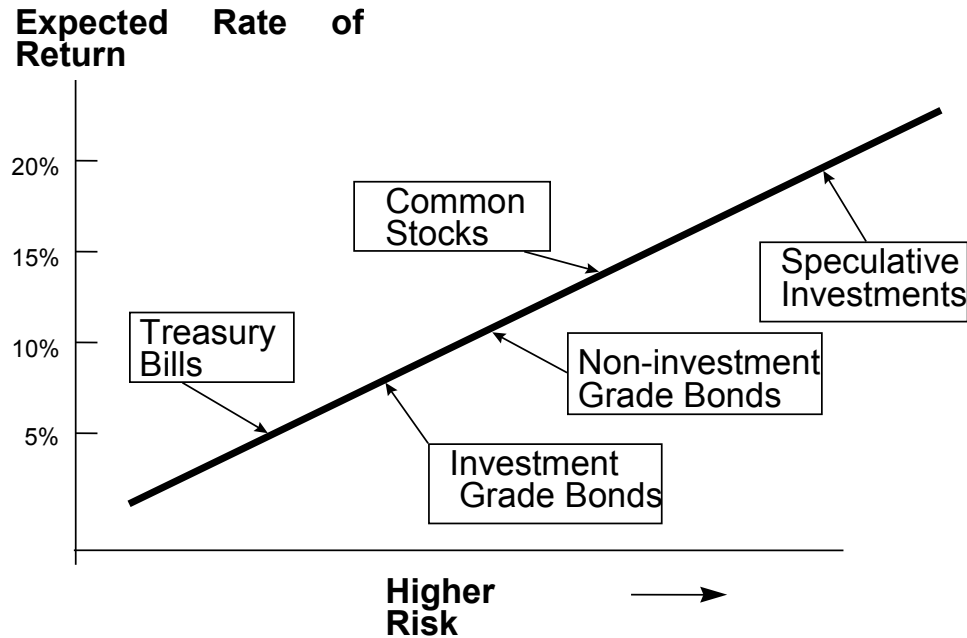
20 **Q. CAN YOU ILLUSTRATE THE CAPITAL MARKET RISK-RETURN**
21 **CONCEPT?**

22 A. Yes. The following graph depicts the risk-return relationship that has become widely
23 known as the Capital Market Line (“CML”). The CML illustrates in a general way
24 the risk-return relationship.

25
26

³ Morin, pp. 21-22.

The Capital Market Line (CML)



The CML can be viewed as a continuum of the available investment opportunities for investors. Investment risk increases move upward and to the right along the CML. Again, the return required by investors increases with the risk.

Q. HOW DOES THE RISK-RETURN TRADE OFF CONCEPT WORK IN THE CAPITAL MARKET?

A. As shown by the CML, the allocation of capital in a free market economy is based upon the relative risk of, and expected return from, an investment. In general, investors rank investment opportunities in the order of their relative risks. Investment alternatives in which the expected return is commensurate with the perceived risk become viable investment options. If all other factors remain equal, the greater the risk, the higher the rate of return investors will require to compensate

1 them for the possibility of loss of either the principal amount invested or the expected
2 annual income from such investment.

3 Short-term Treasury bills provide a high degree of certainty and in nominal
4 terms (after considering inflation) are considered virtually risk free. Long-term
5 bonds and preferred stocks, having priority claims to assets and fixed income
6 payments, are relatively low risk, but are not risk free. The market values of long-
7 term bonds often fluctuate when government policies or other factors cause interest
8 rates to change. Common stocks are higher and to the right on the CML continuum,
9 because they have greater investment risk. Common stock risk is impacted by the
10 nature of the underlying business and the financial strength of the issuing corporation
11 and market-wide factors, such as general changes in capital costs.

12 The capital markets reflect investor expectations and requirements each day
13 through market prices. Prices for stocks and bonds change to reflect investor
14 expectations and the attractiveness of one investment relative to others. While the
15 example provided above seems straightforward, returns on common stocks are not
16 directly observable in advance as compared to debt or preferred stocks with fixed
17 payment terms. This means that these returns must be estimated from market data.
18 Estimating the cost of equity capital should be a matter of informed judgment about
19 the relative risk of the entity in question and the expected rate of return characteristics
20 of other alternative investments.

21 **Q. HOW IS THE COST OF EQUITY TO BE DETERMINED FOR A**
22 **PARTICULAR COMPANY?**

23 A. Estimating an entity's cost of equity is complex. It requires an analysis of the factors
24 influencing the cost of various types of capital, such as interest on long-term debt,
25 dividends on preferred stock, and earnings on common equity. The data for such an
26 analysis comes from highly competitive capital markets, where the firm raises funds

1 by issuing common stock, selling bonds, and by borrowing (both long-term and
2 short-term) from banks and other financial institutions. In the capital markets, the
3 cost of capital, whether the capital is in the form of debt or equity, is determined by
4 two important factors:

- 5 1) The pure or real rate of interest, often called the risk-free rate of
6 interest, and,
- 7 2) The uncertainty or risk premium (or the compensation the investor
8 requires, over and above the real or pure rate of interest for subjecting
his or her capital to additional risk).

9 **Q. PLEASE DISCUSS THESE FACTORS IN GREATER DETAIL.**

10 A. The pure rate of interest essentially reflects both the time preference for and the
11 productivity of capital. From the standpoint of the individual, it is the rate of interest
12 required to induce the individual to forgo present consumption and offer the funds,
13 thus saved, to others for a specified length of time. Moreover, the pure rate of interest
14 concept is based on the assumption that no uncertainty affects the investment
15 undertaken by the individual, i.e., there is no doubt that the periodic interest
16 payments will be made and the principal returned at the end of the time period. In
17 reality, investments without any risk do not exist. Every commitment of funds
18 involves some degree of uncertainty.

19 Turning to the second factor affecting the cost of capital, it is generally
20 accepted that the higher the degree of uncertainty, the higher the cost of capital.
21 Investors are regarded as risk averse and require that the rate of return increase as
22 the risks and uncertainty associated with an investment increases.

23 **Q. CAN YOU PROVIDE SOME PERSPECTIVE ON YOUR PREVIOUS
24 DISCUSSION WITH RESPECT TO RETURNS ON COMMON STOCKS?**

25 A. Yes. Conceptually, the required return on common stocks can be quantified by the
26 following equation:

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

[1] Required Return for Common Stocks = Return on a risk-free asset + Risk Premium

The risk premium investors require for common stocks will be higher than the risk premium they require for investment grade bonds. This relationship is depicted in the graph of the CML above. As I will discuss later in this testimony, this concept is the basis of risk premium methods, such as the CAPM, that are used to estimate the cost of equity.

Q. PLEASE DISCUSS IN MORE DETAIL THE IMPACT OF RISK ON CAPITAL COSTS.

A. With reference to specific utilities, risk is often discussed as consisting of two separate types of risk: business risk and financial risk.

Business risk, the basic risk associated with any business undertaking, is the uncertainty associated with the enterprise's day-to-day operations. In essence, it is a function of the normal day-to-day business environment, both locally and nationally. Business risks include the condition of the economy and capital markets, the state of labor markets, regional stability, government regulation, technological obsolescence, and other similar factors that may impact demand for the business' products or services and its cost of production.

Financial risk, on the other hand, concerns the distribution of business risk to the various capital investors in the utility. Permanent capital is normally divided into three categories: long-term debt, preferred stock, and common equity. Because common equity owners have only a residual claim on earnings after debt and preferred stockholders are paid, financial risk tends to be concentrated in that element of the firm's capital. Thus, a decision by management to raise additional capital by issuing additional debt concentrates even more of the financial risk of the utility on the common equity owners.

1 **Q. WHAT ARE THE DETERMINANTS OF THE RISK FREE RATE IN**
2 **EQUATION [1]?**

3 A. The risk-free rate can be disaggregated into a “real” rate of interest and an inflation
4 premium (expected future inflation).

5 **Q. WHAT ARE THE DETERMINANTS OF THE REQUIRED RISK PREMIUM**
6 **FROM EQUATION [1] ABOVE?**

7 A. The risk premium can be disaggregated into five general components: (1) Interest
8 Rate Risk; (2) Business Risk; (3) Regulatory Risk; (4) Financial Risk; and
9 (5) Liquidity Risk.

10 Interest Rate Risk refers to the variability in return caused by subsequent
11 changes in interest rates and stems from the inverse relationship between interest
12 rates and asset prices. For example, bond prices fall when interest rates rise and vice
13 versa.

14 Business risk is generally defined above. For utilities, business risk also
15 includes the volatility of revenues due to abnormal weather conditions and the degree
16 of operational leverage.

17 Regulatory risk refers to the quality and consistency of regulation applied to
18 a given regulated utility. Regulatory jurisdictions are evaluated on the basis of three
19 major factors: (1) earnable return on equity, (2) regulatory quality, and (3) regulatory
20 practices. Collectively, these three factors influence a utility’s ability to earn its
21 authorized return. The type of test year employed (historical or future), capital
22 structure and rate base issues, and the length of regulatory lag are among the reasons
23 a utility may or may not have a reasonable opportunity to earn its authorized return.

24 Financial risk is defined immediately above.

25 Construction risk is an important component of financial risk. Construction
26 risk is the risk of tying capital up in projects that are not earning returns, or not having

1 sufficient capital to build the assets needed to keep generating returns. If an entity
2 has a large construction budget relative to internally generated cash flows, it will
3 require external financing, which will result in greater financial risk. It is essential
4 that such entities have access to capital funds on reasonable terms and conditions.
5 Utilities are more susceptible to construction risk for two reasons. First, water and
6 wastewater utilities generally have high capital requirements to build plant to serve
7 customers. Second, utilities have a mandated obligation to serve, leaving less
8 flexibility both in the timing and discretion of scheduling capital projects. This is
9 compounded by the limited ability to wait for more favorable market conditions to
10 raise the capital necessary to fund the capital projects, and then the lag between when
11 plant can be built and when rates can be approved to provide returns on and of that
12 capital. It is imperative that the utility maintain access to needed capital on
13 reasonable terms and conditions. The return allowed on common equity will have a
14 critical role in determining those terms and conditions.

15 Finally, Liquidity Risk refers to the ability to readily convert an investment
16 into cash without sustaining a loss. Capital market theory generally assumes that
17 investments are liquid and observations about risk and return are drawn from
18 information about liquid investments. Non-publicly traded or privately-held
19 investments possess little liquidity.

20 **Q. IS INVESTMENT RISK IMPACTED BY COMPANY SIZE?**

21 A. Yes. Investment risk bears a direct relationship to size and increases as entity size
22 decreases. Investment liquidity may be a significant factor explaining this
23 relationship. However, the illiquidity of smaller stocks does not capture the size
24 effect completely. Size may be a proxy for one or more true unknown factors
25 correlated with size.⁴

26 ⁴ Rolf W. Banz, "The Relationship between Return and Market Value of Common Stocks," *Journal of*

1 **Q. HOW IS THE COST OF EQUITY TYPICALLY ANALYZED FROM A**
2 **COMPARABLE EARNINGS OR BOOK EQUITY RETURN-BASED**
3 **PERSPECTIVE?**

4 A. The cost of equity is the rate of return derived from the book returns of comparable
5 firms. To implement the approach, a group of companies of comparable risk to the
6 subject utility is selected and the book equity return is computed for each company.
7 The allowed return for the subject utility is set equal to the average return on book
8 value equity.⁵ The rationale for this method rests on the premise that regulation is a
9 surrogate for competition and that the profitability of non-regulated firms is set by
10 the free forces of competition.⁶ Typically, the group of companies is made up of
11 non-regulated firms because the book equity returns of regulated firms is not
12 determined by competitive forces but rather the past decisions of regulators.⁷

13 **Q. HAVE YOU CONDUCTED A COMPARABLE EARNINGS ANALYSIS?**

14 A. Yes, but I do not include my Comparable Earnings (“CE”) analysis in my cost of
15 equity estimation at this time. Instead, I use it as a check on the reasonableness of
16 my recommendations. My CE analysis of comparable risk firms results in an
17 indicated cost of equity of 16.23 percent. By comparison, my recommended cost of
18 equity is 10.50 percent and well below comparable risk non-regulated firms. I have
19 attached my CE analysis as **Exhibit TJB-COC-DT2**.

20

21

22

23

Financial Economics, March 1981, pp. 3-18.

24

⁵ Morin, p. 381.

25

⁶ *Id.*

26

⁷ Morin. P. 383.

1 **IV. THE PUBLICLY TRADED UTILITIES THAT COMPRISE THE SAMPLE**
2 **GROUP USED TO ESTIMATE THE COST OF EQUITY.**

3 **Q. WHY IS A PROXY GROUP USED FOR COMPARISON IN A COST OF**
4 **CAPITAL ANALYSIS?**

5 A. First, a fair rate of return for a specific utility is the return required by investors to
6 hold assets with corresponding levels of risk. Market data for a sample of
7 comparable companies provides insight into the investors' required return, and such
8 data comports with the guidance from the U.S. Supreme Court's decisions in
9 *Bluefield* and *Hope*, which I discussed earlier. The comparable earnings standard set
10 forth in the *Hope* and *Bluefield* decisions requires that the rate of return afforded to
11 utilities be similar to the return for businesses with similar or comparable risks. It
12 follows that a proxy group of companies with comparable risk is a reasonable starting
13 point in a cost of capital analysis. Second, since Liberty Black Mountain is not
14 publicly traded, there is no market information to determine the cost of equity. This
15 necessitates the selection and use of a proxy group.

16 **Q. WHICH COMPANIES COMPRISE YOUR PROXY GROUP?**

17 A. There are six water utilities in my sample: American States Water ("AWR"),
18 American Water Works ("AWK"), Aqua America ("WTR"), California Water
19 Company ("CWT"), Middlesex Water ("MSEX"), and York Water Company
20 ("YORW"). For the methods employed in my analysis, I used data on these sample
21 entities from a sample of publicly traded water utilities, or proxy group, selected
22 from the *Value Line Investment Survey* as a starting point.

23 The six water companies comprising the proxy group were selected by
24 meeting the following criteria: (1) they are followed by the *Value Line Investment*
25 *Survey*; (2) they have at least ten years of historical financial and market information;
26 (3) they have a *Value Line* adjusted beta; (4) they have not cut or omitted their

1 common dividends during the five years ending 2017 or through the time of the
2 preparation of this testimony; (5) they have operating revenues primarily from
3 regulated operations; and (6) at the time of the preparation of this testimony, they
4 had not publicly announced that they were involved in any major merger or
5 acquisition activity. I excluded Connecticut Water (“CTWS”) and San Jose Water
6 (“SJW”) from my proxy group after they recently announced a merger.

7 **Q. BUT THE WATER UTILITIES IN YOUR SAMPLE ARE NOT DIRECTLY**
8 **COMPARABLE TO LIBERTY BLACK MOUNTAIN?**

9 A. That is correct. However, they are utilities for which market data is available. All of
10 them primarily provide water service (although some provide both water and
11 wastewater services), and their primary source of revenues is from regulated
12 services. They are also commonly used in regulatory proceedings where sample
13 companies are selected to measure the cost of equity. Therefore, they provide a
14 useful *starting point* for developing the cost of equity for Liberty Black Mountain
15 while recognizing that the proxies are not perfectly comparable.

16 **Q. THANK YOU, MR. BOURASSA. DO YOU HAVE A GENERAL**
17 **DESCRIPTION OF THE SIX WATER UTILITIES IN YOUR PROXY**
18 **GROUP?**

19 A. Yes. Table 2 lists the percentages of regulated revenues, operating revenues, net
20 plant, the number of customers or population served, *Value Line* Financial strength,
21 *Value Line* betas, market capitalization, and market size category for the six water
22 utilities. Comparative data for Liberty Black Mountain (where available) is also
23 shown in Table 2. The water utilities in the proxy group consist of Micro-Cap to
24 Large-Cap companies. Four of the six companies are Low-Cap or larger.⁸ The

25 ⁸ Based upon 2018 market data from the Center for Research in Security Prices: Micro-Cap companies are
26 Decile 9-10 with market capitalization less than \$657 million; Low-Cap companies are Decile 6-8 with
market capitalization over \$657 million but less than \$2,760 million; Mid-Cap companies are Decile 3-5

1 market capitalizations range for about \$400 million to over \$14.6 billion with an
2 average of approximately \$4.2 billion. Operating revenues range from about
3 \$49 million to over \$3.3 billion with an average of over \$901 million. Net plant
4 ranges from \$289 million to nearly \$15 billion, with an average of nearly \$4 billion.
5 Most of the companies operate in multiple jurisdictions.

6 **Q. HOW DOES LIBERTY BLACK MOUNTAIN ACTUALLY COMPARE TO**
7 **THE UTILITIES IN YOUR PROXY GROUP?**

8 A. On average, the utilities in the proxy group are much larger and, according to the
9 empirical financial data, they are less risky than Liberty Black Mountain. Liberty
10 Black Mountain is much smaller with fewer customers and has far less revenues, far
11 less net plant and a relatively small and limited service territory. At the end of the
12 test year, Liberty Black Mountain had approximately 2,210 wastewater connections
13 as compared to the average of the proxy group of 876,000 connections per company.
14 Liberty Black Mountain's revenues totaled approximately \$2.5 million, and net
15 plant-in-service (as proposed) is approximately \$12.9 million. The average revenues
16 of my sample companies is nearly 375 times greater than Liberty Black Mountain,
17 and those entities have on average nearly 360 times the net plant of Liberty Black
18 Mountain.

19 **Q. DO RECENT DEVELOPMENTS IN THE WATER AND WASTEWATER**
20 **UTILITY INDUSTRY IMPACT INVESTMENTS?**

21 A. Yes. On the whole, the water and wastewater utility industry continues to confront
22 an increasing need for infrastructure upgrades and replacement. *Value Line*
23 *Investment Survey* (April 12, 2019) notes that following years of neglect, water
24 utilities are spending heavily to upgrade infrastructure. More recently, some public

25 companies with market capitalization of over \$2,760 million but less than \$11,979 million; and Large-Cap
26 companies are Decile 1 -2 companies and have market capitalization of over \$11,979 million.

1 utility commissions have recognized the need to incentivize investment to meet these
2 infrastructure demands and *Value Line* notes that rates have increased on average by
3 almost 50 percent since 2010.

4 However, *Value Line Investment Survey* (April 12, 2019) also cautions that
5 water utility stocks may not be as safe as they have been in the past. This is because
6 water stocks have seen their stock prices rise to near all-time highs even though the
7 dividend yields for water utility stocks are now only about equal to the *Value Line*
8 median. Rising interest rates would make bonds more attractive to the income-
9 oriented investors. Finally, *Value Line* notes that investors should be aware that
10 these water utility stocks may carry more risk than the beta co-efficient and safety
11 rankings would indicate.

12 **Q. WHAT OTHER RISK FACTORS DISTINGUISH LIBERTY BLACK**
13 **MOUNTAIN FROM THE LARGER WATER UTILITIES IN YOUR PROXY**
14 **GROUP?**

15 A. First, water and wastewater utilities are capital intensive and typically have large
16 construction budgets. Firms with large construction budgets face greater
17 construction risk, a form of financial risk as I discussed earlier. The size of a utility's
18 capital budget relative to the size of the utility itself often increases construction risk.
19 Large utilities are better able to fund their capital budgets from their earnings, cash
20 flows, and short-term borrowings. For smaller utilities, the ability to fund their
21 capital budgets from earnings, cash flows, and short-term debt is difficult, if not
22 impossible, and must rely on additional outside capital.

23 Second, smaller companies are simply less able to cope with significant
24 events that affect sales, revenues and earnings. For example, the loss of revenues
25 from a few larger customers or from trends in the reduction of usage by customers
26 through conservation or the makeup of the customer base would have a greater effect

1 on a small entity than on a much larger entity with a larger customer base.

2 Third, there are a number of other factors, including the differences in
3 regulatory environments, differences in the type of test year used for rate making,
4 and differences in the available regulatory mechanisms for recovery of costs outside
5 of a rate case. The large water utilities in my proxy group are generally not subject
6 to the adverse impacts of an unfavorable regulatory environment of one jurisdiction.

7 In summary, there are several factors that impact the ability of a smaller utility
8 to actually earn its authorized return. An inadequate opportunity to earn the revenues
9 authorized in a general rate case leads to a greater variability of earnings for entities
10 like Liberty Black Mountain when compared to the proxy group. This volatility
11 means greater risk, and the greater risk requires higher returns to maintain and
12 support the utility's credit.

13 **Q. ARE THERE QUANTITATIVE MEASURES THAT CAN BE USED TO**
14 **HELP IDENTIFY DIFFERENCES IN BUSINESS RISK?**

15 A. Yes, there are a number of fundamental accounting-based business risk measures
16 that can be used to assess the relative differences between firms. Those include:
17 (1) the co-efficient of variance of ROE; (2) the co-efficient of variance of operating
18 income; (3) the co-efficient of variance of operating margin; and (4) Operating
19 Leverage. The first three reflect the distributions of earnings. These are meaningful
20 when measured against the distribution of earnings of alternative investments, like
21 the water utilities in my proxy group. The fourth business risk measure reflects the
22 impact of sales fluctuations and the impact of fixed operating costs on earnings.

23 The co-efficient of variance of ROE can be quantified using the following
24 equation:

25 [2] Co-efficient of Variance of ROE = Standard Deviation of ROE/Mean of
26 ROE

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

The co-efficient of variance of operating income can be quantified using a relatively simple equation:

$$[3] \text{ Co-efficient of Variance of Operating Income} = \frac{\text{Standard Deviation of Operating Income}}{\text{Mean of Operating Income}}$$

The co-efficient of variance of operating margin can be quantified using the following equation:

$$[4] \text{ Co-efficient of Variance of Operating Margin} = \frac{\text{Standard Deviation of Operating Margin}}{\text{Mean of Operating Margin}}$$

And, the Operating Leverage formula is expressed as:

$$[5] \text{ Operating Leverage} = \frac{\text{Percentage Change in Operating Income}}{\text{Percentage Change in Sales}}$$

Using the business risk measures expressed in equations [2], [3], and [4], the greater the co-efficient of variation or Operating Leverage, the greater the risk to investors of not receiving expected returns.⁹ Below are the computed co-efficient of variation for ROE, Operating Income, and Operating Margin, as well as Operating Leverage using the five most recent years of historical data for the water proxy group and Liberty Black Mountain:

⁹ Tuller, Lawrence W., *The Small Business Valuation* (Avon, MA: Adams Media Corporation, 1994), p. 89.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

<u>Company</u>	<u>Business Risk Co-efficient of variance of ROE</u>	<u>Business Risk Co-efficient of variance of Operating Income</u>	<u>Business Risk Co-efficient of variance of Operating Margin</u>	<u>Operating Leverage</u>
Water Proxy Group	0.0941	0.0850	0.0646	4.34
Liberty Black Mountain	0.5654	0.4694	0.4682	30.74
Relative Risk of Liberty Black Mountain to Water Proxy Group	6.01	5.53	7.25	7.08

These metrics show that Liberty Black Mountain is 5 to 7 times more risky than the average water proxy group companies.

Q. CAN METRICS LIKE AN ENTITY’S CO-EFFICIENT OF VARIATION IN ROE, CO-EFFICIENT OF VARIATION IN OPERATING INCOME, AND OPERATING MARGIN BE USED ALONG WITH MARKET DATA TO DEVELOP COMPANY SPECIFIC RISK PREMIUMS?

A. Yes. *Duff & Phelps* publishes comparative risk characteristics using market data that provides a nexus between a market beta and the metrics operating margin, the coefficient of variation in operating margin, and the coefficient of variation in return on equity.¹⁰ This information can be used to develop implied betas for Liberty Black Mountain for use in the CAPM. By comparing the results of the CAPM for the water proxy group with the CAPM for Liberty Black Mountain using the implied betas, informed risk premiums can be developed. As one would expect, the implied beta for Liberty Black Mountain is higher than the beta of the proxy group. A risk

¹⁰ Duff & Phelps, LLC. *2017 Valuation Handbook; Guide to Cost of Capital*. Hoboken, NJ: John Wiley and Sons, 2017 (“*Duff & Phelps*”). See also Online at www.dpcostofcapital.com: *Duff & Phelps Cost of Capital Navigator* platform (“*Duff & Phelps Cost of Capital Navigator*”) and the *Duff & Phelps 2018 Valuation Handbook – U.S. Guide to Cost of Capital* (“*Duff & Phelps 2018 Valuation Handbook*”).

1 premium of 100 to 140 basis points over the cost of equity of the proxy group is
2 indicated for Liberty Black Mountain.¹¹ I will discuss the indicated risk premiums
3 and implied betas in more detail in the risk premium section of this direct testimony.

4 **Q. WHAT ABOUT LIQUIDITY RISK?**

5 A. A rational investor would not regard an investment in Liberty Black Mountain as
6 having the same level of risk as WTR or even the smaller MSEX because of the
7 previously mentioned small size characteristics of Liberty Black Mountain and the
8 fact that an investment in Liberty Black Mountain is relatively illiquid compared to
9 the publicly traded water utilities. An investor in a publicly traded stock can sell
10 stock in a very short period of time if dissatisfied with the returns. An investor in a
11 privately held stock does not have this ability to sell quickly. Consequently,
12 investors will require a greater risk premium, often called liquidity risk premium.
13 As a consequence of these differences in risk, the results produced by the DCF and
14 risk premium methodologies, utilizing data for the sample utilities, often understate
15 the appropriate ROE for a small, regulated water utility such as Liberty Black
16 Mountain.

17 **Q. IS THERE A RELATIONSHIP BETWEEN A UTILITY'S CAPITAL**
18 **STRUCTURE AND ITS COST OF CAPITAL?**

19 A. Yes. Generally speaking, when an entity engages in debt financing, it exposes itself
20 to greater risk. As debt grows relative to the total capital structure, the risk increases
21 in a geometric fashion as compared to the linear percentage increase in the debt ratio
22 itself. This risk is illustrated by considering the effect of leverage on net earnings.
23 For example, as leverage increases, the equity ratio falls creating two adverse effects.
24 First, equity earnings decline rapidly and may even disappear. Second, the "cushion"
25

26

¹¹ 100 to 140 basis points as indicated in **Exhibit TJB-COC-DT4**.

1 of equity protection for debt falls. A decline in the protection afforded debt holders,
2 or the possibility of a serious decline in debt protection, will act to increase the cost
3 of debt financing. Therefore, one may conclude that each new financing, whether
4 through debt or equity, impacts the marginal cost of future financing by any
5 alternative method.

6 For an entity already perceived as being over-leveraged, this additional
7 borrowing would cause the marginal costs of both equity and debt to increase.
8 On the other hand, if the same entity instead successfully employed equity funding,
9 this could actually reduce the real marginal cost of additional borrowing, even if the
10 particular equity issuance occurred at a higher unit cost than an equivalent amount
11 of debt.

12 **Q. HOW DO THE CAPITAL STRUCTURES OF THE SAMPLE WATER**
13 **UTILITIES COMPARE TO THE CAPITAL STRUCTURE FOR LIBERTY**
14 **BLACK MOUNTAIN?**

15 A. Table 3 shows Liberty Black Mountain's proposed capital structure contains
16 54 percent equity and 46 percent debt, compared to the average of the water utility
17 sample of approximately 53 percent equity and 47 percent debt. Because the capital
18 structures are similar, it would be inappropriate to make a financial risk adjustment
19 to the cost of equity.

20 **V. OVERVIEW OF THE DCF AND RISK PREMIUM METHODS.**

21 **A. Introduction.**

22 **Q. PLEASE EXPLAIN THE GENERAL APPROACHES TO ESTIMATING**
23 **THE COST OF CAPITAL.**

24 A. There are two broad approaches:

- 25 1) identify comparable-risk sample companies and estimate the cost of
26 capital directly, or

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

- 2) find the location on the CML and estimate the relative risk of the entity, which jointly determines the cost of capital.

The DCF method falls into the first approach. It is a direct method, but uses only a subset of the total capital market evidence. The DCF rests on the premise that the fundamental value of an asset (i.e., its stock) is its ability to generate future cash flows to the owner of that asset. The DCF is simply the sum of a stock's expected dividend yield and the expected long-term growth rate. Dividend yields are readily available, but long-term growth estimates are not. I will explain the DCF in greater detail later.

The risk premium methods fall into the second approach. An equity risk premium is established by determining the relationship between the cost of equity and an interest rate over time. The CAPM method falls into the category of risk premium methods. To implement, it is generally assumed that the past correlation will continue on into the future. The risk premium generally uses a small subset of the capital market evidence, whereas the CAPM uses information on all securities, rather than a small subset. I will explain the risk premium methods in more detail later. For now, the risk premium methods reflect a risk-return relationship, often depicted graphically as the CML.

Each of these methods measures investor expectations. In the final analysis, ROE estimates are subjective and should be based on sound, informed judgment and supported by competent evidence. I have applied one version of the DCF and three versions of the RP methods (including the CAPM). I believe these methods provide the foundation for evaluating the fair cost of equity capital for the publicly traded water utilities in my proxy group. I then add a risk premium to the results of these models for the proxy group to account for the differences in risk (business, regulatory, liquidity, size) between the proxy group and Liberty Black Mountain.

1 **B. Explanation of the DCF Model and Its Inputs.**

2 **Q. PLEASE EXPLAIN THE DCF METHOD OF ESTIMATING THE COST OF**
3 **EQUITY.**

4 A. The DCF model is based on the concept that the current price of a share of stock is
5 equal to the present value of future cash flows from the purchase of the stock.
6 In other words, the DCF model seeks to replicate the market valuation process that
7 sets the price investors are willing to pay for a share of an entity's stock. It rests on
8 the assumption that investors rely on the expected returns (i.e., cash flow they expect
9 to receive) to set the price of a security. The DCF model in its most general form is:

10 [6] $P_0 = CF_1/(1+k) + CF_2/(1+k)^2 + \dots + CF_n/(1+k)^n$

11 where k is the cost of equity; n is the number of years; P₀ is the current stock price;
12 and, CF₁, through CF_n are the expected future cash flows expected to be received in
13 periods 1 through n.

14 Equation [6] can be written to show that the current price (P₀) is also equal to

15 [7] $P_0 = CF_1/(1+k) + CF_2/(1+k)^2 + \dots + P_t/(1+k)^t$

16 where P_t is the price expected to be received at the end of the period t. If the future
17 price (P_t) included a premium (an expected increase in the stock price or capital
18 gain), the price the investor would pay today (in anticipation of receiving that
19 premium) would increase. In other words, by estimating the cash flows from the
20 purchase of a stock in the form of dividends and capital gains, we can calculate the
21 investor's required rate of return, i.e., the rate of return an investor presumptively
22 used in bidding the current price to the stock (P₀) to its current level.

23 Equation [7] is a Market Price version of the DCF model. As with the general
24 form of the DCF model in equation [6], the current stock price (P₀) is the present
25 value of the expected cash inflows in the Market Price approach. The cash flows are
26 comprised of dividends and the final selling price of the stock. The estimated cost

1 of equity (k) is the rate of return investors expect if they bought the stock at today's
2 price, held the stock and received dividends through the transition period, and then
3 sold it for price in period t (P_t).

4 **Q. CAN YOU PROVIDE AN EXAMPLE TO ILLUSTRATE THE MARKET**
5 **PRICE VERSION OF THE DCF MODEL?**

6 A. Yes. Assume an investor buys a share of common stock for \$40. If the expected
7 dividend during the coming year is \$2.00, then the expected dividend yield is
8 5 percent ($\$2.00/\$40 = 5.0$ percent). If the stock price is also expected to increase to
9 \$43.00 after one year, this \$3.00 expected gain adds an additional 7.5 percent to the
10 expected total rate of return ($\$3.00/\$40 = 7.5$ percent). Thus, the investor buying the
11 stock at \$40 per share expects a total return of 12.5 percent (5 percent dividend yield
12 plus 7.5 percent price appreciation). The total return of 12.5 percent is the
13 appropriate measure of the cost of capital because this is the rate of return that caused
14 the investor to commit \$40 of his or her capital by purchasing the stock.

15 **Q. PLEASE CONTINUE WITH YOUR DESCRIPTION OF THE DCF MODEL.**

16 A. Under the assumption that future cash flow is expected to grow at a constant rate
17 (“ g ”), equation [6] can be solved for k and rearranged into the simple form:

18 [8] $k = CF_1/P_0 + g$

19 where CF_1/P_0 is the expected dividend yield (also expressed as D_0/P_0) and g is the
20 expected long-term dividend (price) growth rate. The expected dividend yield is
21 computed as the ratio of next period's expected dividend (“ D_0 ”) divided by the
22 current stock price (“ P_0 ”).

23 This form of the DCF model is known as the “constant growth” DCF model
24 and recognizes that investors expect to receive a portion of their total return in the
25 form of current dividends and the remainder through future dividends and capital
26 (i.e. price) appreciation. A key assumption of this form of the model is that investors

1 expect that same rate of return (k) every year and that market price grows at the same
2 rate as dividends. As already discussed, this has not been historically true for the
3 water utilities in the proxy group, as shown by the data in Table 4.

4 **Q. ARE THERE ANY CONCERNS ABOUT APPLYING THE DCF MODEL TO**
5 **UTILITY STOCKS?**

6 A. Yes, there are a number of reasons why caution must be used when applying the
7 DCF model to utility stocks. First, a non-publicly traded company does not have a
8 stock market price. Using the stock prices from a proxy group assumes that the stock
9 of Liberty Black Mountain would be similarly priced and has a dividend yield similar
10 to the publicly traded water companies. Second, the stock price and dividend yield
11 components may be unduly influenced by structural changes in the industry, such as
12 mergers and acquisitions, which influence investor expectations. Third, the DCF
13 model is based on a number of assumptions that may not be realistic given the current
14 capital market environment. The traditional DCF model assumes that the market
15 price per share (“MPPS”), book value per share (“BVPS), earnings per share
16 (“EPS”), and dividends per share (“DPS”), all grow at the same rate. This has not
17 been historically true for the sample water utility companies. For example, Table 4
18 shows than over the past 5 years the average MPPS growth has significantly
19 exceeded the average BVPS, EPS, and DPS.

20 We should be especially concerned with the DCF model’s applicability under
21 current market conditions. The Federal Reserve’s bond buying programs have kept
22 longer-term bond yields low and interest rates are expected to rise, but in the
23 meantime, and because bond yields are still very low, investors have been “chasing
24 yields” and driving up the stock prices of companies that pay dividends, like utilities.
25 Over the past several years, Value Line has taken note of these fundamental changes
26 surrounding water utility stocks. The *Value Line* Investment Survey (October 14,

1 2016) for the Water Utility Industry noted:

2 When we went to press last July, institutional investors,
3 spurred by low rates on U.S. Treasury securities, had plowed
4 large amounts of funds into this relatively minor segment of
5 the U.S. equity market. Consisting of only nine stocks, the
6 industry has a combined market capitalization of less than
7 \$25 billion. Long known to many retail investors for their
8 modest, but well-defined earnings, many accounts have also
9 been attracted to these shares because of their higher-than-
average yields, solid dividend growth prospects, low volatility,
and defensive nature. During the first half of 2016, however,
demand for certain income-generating stocks reached peak
levels. Indeed, the price of the equities in this industry were
pushed to such all-time highs, that their yields (the primary
reason to buy the stocks) fell below the median of the *Value
Line* universe.

10 The *Value Line* Investment Survey (January 13, 2017) for the Water Utility
11 Industry noted:

12 The average dividend yield on the eight regulated water
13 utilities we follow is currently 2.1%, or exactly the same as the
14 median for all stocks in the *Value Line* universe. Historically,
15 the yield on these stocks has been much higher. As an
16 example, the typical yield on an electric utility equity is about
17 3.6%, or 150 basis points higher than the water utility industry.
18 Why is this? One reason is that when taken as a whole, the
19 market capitalization of the group is very modest. Thus, it
20 doesn't take a large shift into the sector by institutional
investors to drive the price of these stocks higher and their
yields lower. Indeed, the three stocks with the best returns over
the last three months were all small cap stocks. *York Water*
and *SJW* each surged 30% while *Middlesex Water* rose about
25%. Before these moves, the market capitalization of each
individual stock was \$375 million, \$850 million, and \$550
million, respectively. The spike in prices has also left the
equities with respective yields of 1.7%, 1.5%, and 2.1%.

21 The *Value Line* Investment Survey (January 12, 2018) for the Water Utility
22 Industry noted:

23 Shares of water utilities are currently trading in uncharted
24 territory. Aided most likely by strong institutional demand,
25 and a limited supply of equity, the large- and mid-cap stocks in
the group have done extremely well.

26 We caution investors that these stocks may not be as safe as
they have been in the past. That is because the larger utilities

1 have seen their stocks rise to near all-time highs. For example,
2 the current yield on this group's stocks is only about equal to
3 the *Value Line* median. Also, though inflation remains tame,
4 the Federal Reserve has indicated more interest rate hikes next
5 year. This could make bonds more attractive to income-
oriented investors. In any case, subscribers should be aware
6 that these stocks may carry more risk than their Beta co-
7 efficient and Safety ranks indicate.

8 Finally, the most recent *Value Line* Investment Survey (April 12, 2019) for
9 the Water Utility Industry continues this theme and notes:

10 Despite its reputation as being defensive sector of the equity
11 market, the Water Utility Industry continues to perform
12 relatively well in an up market. Indeed, typically purchased
13 for their yield and dividend growth prospects, the average yield
14 in this group is now below the Value Line median. Based, on
15 other key financial metrics, this Industry is trading at
16 historically high levels. For example, the P/E ratios of these
17 stocks is probably close to 30. That's over 1.7 times the
average stock's P/E. Not only are other stocks offering an
alternative to this group, but short-term Treasury notes are
looking attractive on a relative basis as well. The yield on a
three-month Treasury note is currently over 2.4%. Thus, it is
yielding more than 50 basis points higher than most water
equities. True, there is not the possibility of dividend hikes for
this security, but there also is just about no risk whatsoever.
All in all, we think investors should take a hard look at the
offerings on the front end of the yield curve rather than invest
in water utility stocks.

18 ... Despite their low Beta co-efficient, and high scores for Price
19 Stability and Earnings Predictability, these stocks may hold
20 more risk than a typical utility investor may want to undertake.
21 This opinion is based purely on what we believe are elevated
valuations of the equities. We continue to think that the
industry is fundamentally sound, but better alternatives are
available elsewhere.

22 While dividend yields for the proxy group companies have been at all-time
23 lows, 3, 5, and 10-year compound annual total returns for the proxy group are
24 16.81 percent, 15.03 percent, and 12.14 percent, respectively, from advances in stock
25
26

1 prices and reinvestment of dividends.¹² These returns are significantly higher than
2 my DCF estimate of the cost of equity of just 9.0 percent, which is a source of my
3 concern in the application of the DCF at this time. The expected equity returns
4 suggested by the market based DCF model do not line up with recent experience in
5 the markets. As Dr. Morin notes:¹³

6 To the extent that increases (decreases) in relative market
7 valuation are anticipated by investors, especially myopic
8 investors with short-term investment horizons, the standard
9 DCF model will understate (overstate) the cost of equity.

10 Another way of stating this point is that the DCF model does not account for
11 the ebb and flow of investor sentiments over the course of the business cycle.
12 The problem was particularly acute in the mid-1990s and mid-2000s where
13 investors, faced with very low returns on short-term fixed-income securities and an
14 uncertain market outlook, sought higher yields offered by utility stocks in a so-called
15 flight to quality, boosting utility stock price and lowering the dividend yield.¹⁴ The
16 circumstances then are not so different from what is occurring today.

16 **Q. DO YOU HAVE ANY FURTHER CONCERNS WITH THE DCF?**

17 A. Yes. Fourth, the application of the DCF model produces estimates of the cost of
18 equity that are consistent with investor expectations *only* when the market price of a
19 stock and the stock's book value are approximately the same. The DCF model will
20 understate the cost of equity when the market-to-book ratio exceeds 1.0 and,
21 conversely, the model will overstate the cost of equity when the market-to-book ratio
22 is less than 1.0. The reason for this is that the market-derived return produced by the
23 DCF is often applied to book value rate base by regulators.

24 ¹² *Value Line Investment Analyzer* weekly data from March 29, 2018.

25 ¹³ Morin, p. 433.

26 ¹⁴ Morin, pp. 21-22

1 Fifth, the assumption of a constant growth rate may be unrealistic, and there
2 may be difficulty in finding an adequate proxy for the growth rate. Historical growth
3 rates can be downward biased as a result of the impact of anemic historical growth
4 rates in earnings, mergers and acquisitions, restructuring, unfavorable regulatory
5 decisions, and even abnormal weather patterns. Conversely, historical growth rates
6 can be upwardly biased as well, particularly under the current market conditions I
7 discussed previously.

8 **Q. WHAT DATA HAVE YOU USED TO COMPUTE THE EXPECTED**
9 **DIVIDEND YIELD (D_1/P_0) IN YOUR DCF MODEL?**

10 A. First, I computed a current dividend yield (D_0/P_0). The time value of money should
11 be taken into account when determining dividend yields. This adjustment is required
12 because the basic model assumes dividends are paid once a year, but investors
13 actually receive dividend payments on a quarterly basis. Prices paid for the stock
14 (P_0) would reflect the anticipated payment and potential re-investment of quarterly
15 dividends. To approximate the time value of money and the payment of quarterly
16 dividends, I computed expected dividend yield (D_1/P_0) as the current dividend yield
17 (D_0/P_0) times one plus the growth rate (g) divided by 2. I used the spot price for each
18 of the stocks of the water utilities in the sample group as reported by the *Value Line*
19 *Investment Analyzer* for June 14, 2019 for P_0 . The current dividend (CF_0) is the
20 current indicated dividend as reported by *Value Line*. In my tables, the current
21 dividend yield is denoted as (D_0/P_0), where D_0 is the current dividend and P_0 is the
22 spot stock price. (D_1/P_0) is used to denote the expected dividend yield in the tables.

23 **Q. WHAT MEASURES OF GROWTH (“g”) HAVE YOU USED?**

24 A. My estimates of growth are based upon analysts’ estimates of growth. For my
25 forecast growth estimate, I have used the growth forecasts from *Value Line*, *Zacks*
26 *Investment Research*, and *Yahoo Finance*. I report the analysts’ forecasts of future

1 growth in Table 4.

2 **Q. WHY DID YOU USE FORECASTED GROWTH RATES IN YOUR**
3 **GROWTH ESTIMATES?**

4 A. The empirical evidence indicates that analyst estimates of EPS growth are the best
5 measure of growth for use in the DCF for utility stocks.¹⁵ Further, the DCF model
6 requires estimates of growth that investors expect in the future and not past estimates
7 of growth that have already occurred. Logically, in estimating future growth,
8 financial institutions and analysts have taken into account all relevant historical
9 information on an entity, as well as other more recent information.¹⁶ To the extent
10 that past results provide useful indications of future growth prospects, analysts'
11 forecasts would already incorporate that information. In addition, the current price
12 of a stock reflects known historic information on that entity, including its past
13 earnings history. Any further recognition of the past will double count what has
14 already occurred. Therefore, forward-looking growth rates should be used.

15 **Q. PLEASE SUMMARIZE THE EQUITY COST ESTIMATES YOU MAKE**
16 **WITH THE DCF APPROACH.**

17 A. In Table 6, my DCF estimate for the cost of equity of the proxy group is 9.0 percent.

18 ¹⁵ Gordon, David A., Gordon, Myron J. and Gould, Lawrence I., "Choice Among Methods of Estimating
19 Share Yield," *Journal of Portfolio Management*, Spring 1989, pp. 50-55. Gordon, Gordon and Gould found
20 that a consensus of analysts' forecasts of earnings per share growth for the next five years provides a more
21 accurate estimate of growth required in the DCF model than three different historical measures of growth
22 (historical EPS, historical DPS, and historical retention growth). They explain that this result makes sense
23 because analysts would take into account such past growth as indicators of future growth as well as any new
24 information. Other studies confirm the superiority of analysts' estimates such as Vander Weide, James H.
25 and Carleton, Willard T., "Investor Growth Expectations: Analysts vs. History," *Journal of Portfolio*
Management, Spring 1988, pp. 78-87; Brown, Lawrence D. and Rozeff, Michael S., "The Superiority of
26 Analyst Forecasts as Measures of Expectations: Evidence from Earnings," *Journal of Finance*, March 1978,
pp. 1-16; and Timme, Stephen G. and Eisemann, Peter C., "On the Use of Consensus Forecasts of Growth
in the Constant Growth Model: The Case for Electric Utilities," *Journal of Financial Management*, Winter
1989, pp. 23-35. A 2004 study by the Kentucky Public Service Commission Advance Research Center
updated the study by Vander Weide and Carleton (1988) and confirmed the superiority of analyst estimates
over historical averages.

¹⁶ Gordon, Gordon, and Gould, p. 54.

1 For Liberty Black Mountain, my estimate is 9.8 percent as shown in Table 1.

2 **C. Explanation of the Risk Premium and Its Inputs.**

3 **Q. PLEASE EXPLAIN THE RP METHODOLOGY FOR ESTIMATING THE**
4 **COST OF EQUITY.**

5 A. The risk premium method is sometimes referred to as the “bond yield plus risk
6 premium method.” The general approach is to determine the spread between the
7 return on debt and the return on equity, and then add this spread to the current debt
8 yield to derive an estimate of the cost of equity. To implement the risk premium, it
9 is assumed that the past relationship will continue into the future. The RP is widely
10 used by analysts and investors.¹⁷

11 The RPM formula provides a formal risk-return relationship and is stated as:

12 (9) $k = K_d + \text{bond-equity spread}$

13 where k is the expected return on equity and K_d is the cost of debt or debt yield.

14 **Q. PLEASE TURN TO YOUR RISK PREMIUM EQUITY COST ESTIMATES.**
15 **HOW MANY RISK PREMIUM ANALYSES HAVE YOU PERFORMED?**

16 A. I performed one risk premium analysis (not including the CAPM). My analysis is
17 presented in Table 8. For the period 1999 to 2018 (20 years), I subtract average
18 annual long-term US. Treasury yields from annual average total returns of the water
19 proxy group to determine the annual risk premium for each year. The average over
20 the period is then added to the average expected long-term U.S. Treasury yield
21 (2020-2022) of 3.3 percent from Table 7 to estimate the cost of equity.

22 **Q. WHAT IS THE RESULT OF YOUR FIRST APPROACH?**

23 A. Table 8 shows that the indicated cost of equity for the water proxy group is
24 10.8 percent. My estimate for Liberty Black Mountain is 11.6 percent.

25

26

¹⁷ Morin, p. 108.

1 **Q. SHOULD STUDIES OF HISTORICAL RISK PREMIUMS RELY ON**
2 **ARITHMETIC AVERAGE RETURNS OR ON GEOMETRIC AVERAGE**
3 **RETURNS?**

4 A. Whenever relying on historical risk premiums, only arithmetic average returns over
5 long periods are appropriate for forecasting and estimating the cost of capital,
6 geometric average returns are not. As various finance experts have explained, an
7 arithmetic mean is the correct approach to use in estimating the cost of capital,
8 particularly for a risk premium model.¹⁸ As Dr. Morin states:

9 Because valuation is forward-looking, the appropriate average
10 is the one that most accurately approximates the expected
11 future rate of return. *The best estimate of the expected returns*
12 *over a future holding period is the arithmetic average. Only*
13 *arithmetic means are correct for forecasting purposes and for*
estimating the cost of capital. There is no theoretical or
empirical justification for the use of geometric rates of return
as a measure of the appropriate discount rate in computing the
cost of capital or in computing present values.¹⁹

14 The consensus among these experts makes sense. Only arithmetic mean return rates
15 and yields are appropriate for cost of capital purposes because ex-post (historical)
16 total returns and equity risk premiums differ in size and direction over time,
17 providing insight into the variance and standard deviation of returns. The geometric
18 mean of ex-post (after the fact) equity risk premiums provides no insight into the
19 potential variance of future returns because the geometric mean relates the change
20 over many periods to a constant rate of change, rather than the year-to-year
21 fluctuations, or variance, which are critical to risk analysis. In short, the conclusion
22 of these financial experts is that, while the geometric mean is useful in comparing
23

24 ¹⁸ Zvi Bode, Alex Kane, Alan J. Marcus, *Investments* (McGraw-Hill 6th ed., 2005) (“Bode”), pp. 864 – 865;
25 Richard A. Brealey, Stewart C. Myers, Franklin Allen, *Principles of Corporate Finance* (McGraw-Hill 11th
26 ed.) (“Brealey”), pp. 162-163.

¹⁹ Morin, pp. 116-117 (emphasis added).

1 what happened in the past, it should not be used to determine estimates of expected
2 future returns or market risk premiums.

3 **Q. TURNING TO THE CAPM, PLEASE EXPLAIN THE CAPM**
4 **METHODOLOGY FOR ESTIMATING THE COST OF EQUITY.**

5 A. Like all risk premium methods, the CAPM is the sum of a risk-free rate plus a risk
6 premium. Like the risk premium method, it quantifies the additional return required
7 by investors for bearing incremental risk. The CAPM was developed by William
8 Sharpe and John Lintner in the mid-1960s and is a common topic in college finance
9 textbooks. The CAPM provides a formal risk-return relationship premised on the
10 idea that only market risk matters, as measured by beta. The traditional version of
11 CAPM is represented by the formula:

$$[10] k = R_f + \beta(R_m - R_f)$$

12 where k is the expected return, R_f is the risk-free rate (or zero beta asset), R_m is the
13 market return, $(R_m - R_f)$ is the market risk premium, and β is beta.

14
15 **Q. WHAT IS BETA AND WHAT DOES IT MEASURE?**

16 A. Beta is a measure of the relative risk of a security in relation to the market. In other
17 words, it is a measure of the sensitivity of a security to the market as a whole. This
18 sensitivity is also known as systematic risk. It is estimated by regressing a security's
19 excess returns against a market portfolio's excess returns. The slope of the
20 regression line is the beta.

21 Beta for the market is 1.0. A security with a beta greater than 1.0 is considered
22 more risky than the market. A security with a beta less than 1.0 is considered less
23 risky than the market.

24 **Q. ARE THERE ANY CONCERNS ABOUT APPLYING THE CAPM MODEL**
25 **TO UTILITY STOCKS?**

26 A. Yes. I have concerns with using this model in most periods because mechanical

1 application of the model may produce unreasonable results. The traditional CAPM
2 only captures a single measure of systematic risk as measured by beta, but there are
3 other forms of systematic risk priced by the market such as company size. A size
4 premium is necessary because the empirical evidence indicates that beta alone does
5 not measure the risk of smaller companies.²⁰ Further, there are computational
6 problems surrounding beta since it depends on the return data, the time period used,
7 its duration, the choice of the market index, and whether annual, monthly, or weekly
8 return figures are used. Betas are estimated with error. Based on empirical evidence,
9 high betas will tend to have a positive error (risk is overestimated) and low betas will
10 have a negative error (risk is underestimated).²¹

11 **Q. ARE THERE ALTERNATIVES TO THE TRADITIONAL CAPM?**

12 A. Yes, alternative versions of the CAPM have been developed that provide more robust
13 explanations of returns required by investors. A version of the CAPM called the
14 Empirical CAPM or ECAPM was developed to recognize that estimations of R_f are
15 higher than the return on long-term Treasuries. Dr. Roger Morin discusses ECAPM
16 at pages 189-191 of his book, *New Regulatory Finance*. The ECPAM is represented
17 as follows:

18
$$[11] k = R_f + .25(R_m - R_f) + .75\beta(R_m - R_f)$$

19 The ECAPM was developed from the empirical findings that show the slope of the
20 CML is flatter and the risk-free rate is at a higher point than predicted by the pure
21 CAPM. The ECAPM has been shown to do a better job at predicting market returns.

22
23
24
25 ²⁰ *Duff & Phelps 2018 Valuation Handbook*, Chapter 2, p. 7.

26 ²¹ Fama, Eugene F. and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence,"
Journal of Economic Perspectives, Summer 2004, pp. 25-46.

1 *Duff & Phelps* also suggests a version of the CAPM in which a size premium
2 is included.²² This modified CAPM or MCAPM is represented as follows:

3 [12] $k = R_f + \beta(R_m - R_f) + RP_s$

4 where k is the expected return, R_f is the risk-free rate (or zero beta asset), R_m is the
5 market return, $(R_m - R_f)$ is the market risk premium, β is beta, and RP_s is the size
6 premium. Both the ECAPM and MCAPM recognize that the pure CAPM is
7 incomplete and does not fully account for the higher returns that are needed on
8 smaller company stocks. In other words, the higher risks associated with smaller
9 firms are not fully accounted for by beta.²³

10 **Q. IS FIRM SIZE A UNIQUE RISK?**

11 A. No, firm size is a systematic risk factor and is an adjustment to the pure CAPM.²⁴
12 Putting aside the empirical financial data, the need for a risk premium for size makes
13 sense. Entity size is a significant element of business risk for which investors expect
14 to be compensated through greater returns. As discussed earlier, smaller companies
15 are simply less able to cope with significant events that impact sales, revenues, and
16 earnings. For example, smaller companies face more risk exposure to business
17 cycles and economic conditions, both nationally and locally. Additionally, the loss
18 of revenues from a few larger customers would have a greater effect on a small entity
19 than on a much larger entity with a larger, more diverse, customer base. Moreover,
20 smaller companies are generally less diverse in their operations and have less
21 financial flexibility.

22
23
24 ²² *Duff & Phelps 2018 Valuation Handbook*, Chapter 2, p. 14.

25 ²³ Morningstar, *Ibbotson SBBI 2013 Valuation Yearbook* (“Morningstar”), pp. 85-88.

26 ²⁴ Pratt, Shannon P. and Roger J. Grabowski, *Cost of Capital: Applications and Examples* (John Wiley and Sons, 4th Ed. 2010), p. 56.

1 **Q. DID YOU EMPLOY EITHER OF THESE ALTERNATIVE CAPM**
2 **METHODS (EQUATIONS 11 AND 12) AS PART OF YOUR ANALYSIS?**

3 A. Yes. I employed all three versions of the CAPM to estimate the cost of equity for
4 the proxy group, which does somewhat mitigate my concerns about the traditional
5 CAPM.

6 **Q. WHAT IS THE RISK-FREE RATE (R_f)?**

7 A. It is the return on an investment with no risk. The U.S. Treasury rate serves as the
8 basis for the risk-free rate because the yields are directly observable in the market
9 and are backed by the U.S. government. Practically speaking, short-term rates are
10 volatile, fluctuate widely and are subject to more random disturbances than long-
11 term rates. In short, long-term Treasury rates are preferred for these reasons and
12 because long-term rates are more appropriately matched to securities with an
13 indefinite life or long-term investment horizon.

14 **Q. WHAT DO YOU USE AS THE RISK FREE RATE (R_f)?**

15 A. I used the average of the expected long-term U.S. Treasury rate for 2019-2021 as the
16 basis for the risk free rate. Since the cost of capital is an opportunity cost and is
17 prospective, it necessarily requires the use of a forward-looking bond yield.
18 In recent years, interest rates have dropped to very low levels when compared to
19 interest rates for similar securities in the past. From 1999 to 2007, the annual average
20 yield for long-term Treasury bonds was 5.24 percent, ranging from a low of
21 4.84 percent in 2007 to a high of 5.94 percent in 2000. In 2008, and during the recent
22 recession, that annual average dropped to 4.24 percent and dropped further in 2012
23 to 2.9 percent.

24 The drop in long-term Treasury rates has been largely attributed to the market
25 intervention by the Federal Reserve through its quantitative easing programs. Long-
26 term Treasury rates for 2013 and 2014 averaged 3.45 percent and 3.34 percent,

1 respectively. For 2017, long-term Treasury rates have averaged 2.90 percent. The
2 Federal Reserve raised the key federal funds interest rate by 25 basis points three
3 times 2017 and another four times in 2018. The current federal funds rates is at
4 2.5 percent. The average 30-year U.S. Treasury yield for 2018 was 3.0 percent. The
5 average yield for the five months of 2019 has remained around 3.0 percent.
6 Notwithstanding the most recent rate hikes in 2018, interest rates remain at
7 historically low levels, and have even fallen, which may be a short-term situation
8 due to the trade war with China.

9 **Q. WHY DO YOU USE LONG-TERM U.S. TREASURY YIELDS?**

10 A. The yields on long-term Treasury bonds match more closely with the perpetual
11 nature of common stock investments.²⁵ In addition, short-term rates are more
12 volatile, fluctuate widely and are subject to more random disturbances than long-
13 term rates. Long-term Treasury rates are more appropriately matched to securities
14 with an indefinite life or long-term investment horizon. For these reasons long-term
15 rates are preferred.

16 **Q. WHAT DO YOU ADOPT AS THE RETURN FOR THE RISK-FREE RATE?**

17 A. I used long-term expected Treasury bond rates as the measure of the risk-free return
18 for use with CAPM cost of equity estimates from two sources: the *Blue Chip*
19 *Financial Forecasts* and the *Value Line Quarterly Forecast*.²⁶ The appropriate
20 choice for the risk-free rate is the *expected* return for long-term Treasury securities.²⁷
21 Thus, when determining an estimate of the risk-free rate, it is appropriate to adopt a
22 return that is no less than the expected return on the long-term Treasury bond rate.
23 Models to determine the cost of capital are prospective in nature, which require

24 ²⁵ Morin, p. 112.

25 ²⁶ See Table 9.

26 ²⁷ *Duff & Phelps*, Chapter 3, p. 1.

1 expectational inputs, such as forecasted interest rates.²⁸ The CAPM, ECAPM, and
2 MCAPM estimates are based on average expected yields of the long-term Treasury
3 rates for 2020-2021 (from *Blue Chip Financial Forecasts* and *Value Line Quarterly*
4 *Forecasts*), the average of which is 3.3 percent.²⁹

5 **Q. WHAT DID YOU USE AS THE PROXY OF THE BETA IN YOUR CAPM**
6 **MODELS?**

7 A. For the CAPM and ECAPM, I used the average beta of the sample water utility
8 companies. These betas were obtained from *Value Line Investment Analyzer*
9 (weekly data as of June 13, 2019). *Value Line* is the source for estimated betas that
10 I regularly employ. The average *Value Line* beta for my water proxy group as shown
11 on Table 2 is 0.70.

12 For the MCAPM, I used sum beta. Sum beta is an alternative method of
13 computing betas and helps more fully capture the lagged effect of co-movement in
14 an entity's returns with returns on the market. Since *Duff & Phelps* size premiums
15 are derived using sum beta, I used sum beta to be internally consistent with the size
16 risk premiums for the water proxy group derived from the *Duff & Phelps* 2018 Size
17 Study. I computed the sum beta over a 261 week period (5-years) and used the
18 NYSE composite as the market index. Weekly data over 5-year period is the same
19 period used to estimate beta by *Value Line*.

20 I should note that because Liberty Black Mountain is not publicly traded, it
21 has no beta. In my expert opinion, I strongly believe Liberty Black Mountain, if it
22 were publicly traded, would have a higher *Value Line* beta and sum beta than the
23 sample water utility companies. *Morningstar* reports that when betas (a measure of
24 market risk) are properly estimated, betas are greater for small companies than for

25 ²⁸ Morin, p 172.

26 ²⁹ See Table 7.

1 larger companies.³⁰ *Morningstar* also finds that even after accounting for differences
2 in beta risk, small firms require an additional risk premium over and above the added
3 risk premium indicated by differences in beta risk.

4 **Q. PLEASE EXPLAIN THE MARKET RISK PREMIUM.**

5 A. The market risk premium ($R_m - R_f$) is the return an investor expects to receive as
6 compensation for market risk. It is the expected market return minus the risk-free
7 rate. Approaches for estimating the market risk premium can be historical or
8 prospective.

9 Since expected returns are not directly observable, historical realized returns
10 are often used as a proxy for expected returns on the basis that the historical market
11 risk premium follows what is known in statistics as a “random walk.” If the historical
12 risk premium does follow the random walk, then one should expect the risk premium
13 to remain at its historical mean. Based on this, the best estimate of the future market
14 risk premium is the historical mean. *Duff & Phelps* provides historical market
15 returns for various asset classes from various historical time periods. This
16 publication also provides market risk premiums over U.S. Treasury bonds, which
17 makes it an excellent source for historical market risk premiums.

18 Current market risk premium estimation approaches necessarily require
19 examining the returns expected from common equities and bonds. One method
20 employs application of the DCF model to a representative market index such as the
21 *Value Line* 1700 stocks. The expected return from the DCF is measured for a number
22 of periods of time, and then subtracted from the prevailing risk-free rate for each
23 period to arrive at market risk premium for each period. The market risk premium
24 that is subsequently employed in the CAPM is the average market risk premium of

25
26

³⁰ *Morningstar*, Chapter 7.

1 the overall period.

2 **Q. HOW DID YOU ESTIMATE THE MARKET RISK PREMIUMS FOR USE**
3 **IN THE CAPM MODELS?**

4 A. For the traditional CAPM and ECAPM, I averaged two market risk premium
5 estimates: an average of an historical market risk premium (1926-2018) and a
6 current market risk premium. For the MCAPM, I used an historical market risk
7 premium (1963-2018) and a current market risk premium.

8 For the historical market risk premiums, I used the *Duff & Phelps* measure of
9 the average premium of the market over long-term treasury securities from 1926
10 through 2018 and 1963 through 2018, both of which use the S&P 500 market index
11 (which is considered a large-cap index). The average historical market risk premium
12 over long-term treasury securities is 6.9 percent for the 1926 to 2018 time period and
13 5.1 percent for the 1963 through 2018 time period.

14 For the current market risk premium, I derived a market risk premium by first
15 using the DCF model to compute an expected market return for each of the past
16 12 months using *Value Line's* projections of the average dividend yield for the
17 dividend yield in the DCF and an average of the median EPS, DPS and BVPS growth
18 on the *Value Line* 1700 stocks. I then subtracted the historical monthly average 30-
19 year Treasury yield for each month from the expected market returns to arrive at the
20 expected market risk premiums. Finally, I averaged the computed market risk
21 premiums to determine the current market risk premium for the last 12 months,
22 nine months, six months, and three months. The data and computations are shown
23 on Table 9. Estimates of the current market risk premium have ranged from
24 8.67 percent to 9.96 percent over the past 12 months. My recommended market risk
25 premium is based on the recent 3-month average estimate of 8.90 percent well below
26 the mid-point of the range of the past 12-months of 9.31 percent.

1 **Q. WHY USE TWO DIFFERENT HISTORICAL RISK PREMIUM**
2 **ESTIMATES?**

3 A. I have typically used an historical market risk premium in my CAPM and ECAPM.
4 I concur with *Morningstar*, which recommends the use of a historical market risk
5 premium based upon the longest time period practicable.³¹ *Duff & Phelps* Risk
6 Premium Report size and risk premia are calculated over the time horizon 1963 –
7 2018, so I used the historical market risk premium for this time period for the
8 MCAPM.

9 **Q. WHY IS IT NECESSARY TO USE A CURRENT MARKET RISK**
10 **PREMIUM?**

11 A. Because long-term historical interest rates used to estimate market risk premiums are
12 much higher than current interest rates. As a result, risk premiums are higher today
13 than the average long-term historical risk premium. This occurs because risk
14 premiums vary inversely with interest rates. Dr. Morin found this inverse
15 relationship between risk premiums and interest rates and reported it in chapter 4 of
16 his 2006 book, *New Regulatory Finance*. He stated a risk premium technique that
17 can be used to determine the cost of equity “consists of examining the risk premiums
18 implied in returns on equity allowed by regulatory commissions for utilities over
19 some past period relative to the contemporaneous level of the long-term Treasury
20 bond yield.”³² Professor Morin reports the following statistical relationship between
21 risk premiums (Rpm) and long-term Treasury bond yields (Yield) for the period
22 1987 to 2005 for electric utilities:

$$\text{Rpm} = 8.2049 - 0.4833 \times \text{Yield}, \text{ with } R^2 = .81.$$

25 ³¹ Morningstar at 59.

26 ³² Morin. p. 123.

1 The slope was found to be statistically significantly less than zero (i.e., the t-statistic
2 was - 8.4). In his analysis, annual averages of allowed equity returns reported by
3 Regulatory Research Associates were adopted as the proxies for equity costs. This
4 risk premium method is presented by Dr. Morin in Section 4.5 of his book.

5 **Q. HAVE OTHERS FOUND AN INVERSE RELATIONSHIP BETWEEN RISK**
6 **PREMIUMS AND INTEREST RATES?**

7 A. Yes. Harris and Marston, “Estimating Shareholders Risk Premia Using Analysts’
8 Growth Rates,” *Financial Management*, Summer 1992 found an inverse
9 relationship. Harris found that for every 100 basis point change in government bond
10 yields the equity risk premium changes by about 51 basis points in the opposite
11 direction.³³

12 **Q. HOW DID YOU ESTIMATE THE SIZE PREMIUM FOR THE WATER**
13 **PROXY GROUP FOR USE IN THE MCAPM?**

14 A. *Duff & Phelps’s* Size Study sorts companies by eight measures of size, breaking
15 down the NYSE universe of companies into 25 size-ranked portfolios.³⁴ The Size
16 Study provides two ways to match an entity’s size (or risk) characteristics to the
17 appropriate size (or risk) premium – a guideline portfolio method and a regression
18 equation method. I used the regression equation method to find the CAPM size risk
19 premium for each of the publicly traded utilities in the proxy group for six measures
20 of size (market value of equity, book equity, market value of invested capital, 5-year
21 average of net income, total assets, and earnings before interest, taxes, depreciation
22 and amortization).³⁵ I determined the average size premium of all size measures for

23 ³³ Morin, p.129

24 ³⁴ The size measures include: 1) Market Capitalization; 2) Book Value of Equity; 3) 5-year Average Net
25 Income; 4) Market Value of Invested Capital; 5) Total Assets; 6) 5-year Average Earnings Before Interest,
26 Taxes, Depreciation and Amortization (“EBITDA”); 7) Sales; and 8) Number of Employees. *See 2018*
Valuation Handbook, Chapter 7, p. 6.

³⁵ *Duff & Phelps Cost of Capital Navigator*, 2018 Supplementary Size Study data and 2018 Supplementary

1 the proxy group (3.43%) and then adjusted the average size premium to reflect the
2 lower risk of the proxy group compared to the companies that make up the respective
3 size-ranked portfolios. This comparative risk study uses the fundamental measures
4 of company risk (operating margin, coefficient of variation in operating income, and
5 coefficient of variation in return on book equity) to gauge how alike or different the
6 proxy group is compared to the companies that make up the size-ranked portfolios
7 in the Size Study. In the instant case, the estimated reduction in risk is -1.02 percent.
8 See **Exhibit TJB-COC-DT3**, page 5. Thus, the market risk premium for size for the
9 proxy group is 2.41 percent (3.43% - 1.02%). See **Exhibit TJB-COC-DT3**, page 2.

10 **Q. WHAT ARE THE RESULTS OF YOUR CAPM METHODS?**

11 A. In Table 10, the traditional CAPM produces an indicated cost of equity of
12 8.90 percent. The ECAPM produces an indicated cost of equity of 9.40 percent. The
13 MCAPM produces an indicated cost of equity of 9.90 percent. The average of these
14 three methods is 9.4 percent. The indicated cost of equity for Liberty Black
15 Mountain is 10.2 percent.

16 **VI. RECOMMENDED RISK PREMIUM FOR LIBERTY BLACK MOUNTAIN.**

17 **Q. PLEASE DISCUSS YOUR RECOMMENDED RISK PREMIUM FOR**
18 **LIBERTY BLACK MOUNTAIN.**

19 A. As I testified earlier, Liberty Black Mountain is not directly comparable to the large,
20 publicly traded water utilities in my proxy group. Liberty Black Mountain's lack of
21 diversification, limited revenue and cash flow, relatively small customer base, lack
22 of investment liquidity, and earnings volatility, increase the risk faced by smaller
23 water and wastewater utilities like the Company over the risk associated with the
24 proxy group.

25
26

Data Regression Equations.

1 **Q. PLEASE DISCUSS SIZE RISK FOR SMALL UTILITY COMPANIES.**

2 A. Investment risk increases as the firm size decreases, all else remaining constant.
3 There is a great deal of empirical evidence that the firm size phenomenon exists.
4 Morningstar's *Ibbotson SBBI 2013 Valuation Yearbook* (Chapter 7) reports that
5 smaller companies have experienced market higher returns that are not fully
6 explainable by their higher betas, and that beta is inversely related to firm size. In
7 other words, smaller companies not only have higher betas but also higher market
8 returns than larger ones. Even after accounting for differences in beta risk, small
9 companies require an additional risk premium over and above the added risk
10 premium indicated by differences in beta risk. Dr. Zepp also reported evidence that
11 the stocks of small water or wastewater utilities are more risky than the stocks of
12 larger utilities in the water utilities sample.³⁶ Additionally, the CPUC published a
13 study that showed smaller water utilities are more risky than larger ones.³⁷ Based on
14 the evidence, it is clear that investors require higher returns on small company stocks
15 than on large company stocks.

16 **Q. DID YOU PREPARE A COMPARATIVE RISK STUDY TO SUPPORT**
17 **DEVELOPMENT OF A RISK PREMIUM FOR LIBERTY BLACK**
18 **MOUNTAIN?**

19 A. Yes. The risk study I prepared for Liberty Black Mountain is attached as **Exhibit**
20 **TJB-COC-DT4**. To conduct my comparative risk study, I started by computing the
21 5-year historical operating margin, coefficient of variation of operating margin, and
22 coefficient of variation of ROE for Liberty Black Mountain. Operating margin is a
23 measure of profitability. The co-efficient of variation of operating margin and ROE

24 _____
25 ³⁶ Zepp, Thomas M., "Utility Stocks and the Size Effect – Revisited," *The Quarterly Review Economics*
and Finance, Vol. 43, Issue 3, Autumn 2003, pp. 578-582.

26 ³⁷ Staff Report on Issues Related to Small Water Utilities, June 10, 1991, and CPUC Decision 92-03-093.

1 are measures of earnings variability. All three of these metrics are highly correlated
2 with size and risk.

3 **Q. ARE THESE THE METRICS FOR THE PROXY GROUP AND LIBERTY**
4 **BLACK MOUNTAIN YOU PRESENTED EARLIER IN YOUR**
5 **TESTIMONY?**

6 A. Yes, on page 21.

7 **Q. THANK YOU. PLEASE CONTINUE.**

8 A. Next, I cross-referenced these metrics with data from *Duff & Phelps Cost of Capital*
9 *Navigator* Supplementary Data Risk Study and identified the corresponding market
10 portfolio beta for the Company and for my proxy group.³⁸ I then computed the
11 relative difference in betas between the Liberty Black Mountain and the proxy group.
12 Assuming that the relative difference in the market portfolio beta for the all publicly
13 traded companies is the same for publicly traded water utilities, I then computed
14 implied betas for Liberty Black Mountain using the difference in portfolio betas.³⁹
15 Finally, I used the CAPM methods to compute the indicated cost of equity for each
16 utility and compared the results to the CAPM results for the water proxy group.⁴⁰
17 Based upon this analysis, I believe that the required risk premium for Liberty Black
18 Mountain is in the range of 100 to 140 basis points with a midpoint of 125 basis
19 points.

20

21

22

23

24 ³⁸ *Duff & Phelps Cost of Capital Navigator*, Supplementary Data Risk Study. See also page 3 of **Exhibit**
TJB-COC-DT4.

25 ³⁹ See page 3 of **Exhibit TJB-COC-DT4**.

26 ⁴⁰ See page 4 of **Exhibit TJB-COC-DT4**.

1 **Q. ARE THERE ANY OTHER METHODS THAT PROVIDE USEFUL**
2 **INFORMATION ABOUT THE RISK PREMIUM FOR LIBERTY BLACK**
3 **MOUNTAIN?**

4 A. Yes. Based upon my analysis of the size risk premium for use in the MCAPM, I
5 found that Liberty Black Mountain's size premium over the water proxy group is
6 398 basis points. *See Exhibit TJB-COC-DT3*, page 2, line 24.

7 **Q. WHAT RISK PREMIUM OVER THE WATER PROXY GROUP DO YOU**
8 **RECOMMEND FOR LIBERTY BLACK MOUNTAIN?**

9 A. I recommend a minimum of 80 basis points which is below the low end of the range
10 derived from my risk study.

11 **VII. SUMMARY AND CONCLUSIONS.**

12 **Q. PLEASE PROVIDE A SUMMARY OF YOUR RECOMMENDATIONS**
13 **BASED UPON YOUR COST OF CAPITAL ANALYSIS, MR. BOURASSA.**

14 A. I recommend that the Commission adopt the three-step method I presented above to
15 determine the ROE for Liberty Black Mountain. In the first step, an average of cost
16 of equity for a sample of six water utilities is determined with the DCF model and
17 RP models. In the second step, a risk premium for Liberty Black Mountain is
18 determined to reflect the Company's higher risks. Quantitative evidence based on
19 differences in Liberty Black Mountain's business risk metrics compared to the
20 benchmark proxy group justifies a risk premium in the range of 100 to 140 basis
21 points. I chose 80 basis points as my recommended risk premium to be conservative
22 and to reflect the reduction in risk assuming the Commission recognizes the costs
23 the Company incurred to close the Boulders WWTP and recovery of deferred
24 AFUDC and deferred depreciation as discussed in the first volume of my
25
26

1 testimony.⁴¹ In the third step, equity costs from step one and the risk premiums from
2 step two are combined to determine a fair ROE for Liberty Black Mountain of
3 10.5 percent. Therefore, I recommend that the Commission adopt an ROE for
4 Liberty Black Mountain of no less than 10.5 percent.

5 **Q. PLEASE SUMMARIZE THE EQUITY COST ESTIMATES YOU MADE IN**
6 **STEP ONE.**

7 A. I made four equity cost estimates for the proxy group, which are summarized in
8 Table 1. Where data was available, the equity cost estimates were based on data for
9 the six water utilities listed in Table 2. The first equity cost estimates were derived
10 with the DCF model. Using the DCF model to estimate growth, the estimated equity
11 cost for the proxy group is 9.00 percent. Next, I determined the indicated cost of
12 equity using two risk premium methods, including the CAPM. The RP approach is
13 based on a 20-year average risk premium over long-term U.S. Treasuries. This
14 approach shows a cost of equity for the proxy group of 10.80 percent. I also
15 established a range of CAPM estimates using long-horizon estimates of the market
16 risk premium as well as a current of the market risk premium which produced a cost
17 of equity for the water proxy group of 8.90 percent to 9.90 percent with an average
18 of 9.40 percent. I gave the DCF and RP estimates equal weight to establish a cost of
19 equity for the water proxy group of 9.70 percent.

20 **Q. PLEASE SUMMARIZE YOUR ESTIMATE OF THE RISK PREMIUM YOU**
21 **DETERMINED IN STEP 2.**

22 A. I prepared a comparative risk study use commonly used business risk metrics and
23 data from *Duff & Phelps Cost of Capital Navigator 2018 Supplementary Data Risk*
24 *Study*. Based upon this study, I conclude that risk premium for Liberty Black
25

26 ⁴¹ Direct Testimony of Thomas J. Bourassa – Rate Base, Income Statement and Rate Design at 10-12.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

Mountain is in the range of 100 to 140 basis points. I also examined differences in the size premium between Liberty Black Mountain and the proxy group based upon the *Duff & Phelps Cost of Capital Navigator 2018 Supplementary Data Size Study and Risk Study*. Based upon this analysis, I conclude that an appropriate risk premium for Liberty Black Mountain is in the range of 100 to 140 basis points. Based on my consideration of that analysis, I recommend a risk premium for Liberty Black Mountain of no less than 80 basis points at this time.

Q. GIVEN THE RESULTS OF YOUR EQUITY COST ANALYSES, IS AN ROE OF 10.50 PERCENT FOR LIBERTY BLACK MOUNTAIN REASONABLE?

A. Yes. In step 1, I estimated the benchmark cost of equity for the sample of six publicly-traded water utilities, which falls in the range of 8.90 percent to 10.8 percent with an average of 9.70 percent. In step 2, I determined a conservative estimate of the risk premium required by Liberty Black Mountain is 80 basis points which is well below the low end of my range of risk premium estimates. Combining the results of step 1 and step 2 indicates the minimum cost of equity for Liberty Black Mountain is 10.5 percent.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY ON COST OF CAPITAL?

A. Yes.

EXHIBIT TJB-COC-DT1

INDUSTRY TIMELINESS: 2 (of 97)

Stocks in the Water Utility Industry have historically been accumulated by income-oriented investors that are willing to accept less potential total returns in exchange for low volatility and well-defined earnings prospects. This has not been the case in the recent past.

Most water utilities are in the process of spending heavily to replaced antiquated pipelines.

State authorities determine what water utilities can earn on their investment. Therefore, the regulatory climate of each state is critical.

Consolidation should continue in this extremely fragmented industry.

Though this is a timely industry, long-term prospects are unattractive.

Are These Stocks Still An Income Play?

Despite its reputation as being defensive sector of the equity market, the Water Utility Industry continues to perform relatively well in an up market. Indeed, typically purchased for their yield and dividend growth prospects, the average yield in this group is now below the *Value Line* median. Based, on other key financial metrics, this Industry is trading at historically high levels. For example, the P/E ratios of these stocks is probably close to 30. That's over 1.7 times the average stock's P/E.

Not only are other stocks offering an alternative to this group, but short-term Treasury notes are looking attractive on a relative basis as well. The yield on a three-month Treasury note is currently over 2.4%. Thus, it is yielding more than 50 basis points higher than most water equities. True, there is not the possibility of dividend hikes for this security, but there also is just about no risk whatsoever. All in all, we think investors should take a hard look at the offerings on the front end of the yield curve rather than invest in water utility stocks.

Large Construction Programs

Following years of neglect, water utilities have been spending heavily to upgrade the nation's deteriorating pipelines over the past decade. According to the American Society of Civil Engineers (ASCE), most pipes in America were laid early to mid-20th century, with an average lifespan of between 75 to 100 years. Many of these assets are currently in great need of repair or replacement. Indeed, the ASCE estimates that almost six billion gallons of water are lost per day as a result of leaky pipes. In other terms, this is 14%-18% of the amount of water treated daily. It should be pointed out that ASCE may not be entirely impartial as this would result in much more work for civil engineers.

Positive Regulation

State regulatory commissions are extremely important because they literally set the rate of return that a utility is allowed to earn on its investment. No matter how well run a company is, harsh treatment by authori-

ties is nearly impossible to overcome. Fortunately, regulators have utilities have been successfully working together. They realize that many of the water infrastructure in the U.S. need to be upgraded and that the task will require a lot of money. Thus, states are permitting the utilities to make a decent return on their assets. Estimates are that the average water bill has increased by almost 50% since 2010. This puts regulatory authorities in a difficult position. They are appointed by politicians to be on the regulatory commissions. And, no matter how badly a rate hike may be required, the citizenry doesn't usually react too well to increases in utility bills.

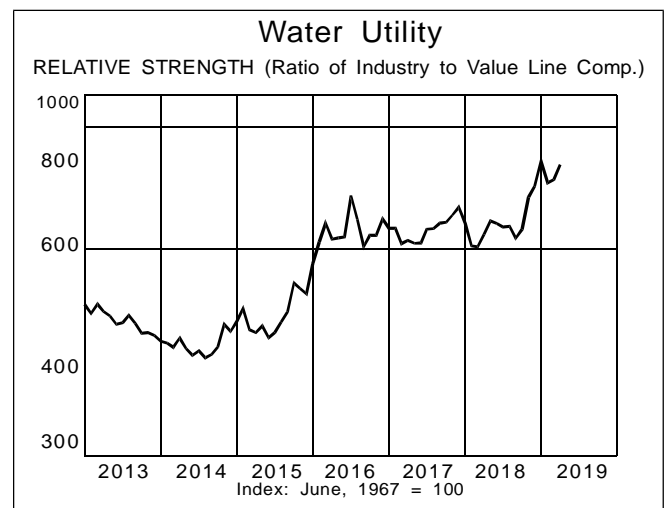
Consolidation

Most of the 50,000-or-so water districts in the U.S. are very small. Moreover, they are municipally owned. That's one of the reasons there are so few investor-owned companies such as the ones in this issue. In any case, the water industry is one place where synergies and economies of scale have historically proven to be very achievable. Over the years we look for the two largest companies *American Water Works* and *Aqua America* to continue using a growth through acquisition strategy. These entities are continually buying smaller water districts. Not only are these acquisitions made more efficient, but a big utility has the financial wherewithal to finance the cost of modernizing antiquated pipelines and wastewater systems.

Conclusion

Despite their low Beta co-efficient, and high scores for Price Stability and Earnings Predictability, these stocks may hold more risk than a typical utility investor may want to undertake. This opinion is based purely on what we believe are elevated valuations of the equities. We continue to think that the industry is fundamentally sound, but better alternatives are available elsewhere.

James A. Flood



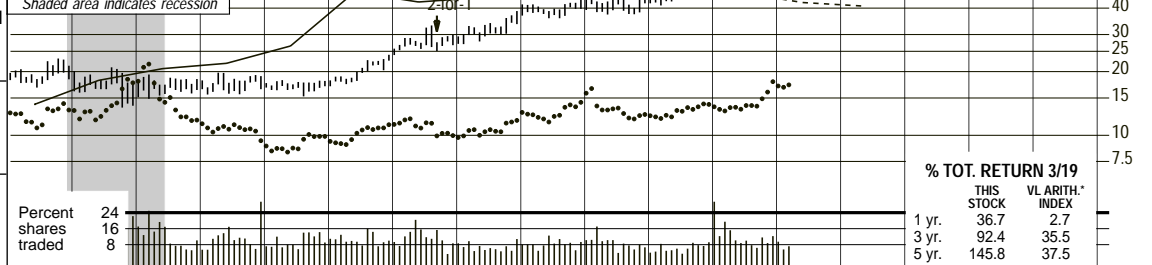
AMER. STATES WATER NYSE-AWR

RECENT PRICE **70.31** P/E RATIO **37.6** (Trailing: 40.9; Median: 21.0) RELATIVE P/E RATIO **2.16** DIV/D YLD **1.6%** VALUE LINE

TIMELINESS **1** Raised 4/12/19
 SAFETY **2** Raised 7/20/12
 TECHNICAL **2** Lowered 2/22/19
 BETA .70 (1.00 = Market)

High: 21.0 19.4 19.8 18.2 24.1 33.1 38.7 44.1 47.2 58.4 69.6 72.5
 Low: 13.5 14.9 15.6 15.3 17.0 24.0 27.0 35.8 37.3 41.1 50.1 63.3

LEGENDS
 1.35 x Dividends p sh divided by Interest Rate
 Relative Price Strength
 2-for-1 split 9/13
 Options: Yes
 Shaded area indicates recession



2022-24 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+5%)	4%
Low	55	(-20%)	-3%

Insider Decisions

	J	A	S	O	N	D	J	F
to Buy	0	0	0	0	0	0	0	0
Options	0	2	0	4	0	2	3	12
to Sell	1	2	3	4	1	3	3	2

Institutional Decisions

	2Q2018	3Q2018	4Q2018
to Buy	105	107	140
to Sell	95	109	102
Hld's(000)	27202	26103	26276

Percent shares traded: 24, 16, 8

% TOT. RETURN 3/19

	THIS STOCK	VL ARITH. INDEX
1 yr.	36.7	2.7
3 yr.	92.4	35.5
5 yr.	145.8	37.5

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
6.99	6.81	7.03	7.88	8.75	9.21	9.74	10.71	11.12	12.12	12.19	12.17	12.56	11.92	12.01	11.88	12.20	12.45	Revenues per sh	15.75
1.04	1.11	1.32	1.45	1.65	1.69	1.70	2.11	2.13	2.48	2.65	2.67	2.81	2.70	2.96	2.84	3.05	3.25	"Cash Flow" per sh	4.00
.39	.53	.66	.67	.81	.78	.81	1.11	1.12	1.41	1.61	1.57	1.61	1.62	1.88	1.72	1.90	2.05	Earnings per sh ^A	2.75
.44	.44	.45	.46	.48	.50	.51	.52	.55	.64	.76	.83	.87	.91	.99	1.06	1.14	1.22	Div'd Decl'd per sh ^B	1.70
1.88	2.51	2.12	1.95	1.45	2.23	2.09	2.12	2.13	1.77	2.52	1.89	2.39	3.55	3.08	3.44	3.45	3.50	Cap'l Spending per sh	3.25
6.98	7.51	7.86	8.32	8.77	8.97	9.70	10.13	10.84	11.80	12.72	13.24	12.77	13.52	14.45	15.19	15.85	16.60	Book Value per sh ^D	19.35
30.42	33.50	33.60	34.10	34.46	34.60	37.06	37.26	37.70	38.53	38.72	38.29	36.50	36.57	36.68	36.76	36.90	37.00	Common Shs Outst'g ^C	37.50
31.9	23.2	21.9	27.7	24.0	22.6	21.2	15.7	15.4	14.3	17.2	20.1	24.6	25.6	25.7	34.0	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	23.5
1.82	1.23	1.17	1.50	1.27	1.36	1.41	1.00	.97	.91	.97	1.06	1.24	1.34	1.29	1.83			Relative P/E Ratio	1.30
3.5%	3.6%	3.1%	2.5%	2.5%	2.9%	2.9%	3.0%	3.2%	3.1%	2.7%	2.6%	2.2%	2.2%	2.0%	1.8%			Avg Ann'l Div'd Yield	2.6%

CAPITAL STRUCTURE as of 12/31/18
 Total Debt \$416.9 mill. Due in 5 Yrs \$100.7 mill.
 LT Debt \$376.6 mill. LT Interest \$21.5 mill.
 (40% of Cap'l)

Leases, Uncapitalized: Annual rentals \$2.6 mill.
 Pension Assets-12/18 \$162.5 mill.
 Oblig. \$196.1 mill.

Pfd Stock None

Common Stock 36,774,205 shs.
 as of 2/12/19

MARKET CAP: \$2.6 billion (Mid Cap)

CURRENT POSITION

(SMILL.)	2016	2017	12/31/18
Cash Assets	.4	.2	7.1
Accts Receivable	20.0	26.1	23.4
Other	146.5	129.2	101.0
Current Assets	166.9	155.5	131.5
Accts Payable	43.7	51.0	59.5
Debt Due	90.3	59.3	40.3
Other	43.9	46.4	46.8
Current Liab.	177.9	156.7	146.6

ANNUAL RATES

	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '22-'24
of change (per sh)			
Revenues	3.5%	-	4.5%
"Cash Flow"	6.0%	3.0%	6.0%
Earnings	9.0%	4.5%	8.0%
Dividends	7.5%	9.0%	9.5%
Book Value	5.0%	4.0%	5.0%

QUARTERLY REVENUES (\$ mill.)

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	93.5	112.0	123.8	106.8	436.1
2017	98.8	113.2	124.4	104.2	440.6
2018	94.7	106.9	124.2	111.0	436.8
2019	97.0	115	130	108	450
2020	100	118	132	115	465

EARNINGS PER SHARE ^A

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.28	.45	.59	.30	1.62
2017	.34	.62	.57	.35	1.88
2018	.29	.44	.62	.37	1.72
2019	.30	.55	.65	.40	1.90
2020	.33	.61	.69	.42	2.05

QUARTERLY DIVIDENDS PAID ^B

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2015	.213	.213	.224	.224	.87
2016	.224	.224	.224	.242	.91
2017	.242	.242	.255	.255	.99
2018	.255	.255	.275	.275	1.06
2019	.275				

BUSINESS: American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Co., it supplies water to 259,919 customers in 70 cities in 10 counties. Service areas include the metropolitan areas of Los Angeles and Orange Counties. The company also provides electricity to 24,353 customers in Big Bear Lake and San Bernardino Cnty. Provides

American States Water recorded solid results in the fourth quarter. Share earnings were \$0.37, or 6% higher than the previous year's figure. This comparison was accomplished even though profits dipped slightly in the company's core water utility business. The ASUS unit, which provides water services to American army bases, contributed \$0.18 to share earnings, versus \$0.11 in the year-earlier period. Most of the gains were due to the commencement of operations at Fort Riley, increases in earnings from the Elgin Air Force base, and higher activity at Fort Bragg. The armed services are in the process of privatizing water services to many compounds via 50-year contracts. We expect ASUS to win a fair share of the remaining facilities that will eventually seek market bids. American States can augment its earning growth in this segment because it generates a higher return on its investment here as regulators do not set the allowed return on equity.

A major rate case is still pending. In California, water utilities file for rate relief triennially. For the 2018-2021 period, authorities tentatively agreed to a

settlement with the Golden State subsidiary last year, but the agreement hasn't been approved by the California Public Utility Commission. When the deal is finalized, the utility will be allowed to recoup certain expenses incurred in 2018.

Earnings momentum should continue through next year. With the utility being able to implement higher rates sometime in 2019, American States' earnings per share may well rise 10% to \$1.90. In 2020, we think the bottom line will have another good showing, and earnings per share could reach \$2.05.

These timely shares are only for short-term investors. American States Water is a well-run company, but its stock price is expensive by most key financial metrics. For starters, this income equity now has a yield that is lower than the Value Line median. Moreover, three-to-five-year total return potential is well-below average. Conservative investors may find the stock's low volatility and well-defined prospects appealing. However, we think these positives are already factored into the price of the stock.

James A. Flood
 April 12, 2019

(A) Primary earnings. Excludes nonrecurring gains/(losses): '04, 7c; '05, 13c; '06, 3c; '08, (14c); '10, (23c); '11, 10c. Next earnings report due mid-May.
 (B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
 (C) In millions, adjusted for split.
 (D) Includes intangibles. As of 12/31/18; \$1.1 million/\$0.03 a share.

AMERICAN WATER NYSE-AWK

RECENT PRICE **103.71** P/E RATIO **32.7** (Trailing: 32.9 Median: 19.0) RELATIVE P/E RATIO **1.88** DIV'D YLD **1.9%** VALUE LINE

TIMELINESS 1 Raised 4/5/19	High: 23.7 23.0 25.8 32.8 39.4 45.1 56.2 61.2 85.2 92.4 98.2 107.7	Low: 16.5 16.2 19.4 25.2 31.3 37.0 41.1 48.4 58.9 70.0 76.0 88.0	Target Price Range 2022 2023 2024
SAFETY 3 New 7/25/08	LEGENDS 1.10 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded area indicates recession		
TECHNICAL 3 Raised 4/12/19			
BETA .60 (1.00 = Market)			
2022-24 PROJECTIONS			
Price	Gain	Ann'l Total Return	
High 120	(+15%)	6%	
Low 80	(-25%)	-3%	
Insider Decisions			
J A S O N D J F			
to Buy	0 0 0 0 0 2 0 0 0		
Options	0 0 1 1 0 0 0 7 9		
to Sell	0 0 1 1 0 0 0 0 0		
Institutional Decisions			
202018 3Q2018 4Q2018			
to Buy	307 290 362		
to Sell	289 309 287		
Hld's(000)	151828 154530 155716		
Percent shares traded	21 14 7		

2003	2004	2005	2006	2007 ^E	2008 ^E	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC		22-24
--	--	--	13.08	13.84	14.61	13.98	15.49	15.18	16.25	16.28	16.78	17.72	18.54	18.81	19.04	19.95	20.95	Revenues per sh		23.80
--	--	--	.65	d.47	2.87	2.89	3.56	3.73	4.27	4.36	4.75	5.13	5.26	5.14	6.15	6.75	7.05	"Cash Flow" per sh		8.30
--	--	--	d.97	d2.14	1.10	1.25	1.53	1.72	2.11	2.06	2.39	2.64	2.62	2.38	3.15	3.60	3.85	Earnings per sh ^A		4.70
--	--	--	--	.40	.82	.86	.90	1.21	.84	1.21	1.33	1.47	1.62	1.78	1.94	2.10	2.10	Div'd Decl'd per sh ^B		2.75
--	--	--	4.31	4.74	6.31	4.50	4.38	5.27	5.25	5.50	5.33	6.51	7.36	8.04	8.78	9.15	9.15	Cap'l Spending per sh		9.00
--	--	--	23.86	28.39	25.64	22.91	23.59	24.11	25.11	26.52	27.39	28.25	29.24	30.13	32.42	34.55	36.55	Book Value per sh ^D		41.25
--	--	--	160.00	160.00	160.00	174.63	175.00	175.66	176.99	178.25	179.46	178.28	178.10	178.44	180.68	181.00	182.00	Common Shs Outst'g ^C		189.00
--	--	--	--	18.9	15.6	14.6	16.8	16.7	19.9	20.0	20.5	27.7	33.8	27.3				Avg Ann'l P/E Ratio		21.5
--	--	--	--	1.14	1.04	.93	1.05	1.06	1.12	1.05	1.03	1.45	1.70	1.47				Relative P/E Ratio		1.20
--	--	--	--	1.9%	4.2%	3.8%	3.1%	3.4%	2.0%	2.5%	2.5%	2.0%	2.0%	2.1%				Avg Ann'l Div'd Yield		2.8%

CAPITAL STRUCTURE as of 12/31/18	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Debt \$8604.0 mil. Due in 5 Yrs \$1555.0 mil.	2440.7	2710.7	2666.2	2876.9	2901.9	3011.3	3159.0	3302.0	3357.0	3440.0	3615	3815
LT Debt \$7569.0 mil. LT Interest \$328.0 mil. (56% of Cap'l)	209.9	267.8	304.9	374.3	369.3	429.8	476.0	468.0	426.0	567.0	650	700
	37.9%	40.4%	39.5%	40.7%	39.1%	39.4%	39.1%	39.2%	53.3%	28.2%	21.0%	21.0%
	--	--	--	6.2%	5.1%	--	--	--	5.1%	4.0%	5.0%	5.0%
Leases, Uncapitalized: Annual rentals \$17.0 mil.	56.9%	56.8%	55.7%	53.9%	52.4%	52.4%	53.7%	52.4%	54.7%	56.3%	57.0%	58.0%
Pension Assets 12/18 \$1499.0 mil.	43.1%	43.2%	44.2%	46.1%	47.6%	47.4%	46.2%	47.5%	45.3%	43.6%	43.0%	42.0%
Obliq. \$1892.0 mil.	9289.0	9561.3	9580.3	9635.5	9940.7	10364	10911	10967	11875	13433	14600	15700
Pfd Stock \$7.0 mil. Pfd Div'd \$4 mill	10524	11059	11021	11739	12391	12900	13933	14992	16246	17409	18500	19500
Common Stock 180,751,697 shs. as of 2/14/19	3.8%	4.4%	4.8%	5.4%	5.1%	5.5%	5.7%	5.6%	4.9%	5.4%	5.5%	5.5%
MARKET CAP: \$18.7 billion (Large Cap)	5.2%	6.5%	7.2%	8.4%	7.8%	8.7%	9.4%	9.0%	7.9%	9.7%	10.5%	10.5%
CURRENT POSITION 2016 2017 12/31/18 (\$MILL.)	5.2%	6.5%	7.2%	8.4%	7.8%	8.7%	9.4%	9.0%	7.9%	9.7%	10.5%	10.5%
Cash Assets	75.0	82.0	158.0									
Accts Receivable	269.0	272.0	301.0									
Other	440.0	366.0	322.0									
Current Assets	784.0	720.0	781.0									
Accts Payable	154.0	195.0	175.0									
Debt Due	1423.0	1227.0	1035.0									
Other	815.0	903.0	884.0									
Current Liab.	2392.0	2325.0	2094.0									

BUSINESS: American Water Works Company, Inc. is the largest investor-owned water and wastewater utility in the U.S., providing services to more than 14 million people in 46 states and Ontario, Canada. Nonregulated business assists municipalities and military bases with the maintenance and upkeep as well. Regulated operations made up 87% of 2018 revenues. New Jersey is its largest market accounting for 24% of regulated revenues; Pennsylvania, 23%. Has 7,100 employees. The Vanguard Grp, owns 11.0% of outstanding shares; BlackRock, Inc., 7.9%; officers & directors, less than 1.0%. (3/19 Proxy). President & CEO: Susan N. Story. Chairman: George MacKenzie. Address: 1025 Laurel Oak Road, Voorhees, NJ 08043. Tel.: 856-346-8200. Internet: www.amwater.com.

Shares of American Water Works continue to turn in an impressive showing. When the stock market slumped double digits in last year's fourth quarter, the equity managed to post positive returns. In the recent March period, the S&P 500 rose about 13%, or about 100 basis points less than AWK. Despite being considered a defensive stock, over the past one-, three-, and five-year periods, AWK has easily outperformed the market indices.

Has the equity peaked? Not according to our ranking system, which believes AWK will do better than the market in the year ahead. Using other financial metrics, however, and a solid case can be made against AWK. Even assuming a healthy dividend increase in May of 7%-10%, the stock's yield is still below 2%. This compares unfavorably to both the *Value Line* median and short-term Treasury notes. Indeed, an investor can get almost a 2.4% yield on a three-month note, without almost no risk. Moreover, AWK has well-below-average total return prospects through 2022-2024, as the current quote is well within our projected Target Price Range.

Much of the company's success is due to its acquisition and cost control strategy. The utility has managed to grow by purchasing many local municipally-owned water districts. (The domestic market consists of over 50,000 separate water districts, with most them small and undercapitalized.) This industry has proven that cost synergies are inherent in most consolidations, so we look for this trend to continue.

Prospects are bright. We think that the company's earnings and dividends can grow 7%-10% over the next five years, a rate much higher than its peers.

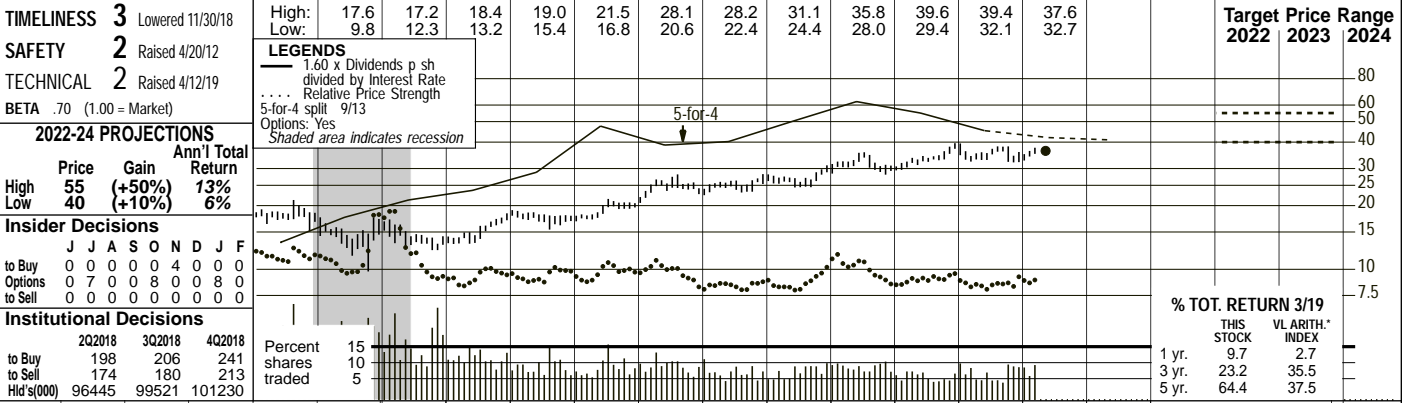
Finances are adequate. As part of the large program under way to replace aging pipelines, American Water will spend \$8 billion to \$8.6 billion on capital expenditures through 2023. This will require the need for external financing. The utility doesn't issue many new shares, so it will likely rely more on new debt. We expect the long-term debt-to-total capital ratio to increase from the current 54%, to 59% by early next decade. Still, not bad considering the size of the capital budget.

James A. Flood
April 12, 2019

(A) Diluted earnings. Excludes nonrecurr. losses: '08, \$4.62; '09, \$2.63; '11, \$0.07. Disc. oper.: '06, (\$0.04); '11, \$0.03; '12, (\$0.10); '13, (\$0.01). GAAP used as of 2014. Next earnings report due mid-May. Quarterly earnings do not sum in '16 due to rounding.	(C) In millions. (D) Includes intangibles. On 12/31/18: \$1.659 billion, \$9.18/share.	Company's Financial Strength	B+
(B) Dividends paid in March, June, September, and December. ■ Div. reinvestment available.	(E) Pro forma numbers for '06 & '07.	Stock's Price Stability	100
		Price Growth Persistence	85
		Earnings Predictability	85

© 2019 Value Line, Inc. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

To subscribe call 1-800-VALUELINE



2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC 22-24	
2.38	2.78	3.08	3.23	3.61	3.71	3.93	4.21	4.10	4.32	4.32	4.37	4.61	4.62	4.56	4.71	5.00	5.25	Revenues per sh	6.50
.77	.87	.97	1.01	1.10	1.14	1.29	1.42	1.45	1.51	1.82	1.89	1.87	2.07	2.12	1.90	2.35	2.50	"Cash Flow" per sh	3.10
.46	.51	.57	.56	.57	.58	.62	.72	.83	.87	1.16	1.20	1.14	1.32	1.35	1.08	1.50	1.60	Earnings per sh ^A	2.05
.28	.29	.32	.35	.38	.41	.44	.47	.50	.54	.58	.63	.69	.74	.79	.85	.91	.97	Div'd Decl'd per sh ^B	1.35
1.06	1.23	1.47	1.64	1.43	1.58	1.66	1.89	1.90	1.98	1.73	1.84	2.07	2.16	2.69	2.78	2.80	2.80	Cap'l Spending per sh	2.25
4.27	4.71	5.04	5.57	5.85	6.26	6.50	6.81	7.21	7.90	8.63	9.27	9.78	10.43	11.02	11.28	12.20	12.85	Book Value per sh	15.55
154.31	158.97	161.21	165.41	166.75	169.21	170.61	172.46	173.60	175.43	177.93	178.59	176.54	177.39	177.71	178.09	178.50	179.00	Common Shs Outst'g ^C	182.00
24.5	25.1	31.8	34.7	32.0	24.9	23.1	21.1	21.3	21.9	21.2	20.8	23.5	23.9	24.7	32.6	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	24.0
1.40	1.33	1.69	1.87	1.70	1.50	1.54	1.34	1.34	1.39	1.19	1.09	1.18	1.25	1.24	1.76			Relative P/E Ratio	1.35
2.5%	2.3%	1.8%	1.8%	2.1%	2.8%	3.1%	3.1%	2.8%	2.8%	2.4%	2.5%	2.6%	2.3%	2.4%	2.4%			Avg Ann'l Div'd Yield	2.3%

CAPITAL STRUCTURE as of 12/31/18		2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC 22-24										
Total Debt	\$2558.4 mill.	670.5	726.1	712.0	757.8	768.6	779.9	814.2	819.9	809.5	838.1	895	940	Revenues (\$mill)	1185				
LT Debt	\$2398.4 mill.	104.4	124.0	144.8	153.1	205.0	213.9	201.8	234.2	239.7	192.0	268	285	Net Profit (\$mill)	375				
LT Interest	\$96.0 mill.	39.4%	39.2%	32.9%	39.0%	10.0%	10.5%	6.9%	8.2%	6.6%	6.6%	10.0%	15.0%	Income Tax Rate	20.0%				
(54% of Cap'l)		--	--	--	--	1.1%	2.4%	3.1%	3.8%	6.3%	6.8%	6.5%	6.5%	AFUDC % to Net Profit	6.5%				
Pension Assets-12/18	\$239.0 mill.	55.6%	56.6%	52.7%	52.7%	48.9%	48.5%	50.3%	48.4%	50.6%	54.4%	56.0%	56.5%	Long-Term Debt Ratio	56.0%				
Oblig.	\$282.0 mill.	44.4%	43.4%	47.3%	47.3%	51.1%	51.5%	49.7%	51.6%	49.4%	45.6%	44.0%	43.5%	Common Equity Ratio	44.0%				
Pfd Stock	None	2495.5	2706.2	2646.8	2929.7	3003.6	3216.0	3469.5	3587.7	3965.4	4407.8	4930	5300	Total Capital (\$mill)	6425				
Common Stock	178,145,692 shares as of 2/12/19	3227.3	3469.3	3612.9	3936.2	4167.3	4402.0	4688.9	5001.6	5399.9	5930.3	6100	6400	Net Plant (\$mill)	7200				
MARKET CAP: \$6.5 billion (Large Cap)		5.6%	5.9%	6.9%	6.6%	8.0%	7.8%	6.9%	7.6%	7.1%	5.5%	6.5%	6.5%	Return on Total Cap'l	7.5%				
CURRENT POSITION (SMILL.)		9.4%	10.6%	11.6%	11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	12.5%	12.5%	Return on Shr. Equity	13.5%				
Cash Assets	3.7	4.2	3.6	2.7%	3.7%	4.6%	4.3%	6.7%	6.1%	4.7%	5.6%	5.1%	2.1%	Returned to Com Eq	4.5%				
Receivables	97.4	98.6	101.2	72%	65%	60%	61%	50%	52%	60%	56%	59%	79%	All Div'ds to Net Prof	66%				
Inventory (AvgCst)	13.0	14.4	15.8																
Other	14.6	14.0	26.6																
Current Assets	128.7	131.2	147.2																
Accts Payable	59.9	59.2	77.3																
Debt Due	157.2	117.4	160.0																
Other	84.4	107.9	161.7																
Current Liab.	301.5	284.5	399.0																

BUSINESS: Aqua America, Inc. is the holding company for water and wastewater utilities that serve approximately three million residents in Pennsylvania (responsible for 53% of 2018 revenues), Ohio, Texas, Illinois, North Carolina, New Jersey, Indiana, and Virginia. Has 1,570 employees. Acquired AquaSource, 7/13; North Maine Utilities, 7/15; and others. Water supply revenues 2018: residential, 58%; commercial, 16%; industrial, wastewater & other, 26%. Off. & dir. own less than 1% of the common stock; Vanguard Group, 10.7%; Blackrock, Inc, 9.5%; State Street Capital, 4.9% (3/19 Proxy). President & Chief Executive Officer: Christopher Franklin, Inc.: PA Addr.: 762 West Lancaster Avenue, Bryn Mawr, PA 19010. Tel.: 610-525-1400. Internet: www.aquaamerica.com.

Cal-endar	QUARTERLY REVENUES (\$ mill.)	Full Year
2016	192.6 203.9 226.6 196.8	819.9
2017	187.8 203.4 215.0 203.3	809.5
2018	194.3 211.9 226.2 205.7	838.1
2019	205 225 235 230	895
2020	215 235 250 240	940

Cal-endar	EARNINGS PER SHARE ^A	Full Year
2016	.29 .34 .41 .28	1.32
2017	.28 .34 .43 .30	1.35
2018	.29 .37 .44 d.02	1.08
2019	.31 .38 .48 .33	1.50
2020	.33 .41 .51 .35	1.60

Cal-endar	QUARTERLY DIVIDENDS PAID ^B	Full Year
2015	.165 .165 .178 .178	.69
2016	.178 .178 .1913 .1913	.74
2017	.1913 .1913 .2047 .2047	.79
2018	.2047 .2047 .219 .219	.85
2019	.219	

Aqua America is awaiting final approvals of a major acquisition. Last October, the water utility announced that it would pay \$4.275 billion, as well as assume \$1.3 billion in debt, to buy Peoples Natural Gas Company in an all-cash transaction. Aqua's size would increase meaningfully as the combined entity would have a rate base of \$10.8 billion, and 1.74 million connections serving five million people. Three different state authorities have to sign off on the deal, so it is not expected to be completed until the middle of this year.

The new entity will have a changed risk profile. While Aqua has experience operating a regulated entity, the gas sector is different than the water business. Mainly, citizens realize that old rusty water pipes have to be replaced. There is more community push back when it comes to transporting natural gas. Since Aqua already has a good relationship with Pennsylvania regulators, where most of the business will be centered, we don't anticipate any major changes. Still, we expect state authorities to be more challenging on the natural gas side. In addition, the company's balance sheet will undergo a large transformation. In addition to the new shares sold to CPPIB, more equity and bonds will have to be issued. We estimate that another 50 million new shares may be required, along with perhaps over \$2 billion of debt obligations.

A major new investor has been brought on board. On March 29th, it was announced that the Canadian Pension Plan (CPPIB) would pay \$750 million for 21.7 million newly issued shares. This would increase the number of shares outstanding by about 12%. The funds will be used to help finance the purchase of Peoples' Gas and is contingent upon the closing of the deal. (Please note: As per Value Line convention, we will not include the proposed acquisition in our earnings presentation until the Peoples' transaction is official.)

Investors are probably better off waiting on the sidelines. The proposed merger has left the company's near-term prospects very ill-defined, making WTR much riskier than most of its peers in this group.

James A. Flood
April 12, 2019

(A) Diluted egs. Excl. nonrec. gains: '03, 3¢; '12, 18¢. Excl. gain from disc. operations: '12, 7¢; '13, 9¢; '14, 11¢. May not sum due to rounding. Next earnings report early May.
 (B) Dividends historically paid in early March, June, Sept. & Dec. Div'd reinvestment plan available (5% discount).
 (C) In millions, adjusted for stock splits.
 (D) Includes intangibles: 12/31/18, \$52.7 mill./\$.30 a share.

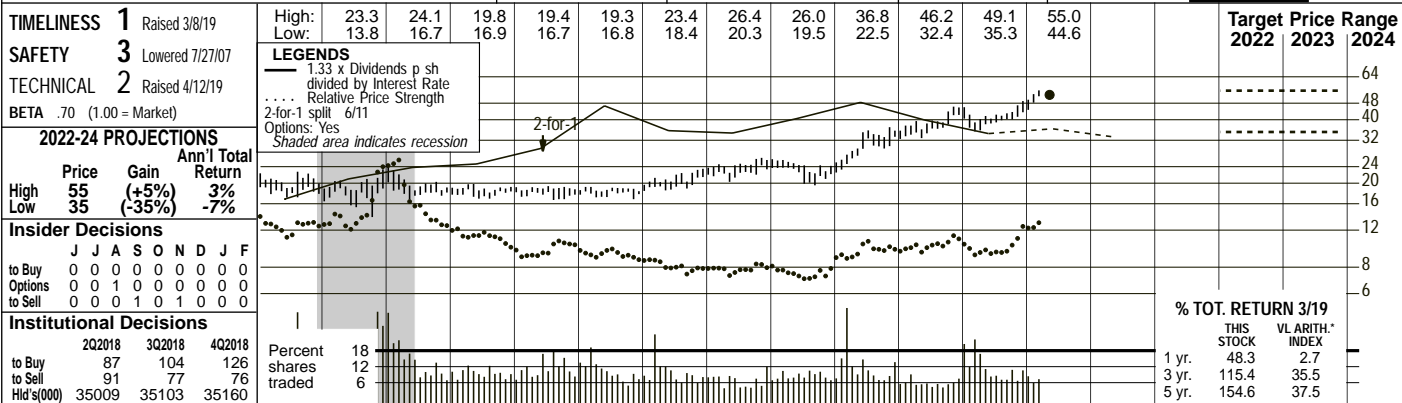
Company's Financial Strength A
 Stock's Price Stability 95
 Price Growth Persistence 65
 Earnings Predictability 90

© 2019 Value Line, Inc. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

To subscribe call 1-800-VALUELINE

CALIFORNIA WATER NYSE-CWT

RECENT PRICE **52.41** P/E RATIO **32.8** (Trailing: 41.6 Median: 20.0) RELATIVE P/E RATIO **1.89** DIV'D YLD **1.5%** **VALUE LINE**



2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
8.18	8.59	8.72	8.10	8.88	9.90	10.82	11.05	12.00	13.34	12.23	12.50	12.29	12.70	13.89	14.38	14.65	14.90	Revenues per sh	15.50
1.26	1.42	1.52	1.36	1.56	1.86	1.93	1.93	2.07	2.32	2.21	2.47	2.22	2.34	3.00	2.99	3.30	3.40	"Cash Flow" per sh	3.60
.61	.73	.74	.67	.75	.95	.98	.91	.86	1.02	1.02	1.19	.94	1.01	1.40	1.26	1.65	1.75	Earnings per sh ^A	2.00
.56	.57	.57	.58	.58	.59	.59	.60	.62	.63	.64	.65	.67	.69	.72	.75	.79	.82	Div'd Decl'd per sh ^B	1.05
2.19	1.87	2.01	2.14	1.84	2.41	2.66	2.97	2.83	3.04	2.58	2.76	3.69	4.77	5.40	4.35	3.95	4.00	Cap'l Spending per sh	3.65
7.22	7.83	7.90	9.07	9.25	9.72	10.13	10.45	10.76	11.28	12.54	13.11	13.41	13.75	14.44	15.19	15.45	15.80	Book Value per sh ^C	17.00
33.86	36.73	36.78	41.31	41.33	41.45	41.53	41.67	41.82	41.98	47.74	47.81	47.88	47.97	48.01	48.07	48.50	49.00	Common Shs Outst'g ^D	50.00
22.1	20.1	24.9	29.2	26.1	19.8	19.7	20.3	21.3	17.9	20.1	19.7	24.8	29.6	26.9	32.7			Avg Ann'l P/E Ratio	23.0
1.26	1.06	1.33	1.58	1.39	1.19	1.31	1.29	1.34	1.14	1.13	1.04	1.25	1.55	1.35	1.77			Relative P/E Ratio	1.25
4.2%	3.9%	3.1%	2.9%	3.0%	3.1%	3.1%	3.2%	3.4%	3.5%	3.1%	2.8%	2.9%	2.3%	1.9%	1.8%			Avg Ann'l Div'd Yield	2.5%

CAPITAL STRUCTURE as of 12/31/18		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		22-24
Total Debt \$880.0 mill. Due in 5 Yrs \$430.1 mill.		449.4	460.4	501.8	560.0	584.1	597.5	588.4	609.4	666.9	691.2	710	730	Revenues (\$mill) ^E	775						
LT Debt \$710.0 mill. LT Interest \$40.0 mill. (49% of Cap'l)		40.6	37.7	36.1	42.6	47.3	56.7	45.0	48.7	67.2	60.5	80.0	85.5	Net Profit (\$mill)	100						
Pension Assets-12/18 \$469.7 mill. Oblig. \$639.9 mill.		40.3%	39.5%	40.5%	37.5%	30.3%	33.0%	36.0%	35.5%	30.1%	21.0%	21.0%	21.0%	Income Tax Rate	21.0%						
Pfd Stock None		7.6%	4.2%	7.6%	8.0%	4.3%	2.7%	4.3%	6.1%	3.5%	5.0%	5.0%	5.0%	AFUDC % to Net Profit	5.0%						
Common Stock 48,065,000 shs.		47.1%	52.4%	51.7%	47.8%	41.6%	40.1%	44.4%	44.6%	42.7%	49.3%	46.5%	42.7%	Long-Term Debt Ratio	38.0%						
MARKET CAP: \$2.5 billion (Mid Cap)		52.9%	47.6%	48.3%	52.2%	58.4%	59.9%	55.6%	55.4%	57.3%	50.7%	53.5%	56.5%	Common Equity Ratio	62.0%						
CURRENT POSITION		794.9	914.7	931.5	908.2	1024.9	1045.9	1154.4	1191.2	1209.3	1440.2	1400	1375	Total Capital (\$mill)	1375						
		1198.1	1294.3	1381.1	1457.1	1515.8	1590.4	1701.8	1859.3	2048.0	2232.7	2300	2385	Net Plant (\$mill)	2500						
		6.5%	5.5%	5.5%	6.3%	6.0%	6.3%	5.2%	5.5%	7.1%	5.5%	6.5%	7.5%	Return on Total Cap'l	8.5%						
		9.6%	8.6%	8.0%	9.0%	7.9%	9.1%	7.0%	7.4%	9.7%	8.3%	10.5%	11.0%	Return on Shr. Equity	12.0%						
		9.6%	8.6%	8.0%	9.0%	7.9%	9.1%	7.0%	7.4%	9.7%	8.3%	10.5%	11.0%	Return on Com Equity	12.0%						
		3.8%	3.0%	2.3%	3.4%	3.4%	4.1%	2.0%	2.4%	4.7%	3.3%	5.5%	6.0%	Retained to Com Eq	5.5%						
		60%	66%	71%	62%	56%	55%	71%	68%	51%	60%	48%	47%	All Div'ds to Net Prof	53%						

BUSINESS: California Water Service Group provides regulated and nonregulated water service to 486,900 customers in 100 communities in the state of California. Accounts for over 94% of total customers. Also operates in Washington, New Mexico, and Hawaii. Main service areas: San Francisco Bay area, Sacramento Valley, Salinas Valley, San Joaquin Valley & parts of Los Angeles. Acquired Rio Grande Corp; West Hawaii Utilities (9/08). Revenue breakdown, '18: residential, 67%; business, 19%; industrial, 5%; public authorities, 5%; other 4%. Off. and dir. own 1% of common stock (4/18 proxy). Has 1,184 employees. Pres. and CEO: Martin A. Kropelnicki. Inc.: DE. Addr.: 1720 North First St., San Jose, CA 95112-4598. Tel.: 408-367-8200. Internet: www.calwatergroup.com.

California Water Service Group stock is trading at an all-time high price. Shares are up almost 15% in value since our January review, which comes off the heels of a 10% rise three months prior. There is clear market support for CWT shares at present, partly owing to improving top-line results, quarter over quarter. Moreover, California's unsuccessful pursuit of SJW Group is now in the rearview mirror, which should allow the company to refocus its resources and energy on operational improvements.

The company boosted its quarterly dividend payment 5%, to about \$0.20 a share. Indeed, the raise is a good sign, and suggests the company is fundamentally sound. Too, we think additional payout increases are in the cards further out. That said, at current levels, the yield significantly lags both its peer group and the broader market, leaving income-seeking accounts little to get excited about.

Capital investments and rate hikes are apt to be the norm going forward. The majority of CWT's aging infrastructure is still in need of replacement, even after the company spent more than \$270 million on upgrades in 2018 (the bulk of which focused on trichloropropane treatment in order to meet new California standards). Over the next several years, through its previously mapped-out investment program, CWT aims to spend upward of \$800 million on new water pipes and treatment plant upgrades. Because of this, periodic base-rate hikes are likely to ensue. For example, the company's subsidiary, Hawaii Water Service, recently filed for a rate revision with their Public Utilities Commission, given the magnitude of upgrades over the past few years. Too, CWT has its own proposal in the works.

Shares of California Water garner our Highest rank (1) for Timeliness. The issue is pegged to outperform the broader market averages over the coming six to 12 months and, thus, will appeal to investors with a shorter investment horizon. However, we do not recommend this equity for accounts with a holding period out to 2022-2024. Shares of CWT are currently trading above the upper boundary of our Target Price Range due to its multiyear price ascent.

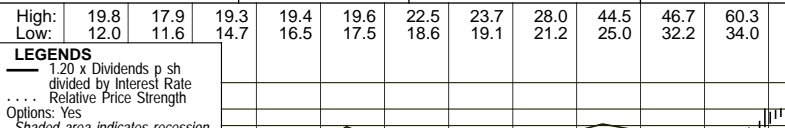
Nicholas P. Patrikis *April 12, 2019*

(A) Basic EPS. Excl. nonrecurring gain (loss): '11, 4c. Next earnings report due late May.	available.	(E) Excludes non-reg. rev.	Company's Financial Strength	B++
(B) Dividends historically paid in late Feb., May, Aug., and Nov. ■ Div'd reinvestment plan	(C) Incl. intangible assets. In '18: \$24.7 mill., \$0.51/sh.		Stock's Price Stability	80
	(D) In millions, adjusted for splits.		Price Growth Persistence	45
			Earnings Predictability	65

MIDDLESEX WATER NDQ-MSEX

RECENT PRICE **54.37** P/E RATIO **26.8** (Trailing: 27.7 Median: 21.0) RELATIVE P/E RATIO **1.54** DIV'D YLD **1.8%** VALUE LINE

TIMELINESS 3 Lowered 1/4/19
SAFETY 2 New 10/21/11
TECHNICAL 1 Raised 4/12/19
 BETA .75 (1.00 = Market)



2022-24 PROJECTIONS

	Price	Gain	Ann'l Total
High	55	(Nil)	3%
Low	40	(-25%)	-5%

Insider Decisions

	J	A	S	O	N	D	J	F
to Buy	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	0	0	0
to Sell	1	1	0	0	0	0	0	0

Institutional Decisions

	2Q2018	3Q2018	4Q2018
to Buy	54	54	76
to Sell	48	50	52
Hlds(000)	8732	9294	9247

Percent shares traded: 12, 8, 4

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
6.12	6.25	6.44	6.16	6.50	6.79	6.75	6.60	6.50	6.98	7.19	7.26	7.77	8.16	8.00	8.42	8.65	8.85	Revenues per sh	9.70
1.15	1.28	1.33	1.33	1.49	1.53	1.40	1.55	1.46	1.56	1.72	1.84	1.97	2.17	2.24	2.89	2.95	3.05	"Cash Flow" per sh	3.45
.61	.73	.71	.82	.87	.89	.72	.96	.84	.90	1.03	1.13	1.22	1.38	1.38	1.96	2.05	2.15	Earnings per sh ^A	2.40
.65	.66	.67	.68	.69	.70	.71	.72	.73	.74	.75	.76	.78	.81	.86	.91	.97	1.00	Div'd Decl'd per sh ^B	1.15
1.87	2.54	2.18	2.31	1.66	2.12	1.49	1.90	1.50	1.36	1.26	1.40	1.59	2.91	3.08	4.40	3.50	3.50	Cap'l Spending per sh	3.50
7.60	8.02	8.26	9.52	10.05	10.03	10.33	11.13	11.27	11.48	11.82	12.24	12.74	13.40	14.02	15.17	15.75	16.10	Book Value per sh	17.65
10.48	11.36	11.58	13.17	13.25	13.40	13.52	15.57	15.70	15.82	15.96	16.12	16.23	16.30	16.35	16.40	16.50	16.75	Common Shs Outst'g ^C	17.00
30.0	26.4	27.4	22.7	21.6	19.8	21.0	17.8	21.7	20.8	19.7	18.5	19.1	25.6	28.4	22.2	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	21.0
1.71	1.39	1.46	1.23	1.15	1.19	1.40	1.13	1.36	1.32	1.11	.97	.96	1.34	1.43	1.20			Relative P/E Ratio	1.15
3.5%	3.4%	3.5%	3.7%	3.7%	4.0%	4.7%	4.2%	4.0%	4.0%	3.7%	3.7%	3.3%	2.3%	2.2%	2.1%			Avg Ann'l Div'd Yield	2.4%

CAPITAL STRUCTURE as of 12/31/18
 Total Debt \$208.7 mill. Due in 5 Yrs \$55.8 mill.
 LT Debt \$152.9 mill. LT Interest \$6.8 mill.
 (Total interest coverage: 7.8x)
 (38% of Cap'l)

Pension Assets-12/18 \$66.8 mill.
 Oblig. \$83.9 mill.
 Pfd Stock \$2.4 mill. Pfd Div'd: \$.1 mill.

Common Stock 16,403,000 shs.

MARKET CAP: \$900 million (Small Cap)

CURRENT POSITION (\$MILL)

	2016	2017	12/31/18
Cash Assets	3.9	4.9	3.7
Other	22.8	24.3	27.1
Current Assets	26.7	29.2	30.8
Accts Payable	12.3	13.9	19.3
Debt Due	18.2	34.9	55.8
Other	16.6	15.7	19.3
Current Liab.	47.1	64.5	94.4

ANNUAL RATES of change (per sh)

Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '22-'24	
Revenues	2.5%	3.5%	3.0%
"Cash Flow"	5.5%	9.0%	6.0%
Earnings	6.0%	11.0%	7.5%
Dividends	2.0%	3.0%	5.0%
Book Value	3.5%	4.5%	3.5%

QUARTERLY REVENUES (\$ mill.)

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	30.6	32.7	37.8	31.8	132.9
2017	30.1	33.0	36.2	31.5	130.8
2018	31.2	34.9	38.7	33.3	138.1
2019	33.0	36.0	40.0	34.0	143
2020	34.0	37.0	42.0	35.0	148

EARNINGS PER SHARE^A

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.29	.36	.54	.19	1.38
2017	.27	.33	.46	.32	1.38
2018	.27	.52	.74	.43	1.96
2019	.32	.53	.75	.45	2.05
2020	.35	.55	.77	.48	2.15

QUARTERLY DIVIDENDS PAID^B

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2015	.1925	.1925	.1925	.19875	.78
2016	.19875	.19875	.19875	.21125	.81
2017	.21125	.21125	.21125	.22375	.86
2018	.22375	.22375	.22375	.24	.91
2019	.24				

BUSINESS: Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey, Delaware, and Pennsylvania. It also operates water and wastewater systems under contract on behalf of municipal and private clients in NJ and DE. Its Middlesex System provides water services to 61,000 retail customers, primarily in Middlesex County, New Jersey. In 2018, the Middlesex System accounted for 59% of operating revenues. At 12/31/18, the company had 330 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers & directors own 3.5% of the common stock; BlackRock Institutional Trust Co., 6.4% (4/18 proxy). Add.: 1500 Ronson Road, Iselin, NJ 08830. Tel.: 732-634-1500. Internet: www.middlesexwater.com.

Middlesex Water delivered solid financial results to round out 2018. The New Jersey-based regulated water and wastewater provider generated revenues of \$33.3 million in the December period, or 6% better than its previous-year haul. The improvement was underpinned by higher water demand from contract customers; strong growth from its Delaware subsidiary, Tidewater Utilities; as well as recently increased base rates across New Jersey operations. Likewise, earnings of \$0.43 a share came in \$0.06 ahead of our estimate, thanks largely to a lower effective tax rate and the aforementioned top-line gains. Notably, Middlesex continues to post impressive bottom-line results, even amidst a challenging cost environment (rising water production and labor expenses, higher employee healthcare premiums, and increased regulatory costs).

We are introducing our 2020 financial projections. Our model calls for revenues of \$148 million and earnings of \$2.15 a share next year. **Share-net growth three to five years out ought to be supported by capital spending initiatives.** Via its Water For

Tomorrow program, roughly \$150 million of investable capital has been earmarked through 2020 for major infrastructure upgrades and more-efficient water delivery systems. It is probable, in our view, that these advancements will help lower operating expenses.

The current yield leaves much to be desired. Traditionally, water utilities are considered somewhat of a safe haven for conservative investors looking to generate above-average annual income. However, in recent years, MSEX shares have been significantly bid up, thus limiting their appeal as a pure-play income option at the moment. Nonetheless, we think annual payout hikes are likely to support modest yield expansion over the pull to next decade.

This issue is ranked to move in line with the year-ahead broader market averages. In addition to a subpar yield, most of the gains we envision over the 2022-2024 timeframe appear to already be baked into the share price. Overall, Middlesex stock is not presently on our recommend list.

Nicholas P. Patrikis April 12, 2019

(A) Diluted earnings. Next earnings report due early May. (B) Dividends historically paid in mid-Feb., May, Aug., and November. Div'd reinvestment plan available. (C) In millions.

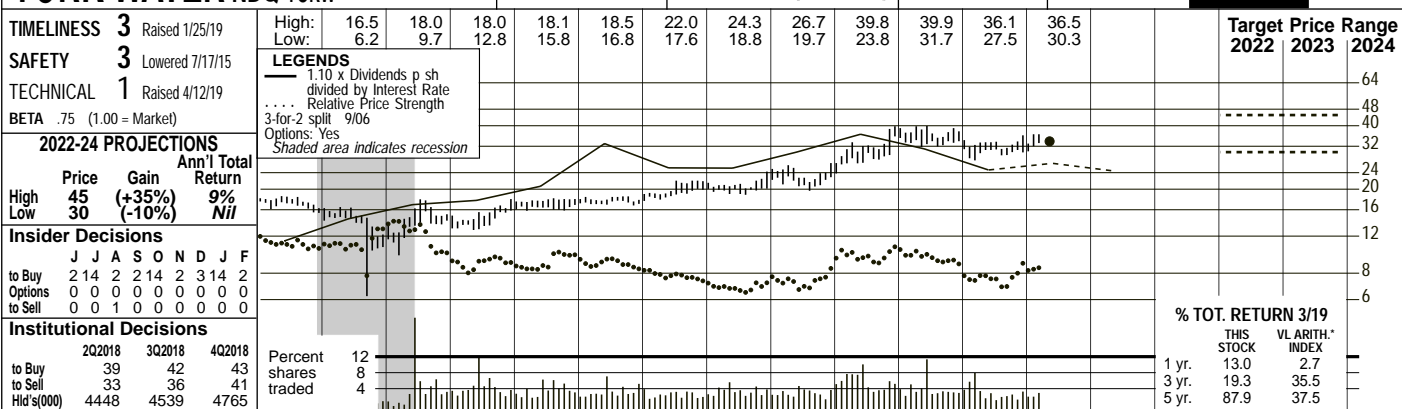
Company's Financial Strength	B++
Stock's Price Stability	65
Price Growth Persistence	45
Earnings Predictability	85

YORK WATER NDQ:YORW

RECENT PRICE **33.69** P/E RATIO **29.6** (Trailing: 32.4 Median: 25.0)

RELATIVE P/E RATIO **1.70** DIV'D YLD **2.0%**

VALUE LINE



2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
2.17	2.18	2.58	2.56	2.79	2.89	2.95	3.07	3.18	3.21	3.27	3.58	3.68	3.70	3.77	3.74	3.85	3.95	Revenues per sh	5.10
.65	.65	.79	.77	.86	.88	.95	1.07	1.09	1.12	1.19	1.36	1.45	1.42	1.53	1.58	1.75	1.85	"Cash Flow" per sh	2.50
.47	.49	.56	.58	.57	.57	.64	.71	.71	.72	.75	.89	.97	.92	1.01	1.04	1.15	1.25	Earnings per sh ^A	1.70
.37	.39	.42	.45	.48	.49	.51	.52	.53	.54	.55	.57	.60	.63	.65	.67	.70	.73	Div'd Decl'd per sh ^B	.95
1.07	2.50	1.69	1.85	1.69	2.17	1.18	.83	.74	.94	.76	1.10	1.11	1.03	1.95	1.95	2.00	2.00	Cap'l Spending per sh	1.85
4.06	4.65	4.85	5.84	5.97	6.14	6.92	7.19	7.45	7.73	7.98	8.15	8.51	8.88	9.28	9.75	10.75	11.25	Book Value per sh	12.10
9.63	10.33	10.40	11.20	11.27	11.37	12.56	12.69	12.79	12.92	12.98	12.83	12.81	12.85	12.87	12.94	13.00	12.90	Common Shs Outst'g ^C	12.80
24.5	25.7	26.3	31.2	30.3	24.6	21.9	20.7	23.9	24.4	26.3	23.1	23.5	32.8	34.6	30.3	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	22.5
1.40	1.36	1.40	1.68	1.61	1.48	1.46	1.32	1.50	1.55	1.48	1.22	1.18	1.72	1.74	1.63			Relative P/E Ratio	1.25
3.2%	3.1%	2.9%	2.5%	2.8%	3.5%	3.6%	3.5%	3.1%	3.1%	2.8%	2.8%	2.6%	2.1%	1.9%	2.1%			Avg Ann'l Div'd Yield	2.5%

CAPITAL STRUCTURE as of 12/31/18			2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
Total Debt \$94.3 mill. Due in 5 Yrs \$42.5 mill.			37.0	39.0	40.6	41.4	42.4	45.9	47.1	47.6	48.6	48.4	50.0	51.0	Revenues (\$mill)	65.0						
LT Debt \$93.3 mill. LT Interest \$5.5 mill.			7.5	8.9	9.1	9.3	9.7	11.5	12.5	11.8	13.0	13.4	15.0	16.0	Net Profit (\$mill)	21.5						
			37.9%	38.5%	35.3%	37.6%	37.6%	29.8%	27.5%	31.3%	25.9%	15.7%	21.0%	21.0%	Income Tax Rate	21.0%						
			--	1.2%	1.1%	1.1%	.8%	1.8%	1.6%	1.9%	6.7%	1.7%	2.0%	1.5%	AFUDC % to Net Profit	1.5%						
Pension Assets 12/18 \$40.6 mill. Oblig. \$41.5 mill.			45.7%	48.3%	47.1%	46.0%	45.1%	44.8%	44.4%	42.6%	43.0%	42.5%	36.5%	35.0%	Long-Term Debt Ratio	34.0%						
			54.3%	51.7%	52.9%	54.0%	54.9%	55.2%	55.6%	57.4%	57.0%	57.5%	63.5%	65.0%	Common Equity Ratio	66.0%						
Pfd Stock None			160.1	176.4	180.2	184.8	188.4	189.4	196.3	198.7	209.5	219.5	220	220	Total Capital (\$mill)	235						
			222.0	228.4	233.0	240.3	244.2	253.2	261.4	270.9	288.8	299.2	305	315	Net Plant (\$mill)	325						
Common Stock 12,943,536 shs.			6.2%	6.5%	6.4%	6.4%	6.5%	7.4%	7.6%	7.2%	7.5%	7.3%	8.0%	8.5%	Return on Total Cap'l	10.5%						
			8.6%	9.8%	9.5%	9.3%	9.3%	11.0%	11.5%	10.4%	10.9%	10.6%	10.5%	11.0%	Return on Shr. Equity	14.0%						
			8.6%	9.8%	9.5%	9.3%	9.3%	11.0%	11.5%	10.4%	10.9%	10.6%	10.5%	11.0%	Return on Com Equity	14.0%						
MARKET CAP: \$425 million (Small Cap)			1.9%	2.7%	2.5%	2.4%	2.4%	3.9%	4.4%	3.4%	4.0%	3.8%	4.0%	4.5%	Retained to Com Eq	6.0%						
			78%	72%	73%	74%	74%	64%	62%	67%	63%	64%	61%	58%	All Div'ds to Net Prof	56%						

CURRENT POSITION (\$MILL.)	2016	2017	12/31/18
Cash Assets	4.2	--	--
Accounts Receivable	4.3	4.5	4.8
Inventory (Avg. Cost)	.7	.9	.9
Other	3.4	3.2	3.3
Current Assets	12.6	8.6	9.0
Accts Payable	3.7	3.1	3.0
Debt Due	--	--	1.0
Other	4.5	6.0	6.8
Current Liab.	8.2	9.1	10.8

ANNUAL RATES Past 10 Yrs. Past 5 Yrs. Est'd '16-'18 to '22-'24				
Revenues	3.0%	3.0%	5.5%	
"Cash Flow"	6.0%	6.0%	9.0%	
Earnings	5.5%	6.5%	9.5%	
Dividends	3.5%	4.0%	6.5%	
Book Value	4.5%	4.0%	4.5%	

QUARTERLY REVENUES (\$ MILL.)					
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	11.3	11.8	12.6	11.9	47.6
2017	11.3	12.3	12.7	12.3	48.6
2018	11.6	12.0	12.7	12.1	48.4
2019	12.0	12.5	13.0	12.5	50.0
2020	12.2	12.7	13.3	12.8	51.0

EARNINGS PER SHARE ^A					
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.19	.23	.27	.23	.92
2017	.20	.23	.31	.27	1.01
2018	.20	.26	.29	.29	1.04
2019	.24	.28	.33	.30	1.15
2020	.26	.31	.35	.33	1.25

QUARTERLY DIVIDENDS PAID ^B					
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2015	.1495	.1495	.1495	.1555	.604
2016	.1555	.1555	.1555	.1602	.627
2017	.1602	.1602	.1602	.1666	.647
2018	.1666	.1666	.1666	.1733	.673
2019	.1733				

York Water Company posted a surprise bottom-line beat to conclude 2018. Fourth-quarter earnings of \$0.29 a share came in \$0.04 above our expectation. Lower income taxes from a greater volume of eligible asset improvements were the primary contributor to the out-performance. Nevertheless, on a full-year basis, profitability jumped roughly 3% versus our previous call for a modest year-over-year contraction, while revenues of \$48.4 million registered a slight dip. The latter was adversely impacted by a ruling from the Pennsylvania Public Utility Commission, which passes some tax reduction benefits along to the consumer in the form of lower rates.

Earnings growth ought to outpace revenue expansion this year and next. Further tax benefits for York should continue to be reflected in customer water rates, thus keeping the lid on revenue growth. Despite this, we think share net is poised to rise 10% in 2019, followed by an 8% advance in 2020.

A plethora of improvements and upgrades are on the horizon. This means that, as expected, York's capital spending

budget is likely to remain elevated. In 2018, the company laid out \$16.9 million on capital projects, including the completion of an additional untreated water pumping station and numerous infrastructure upgrades. Meanwhile, York anticipates that 2019 and 2020 will be a bit more capital intensive, as initial spending projections clock in at \$21.5 million and \$21.2 million, respectively. Specifically, management's plan includes spillway improvements, water storage tank replacements, wastewater treatment plant expansion, and service line and pipe upgrades, to name a few.

Shares of York Water are up one spot on our Timeliness Ranking Scale, but are only ranked 3 (Average) and do not make an overly compelling case for near-term oriented subscribers. Similarly, buy-and-hold accounts should note that, at recent levels, capital appreciation potential is limited over the pull to 2022-2024. Finally, the dividend yield, which is hovering around 2.0%, is about 20 basis points shy of *The Value Line Investment Survey* median.

Nicholas P. Patrikis
 April 12, 2019

(A) Diluted earnings. Next earnings report due late May. (B) Dividends historically paid in late February, June, September, and December. (C) In millions, adjusted for split.

Company's Financial Strength	B+
Stock's Price Stability	60
Price Growth Persistence	55
Earnings Predictability	95

© 2019 Value Line, Inc. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

To subscribe call 1-800-VALUELINE

EXHIBIT TJB-COC-DT2

**Liberty Utilities (Black Mountain Sewer), Corp.
Comparable Earnings**

Average Eearned Return on Equity and Risk Measures

Line No.	Company	Symbol	VL Industry	VL Beta	Status	VL Financial Strength	VL Earnings Predictability	VL Current Dividend Yld	% Debt	10-year Mean Book ROE	CVROE	STDROE
1	AT&T Inc.	T	TELESERV	0.75	U	A++	100	6.43	47.45	13.44%	0.08182	0.01099
2	Equifax Inc.	EFX	INFOSER	1	U	A	95	1.27	45.84	20.77%	0.12242	0.02542
3	Flowers Foods	FLO	FOODPROC	0.75	U	B+	80	3.41	44.05	16.65%	0.11016	0.01834
4	Genuine Parts	GPC	AUTOPRTS	0.9	U	A+	95	3.08	41.34	20.36%	0.12213	0.02486
5	Matthews Int'l	MATW	FUNL SVC	1.05	U	B+	100	2.33	51.70	14.14%	0.11858	0.01677
6	Oracle Corp.	ORCL	SOFTWARE	1	U	A++	95	1.86	55.11	27.14%	0.09324	0.02531
7	Quest Diagnostics	DGX	MEDSERV	0.95	U	B++	95	2.21	39.66	16.48%	0.11128	0.01834
8	Smucker (J.M.)	SJM	FOODPROC	0.7	U	A	95	2.86	37.27	10.31%	0.10378	0.01070
9	Sonoco Products	SON	PACKAGE	1	U	A	95	2.79	40.35	16.32%	0.10829	0.01767
10	SYNNEX Corp.	SNX	INDUSRV	1.2	U	A	80	1.62	43.32	12.95%	0.11718	0.01518
11	TELUS Corporation	T.TO	TELESERV	0.6	U	B++	90	4.51	56.39	16.19%	0.11999	0.01943
12	Thermo Fisher Sci.	TMO	INSTRMNT	1.05	U	A	75	0.28	39.11	9.51%	0.12097	0.01150
13	United Technologies	UTX	DIVERSIF	1.05	U	A++	90	2.29	51.72	19.27%	0.09054	0.01745
14	Zimmer Biomet Hldgs.	ZBH	MEDICINV	0.95	U	A	65	0.87	42.74	13.75%	0.10018	0.01378
	Average			0.93		A	89.29	2.56	45.43	16.23%	0.108611	0.017553
	Median			0.98		A	95.00	2.31	43.69	16.26%	0.110720	0.017560

Consturction of Proxy Group for Comparable Earnings

VL1700 firms first filtered using the following criteria:

1. Dividend paying stocks
2. Debt between 35 and 65 percent
3. VL Financial Strenght B+ or above
4. Projected EPS growth <= 10%

These criteria narrowed the sample down to 41 companies

The average CVROE and average CVOM for the period 2009-2018 was then computed on this sample.

The following filter was applied to the 41 companies:

1. CVROE <= average CVROE*.5
2. STDROE <= average STDROE*.5
3. Eliminate Regulated firms, Financial Services firms, and REITs

EXHIBIT TJB-COC-DT3

Liberty Utilities (Black Mountain Sewer), Corp.
Risk Premium Estimates for Use In Modified CAPM
Based on Duff and Phelps Cost of Capital Navigator Supplementary Data Risk Study and Regression Data Equations

Line No.	Company	Symbol	Measures of size						
			MV Equity ¹	Book Equity ¹	MVIC ¹	5 Yr Avg. Net Income ¹	Total Assets ¹	5 Yr Avg. EBITDA ¹	Sales
1	American States Water	AWR	\$ 2,741	\$ 559	\$ 3,121	\$ 63	\$ 1,470	\$ 156	\$ 437
2	American Water Works	AWK	\$ 21,062	\$ 5,858	\$ 28,631	\$ 3,254	\$ 1,470	\$ 1,580	\$ 3,440
3	Aqua America	WTR	\$ 7,278	\$ 2,009	\$ 9,676	\$ 216	\$ 6,159	\$ 456	\$ 838
4	California Water	CWT	\$ 2,420	\$ 731	\$ 3,130	\$ 57	\$ 2,412	\$ 186	\$ 698
5	Middlesex	MSEX	\$ 1,004	\$ 249	\$ 1,157	\$ 23	\$ 620	\$ 64	\$ 138
6	York Water Company	YORW	\$ 448	\$ 126	\$ 541	\$ 12	\$ 320	\$ 30	\$ 48
7	Liberty Utilities (Black Mountain Sewer), Corp.		N/A	\$ 0.4	N/A	\$ 0.4	\$ 0.9	\$ 1.3	\$ 83.7

¹ From Value Line Investment Anlyazer data weekly as of March 29, 2018.

Net Income Data (\$ millions)

Company	Symbol	2018	2017	2016	2015	2014	Average
8	American States Water	\$ 63.9	\$ 69.4	\$ 59.7	\$ 60.5	\$ 61.1	\$ 62.9
9	American Water Works	\$ 3,440.0	\$ 3,357.0	\$ 3,302.0	\$ 3,159.0	\$ 3,011.3	\$ 3,253.9
10	Aqua America	\$ 192.0	\$ 239.7	\$ 234.2	\$ 201.8	\$ 213.9	\$ 216.3
11	California Water	\$ 65.6	\$ 67.2	\$ 48.7	\$ 45.0	\$ 56.7	\$ 56.6
12	Middlesex	\$ 32.5	\$ 22.8	\$ 22.7	\$ 20.0	\$ 18.4	\$ 23.3
13	York Water Company	\$ 13.4	\$ 13.0	\$ 11.9	\$ 12.5	\$ 11.5	\$ 12.4
14	Liberty Utilities (Black Mountain Sewer), Corp.	\$ 0.5	\$ 0.9	\$ 0.3	\$ -	\$ 0.2	\$ 0.4

Liberty Utilities (Black Mountain Sewer), Corp.
Comparative Risk Study - Adjustment to Size Premium
Based on Duff and Phelps Cost of Capital Navigator Supplementary Data Risk Study and Regression Data Equations

Line No.	<u>Estimate of Risk Premium Adjustment</u>		5 -Year Historical				
	<u>Company</u>	<u>Symbol</u>	<u>OM</u>	<u>CV (OM)</u>	<u>CV(ROE)</u>		
1							
2	American States Water	AWR	25.84%	12.48%	5.63%		
3	American Water Works	AWK	33.98%	5.34%	7.67%		
3	Aqua America	WTR	39.73%	2.03%	11.39%		
4	California Water	CWT	18.40%	13.32%	13.78%		
5	Middlesex	MSEX	39.35%	3.61%	14.25%		
6	York Water Company	YORW	49.78%	1.97%	3.72%		
13	Proxy Group Average		34.51%	6.46%	9.41%		
	<u>Proxy Group Risk Differences</u>						
						<u>Average</u>	
14	Smoothed Average Risk Premium From Equivalent D Exhibit		5.93%	8.33%	8.18%	7.48%	
15	Smoothed Average Risk Premium From Equivalent C Exhibit		9.69%	9.61%	9.24%	9.51%	
16	<u>Indicated Risk Adjustment</u>		-3.75%	-1.27%	-1.06%	-2.03%	
						<u>Mid-point</u>	
17	Possible Risk Adjustment		0.00%	to	-2.03%	-1.02%	
				5 -Year Historical			
			<u>OM</u>	<u>CV (OM)</u>	<u>CV(ROE)</u>		
18	<u>Liberty Utilities (Black Mountain Sewer), Corp.</u>		26.91%	46.82%	56.54%		
						<u>Average</u>	
19	Smoothed Average Risk Premium From Equivalent D Exhibit		6.68%	10.35%	9.62%	8.88%	
20	Smoothed Average Risk Premium From Equivalent C Exhibit		9.69%	9.61%	9.24%	9.51%	
21	Indicated Risk Adjustment		-3.01%	0.74%	0.38%	-0.63%	
						<u>Mid-point</u>	
22	Possible Risk Adjustment		0.00%	to	-0.63%	-0.32%	

EXHIBIT TJB-COC-DT4

**Liberty Utilities (Black Mountain Sewer), Corp.
Comparative Risk Study**

Line No.								Std	Co-efficient of variation	
1	<u>Operating Income EBIT (\$ in millions)</u>							Dev.	of Operating Income	
2	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>Average</u>				
3	<u>Company¹</u>	<u>Symbol</u>								
4	American States Water	AWR	101.0	137.4	102.5	118.5	119.0	115.70	14.853	0.1284
5	American Water Works	AWK	1,139.0	1,244.0	1,070.0	1,075.0	1,002.6	1,106.12	90.947	0.0822
6	Aqua America	WTR	323.2	329.0	325.6	321.1	314.4	322.64	5.476	0.0170
7	California Water	CWT	156.4	123.9	101.0	95.7	108.6	117.11	24.409	0.2084
8	Middlesex	MSEX	51.5	52.2	54.6	48.8	46.6	50.72	3.099	0.0611
9	York Water Company	YORW	23.7	23.6	24.0	23.8	23.2	23.65	0.298	0.0126
10	Proxy Group								23.1803	0.0850
11	Liberty Utilities (Black Mountain Sewer), Corp.		<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>Average</u>	Std Dev.	Co-efficient of variation of Operating Income
			0.85	0.91	0.54	0.16	0.81	0.66	0.31	0.4694
12	Risk relative to the average risk of the proxy group									5.53
13	<u>Sales (\$ in millions)</u>		<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>Average</u>		
14	<u>Company¹</u>	<u>Symbol</u>								
15	American States Water	AWR	437	441	436	459	466	448		
16	American Water Works	AWK	3,440	3,357	3,302	3,159	3,011	3,254		
17	Aqua America	WTR	838	810	820	814	780	812		
18	California Water	CWT	698	667	609	588	598	632		
19	Middlesex	MSEX	138	131	133	126	117	129		
20	York Water Company	YORW	48	49	48	47	46	48		
21	Liberty Utilities (Black Mountain Sewer), Corp.		<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>Average</u>		
			2.49	2.56	2.53	2.30	2.23	2.42		
22	<u>Operating Margin (%)</u>								Std	Co-efficient
23	<u>Company¹</u>	<u>Symbol</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>Average</u>	Dev.	of variation
24	American States Water	AWR	23.12%	31.20%	23.51%	25.84%	25.56%	25.84%	0.0323	0.1248
25	American Water Works	AWK	33.11%	37.06%	32.40%	34.03%	33.29%	33.98%	0.0182	0.0534
26	Aqua America	WTR	38.56%	40.64%	39.71%	39.44%	40.31%	39.73%	0.0081	0.0203
27	California Water	CWT	22.40%	18.57%	16.57%	16.26%	18.17%	18.40%	0.0245	0.1332
28	Middlesex	MSEX	37.28%	39.91%	41.06%	38.73%	39.76%	39.35%	0.0142	0.0361
29	York Water Company	YORW	48.84%	48.59%	50.44%	50.52%	50.52%	49.78%	0.0098	0.0197
30	Proxy Group		33.89%	35.99%	33.95%	34.14%	34.60%	34.51%	0.0178	0.0646
31	Liberty Utilities (Black Mountain Sewer), Corp.		<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>Average</u>	Std Dev.	Co-efficient of variation of Operating Margin
			34.04%	35.41%	21.48%	7.14%	36.50%	26.91%	0.1260	0.4682
32	Risk relative to the average risk of the proxy group									7.25

¹ Based on information from Value Line Investment Analyzer weekly ended May 1 2019.

Liberty Utilities (Black Mountain Sewer), Corp.
Comparative Risk Study

Line No.			<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>Average</u>	<u>Std Dev.</u>	Co-efficient of variation of ROE
1	<u>Return on Equity (ROE)</u>									
2										
3	<u>Company¹</u>	<u>Symbol</u>								
4	American States Water	AWR	11.4%	13.1%	12.1%	13.0%	12.0%	12.3%	0.0069	0.0563
5	American Water Works	AWK	9.7%	7.9%	9.0%	9.4%	8.7%	8.9%	0.0069	0.0767
6	Aqua America	WTR	9.6%	12.2%	12.7%	11.7%	12.9%	11.8%	0.0135	0.1139
7	California Water	CWT	9.0%	9.7%	7.4%	7.0%	9.1%	8.4%	0.0116	0.1378
8	Middlesex	MSEX	13.0%	9.9%	10.3%	9.6%	9.3%	10.4%	0.0149	0.1425
9	York Water Company	YORW	10.6%	10.9%	10.4%	11.5%	11.0%	10.9%	0.0040	0.0372
10	Proxy Group		10.5%	10.6%	10.3%	10.4%	10.5%	10.5%	0.0096	0.0941
11	Company		<u>2018</u> 10.55%	<u>2017</u> 20.41%	<u>2016</u> 6.34%	<u>2015</u> 4.72%	<u>2014</u> 12.48%	<u>Average</u> 10.90%	<u>Std Dev.</u> 0.06	Co-efficient of variation of ROE 0.5654
12	Risk relative to the average risk of the proxy group									6.01
1	Operating Leverage = Percent Change in Operating Income/Percent Change in Sales									
2	(also a measure of business risk)									
3			<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>Average</u>			
4	<u>Company¹</u>	<u>Symbol</u>								
5	American States Water	AWR	30.92	32.96	2.74	0.31	16.73			
6	American Water Works	AWK	3.41	9.76	0.10	1.47	3.69			
7	Aqua America	WTR	0.50	0.82	2.00	0.49	0.95			
8	California Water	CWT	5.60	2.40	1.56	0.16	2.43			
9	Middlesex	MSEX	0.25	2.71	2.16	0.63	1.44			
10	York Water Company	YORW	0.69	0.77	0.85	1.00	0.82			
11	Average		6.89	8.24	1.57	0.68	4.34			
12	Liberty Utilities (Black Mountain Sewer), Corp.		<u>2017</u> 2.45	<u>2016</u> 72.04	<u>2015</u> 22.54	<u>2014</u> 25.94	<u>Average</u> 30.74			
13	Risk relative to the average risk of the proxy group									7.08

¹ Based on information from Value Line Investment Analyzer weekly ended May 1 2019.

Liberty Utilities (Black Mountain Sewer), Corp.
Comparative Risk Study
Beta Estimate Using Duff and Phelps Risk Study Portfolio Information

Line
No.

A. Beta Estimates for Water Sample Group and Company`

		<u>Portfolio</u>	<u>Operating Margin</u>	<u>Portfolio</u>	<u>CV (Operating Margin)¹</u>	<u>Portfolio</u>	<u>CV (ROE)¹</u>	
1	Company	2	26.91%	3	46.82%	8	56.54%	
2	Proxy Group	1	34.51%	20	6.46%	23	9.41%	
			<u>Portfolio Sum Beta²</u>		<u>Portfolio Sum Beta³</u>		<u>Portfolio Sum Beta⁴</u>	<u>Average</u>
3	Company		0.84		1.34		1.24	
4	Proxy Group		0.89		0.99		0.87	
5	Percentage Difference		-5.6%		35.4%		42.5%	24.1%

B. Assume percentage difference is the same for water utilities as companies in general

		<u>Value Line Beta</u>	<u>Sum Beta</u>
6	Proxy Group ⁵	0.70	0.60
7	Implied Beta for Company ⁶	0.87	0.74

Notes:

¹ CV stands for Coefficient of Variation,

² Source is Duff & Phelps Cost of Capital Navigator 2018 Supplementary Data Risk Study, Companies Ranked by Operating Margin.

³ Source is Duff & Phelps Cost of Capital Navigator 2018 Supplementary Data Risk Study, Companies Ranked by CV (Operating Margin).

⁴ Source is Duff & Phelps Cost of Capital Navigator 2018 Supplementary Data Risk Study, Companies Ranked by CV (Operating Margin).

⁵ Source is Table 2.

⁶ Calculated by multiplying (1+ percentage difference in risk study betas) times average beta for the proxy group.

**Liberty Utilities (Black Mountain Sewer), Corp.
Capital Asset Pricing Model (CAPM)**

Line No.		R_f^1	+	(β^2	x	RP_M^4)	=	k	CAPM Results From Table 11	Difference				
1	Traditional CAPM	3.3%	+ <td align="center">(0.87</td> <td align="center">x</td> <td align="center">7.90%</td> <td align="center">)</td> <td align="center">=</td> <td align="center">10.20%</td> <td align="center">8.80%</td> <td align="center">1.40%</td>	(0.87	x	7.90%)	=	10.20%	8.80%	1.40%				
2															
3		R_f^1		$RP_M^4 \times .25$	+ <td align="center">(β^2</td> <td align="center">x</td> <td align="center">RP_M^4</td> <td align="center">)</td> <td align="center">x .75</td> <td></td>	(β^2	x	RP_M^4)	x .75					
4	Empirical CAPM	3.3%	+ <td align="center">7.90%</td> <td align="center">x .25</td> <td align="center">+ <td align="center">(0.87</td> <td align="center">x</td> <td align="center">7.90%</td> <td align="center">)</td> <td align="center">x .75</td> <td align="center">=</td> <td align="center">10.40%</td> <td align="center">9.40%</td> <td align="center">1.00%</td> </td>	7.90%	x .25	+ <td align="center">(0.87</td> <td align="center">x</td> <td align="center">7.90%</td> <td align="center">)</td> <td align="center">x .75</td> <td align="center">=</td> <td align="center">10.40%</td> <td align="center">9.40%</td> <td align="center">1.00%</td>	(0.87	x	7.90%)	x .75	=	10.40%	9.40%	1.00%
5															
6		R_f^1	+ <td align="center">β^3</td> <td align="center">x</td> <td align="center">RP_M^5</td> <td align="center">)</td> <td align="center">+ <td align="center">RP_s^6</td> <td></td> <td></td> </td>	β^3	x	RP_M^5)	+ <td align="center">RP_s^6</td> <td></td> <td></td>	RP_s^6						
7	Modified CAPM	3.3%	+ <td align="center">(0.74</td> <td align="center">x</td> <td align="center">7.00%</td> <td align="center">)</td> <td align="center">+ <td align="center">2.41%</td> <td align="center">=</td> <td align="center">10.90%</td> <td align="center">9.90%</td> <td align="center">1.00%</td> </td>	(0.74	x	7.00%)	+ <td align="center">2.41%</td> <td align="center">=</td> <td align="center">10.90%</td> <td align="center">9.90%</td> <td align="center">1.00%</td>	2.41%	=	10.90%	9.90%	1.00%		
8															
9															
10	Average								10.50%	9.40%	1.10%				

Notes:

¹ Forecasts of long-term treasury yields. Source Table 8.

² Implied VL Beta of Company. Source is page 6.

³ Implied Sum Beta of Company. Source is page 6.

⁴ Estimate of Market Risk Premium (MRP):

Historical MRP (1926-2018)	6.90%	Source is Duff & Phelps 2018 CRSP Decile Size Study - Supplementary Exhibits.
Current MRP	8.90%	Source is Table 10
Average MRP	7.90%	

⁵ Estimate of MRP

Historical MRP (1963-2018)	5.10%	Source is Duff & Phelps 2018 CRSP Decile Size Study - Supplementary Exhibits.
Current MRP	8.90%	Source is Table 10
Average MRP	7.00%	

⁶ Average proxy group adjusted size risk premium based upon Duff & Phelps Size Study data and Risk Study data.

See Exhibit TJB-COC-DT2 and Testimony.

D SCHEDULES

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Cost of Preferred Stock

Exhibit
Schedule D-3
Page 1
Witness: Bourassa

Line

No.

1

End of Test Year

End of Projected Year

2

3

Description
of Issue

Shares
Outstanding Dividend
Amount Requirement

Shares
Outstanding Dividend
Amount Requirement

4

5

6

7

NOT APPLICABLE, NO PREFERRED STOCK ISSUED OR OUTSTANDING

8

9

10

11

12

13

14

15

16

17

18

19

20

21

SUPPORTING SCHEDULES:

22

E-1

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

RECAP SCHEDULES:

D-1

Liberty Utilities (Black Mountain Sewer) Corp.
Test Year Ended December 31, 2018
Cost of Common Equity

Exhibit
Schedule D-4
Page 1
Witness: Bouras

Line

No.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

The Company is proposing a cost of common equity of

10.50%

.

SUPPORTING SCHEDULES:

E-1

See Cost of Capital Testimony

RECAP SCHEDULES:

D-1

TABLES 1-10

Liberty Utilities (Black Mountain Sewer), Corp.
Table 1
Summary of Results

<u>Line No.</u>		<u>Indicated Cost of Equity for Sample Group</u>	<u>Indicated Cost of Equity for Company¹</u>
1	DCF Constant Growth - Table 6	9.00%	9.80%
2	Risk Premium - Table 8	10.80%	11.60%
3	CAPM - Table 10	9.40%	10.20%
4	Average (rounded)	9.70%	10.50%
5	Cost of Equity Recommendation		10.50% ²

Notes:

¹ Estimates include an equity risk premium of 80 basis points and a financial risk adjustment of 0 basis points. See testimony.

² See testimony.

Liberty Utilities (Black Mountain Sewer), Corp.
Table 2
Selected Characteristics of Sample Group of Water Utilities

Line No.	Company	Symbol	Operating Revenues (millions) ¹	Net Plant (millions) ¹	S&P Bond Rating ²	Moody's Bond Rating ²	Number of Customers ³	Value Line Beta ¹	Adjusted Sum Beta ⁴	Market Capitalization ¹	Size Decile
1	American States Water	AWR	436.8	1,296	A+	A2	258,949	0.70	0.55	\$ 2,740.5	Low-Cap
2	American Water Works	AWK	3,440.0	17,409	A	A3	3,353,000	0.60	0.53	21,062.3	Large-Cap
3	Aqua America	WTR	838.1	5,930	A+	NR	982,849	0.70	0.61	7,277.5	Mid-Cap
4	California Water	CWT	698.2	2,233	A+	NR	482,400	0.70	0.64	2,420.2	Low-Cap
5	Middlesex	MSEX	138.1	619	A	NR	112,120	0.75	0.78	1,003.7	Low-Cap
6	York Water Company	YORW	48.4	299	A-	NR	67,000	0.75	0.52	447.9	Micro-Cap
7	Average		\$ 933.3	\$ 4,631.0			876,053	0.70	0.60	\$ 5,825.4	
8	Liberty Utilities (Black Mountain Sewer), Corp.		\$ 2.5	\$ 12.9			2,210	Estimated 0.87	Estimated 0.74	N/A	

Notes:

¹ Value Line Analyzer Data (Weekly as of June 13, 2019)

² S&P and/or Moody's Website

³ Most recent annual report or 10-K.

⁴ See Testimony.

Liberty Utilities (Black Mountain Sewer), Corp.
Table 3
Capital Structures

Line No.	Company	Symbol	Book Value ¹		Market Value ¹	
			Long-Term Debt	Common Equity	Long-Term Debt	Common Equity
1	American States Water	AWR	40.5%	59.5%	12.2%	87.8%
2	American Water Works	AWK	56.4%	43.6%	26.4%	73.6%
3	Aqua America	WTR	54.4%	45.6%	24.8%	75.2%
4	California Water	CWT	49.3%	50.7%	22.7%	77.3%
5	Middlesex	MSEX	38.1%	61.9%	13.2%	86.8%
6	York Water Company	YORW	42.6%	57.4%	17.2%	82.8%
7	Average		46.9%	53.1%	19.4%	80.6%
8	Liberty Utilities (Black Mountain Sewer), Corp.		46.0%	54.0%	N/A	N/A

¹ Value Line Analyzer Data (Weekly as of June 13 2019)

Liberty Utilities (Black Mountain Sewer), Corp.
Table 4
Comparisons of Past and Future Estimates of Growth

Line No.	Company	Symbol	[1]	[2]	[3]	[4]	[5]
			Stock Price ¹	Book Value ²	EPS ²	DPS ²	Historical Average Growth Col. 1-4
Five-year historical annual changes							
1	American States Water	AWR	18.47%	4.00%	4.50%	9.00%	8.99%
2	American Water Works	AWK	16.52%	4.00%	6.50%	10.50%	9.38%
3	Aqua America	WTR	7.70%	6.50%	5.50%	8.00%	6.93%
4	California Water	CWT	15.62%	4.50%	5.50%	3.00%	7.15%
5	Middlesex	MSEX	20.57%	4.50%	11.00%	3.00%	9.77%
6	York Water Company	YORW	8.90%	4.00%	6.50%	4.00%	5.85%
7	GROUP AVERAGE		14.63%	4.58%	6.58%	6.25%	8.01%
Ten-year historical average annual changes							
	<u>Company</u>	<u>Symbol</u>	Stock Price ¹	Book Value ²	EPS ²	DPS ²	Historical Average Growth Col. 1-4
8	American States Water	AWR	15.06%	4.00%	4.50%	9.00%	8.14%
9	American Water Works	AWK	N/A	4.00%	6.50%	10.50%	7.00%
10	Aqua America	WTR	7.58%	6.50%	5.50%	8.00%	6.89%
11	California Water	CWT	7.46%	4.50%	5.50%	3.00%	5.11%
12	Middlesex	MSEX	11.97%	4.50%	11.00%	3.00%	7.62%
13	York Water Company	YORW	10.23%	4.00%	6.50%	4.00%	6.18%
14	GROUP AVERAGE		10.46%	4.58%	6.58%	6.25%	6.82%
	<u>Company</u>	<u>Symbol</u>	[1] Value Line Projected Growth ²	[2] Zack's Projected Growth ³	[3] Yahoo Finance Growth ⁴	[4] Average Projected Growth	
15	American States Water	AWR	8.00%	8.00%	6.00%	7.33%	
16	American Water Works	AWK	9.50%	8.08%	8.20%	8.59%	
17	Aqua America	WTR	8.50%	6.00%	5.00%	6.50%	
18	California Water	CWT	8.50%	10.00%	9.80%	9.43%	
19	Middlesex	MSEX	7.50%		2.70%	5.10%	
20	York Water Company	YORW	9.50%		4.90%	7.20%	
21	GROUP AVERAGE		8.58%		6.10%	7.36%	

Notes:

¹ Compound growth in stock prices ending December 31 through 2018. Data from Yahoo Finance website.

² Value Line Analyzer, weekly as of June 13, 2019.

³ Zack's Investment Research website June 17 2019

⁴ Yahoo Finance website June 17, 2019

Liberty Utilities (Black Mountain Sewer), Corp.
Table 5
Current Dividend Yields for Water Utility Sample Group

Line No.	Company	Symbol	[1] Stock Price (P ₀) ¹	[2] Current Dividend (D ₀) ¹	[3] Current Dividend Yield (D ₀ /P ₀)	[4] Average Annual Dividend Yield (D ₀ /P ₀) ^{1,2}
1	American States Water	AWR	74.76	1.06	1.42%	1.81%
2	American Water Works	AWK	118.27	1.78	1.51%	2.07%
3	Aqua America	WTR	41.58	0.85	2.04%	2.42%
4	California Water	CWT	50.97	0.75	1.47%	1.82%
5	Middlesex	MSEX	61.87	0.91	1.47%	2.10%
6	York Water Company	YORW	34.59	0.67	1.94%	2.13%
7	GROUP AVERAGE				1.64%	2.06%

Notes:

¹ Stock prices as of June 14, 2019. Indicated Dividend from Value Line Analyzer weekly as of June 13, 2019.

² Average Annual Dividend is dividends declared per share for a year divided by the average annual price of the stock in the same year, expressed as a percentage. As report by Value Line Analyzer software. For comparison purposes only.

Liberty Utilities (Black Mountain Sewer), Corp.

Table 6

Discounted Cash Flow Analysis
DCF Constant Growth

Line No.	Company	Symbol	[1] Dividend Yield (D_0/P_0) ¹	[2] Expected Dividend Yield (D_1/P_0) ²	[3] Average Projected Growth (g) ³	[4] Indicated Cost of ROE k=Div Yld + g (Cols 2+3)	Adjusted Indicated Cost of Equity (COE) ⁴ k=Div Yld + g (Cols 2+3)
1	American States Water	AWR	1.42%	1.42%	+ 7.33%	= 8.75%	8.8%
2	American Water Works	AWK	1.51%	1.51%	+ 8.59%	= 10.10%	10.1%
3	Aqua America	WTR	2.04%	2.04%	+ 6.50%	= 8.54%	8.5%
4	California Water	CWT	1.47%	1.47%	+ 9.43%	= 10.90%	10.9%
5	Middlesex	MSEX	1.47%	1.47%	+ 5.10%	= 6.57%	6.6%
6	York Water Company	YORW	1.94%	1.94%	+ 7.20%	= 9.14%	9.1%
7	Average			1.64%	7.36%	9.00%	
8	Adjusted Average ⁴						9.0%

Notes:

¹ Spot Dividend Yield = D_0/P_0 . Source Table 5.

² Expected Dividend Yield = $D_1/P_0 = D_0/P_0 * (1+g/2)$.

³ Average Analyst Growth rate (g). Source Table 4.

⁴ Excluded because results are less than projected Baa bond yields plus 100 basis points or 6.3% . See Testimony.

Liberty Utilities (Black Mountain Sewer), Corp.
Table 7
Forecasts of Long-Term Interest Rates

<u>Line No.</u>		<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>Average</u>
1	Long-term Treasury Rates				
2	Blue Chip Consensus Forecasts ¹	3.1%	3.8%	3.9%	
3	Value Line ²	2.8%	3.0%	3.2%	
4	Average	3.0%	3.4%	3.6%	3.3%
5	Aaa Corporate Bonds				
6	Blue Chip Consensus Forecasts ¹	4.0%	4.4%	4.6%	
7	Value Line ²	4.0%	4.2%	4.3%	
8	Average	4.0%	4.3%	4.5%	4.3%
9	Baa Corporate Bonds				
10	Blue Chip Consensus Forecasts ¹	5.0%	5.3%	5.6%	
11	Value Line ²				
12	Average	5.0%	5.3%	5.6%	5.3%

Notes:

¹ Blue Chip consensus forecasts (June 2019).

² Value Line Selection and Opinion - Quarterly Forecasts (May 31, 2019).

Liberty Utilities (Black Mountain Sewer), Corp.
Table 8
Risk Premium Analysis Based on Total Returns

Line No.		Annual Total Return ¹	LT Treasury Bond Yield ²	Risk Premium
1	1999	12.23%	5.87%	6.36%
2	2000	14.19%	5.94%	8.25%
3	2001	14.36%	5.49%	8.87%
4	2002	-3.73%	5.43%	-9.16%
5	2003	24.67%	5.05%	19.62%
6	2004	12.10%	5.12%	6.98%
7	2005	20.16%	4.56%	15.60%
8	2006	6.55%	4.91%	1.64%
9	2007	-5.02%	4.84%	-9.86%
10	2008	-3.14%	4.28%	-7.42%
11	2009	1.28%	4.08%	-2.80%
12	2010	11.50%	4.25%	7.25%
13	2011	5.66%	3.91%	1.75%
14	2012	13.86%	2.92%	10.94%
15	2013	17.87%	3.45%	14.42%
16	2014	16.95%	3.34%	13.61%
17	2015	9.12%	2.84%	6.28%
18	2016	32.26%	2.59%	29.67%
19	2017	16.91%	2.90%	14.02%
20	2018	6.27%	3.00%	3.27%
21	Average 1999 to 2018	11.2%	4.2%	7.0%
22		Expected Long-term Treasury Bond Rate ³		3.3%
23		Adjusted Historical Risk Premium ⁴		7.5%
24		Projected Returns on Equity for Sample		10.8%

Notes:

¹ Computed Composite Total Returns on Proxy Group.

² Average annual 30 Yr. U.S. Treasury Bond yields as reported by the Federal Reserve.
Yields for 2003-2005 are based upon 20-year U.S. Treasury

³ Forecast LT U.S. Treasury Rate. Source Table 7.

⁴ As explained in testimony, risk premiums are inversely related to interest rates. Adjustment assumes equity costs change by 50% as much as interest rates.

Liberty Utilities (Black Mountain Sewer), Corp.
Table 9
Estimation of Current Market Risk Premium
Using DCF Analysis

Line No.	Month	Dividend Yield (D_0/P_0) ¹	Expected Dividend Yield (D_1/P_0) ²	+ Expected Growth (g) ³	=	Expected Market Return (k)	- Monthly Average 30 Year Treasury Rate ⁴	=	Expected Market Risk Premium (MRP)	
1	Jan 2018	2.68%	2.91%	+ 8.50%	=	11.41%	- 2.88%	=	8.53%	
2	Feb	2.57%	2.79%	+ 8.67%	=	11.46%	- 3.13%	=	8.33%	
3	Mar	2.59%	2.82%	+ 9.00%	=	11.82%	- 3.09%	=	8.73%	
4	Apr	2.56%	2.78%	+ 8.67%	=	11.44%	- 3.07%	=	8.37%	
5	May	2.55%	2.77%	+ 8.83%	=	11.61%	- 3.13%	=	8.48%	
6	June	2.54%	2.77%	+ 9.00%	=	11.77%	- 3.05%	=	8.72%	
7	July	2.52%	2.75%	+ 9.17%	=	11.91%	- 3.01%	=	8.90%	
8	Aug	2.52%	2.76%	+ 9.33%	=	12.09%	- 3.04%	=	9.05%	
9	Sep	2.56%	2.80%	+ 9.33%	=	12.13%	- 3.15%	=	8.98%	
10	Oct	2.76%	3.02%	+ 9.33%	=	12.35%	- 3.34%	=	9.01%	
11	Nov	2.74%	3.00%	+ 9.50%	=	12.50%	- 3.36%	=	9.14%	
12	Dec	3.09%	3.39%	+ 9.67%	=	13.06%	- 3.10%	=	9.96%	
13	Jan 2019	2.86%	3.14%	+ 9.67%	=	12.80%	- 3.04%	=	9.76%	
14	Feb	2.71%	2.96%	+ 9.17%	=	12.12%	- 3.02%	=	9.10%	
15	Mar	2.76%	3.01%	+ 9.00%	=	12.01%	- 2.98%	=	9.03%	
16	Apr	2.71%	2.94%	+ 8.67%	=	11.61%	- 2.94%	=	8.67%	
17	May	2.90%	3.16%	+ 8.67%	=	11.82%	- 2.82%	=	9.00%	
15	Recommended	2.79%	3.04%	+ 8.78%	=	11.81%	- 2.91%	=	8.90%	
16	<u>Short-term Trends</u>									
17	Recent Twelve Months Avg	2.72%	2.97%	+ 9.21%	=	12.18%	- 3.07%	=	9.11%	
18	Recent Nine Months Avg	2.79%	3.04%	+ 9.22%	=	12.27%	- 3.08%	=	9.18%	
19	Recent Six Months Avg	2.84%	3.10%	+ 9.14%	=	12.24%	- 2.98%	=	9.25%	
20	Recent Three Months Avg	2.79%	3.04%	+ 8.78%	=	11.81%	- 2.91%	=	8.90%	

Notes:

¹ Average Dividend Yield (D_0/P_0) of dividend paying stocks. Data from Value Line Investment Analyzer Software Data - Value Line 1700 Stocks

² Expected Dividend Yield (D_1/P_0) equals current average dividend yield (D_0/P_0) times one plus growth rate(g).

³ Median of Projected EPS and Projected DPS Growth for VL 1700 stocks. Data from Value Line Investment Analyzer Software.

⁴ Monthly average 30 year U.S. Treasury as reported by Federal Reserve.

Liberty Utilities (Black Mountain Sewer), Corp.
Table 10
Capital Asset Pricing Model (CAPM, ECAPM, and MCAPM)

Line No.		R_f^1	+	$(\beta^2$	x	RP_M^4)	=	k	
1	Traditional CAPM	3.3%	+	0.70	x	7.90%)	=	8.80%	
2										
3		R_f^1		$RP_M^3 \times .25$	+	$(\beta^2$	x	RP_M^4) x .75	
4	Empirical CAPM (ECAPM)	3.3%	+	7.90%	x .25	+	$(0.70$	x	$7.90%$) x .75
5										
6		R_f^1	+	β^3	x	RP_M^5)	+	RP_s^5	
7	Modified CAPM (MCAPM)	3.3%	+	0.60	x	7.00%)	+	2.41%	
8										
9										
10	Average (rounded)								9.40%	

Notes:

¹ Forecasts of long-term treasury yields. Source Table 7.

² Average VL Beta of Water Proxy Group. Source is Table 2.

³ Average Sum Beta of Water Proxy Group. Source is Table 2

⁴ Estimate of Market Risk Premium (MRP):

Historical MRP (1926-2018)	6.90%	Source is Duff & Phelps 2019 CRSP Decile Size Study - Supplementary Exhibits.
Current MRP	8.90%	Source is Table 9
Average MRP	7.90%	

⁵ Estimate of MRP

Historical MRP (1963-2018)	5.10%	Source is Duff & Phelps 2019 CRSP Decile Size Study - Supplementary Exhibits.
Current MRP	8.90%	Source is Table 9
Average MRP	7.00%	

⁶ Average proxy group adjusted size risk premium based upon Duff & Phelps Size Study data and Risk Study data.
 See Exhibit TJB-COC-DT2 and Testimony.