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BEFORE THE ARIZONA CORPORATION

COMMISSIONERS

Arizona Corporation Commission

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DOUG LITTLE- Chairman
BOB STUMP
BOB BURNS
TOM FORESE
ANDY TOBIN

DOCKET NO. SW-04316A-16-0078

IN THE MATTER OF THE APPLICATION
LIBERTY UTILITIES (ENTRADA DEL ORO
SEWER COMPANY) CORP., AN ARIZONA
CORPORATION, FOR A DETERMINATION
OF THE FAIR VALUE OF ITS UTILITY
PLANTS AND PROPERTY AND FOR
INCREASES IN IT'S WASTEWATER RATES
AND CHARGES FOR UTILITY SERVICE
BASED THEREON.

DOCKET NO. SW-04316A-16-0085

IN THE MATTER OF THE APPLICATION OF
LIBERTY UTILITIES CORP (ENTRADA DEL
ORO SEWER COMPANY), AN ARIZONA
CORPORATION, FOR AUTHORITY TO
ISSUE EVIDENCE OF INDEBTEDNESS IN
AN AMOUNT NOT TO EXCEED \$1,750,000.

**NOTICE OF FILING
STAFF'S DIRECT TESTIMONY**

The Utilities Division ("Staff") of the Arizona Corporation Commission ("Commission") hereby submits the Direct Testimony and Exhibits of Staff witnesses Briton A. Baxter, Brendan C. Aladi, Crystal S. Brown and Jian W. Liu, regarding the above-captioned dockets.

RESPECTFULLY SUBMITTED this 19th day of August, 2016.

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1 On this 19th day of August, 2016, the foregoing document was filed with Docket Control as a
2 Utilities Division Pre-Filed Testimony, and copies of the foregoing were mailed on behalf of the
3 Utilities Division to the following who have not consented to email service. On this date or as soon
4 as possible thereafter, the Commission's eDocket program will automatically email a link to the
5 foregoing to the following who have consented to email service.

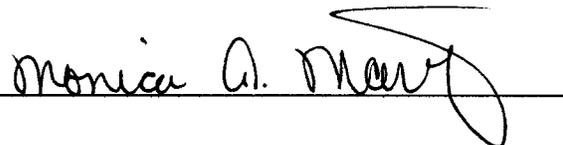
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BEFORE THE ARIZONA CORPORATION COMMISSION

DOUG LITTLE
Chairman
BOB STUMP
Commissioner
BOB BURNS
Commissioner
TOM FORESE
Commissioner
ANDY TOBIN
Commissioner

IN THE MATTER OF THE APPLICATION OF)
LIBERTY UTILITIES (ENTRADA DEL ORO)
SEWER) CORP., AN ARIZONA CORPORATION,)
FOR A DETERMINATION OF THE FAIR VALUE)
OF ITS UTILITY PLANTS AND PROPERTY AND)
FOR INCREASES IN ITS WASTEWATER RATES)
AND CHARGES FOR UTILITY SERVICE BASED)
THEREON.)

DOCKET NO. SW-04316A-16-0078

IN THE MATTER OF THE APPLICATION OF)
LIBERTY UTILITIES (ENTRADA DEL ORO)
SEWER) CORP., AN ARIZONA CORPORATION,)
FOR AUTHORITY TO ISSUE EVIDENCE OF)
INDEBTEDNESS IN AN AMOUNT NOT TO)
EXCEED \$1,750,000.)

DOCKET NO. SW-04316A-16-0085

DIRECT

TESTIMONY

OF

BRITON A. BAXTER

PUBLIC UTILITIES ANALYST V

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

AUGUST 19, 2016

TABLE OF CONTENTS

	Page
INTRODUCTION.....	1
BACKGROUND.....	2
SUMMARY OF PROPOSED RATE BASE.....	4
RATE BASE.....	5
<i>Fair Value Rate Base</i>	5
<i>Rate Base Summary</i>	6
<i>Rate Base Adjustment No. 1 – Excess Capacity</i>	6
<i>Rate Base Adjustment No. 2 – Expensed Plant</i>	7
<i>Rate Base Adjustment No. 3 – Reconstruction Cost New (“RCN”) Factors</i>	8
<i>Rate Base Adjustment No. 4 – Allowance for Cash Working Capital</i>	9
<i>Rate Base Adjustment No. 5 – Accumulated Depreciation</i>	11
<i>Accumulated Deferred Income Taxes (“ADIT”)</i>	11
RATE DESIGN.....	11
<i>Service Charges</i>	14
PURCHASED POWER ADJUSTOR MECHANISM (“PPAM”).....	14
PROPERTY TAX ADJUSTOR MECHANISM.....	15

SCHEDULES

Revenue Requirement.....	BAB-1
Gross Revenue Conversion Factor.....	BAB-2
Rate Base – Fair Value.....	BAB-3
Summary of Original Cost Rate Base Adjustments (OCRB).....	BAB-4a
Summary of Reconstruction New Less Depreciation Cost Rate Base Adjustments (RCRB).....	BAB-4b
Rate Base Adjustment No. 1A – Excess Capacity (OCRB).....	BAB-5a
Rate Base Adjustment No. 1B – Excess Capacity (RCRB).....	BAB-5b
Rate Base Adjustment No. 2A – Expensed Plant (OCRB).....	BAB-6a
Rate Base Adjustment No. 2B – Expensed Plant (RCRB).....	BAB-6b
Rate Base Adjustment No. 3 – RCN Factors.....	BAB-7
Rate Base Adjustment No. 4 – Allowance for Working Capital.....	BAB-8
Rate Base Adjustment No. 5A – Accumulated Depreciation (OCRB).....	BAB-9a
Rate Base Adjustment No. 5B – Accumulated Depreciation (RCRB).....	BAB-9b
Rate Design.....	BAB-16
Typical Bill Analysis.....	BAB-17

ATTACHMENTS

Staff Data Request CSB-1.4.....	A
Staff Data Request CSB-1.9.....	B

EXECUTIVE SUMMARY
LIBERTY UTILITIES (ENTRADA DEL ORO SEWER), CORP.
DOCKET NOS. SW-04316A-16-0078 & SW-04316A-16-0085

Liberty Utilities (Entrada Del Oro Sewer), Corporation (“Entrada Del Oro” or “EDO” or “Company”) is a certificated Arizona public service corporation that provides wastewater utility service to approximately 336 customers that reside in the Entrada Del Oro development which is located approximately four miles east of Gold Canyon in Pinal County. The current rates for Entrada Del Oro were approved in Decision No. 68306, dated November 14, 2005.

Entrada Del Oro seeks Commission authority to increase its revenues by \$254,641 or 90.53 percent over its reported test year revenues of \$281,288, for a total of \$535,929. The Company’s proposal results in operating income of \$149,085 or a 6.92 percent rate of return on its reported Fair Value Rate Base (“FVRB”) of \$2,154,978.

Staff recommends an increase of \$40,783 or 14.50 percent over the test year revenues, for a total of \$322,071. Staff’s recommended revenue requirement results in an operating income of \$55,465 or a rate of return of 5.60 percent on Staff’s adjusted FVRB of \$990,448.

The Company’s current rate structure consists of a flat rate charge for residential customers, and a per student charge for schools. At present the Company is serving only residential customers. Staff recommends continuation of a flat rate adjusted to reflect Staff’s recommended revenue requirement.

1 **INTRODUCTION**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Briton A. Baxter. I am a Public Utilities Analyst V employed by the Arizona
4 Corporation Commission (“ACC” or “Commission”) in the Utilities Division (“Staff”). My
5 business address is 1200 West Washington Street, Phoenix, Arizona 85007.

6
7 **Q. Briefly describe your responsibilities as a Public Utilities Analyst V.**

8 A. I am responsible for the examination and verification of financial and statistical information
9 included in utility rate applications. In addition, I develop revenue requirements, prepare
10 written reports, testimonies, and schedules that include Staff recommendations to the
11 Commission. I am also responsible for testifying at formal hearings on these matters.

12
13 **Q. Please describe your educational background and professional experience.**

14 A. In 2003, I graduated from Northern Arizona University, receiving a Bachelor of Science
15 degree in Accountancy with a public accounting certificate. Prior to joining the Commission
16 in 2013, I spent 10 years with the Arizona Office of the Auditor General. I have experience
17 conducting performance audits of school districts and preparing statewide reports on
18 classroom spending, which required a large amount of data collection, validation and analysis.
19 Since joining the Commission, I have completed seven water rate cases and a prudency
20 review for a regulated natural gas utility to build an LNG facility as well as attended various
21 trainings on rate making topics including the National Association of Regulatory Utility
22 Commissioners (“NARUC”) Utility Rate School in May of 2014.

23

1 **Q. What is the scope of your testimony in this case?**

2 A. I am presenting Staff's analysis and recommendations regarding Liberty Utilities (Entrada Del
3 Oro Sewer) Corp. ("Entrada Del Oro" or "EDO" or "Company") overall revenue
4 requirement, rate base, and rate design in this rate case application.
5

6 **Q. What is the basis of your recommendations?**

7 A. I performed a regulatory audit of the Company's application to determine whether sufficient,
8 relevant, and reliable evidence exists to support the Company's requested rate base. The
9 regulatory audit consisted of examining and testing the financial information, accounting
10 records, and other supporting documentation and verifying that the accounting principles
11 applied were in accordance with the Commission-adopted NARUC Uniform System of
12 Accounts ("USoA") and Generally Accepted Accounting Principles.
13

14 **BACKGROUND**

15 **Q. Please provide a brief description of Entrada Del Oro and the service it provides.**

16 A. Entrada Del Oro is an Arizona Class D utility engaged in the business of providing
17 wastewater service in portions of Pinal County, Arizona. EDO provided wastewater service
18 to approximately 336 customers during the test year. The current rates for the Company
19 were approved in Decision No. 68306, dated November 14, 2005.
20

21 **Q. What is the primary reason for EDO's requested permanent rate increase?**

22 A. According to the Company, the revenues from its utility operations are presently inadequate
23 to provide a fair rate of return. Thus, the Company is seeking Commission approval for
24 certain adjustments to its rates and charges for utility service so that the Company may
25 recover its operating expenses and have a reasonable opportunity to earn a just and
26 reasonable rate of return on the fair value of its property.

1 Entrada Del Oro is ultimately owned by Algonquin Power & Utilities Corp. (“APUC”).
2 Liberty Utilities Co. (“Liberty Utilities”) is a Delaware corporation that operates regulated gas,
3 water, sewer and electric utilities in ten states-Arizona, Arkansas, California, Iowa, Illinois,
4 Missouri, Georgia, Massachusetts, New Hampshire and Texas. Liberty Utilities Co. is a
5 subsidiary of Liberty Utilities (Canada) Corp. (“Liberty Utilities Canada”). The Arizona
6 utilities are wholly owned subsidiaries of Liberty Utilities (Sub) Corp., which is a wholly
7 owned subsidiary of Liberty Utilities.¹ APUC, a publicly traded member of the Toronto
8 Stock Exchange and is a registrant with the U.S. Security and Exchange Commission.

9
10 APUC is a \$4.1 billion electric generation, transmission and distribution utility company
11 based in Oakville, Ontario. APUC subsidiaries own and operate regulated utilities in the
12 United States, and own non-regulated generation facilities and regulated electric transmission
13 and natural gas pipelines throughout the United States and Canada. The distribution business
14 group operates in the United States as Liberty Utilities and provides rate regulated water,
15 electricity and natural gas utility services to over 488,000 customers. The electric generation
16 business group operates as Algonquin Power Co. and owns or has interests in a portfolio of
17 North American based contracted wind, solar, hydroelectric and natural gas powered
18 generating facilities representing more than 1,150 MW of installed capacity. The transmission
19 business group invests in rate regulated electric transmission and natural gas pipeline systems
20 in the United States and Canada.

21

¹ The other Liberty utilities in Arizona are: Liberty Utilities (Bella Vista Water), Liberty Utilities (Litchfield Park Water and Sewer) Corp., Liberty Utilities (Rio Rico Water and Sewer) Corp, Liberty Utilities (Black Mountain Sewer) Corp, and Gold Canyon Sewer Company.

1 **SUMMARY OF PROPOSED RATE BASE**

2 **Q. Please summarize the Company's filing.**

3 A. The Company proposes a \$254,641, or 90.53 percent revenue increase from \$281,288 to
4 \$535,929. The proposed revenue increase would produce an operating income of \$149,085
5 for a 6.92 percent rate of return on a fair value cost rate base ("FVRB") of \$2,154,978. The
6 Company's proposed rates would increase the typical residential bill from \$70.00 to \$133.74,
7 for an increase of \$63.74 or 91.06 percent.

8
9 **Q. Please summarize Staff's recommended revenue.**

10 A. Staff recommends a \$40,783 or 14.50 percent revenue increase from \$281,288 to \$322,071.
11 Staff's recommended revenue increase would produce an operating income of \$55,465 for a
12 5.60 percent rate of return on a Staff adjusted FVRB of \$990,448 as shown on Schedule
13 BAB-1. Staff's recommended rates would increase the typical residential bill from \$70.00 to
14 \$79.79, for an increase of \$9.79 or 13.99 percent.

15
16 **Q. What test year did EDO utilize in this filing?**

17 A. Entrada Del Oro's test year is based on the twelve months ended October 31, 2015.

18
19 **Q. Please summarize Staff's rate base adjustments for Entrada Del Oro.**

20 A. Staff's testimony discusses the following adjustments:

21
22 **Rate Base Adjustments**

23 Excess capacity – This adjustment decreases the Original Cost Rate Base ("OCRB") by
24 \$1,072,851, the Reconstruction Cost Rate Base ("RCRB") by \$1,250,338 and the FVRB
25 which is an equally weighted average of the two by \$1,161,595 to reflect the removal from
26 rate base of the plant that will be used to serve future customers.

1 Expensed Plant – This adjustment decreases the OCRB by \$4,253, the RCRB by \$4,413 and
2 FVRB by \$4,333 to reflect the removal of plant additions that Staff believes should have been
3 expensed rather than capitalized.

4
5 RCN factors – This adjustment decreases the FVRB by a net of \$1,014,964 to reflect the use
6 of Staff's recommended RCN factors for accounts 354, 361, and 382.

7
8 Allowance for Cash Working Capital – This adjustment increases FVRB by \$16,360 to reflect
9 the adjustment of the revenue lead-lag days, Staff's recommended adjustment of the expense
10 lag days for interest and to capture Staff's recommended adjustments to the operating
11 expenses.

12
13 Accumulated Depreciation – Staff's adjustments result in a net decrease to the OCRB
14 accumulated depreciation of \$325,620, the RCRB accumulated depreciation of \$939,579 and
15 the FVRB accumulated depreciation by a net of \$632,599 to reflect the adjustments to
16 accumulated depreciation that correspond to Staff's other rate base adjustments.

17
18 **RATE BASE**

19 *Fair Value Rate Base*

20 **Q. Did the Company prepare schedules showing the elements of Reconstruction Cost**
21 **New Rate Base?**

22 A. Yes, the Company did. EDO prepared schedules that show the Original Cost Rate Base
23 ("OCRB"), the Reconstruction Cost Rate Base ("RCRB") and averaged the two using equal
24 weighting to calculate the FVRB.

25

1 *Rate Base Summary*

2 **Q. Please summarize Staff's adjustments to Entrada Del Oro's rate base shown on**
3 **Schedules BAB-3, BAB-4a and BAB-4b.**

4 A. Staff's adjustments to Entrada Del Oro's FVRB resulted in a net decrease of \$1,164,530,
5 from \$2,154,978 to \$990,448 due to various adjustments as discussed in Staff's testimony.

6
7 *Rate Base Adjustment No. 1 – Excess Capacity*

8 **Q. Did Entrada Del Oro adjust test year rate base to reflect a portion of the plant that**
9 **was determined to be held for future use?**

10 A. Yes. The Company did an adjustment that reduces OCRB rate base by \$299,000, reduces
11 RCRB by \$335,023 and the FVRB by \$317,011.

12
13 **Q. Does Staff agree with this adjustment?**

14 A. In part yes. As noted in the Staff Engineering Report, Staff reviewed the report of the
15 engineering firm hired by the Company and determined that the adjustment correctly
16 removes the portion of the plant that was installed so that the plant could be expanded from
17 serving approximately 700 customers to serving approximately 1,100 customers. However,
18 this adjustment does not address the fact that the plant was initially built to serve about 700
19 customers, which is more than twice the capacity for what is needed for the 336 customers
20 actually served in the test year.

21
22 **Q. Does Staff recommend an additional excess capacity adjustment?**

23 A. Yes. As noted in the Staff Engineering Report, Staff has calculated that the current
24 wastewater treatment plant is operating at an excess capacity of 44 percent. Therefore, Staff
25 recommends an additional excess capacity adjustment.

26

1 **Q. Does Staff recommend a corresponding adjustment to the RCRB?**

2 A. Yes. As shown on Schedule BAB-5b, Staff applied the RCN factors used by the Company
3 for account 380 and used Staff's recommended RCN factor for account 354 to Staff's
4 recommended excess capacity adjustment to calculate the RCRB.

5
6 **Q. What is Staff's recommendation?**

7 A. Staff recommends decreasing the OCRB by \$1,072,851, the RCRB by \$1,250,338, and the
8 FVRB by \$1,161,595 as shown on Schedules BAB-4a, BAB-4b, BAB-5a and BAB-5b.

9
10 *Rate Base Adjustment No. 2 – Expensed Plant*

11 **Q. What type of documentation does Staff review in its audit?**

12 A. Staff reviews source documentation in its audit.

13
14 **Q. What is the definition of "source documentation"?**

15 A. Source documentation is an original record containing the details to substantiate a transaction
16 entered in an accounting system. For example, the source document for the purchase of a
17 pump would be the supplier's invoice.

18
19 **Q. As a part of the audit of the Company's plant, did Staff select a sample of plant items
20 and request that the Company provide source documentation (i.e. invoices) to
21 support the cost?**

22 A. Yes. Staff selected a sample of plant additions from the years 2006 to 2015 and requested
23 invoices to support the plant cost.

24

1 **Q. As a result of the review of the supporting documentation, did Staff identify any**
2 **corrections that needed to be made?**

3 A. Yes. Staff has determined that a portion of the 2014 additions to account no. 380 treatment
4 & disposal equipment, should have been expensed rather than added to rate base.
5 Specifically, the Company paid \$4,253 for vacuum truck services to haul for treatment, some
6 waste from the EDO system to an affiliate, the Gold Canyon Sewer Company².

7
8 **Q. What is Staff's recommendation?**

9 A. Staff recommends decreasing the OCRB by \$4,253, the RCRB by \$4,413, and the FVRB by
10 \$4,333 as shown on Schedules BAB-4a, BAB-4b, BAB-6a and BAB-6b.

11
12 *Rate Base Adjustment No. 3 – Reconstruction Cost New (“RCN”) Factors*

13 **Q. Did Staff review the RCN factors used by the Company?**

14 A. Yes. As noted in section H2 in the Staff Engineering Report, Staff reviewed the RCN factors
15 used by the Company.

16
17 **Q. Did Staff take issue with any of the RCN factors used by the Company?**

18 A. Yes. As noted in Table 8 of the Staff Engineering Report, Staff took issue with three specific
19 accounts, Structures & Improvements (account 354), Collection Sewers Gravity (account 361)
20 and Outfall Sewer Lines (account 382).

21
22 **Q. Did Staff recalculate the RCN factors for those three accounts?**

23 A. Yes. For accounts 354 and 382, Staff recommends a RCN factor of 1.604 and for account
24 361 Staff recommends a RCN factor of 1.591.

25

² See Attachment A

1 **Q. What is Staff's recommendation?**

2 A. Staff recommends using the Staff recommended RCN factor rates for accounts 354, 361, and
3 382 which results in a net decrease to the FVRB of \$1,014,964 as shown on Schedules BAB-
4 4b and BAB-7.

5

6 *Rate Base Adjustment No. 4 – Allowance for Cash Working Capital*

7 **Q. What components are included in the Company's proposed allowance for cash**
8 **working capital?**

9 A. The Company's proposed allowance for cash working capital consists of three components.
10 They are prepayments, material and supplies and cash working capital.

11

12 **Q. Please describe Staff's working capital adjustment to rate base.**

13 A. Staff made no adjustments to the prepayments and materials and supplies components. The
14 Staff adjustments relate to the cash working capital component only. The calculation of a
15 working cash requirement quantifies the amount of cash that a Company needs to operate.
16 Staff's recommended adjustments are based on Staff recommended revenue and expense
17 levels in the schedules, and adjustments that Staff is recommending to the revenue lag (lead)
18 days and the expense lag (lead) days for interest expense. As expenses were increased or
19 decreased in the revenue requirement these were also increased or decreased in the working
20 cash requirement.

21

22 **Q. What basis did the Company use for its proposed allowance for cash working capital?**

23 A. The Company's proposed allowance for working capital is based on a lead-lag study.

24

1 **Q. What is the net result of the lead-lag factors?**

2 A. The timing of the collection of revenues was compared to the timing of each expense line
3 item the Company proposed. If the expense took longer to pay than to collect the revenue,
4 the Company receives the benefit of cash working capital and the opposite is true if the
5 expense is to be paid prior to the revenues being received. A net lead-lag factor for each
6 expense item was multiplied by the proposed expense to calculate the positive or negative
7 working capital required.

8
9 **Q. What adjustments did Staff make to the revenue lag (lead) days?**

10 A. As shown in column C on Schedule B-5 page 1 of the Company's application the revenue lag
11 (lead) days were 0.61. In response to Staff DR CSB-1.9a³, the Company indicated that the
12 assumptions it made in developing the application were incorrect and that the appropriate
13 revenue lag (lead) days is 28.61. Staff accepts this revision and has incorporated this change
14 into the recommended adjustments.

15
16 **Q. Is Staff recommending any additional adjustments to the Company's lead-lag study?**

17 A. Yes, Staff also recommends an adjustment to the interest expense lag (lead) days. The
18 Company used a negative 14.10 days in its lead-lag study. Because this is not an arm's length
19 transaction, Staff recommends using 91.25 days which reflects what other companies would
20 normally experience⁴.

21
22 **Q. What is Staff's recommendation?**

23 A. Staff recommends an increase to the allowance for cash working capital of \$16,360 as shown
24 on Schedule BAB-8.

³ See Attachment B

⁴ In this case we used 91.25 days because that's what was used for Arizona Water Company in their most recent case (Docket No. W-01445A-15-0277)

1 *Rate Base Adjustment No. 5 – Accumulated Depreciation*

2 **Q. Did Staff make an adjustment to accumulated depreciation?**

3 A. Yes. Staff adjusted accumulated depreciation to reflect the application of depreciation to the
4 Staff-recommended plant balances.

5
6 **Q. What is Staff's recommendation?**

7 A. Staff recommends decreasing the OCRB accumulated depreciation by \$325,620, the RCRB
8 accumulated depreciation by \$939,579 and the fair value accumulated depreciation by
9 \$632,599, from \$1,644,886 to \$1,012,287, as shown on Schedules BAB-3, BAB-4a, BAB-4b,
10 BAB-5a, BAB-5b, BAB-7, BAB-9a and BAB-9b.

11
12 *Accumulated Deferred Income Taxes ("ADIT")*

13 **Q. Did Staff identify any issues with the Company's ADIT?**

14 A. Yes. As shown on Schedule B-2 page 6.0 line 19, the Company made an adjustment for
15 EDO to include \$40 of allocated corporate ADIT from Canada. Staff believes that it is
16 inappropriate to include Canadian ADIT as a rate base adjustment for an Arizona water
17 company, but due to the immaterial amount in this case Staff does not recommend making an
18 adjustment.

19
20 **RATE DESIGN**

21 **Q. Has Staff prepared a schedule summarizing the present, Company proposed, and
22 Staff recommended rates and service charges?**

23 A. Yes. Schedule BAB-16 provides a summary of the Company's present, Company's proposed,
24 and Staff's recommended rates.

25

1 **Q. Please summarize the present rate design for Entrada Del Oro.**

2 A. The present rate design includes a flat monthly rate of \$70.00 for residential customers and a
3 monthly rate of \$5.60 per student under the school service tariff. In the test year, the
4 Company only had residential customers.

5
6 **Q. Please summarize the Company's proposed rate design.**

7 A. Entrada Del Oro's proposed rate design consists of a flat monthly service charge of \$133.74
8 for all residential customers and a monthly rate of \$10.699 per student under the school
9 service tariff. Further, the Company proposes adding flat fees for commercial customers that
10 increase as meter size increases and includes a commodity rate of \$6.00 (per 1,000 gallons).
11 The Company also proposes the addition of an effluent charge that would be set by market
12 rates.

13
14 **Q. Please summarize Staff's recommended rate design.**

15 A. Staff recommends a flat monthly service charge of \$79.79 for all residential customers, and a
16 monthly rate of \$10.699 per student under the school service tariff. Further, Staff
17 recommends adding flat fees for commercial customers that increase as meter size increases
18 and includes a commodity rate of \$6.00 (per 1,000 gallons). Staff agrees with the Company's
19 proposal to add an effluent charge that would be set by market rates.

20
21 **Q. What is the rate impact on a typical residential customer?**

22 A. The Company's proposed rates would increase the monthly bill for a residential customer
23 under the flat monthly fee rate by \$67.74 from \$70.00 to \$133.74, or 91.06 percent. As shown
24 on Schedule BAB-17, Staff's recommended rates would increase the monthly bill for a
25 residential customer under the flat monthly fee rate by \$9.79 from \$70.00 to \$79.79, or 13.99
26 percent.

1 **Q. Did the Company propose a phase-in of the rate increase?**

2 A. Yes, the Company is effectively proposing a two year phase-in with 70 percent of the rate
3 increase to be captured in the first year and the remaining 30 percent in the second year.
4 Further, the Company proposes that a surcharge of \$21.75 be added in the third year to
5 recover the deferred revenues due to the rate phase-in⁵. The Company indicated that it is
6 seeking the recovery surcharge in order to be made whole and indicated that they did not
7 want to give away their returns or revenue foregone during the phase-in.⁶

8
9 **Q. Does Staff agree with the rate phase-in?**

10 A. No. Because Staff's findings indicate that only a minimal rate increase is necessary, therefore
11 consideration of a phase-in is not necessary. However, should the Commission determine
12 that a phase-in is appropriate, it should be noted that in Decision No. 68306, the Commission
13 ordered the Company to file a full rate case in the sixth year of operations using the fifth year
14 as the test year. Had the Company complied with this order, a rate case would have been
15 filed no later than 2012, using 2011 as the test year⁷. Also as noted in the Company's
16 testimony, EDO was purchased in 2008 and "it took us a while to fully integrate the
17 Company's pre-existing books and finances into the Liberty model." Further the Company
18 was dealing with higher priorities for their other holdings and the filing of this rate case was
19 delayed⁸. Under these circumstances, which arguably have contributed to the significant level
20 of current increase being requested by the Company, Staff believes that the Company should
21 offer to forgo any lost revenues.

22

⁵ Includes interest which is calculated at 6.92 percent, the Company's proposed rate of return.

⁶ Direct testimony of Company witness Matthew Garlick, page 17, lines 14-22.

⁷ Issued November 14, 2005, page 5, lines 21-22.

⁸ Direct testimony of Company witness Matthew Garlick, pages 11-12, lines 18-8.

1 *Service Charges*

2 **Q. Did the Company propose any changes to the service charges?**

3 A. Yes. The Company proposes to decrease the Establishment of Service charge from \$30.00 to
4 \$25.00, remove the Establishment (After Hours) charge, change the Reconnection
5 (Delinquent) charge from \$60.00 to the actual cost of physical disconnection, change the
6 deposit interest from two times the average residential bill to 6.00 percent, change the Late
7 Payment Penalty from 1.5 percent per month, to the greater of \$5.00 or 1.5 percent per
8 month, and add a Service Charge – after hours of \$50.00.

9
10 **Q. Does Staff agree with the Company's proposed changes to the various service**
11 **charges?**

12 A. Yes. The proposed changes are reasonable and Staff recommends that they all be approved.
13

14 **PURCHASED POWER ADJUSTOR MECHANISM ("PPAM")**

15 **Q. Has the Company requested a PPAM?**

16 A. Yes.
17

18 **Q. What is a PPAM?**

19 A. A PPAM is a mechanism that allows the Company to pass through increases or decreases in
20 power expenses to customers without coming in for a full rate case. By definition, adjustor
21 mechanisms are for expenses that routinely fluctuate widely. Power costs for electric utility
22 companies such as Arizona Public Service that buy electricity on a daily basis will usually see
23 wide fluctuations in buying its power. By comparison, water utilities power expenses are
24 much less volatile.
25

1 **Q. What reasons did EDO give for justifying a PPAM?**

2 A. Because EDO has no control over the rate it is charged for electric power, the Company's
3 proposed PPAM is intended as a mechanism to pass along any cost increase, or decrease, in
4 purchased power to customers. The Company believes that a closer match between costs
5 and customer bills will reduce regulatory lag, and create a more efficient price signal.
6 Additionally, EDO believes that the presence of a PPAM will help ensure that the Company
7 has the opportunity to earn its authorized rate of return.

8
9 **Q. What is Staff's recommendation?**

10 A. Staff recommends approval of the Company's proposed PPAM with the following
11 conditions:

12
13 (1) EDO is allowed to pass through to its customers the increase or decrease in
14 purchased power costs that result from a rate change from any regulated electric
15 service provider supplying retail service to EDO.

16 (2) Within 90 days of the Decision for this rate filing, EDO must file a Plan of
17 Administration ("POA") for the PPAM for Commission approval.

18 (3) EDO will only recover increases or refund decreases that are due to changes in
19 purchased power rates.

20

21 **PROPERTY TAX ADJUSTOR MECHANISM**

22 **Q. Did EDO propose an adjustor mechanism for property taxes?**

23 A. Yes.

24

1 **Q. Does Staff have any concerns about the Company having both a forward-looking**
2 **method of calculating property taxes and a property tax adjustor mechanism?**

3 A. Yes. The Company proposed and Staff recommended forward-looking property tax
4 calculation typically provides more revenue for property taxes through rates than the amount
5 that is actually due and payable to the Arizona Department of Revenue ("ADOR").
6

7 **Q. What is the main cause of this difference in property taxes?**

8 A. The ADOR determines the property taxes of a utility using a formula that is based on a
9 utility's historical revenues. Under the ADOR methodology, the full cash value is based on
10 twice the average of the company's three previous years of *actual revenues*. Under the forward-
11 looking approach, the full cash value is based on twice the average of the Staff adjusted test
12 year revenue and the Staff recommended revenue (which includes the increase).
13

14 **Q. Staff has recommended a slight rate increase, how will property taxes be impacted?**

15 A. Even with a slight rate increase, Staff's recommended forward-looking property tax
16 calculation produces a property tax of \$17,892 (based on a three year average revenue of
17 approximately \$294,960) which is more than the Company's actual property tax expense of
18 \$17,062 (based on a historical three year average revenue of \$281,288).
19

20 **Q. What is Staff's recommendation?**

21 A. Staff recommends that the Company be provided the option to choose either (1) a property
22 tax adjustor mechanism with only the actual test year property tax expense of \$17,062
23 included in operating expenses or (2) the Staff recommended property tax expense of \$17,892
24 derived using the forward-looking property tax calculation with no property tax adjustor
25 mechanism.
26

1 **Q. Does this conclude your direct testimony?**

2 A. Yes, it does.

Liberty Utilities (Entrada Del Oro Sewer) Corp.
Docket No. SW-04316A-16-0078
Test Year Ended October 31, 2015

SCHEDULES OF STAFF WITNESS BRITON BAXTER

TABLE OF CONTENTS

<u>SCH #</u>	<u>TITLE</u>
BAB-1	<u>REVENUE REQUIREMENT</u>
BAB-2	<u>GROSS REVENUE CONVERSION FACTOR</u>
BAB-3	<u>RATE BASE - FAIR VALUE</u>
BAB-4a	<u>SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS</u>
BAB-4b	<u>SUMMARY OF RECONSTRUCTION NEW LESS DEPRECIATION COST RATE BASE ADJUSTMENTS</u>
BAB-5a	<u>RATE BASE ADJUSTMENT NO. 1A - EXCESS CAPACITY (OCRB)</u>
BAB-5b	<u>RATE BASE ADJUSTMENT NO. 1B - EXCESS CAPACITY (RCRB)</u>
BAB-6a	<u>RATE BASE ADJUSTMENT NO. 2A - EXPENSED PLANT (OCRB)</u>
BAB-6b	<u>RATE BASE ADJUSTMENT NO. 2B - EXPENSED PLANT (RCRB)</u>
BAB-7	<u>RATE BASE ADJUSTMENT NO. 3 - RCN FACTORS</u>
BAB-8	<u>RATE BASE ADJUSTMENT NO. 4 - ALLOWANCE FOR CASH WORKING CAPITAL</u>
BAB-9a	<u>RATE BASE ADJUSTMENT NO. 5A - ACCUMULATED DEPRECIATION (OCRB)</u>
BAB-9b	<u>RATE BASE ADJUSTMENT NO. 5B - ACCUMULATED DEPRECIATION (RCRB)</u>
BAB-16	<u>RATE DESIGN</u>
BAB-17	<u>TYPICAL BILL ANALYSIS</u>

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY FAIR VALUE	[B] STAFF FAIR VALUE
1	Adjusted Rate Base	\$2,154,978	\$990,448
2	Adjusted Operating Income (Loss)	(\$25,408)	\$30,546
3	Current Rate of Return (L2 / L1)	-1.18%	3.08%
4	Required Rate of Return	6.92%	5.60%
5	Required Operating Income (L4 * L1)	\$149,085	\$55,465
6	Operating Income Deficiency (L5 - L2)	\$174,493	\$24,919
7	Gross Revenue Conversion Factor	1.4593	1.6366
8	Required Revenue Increase (L7 * L6)	\$254,641	\$40,783
9	Adjusted Test Year Revenue	\$281,288	\$281,288
10	Proposed Annual Revenue (L8 + L9)	\$535,929	\$322,071
11	Required Increase in Revenue (%)	90.53%	14.50%
12	Rate of Return on Common Equity (%)	8.40%	9.40%

References:

Column [A]: Company Schedule A-1

Column [B]: Staff Schedule BAB-3, BCA-10, and BCA-11

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	[A]	[B]	[C]
<i>Calculation of Gross Revenue Conversion Factor:</i>				
1	Revenue	100.0000%		
2	Uncollectible Factor (Line 13)	0.0000%		
3	Revenues (L1 - L2)	100.0000%		
4	Combined Federal and State Income Tax and Property Tax Rate (L29)	38.8990%		
5	Subtotal (L3 - L4)	61.1010%		
6	Revenue Conversion Factor (L1 / L5)	1.636633		
7				
<i>Calculation of Uncollectible Factor:</i>				
9	Unity	100.0000%		
10	Combined Federal and State Tax Rate (L21)	37.6300%		
11	One Minus Combined Income Tax Rate (L9 - L10)	62.3700%		
12	Uncollectible Rate	0.0000%		
13	Uncollectible Factor (L11 * L12)	0.0000%		
14				
<i>Calculation of Effective Tax Rate:</i>				
16	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%		
17	Arizona State Income Tax Rate	5.5000%		
18	Federal Taxable Income (L16 - L17)	94.5000%		
19	Applicable Federal Income Tax Rate (L69)	34.0000%		
20	Effective Federal Income Tax Rate (L18 * L19)	32.1300%		
21	Combined Federal and State Income Tax Rate (L17 + L20)		37.6300%	
22				
<i>Calculation of Effective Property Tax Factor:</i>				
24	Unity	100.0000%		
25	Combined Federal and State Income Tax Rate (L21)	37.6300%		
26	One Minus Combined Income Tax Rate (L24 - L25)	62.3700%		
27	Property Tax Factor (BCA-14, L24)	2.0346%		
28	Effective Property Tax Factor (L26 * L27)		1.2690%	
29	Combined Federal and State Income Tax and Property Tax Rate (L21 + L28)			38.8990%
30				
31	Required Operating Income (Schedule BAB-1, Line 5)	\$55,465		
32	Adjusted Test Year Operating Income (Loss) (Schedule BCA-10, L29)	30,545		
33	Required Increase in Operating Income (L31 - L32)		\$24,920	
34				
35	Income Taxes on Recommended Revenue (Col. [C], L61)	\$26,890		
36	Income Taxes on Test Year Revenue (Col. [A], L61)	11,856		
37	Required Increase in Revenue to Provide for Income Taxes (L35 - L36)		\$15,034	
38				
39	Recommended Revenue Requirement (Schedule BAB-1, L10)	\$322,071		
40	Uncollectible Rate (L12)	0.0000%		
41	Uncollectible Expense on Recommended Revenue (L39 * L40)	\$0		
42	Adjusted Test Year Uncollectible Expense	\$0		
43	Required Increase in Revenue to Provide for Uncollectible Exp. (L41 - L42)		\$0	
44				
45	Property Tax with Recommended Revenue (BCA-17 L19)	\$17,892		
46	Property Tax on Test Year Revenue (BCA-17 L16)	17,062		
47	Increase in Property Tax Due to Increase in Revenue (L45 - L46)		830	
48				
49	Total Required Increase in Revenue (L33 + L37 + L43 + L47)		\$40,784	
50				
51		Test Year	Staff Recommended	
52	<i>Calculation of Income Tax</i>			
53	Revenue (Schedule BCA-10, Col. [C] & Col. [E], L5)	\$281,288	\$40,783	\$322,071
54	Operating Expenses Excluding Income Taxes	238,887	830	239,716
55	Synchronized Interest (L69)	10,895		10,895
56	Arizona Taxable Income (L53 - L54 - L55)	\$31,506		\$71,460
57	Arizona State Income Tax Rate	5.5000%		5.5000%
58	Arizona Income Tax (L56 * L57)	1,733		3,930
59	Federal Taxable Income (L56 - L58)	\$29,774		\$67,530
60	Total Federal Income Tax	10,123		22,960
61	Combined Federal and State Income Tax (L58 + L60)	\$11,856		\$26,890
62				
63				
64	Effective Tax Rate (Col. [C], L60 - Col. [A], L60) / (Col. [C], L59 - Col. [A], L59)			34.0000%
65				
66	<i>Calculation of Interest Synchronization:</i>			
67	Rate Base (Schedule BAB-3, Col. [F], L23)	\$990,448		
68	Weighted Average Cost of Debt (Schedule CSB-1, Col. [D])	1.1000%		
69	Synchronized Interest (L67 * L68)	\$10,895		

RATE BASE - FAIR VALUE

LINE NO.	[A] COMPANY ORIGINAL COST AS FILED	[B] COMPANY RECONSTRUCTION COST AS FILED	[C] COMPANY FAIR VALUE AS FILED	[D] STAFF ADJUSTED ORIGINAL COST	[E] STAFF ADJUSTED RECONSTRUCTION COST	[F] STAFF ADJUSTED FAIR VALUE	
1	Plant in Service	\$4,010,609	\$6,522,610	\$5,266,610	\$2,933,505	\$3,972,734	\$3,453,119
2	Less: Accumulated Depreciation	1,369,249	1,920,523	1,644,886	1,043,629	980,944	1,012,287
3	Net Plant in Service	<u>\$2,641,360</u>	<u>\$4,602,087</u>	<u>\$3,621,724</u>	<u>\$1,889,876</u>	<u>\$2,991,789</u>	<u>\$2,440,833</u>
4							
5	<u>LESS:</u>						
6							
7	Contributions in Aid of Construction (CIAC)	\$1,013,352	\$1,522,616	\$1,267,984	\$1,013,352	\$1,522,616	\$1,267,984
8	Less: Accumulated Amortization	85,869	155,486	120,678	85,869	155,486	120,678
9	Net CIAC	<u>\$927,483</u>	<u>\$1,367,130</u>	<u>\$1,147,307</u>	<u>\$927,483</u>	<u>\$1,367,130</u>	<u>\$1,147,307</u>
10							
11	Advances in Aid of Construction (AIAC)	\$0	\$0	\$0	\$0	\$0	\$0
12							
13	Customer Deposits	\$2,360	\$2,360	\$2,360	\$2,360	2,360	\$2,360
14							
15	Deferred Income Tax Credits	\$214,584	\$405,292	\$309,938	\$214,584	405,292	\$309,938
16							
17							
18	<u>ADD:</u>						
19							
20	Cash Working Capital	(23,189)	(23,189)	(23,189)	(6,829)	(6,829)	(6,829)
21	Prepayments	16,048	16,048	16,048	16,048	16,048	16,048
22							
23	Rate Base	<u>\$1,489,792</u>	<u>\$2,820,164</u>	<u>\$2,154,978</u>	<u>\$754,669</u>	<u>\$1,226,227</u>	<u>\$990,448</u>

References:

Column [A]: Company Schedule B-2, page 1
Column [B]: Company Schedule B-3, page 1
Column [C]: (Column [A] + Column [B])/2
Column [D]: Schedule BAB-4a
Column [E]: Schedule BAB-4b
Column [F]: (Column [D] + Column [E])/2

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A]	[B]	[C]	[D]	[E]	[F]
			COMPANY AS FILED	ADJ #1a	ADJ #2a	ADJ #4	ADJ #5a	STAFF ADJUSTED
				Excess Capacity	Expensed Plant	Working Capital	Accumulated Depreciation	
			Ref: Sch BAB-5a	Ref: Sch BAB-6a	Ref: Sch BAB-8	Ref: Sch BAB-9a		
1	351	Organization	\$37,898	\$0	\$0	\$0	\$0	\$37,898
2	352	Franchises	799	0	0	0	0	799
3	353	Land	400,000	0	0	0	0	400,000
4	354	Structures & Improvements	550,401	(242,176)	0	0	0	308,225
5	355	Power Generation	124,916	0	0	0	0	124,916
6	360	Collection Sewer Forced	7,141	0	0	0	0	7,141
7	361	Collection Sewers Gravity	480,710	0	0	0	0	480,710
8	362	Special Collecting Structures	0	0	0	0	0	0
9	363	Customer Services	122,760	0	0	0	0	122,760
10	364	Flow Measuring Devices	3,845	0	0	0	0	3,845
11	365	Flow Measuring Installations	2,457	0	0	0	0	2,457
12	370	Receiving Wells	26,226	0	0	0	0	26,226
13	371	Pumping Equipment	153,187	0	0	0	0	153,187
14	375	Reuse Trans. And Dist. System	126,541	0	0	0	0	126,541
15	380	Treatment & Disposal Equipment	1,887,896	(830,674)	(4,253)	0	0	1,052,968
16	381	Plant Sewers	27,752	0	0	0	0	27,752
17	382	Outfall Sewer Lines	5,541	0	0	0	0	5,541
18	389	Other Sewer Plant & Equipment	0	0	0	0	0	0
19	390	Office Furniture & Equipment	1,747	0	0	0	0	1,747
20	390.1	Computers and Software	12,188	0	0	0	0	12,188
21	391	Transportation Equipment	0	0	0	0	0	0
22	393	Tools, Shop & Garage Equipment	5,348	0	0	0	0	5,348
23	394	Laboratory Equipment	5,947	0	0	0	0	5,947
24	395	Power Operated Equipment	0	0	0	0	0	0
25	396	Communication Equipment	0	0	0	0	0	0
26	398	Other Tangible Plant	0	0	0	0	0	0
27	903	Land and Land Rights	1,129	0	0	0	0	1,129
28	904	Structures and Improvements	12,332	0	0	0	0	12,332
29	940	Office Furniture & Equipment	1,334	0	0	0	0	1,334
30	940.1	Computers and Software	12,514	0	0	0	0	12,514
31								
32		Total Plant in Service	\$4,010,609	(\$1,072,851)	(\$4,253)	\$0	\$0	\$2,933,505
33								
34		Less: Accumulated Depreciation	1,369,249	(471,183)	0	0	145,562	1,043,629
35								
36		Net Plant in Service (L59 - L 60)	\$2,641,360	(\$601,668)	(\$4,253)	\$0	(\$145,562)	\$1,889,876
37								
38		<u>LESS:</u>						
39		Contributions in Aid of Construction (CIAC)	\$1,013,352	\$0	\$0	\$0	\$0	\$1,013,352
40		Less: Accumulated Amortization	85,869	0	0	0	0	85,869
41		Net CIAC (L25 - L26)	\$927,483	\$0	\$0	\$0	\$0	\$927,483
42								
43		Advances in Aid of Construction (AIAC)	0	0	0	0	0	0
44		Customer Deposits	2,360	0	0	0	0	2,360
45		Deferred Income Taxes	214,584	0	0	0	0	214,584
46								
47		<u>ADD:</u>						
48		Cash Working Capital	(23,189)	0	0	16,360	0	(6,829)
49		Prepayments	16,048	0	0	0	0	16,048
50		Original Cost Rate Base	\$1,489,792	(\$601,668)	(\$4,253)	\$16,360	(\$145,562)	\$754,669

SUMMARY OF RECONSTRUCTION NEW LESS DEPRECIATION COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B]	[C]	[D]	[E]	[F]	[G]
				ADJ #1b	ADJ #2b	ADJ #3	ADJ #4	ADJ #5b	STAFF ADJUSTED
				Excess Capacity	Expensed Plant	RCN Factors	Working Capital	Accumulated Depreciation	
Ref: Sch BAB-5b	Ref: Sch BAB-6b	Ref: Sch BAB-7	Ref: Sch BAB-8	Ref: Sch BAB-9b					
1	351	Organization	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	352	Franchises	0	0	0	0	0	0	0
3	353	Land	412,000	0	0	0	0	0	412,000
4	354	Structures & Improvements	1,239,996	(388,451)	0	(357,153)	0	0	494,393
5	355	Power Generation	85,000	0	0	0	0	0	85,000
6	360	Collection Sewer Forced	7,464	0	0	0	0	0	7,464
7	361	Collection Sewers Gravity	1,648,990	0	0	(884,180)	0	0	764,810
8	362	Special Collecting Structures	0	0	0	0	0	0	0
9	363	Customer Services	375,300	0	0	0	0	0	375,300
10	364	Flow Measuring Devices	6,000	0	0	0	0	0	6,000
11	365	Flow Measuring Installations	3,000	0	0	0	0	0	3,000
12	370	Receiving Wells	44,300	0	0	0	0	0	44,300
13	371	Pumping Equipment	87,861	0	0	0	0	0	87,861
14	375	Reuse Trans. And Dist. System	450,550	0	0	0	0	0	450,550
15	380	Treatment & Disposal Equipment	1,958,835	(861,888)	(4,413)	0	0	0	1,092,534
16	381	Plant Sewers	88,095	0	0	0	0	0	88,095
17	382	Outfall Sewer Lines	62,680	0	0	(53,792)	0	0	8,888
18	389	Other Sewer Plant & Equipment	0	0	0	0	0	0	0
19	390	Office Furniture & Equipment	1,747	0	0	0	0	0	1,747
20	390.1	Computers and Software	12,188	0	0	0	0	0	12,188
21	391	Transportation Equipment	0	0	0	0	0	0	0
22	393	Tools, Shop & Garage Equipment	5,348	0	0	0	0	0	5,348
23	394	Labratory Equipment	5,947	0	0	0	0	0	5,947
24	395	Power Operated Equipment	0	0	0	0	0	0	0
25	396	Communication Equipment	0	0	0	0	0	0	0
26	398	Other Tangible Plant	0	0	0	0	0	0	0
27	903	Land and Land Rights	1,129	0	0	0	0	0	1,129
28	904	Structures and Improvements	1,334	0	0	0	0	0	1,334
29	940	Office Furniture & Equipment	12,332	0	0	0	0	0	12,332
30	940.1	Computers and Software	12,514	0	0	0	0	0	12,514
31									
32		Total Plant in Service	\$6,522,610	(\$1,250,338)	(\$4,413)	(\$1,295,124)	\$0	\$0	\$3,972,734
33									
34		Less: Accumulated Depreciation	1,920,523	(532,283)	0	(280,160)	0	(127,135)	980,944
35									
36		Net Plant in Service (L59 - L 60)	\$4,602,087	(\$718,055)	(\$4,413)	(\$1,014,964)	\$0	\$127,135	\$2,991,789
37									
38		<u>LESS:</u>							
39		Contributions in Aid of Construction (CIAC)	\$1,522,616	\$0	\$0	\$0	\$0	\$0	\$1,522,616
40		Less: Accumulated Amortization	155,486	0	0	0	0	0	155,486
41		Net CIAC (L25 - L26)	\$1,367,130	\$0	\$0	\$0	\$0	\$0	\$1,367,130
42									
43		Advances in Aid of Construction (AIAC)	0	0	0	0	0	0	0
44		Customer Deposits	2,360	0	0	0	0	0	2,360
45		Deferred Income Taxes	405,292	0	0	0	0	0	405,292
46									
47		<u>ADD:</u>							
48		Cash Working Capital	(23,189)	0	0	0	16,360	0	(6,829)
49		Prepayments	16,048	0	0	0	0	0	16,048
50		Reconstruction Cost Rate Base	\$2,820,164	(\$718,055)	(\$4,413)	(\$1,014,964)	\$16,360	\$127,135	\$1,226,227

RATE BASE ADJUSTMENT NO. 1 A - EXCESS CAPACITY (OCRB)

LINE NO.	ACCT. NO.	DESCRIPTION	[A]	[B]	[C]	
			ORIGINAL COST COMPANY AS FILED	ORIGINAL COST ADJUSTMENTS	ORIGINAL COST STAFF AS ADJUSTED	
1	354	Structures & Improvements	\$550,401	(\$242,176)	\$308,225	
2	380	Treatment & Disposal Equipment	1,887,896	(830,674)	1,057,222	
3			\$2,438,297	(\$1,072,851)	\$1,365,446	
4						
5		Less: Accumulated Depreciation	\$1,369,249	(\$471,183)	\$898,066	
6						
7						
8				Staff Calculated	Plant In Service	
9			As Filed	Excess Capacity	Adjustment	
10	354	Structures & Improvements	\$550,401	44.00%	\$242,176	
11	380	Treatment & Disposal Equipment	1,887,896	44.00%	830,674	
12						
13						
14						
15			Plant In Service		Accumulated Depreciation	
16		Accumulated Depreciation	Adjustment	Number of Years	Depreciation Rate	
17	354	Structures & Improvements	\$242,176	9.5	3.33%	\$76,613
18	380	Treatment & Disposal Equipment	830,674	9.5	5.00%	394,570
19						\$471,183

References:

- Column [A]: Company Schedule B-2, Page 3
- Column [B]: Testimony, BAB, Staff Engineering Report
- Column [C]: Column [A] + Column [B]

RATE BASE ADJUSTMENT NO. 1B - EXCESS CAPACITY (RCRB)

LINE NO.	ACCT. NO.	DESCRIPTION	[A]	[B]	[C]
			RECONSTRUCTION COST COMPANY AS FILED	RECONSTRUCTION COST ADJUSTMENTS	RECONSTRUCTION COST STAFF AS ADJUSTED
1	354	Structures & Improvements	\$1,239,996	(\$388,451)	\$851,545
2	380	Treatment & Disposal Equipment	1,958,835	(861,888)	1,096,947
3			\$3,198,831	(\$1,250,338)	\$1,948,493
4					
5		Less: Accumulated Depreciation	\$1,920,523	(\$532,283)	\$1,388,240
6					
7					
8	ACCT.		Staff's OCRB		Staff's RCN
9	NO.	DESCRIPTION	Adjustment	RCN Factor	Adjustment
10	354	Structures & Improvements	(\$242,176)	1.60	(\$388,451)
11	380	Treatment & Disposal Equipment	(830,674)	1.04	(861,888)
12					
13			Staff's OCRB		Staff's RCN
14			Accumulated Depreciation		Accumulated Depreciation
15			Adjustment	RCN Factor	Adjustment
16	354	Structures & Improvements	\$76,613	1.60	\$122,886
17	380	Treatment & Disposal Equipment	394,570	1.04	409,397
18					\$532,283

References:

Column [A]: Company Schedule B-3, Page 3

Column [B]: Testimony, BAB, Staff Engineering Report, Schedule BAB-5a

Column [C]: Column [A] + Column [B]

RATE BASE ADJUSTMENT NO. 2A - EXPENSED PLANT (OCRB)

LINE NO.	ACCT. NO.	Description	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	380	Treatment & Disposal Equipment	\$1,887,896	(\$4,253)	\$1,883,643
2					
3					
4					
5					
6					
7					
8					
9	From Treatment & Disposal Equipment to Expense				
10	Acct. No.	Year	Vendor Name	Description	Amount
11	380	2014	Brewer Trucking	Vacuum Truck Service	\$4,253

References:

- Column A: Company Schedule B-2, Page 3
- Column B: Testimony, BAB, Company Data Request Responses CSB 1.4
- Column C: Column [A] + Column [B]

RATE BASE ADJUSTMENT NO. 2B - EXPENSED PLANT (RCRB)

LINE NO.	ACCT. NO.	Description	[A]	[B]	[C]
			COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	380	Treatment & Disposal Equipment	\$1,958,835	(\$4,413)	\$1,954,422
2					
3					
4					
5					
6					
7	ACCT.		Staff's OCRB		Staff's RCN
8	NO.	DESCRIPTION	Adjustment	RCN Factor	Adjustment
9	380	Treatment & Disposal Equipment	\$4,253	1.04	\$4,413
10					
11					

References:

Column A: Company Schedule B-2, Page 3

Column B: Testimony, BAB, Company Data Request Responses CSB 1.4, Schedule BAB-7a

Column C: Column [A] + Column [B]

RATE BASE ADJUSTMENT NO. 3 - RCN FACTORS

LINE NO.	ACCT. NO.	DESCRIPTION	[A]	[B]	[C]						
			COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED	Company Adjusted OCRB As Filed	Company RCN Factor As Filed	Company Adjusted RCN	Staff Recommended RCN Factor	Staff Recommended RCN	Staff Recommended Adjustment for RCN
1	354	Structures & Improvements	\$1,239,996	(\$357,153)	\$882,843						
2	361	Collection Sewers Gravity	1,648,990	(884,180)	764,810						
3	382	Outfall Sewer Lines	62,680	(53,792)	8,888						
4			\$2,951,666	(\$1,295,124)	\$1,656,542						
5											
6		Less: Accumulated Depreciation	\$1,920,523	(\$280,160)	\$1,640,363						
7											
8											
9											
10			Company Adjusted OCRB As Filed	Company RCN Factor As Filed	Company Adjusted RCN	Staff Recommended RCN Factor	Staff Recommended RCN	Staff Recommended Adjustment for RCN			
11											
12											
13	354	Structures & Improvements	\$550,401	2.25	\$1,239,995	1.6040	\$882,843	(\$357,153)			
14	361	Collection Sewers Gravity	480,710	3.43	1,648,990	1.5910	764,810	(884,180)			
15	382	Outfall Sewer Lines	5,541	11.31	62,680	1.6040	8,888	(53,792)			
								(\$1,295,124)			
			Company Adjusted OCRB A/D As Filed	Company RCN Factor As Filed	Company Adjusted RCN A/D	Staff Recommended RCN Factor	Staff Recommended RCN A/D	Staff Recommended Adjustment for RCN A/D			
	354	Structures & Improvements	\$158,313	2.25	\$356,662	1.6040	\$253,934	(\$102,729)			
	361	Collection Sewers Gravity	87,377	3.43	299,731	1.5910	139,017	(160,714)			
	382	Outfall Sewer Lines	1,722	11.31	19,479	1.6040	2,762	(16,717)			
								(\$280,160)			

References:

- Column A: Company Schedule B-3, Page 3.2
- Column B: Testimony, BAB, Staff Engineering Report
- Column C: Column [A] + Column [B]

RATE BASE ADJUSTMENT NO. 4 - ALLOWANCE FOR CASH WORKING CAPITAL

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJUSTMENT	[C] STAFF ADJUSTED	[D] REVENUE LEAD/LAG	[E] EXPENSE LEAD/LAG	[F] NET LEAD/LAG	[G] LEAD/LAG FACTOR	[H] CASH WORKING CAPITAL REQUIRED
1	Salaries and Wages	\$0	\$0	\$0	28.61	0.00	28.61	0.0784	\$0
2	Purchased Water	2,379	0	2,379	28.61	27.32	1.29	0.0035	8
3	Sludge Removal	2,204	0	2,204	28.61	186.00	(157.39)	(0.4312)	(950)
4	Purchased Power	16,374	0	16,374	28.61	48.89	(20.28)	(0.0556)	(910)
5	Fuel for Power Production	0	0	0	28.61	0.00	28.61	0.0784	0
6	Chemicals	770	0	770	28.61	0.00	28.61	0.0784	60
7	Materials and Supplies	3,171	0	3,171	28.61	10.18	18.43	0.0505	160
8	Contractual Services - Professional	46,007	0	46,007	28.61	20.00	8.61	0.0236	1,085
9	Contractual Services - Testing	11,872	0	11,872	28.61	31.79	(3.18)	(0.0087)	(103)
10	Contractual Services - Other	12,995	0	12,995	28.61	22.71	5.90	0.0162	210
11	Rents	0	0	0	28.61	0.00	28.61	0.0784	0
12	Transportation	100	0	100	28.61	31.25	(2.64)	(0.0072)	(1)
13	Insurance	6,288	0	6,288	28.61	0.00	28.61	0.0784	493
14	Miscellaneous	21,362	0	21,362	28.61	(80.00)	108.61	0.2976	6,357
15	Interest Expense (Synchronized)	22,606	0	22,606	28.61	91.25	(62.64)	(0.1716)	(3,880)
16	Property Taxes	22,243	(4,351)	17,892	28.61	213.96	(185.35)	(0.5078)	(9,086)
17	Taxes other than Income	0	0	0	28.61	0.00	28.61	0.0784	0
18	Income Tax	62,674	(50,818)	11,856	28.61	37.00	(8.39)	(0.0230)	(273)
19									
20	Total	<u>\$231,045</u>							
									Staff Calculated Working Cash Requirement (\$6,829)
									Company Working Cash Requirement as filed (23,189)
									<u>Total adjustment to Working Cash Requirement \$16,360</u>

REFERENCES:

- Column [A]: Company Schedule B-5 page 1
- Column [B]: Testimony, BAB and BCA
- Column [C]: Column [A] + Column [B]
- Column [D]: Company Schedule B-5 page 1
- Column [E]: Company Schedule B-5 page 1
- Column [F]: Column [D] - Column [E]
- Column [G]: Column [F] / 365
- Column [H]: Column [C] X Column [G]

RATE BASE ADJUSTMENT NO. 5A - ACCUMULATED DEPRECIATION (OCRB)

LINE NO.	ACT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJUSTMENT	[C] STAFF ADJUSTED
1		Accumulated Depreciation	\$1,369,249	\$145,562	\$1,514,811
2					
3					
4					
5			[A] COMPANY	[B]	[C] STAFF
6			AS FILED	ADJUSTMENT	ADJUSTED
7	351	Organization	\$0	\$0	\$0
8	352	Franchises	0	0	0
9	353	Land	0	0	0
10	354	Structures & Improvements	158,313	8,288	166,601
11	355	Power Generation	34,735	(0)	34,735
12	360	Collection Sewer Forced	1,333	(0)	1,333
13	361	Collection Sewers Gravity	87,377	0	87,377
14	362	Special Collecting Structures	0	0	0
15	363	Customer Services	22,915	0	22,915
16	364	Flow Measuring Devices	3,589	(0)	3,589
17	365	Flow Measuring Installations	2,293	0	2,293
18	370	Receiving Wells	8,151	0	8,151
19	371	Pumping Equipment	129,032	15,198	144,230
20	375	Reuse Trans. And Dist. System	29,526	0	29,526
21	380	Treatment & Disposal Equipment	860,477	122,076	982,553
22	381	Plant Sewers	12,951	(0)	12,951
23	382	Outfall Sewer Lines	1,722	0	1,722
24	389	Other Sewer Plant & Equipment	0	0	0
25	390	Office Furniture & Equipment	933	0	933
26	390.1	Computers and Software	5,688	(0)	5,688
27	391	Transportation Equipment	0	0	0
28	393	Tools, Shop & Garage Equipment	1,159	(0)	1,159
29	394	Labratory Equipment	2,455	0	2,455
30	395	Power Operated Equipment	0	0	0
31	396	Communication Equipment	0	0	0
32	398	Other Tangible Plant	0	0	0
33	903	Land and Land Rights	0	0	0
34	904	Structures and Improvements	1,002	0	1,002
35	940	Office Furniture & Equipment	200	0	200
36	940.1	Computers and Software	5,398	0	5,398
37			\$1,369,249	\$145,562	\$1,514,811

REFERENCES:

Column [A]: Company Schedule B-2 Page 3.6

Column [B]: Direct Testimony, BAB

Column [C]: Column [A] + Column [B]

RATE BASE ADJUSTMENT NO. 5B - ACCUMULATED DEPRECIATION (RCRB)

LINE NO.	ACT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJUSTMENT	[C] STAFF ADJUSTED
1		Accumulated Depreciation	\$1,920,523	(\$127,135)	\$1,793,388
2					
3			[A]	[B]	[C]
4			STAFF		STAFF
5			ADJUSTED	RCN	ADJUSTED
6			OC A/D	FACTOR	RC A/D
7	351	Organization	\$0	0.00	\$0
8	352	Franchises	0	0.00	0
9	353	Land	0	1.03	0
10	354	Structures & Improvements	166,601	1.60	267,227
11	355	Power Generation	34,735	0.68	23,620
12	360	Collection Sewer Forced	1,333	1.05	1,400
13	361	Collection Sewers Gravity	87,377	1.59	139,017
14	362	Special Collecting Structures	0	0.00	0
15	363	Customer Services	22,915	3.06	70,121
16	364	Flow Measuring Devices	3,589	1.56	5,598
17	365	Flow Measuring Installations	2,293	1.22	2,798
18	370	Receiving Wells	8,151	1.69	13,775
19	371	Pumping Equipment	144,230	0.57	82,211
20	375	Reuse Trans. And Dist. System	29,526	3.56	105,113
21	380	Treatment & Disposal Equipment	982,553	1.04	1,021,855
22	381	Plant Sewers	12,951	3.17	41,054
23	382	Outfall Sewer Lines	1,722	1.60	2,762
24	389	Other Sewer Plant & Equipment	0	0.00	0
25	390	Office Furniture & Equipment	933	1.00	933
26	390.1	Computers and Software	5,688	1.00	5,688
27	391	Transportation Equipment	0	0.00	0
28	393	Tools, Shop & Garage Equipment	1,159	1.00	1,159
29	394	Labratory Equipment	2,455	1.00	2,455
30	395	Power Operated Equipment	0	0.00	0
31	396	Communication Equipment	0	0.00	0
32	398	Other Tangible Plant	0	0.00	0
33	903	Land and Land Rights	0	0.00	0
34	904	Structures and Improvements	1,002	1.00	1,002
35	940	Office Furniture & Equipment	200	1.00	200
36	940.1	Computers and Software	5,398	1.00	5,398
37			\$1,514,811		\$1,793,388

REFERENCES:

Column [A]: Company Schedule B-2 Page 3.6

Column [B]: Direct Testimony, BAB

Column [C]: Column [A] + Column [B]

RATE DESIGN

	Present Rates	Company Proposed	Percent Increase	Staff Recommended	Percent Increase
Monthly Service Charge					
Residential Service	\$70.00	\$133.74	91.06% [1]	\$79.79	13.99%
School Service - Per Student	5.60	10.699	91.05%		
Commercial 1 inch and smaller	NT	140.00		79.79	
Commercial 1 1/2 inch	NT	280.00		159.58	
Commercial 2 inch	NT	448.00		255.33	
Commercial 3 inch	NT	896.00		510.66	
Commercial 4 inch	NT	1,400.00		797.90	
Commercial 6 inch	NT	2,800.00		1,595.80	
Commercial 8 inch	NT	4,480.00		2,553.28	
Commercial 10 inch	NT	6,440.00		3,670.34	
Commerical, per 1,000 gallons	NT	6.00		5.00	
Effluent Sales					
Per thousand gallons	NT	Market Price		Market Price	
Per Acre Feet	NT	Market Price		Market Price	

	Year 1	Year 2	Year 3	Year 4
[1] Proposed Phase-In Residential Monthly Charge	\$114.61	\$133.74	\$133.74	\$133.74
Foregone Reveneus Surcharge			21.75	
Total	\$114.61	\$133.74	\$155.49	\$133.74

Service Charges:	Present Rates	Company Proposed	Staff Recommended
Establishment	\$30.00	\$25.00	\$25.00
Establishment (After hours)	60.00	Remove	Remove
Reestablishment of Service (Within 12 Months)	*	(1)	(1)
Reconnection (Delinquent)	60.00	(2)	(2)
After-Hours Service Charge	NT	\$50.00; (3)	\$50.00; (3)
Customer Deposit	**	Remove	Remove
Minimum Deposit - Residential	NT	(4)	(4)
Minimum Deposit - Non-residential	NT	(5)	(5)
Deposit Interest	**	6.00%	6.00%
NSF Check Charge	25.00	25.00	25.00
Deferred Payment Finance Charge	1.50%	1.50%	1.50%
Late Charge	1.50%	(6)	(6)
Main Extension/Additional Facilities	Cost	Cost	Cost
Revenue Taxes & Assessments	***	***	***

NT Means no tariff

* Per A.A.C. R14-2-603(D) - Months off system times the minimum charge.

** Per A.A.C. R14-2-603(B)

*** In addition to the collection of regular rates, the utility will collect from its customers a proportionate share of any privilege, sales, use, and franchise tax. Per Commission rule A.A.C. R14-2-608(D) 5.

- (1) Per A.A.C. R14-2-603(D), residential and non-residential customers shall pay applicable minimum charge times number of months disconnected.
- (2) Customer shall pay the actual cost of physical disconnection and Establishment (if same customer) and there shall be no charge for disconnection if no physical work is performed.
- (3) The after-hours service charge shall apply to any service requested by Customer that is performed by Company after regular hours and shall be in addition to the regular business hours service charge.
- (4) Two times average bill.
- (5) Two and one-half times average bill.
- (6) Greater of \$5.00 or 1.50% per month on unpaid balance.
- (7) Per A.A.C. R14-2-606(B).

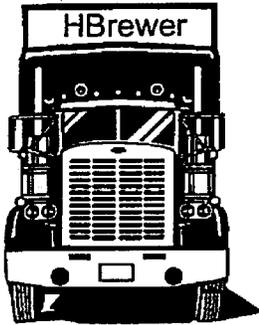
Liberty Utilities (Entrada Del Oro Sewer) Corp.
Docket No. SW-04316A-16-0078
Test Year Ended October 31, 2015

Schedule BAB-17

TYPICAL BILL ANALYSIS

Residential

<u>Company Proposed</u>	<u>Present Rates</u>	<u>Proposed Rates</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
	\$70.00	\$133.74	\$63.74	91.06%
<u>Staff Recommended</u>				
	\$70.00	\$79.79	\$9.79	13.99%



BREWER TRUCKING, LLC

.....servicing your environmental transportation needs

RECEIVED
MAR 10 2014

Invoice

Date	Invoice #
3/5/2014	1915

Bill To
Liberty Water Attn: Accounts Payable 12725 W. Indian School Road, Ste. D-101 Avondale, AZ 85392

Start Date	P.O. No.	Terms	Project	
2/18/2014	23200	Net 30	110378-Gold Canyon WWTP/Vac Truck Svs	
Quantity	Description		Rate	Amount
	GOLD CANYON SEWER - Camino Del Oro to Gold Canyon Wastewater Treatment Plant:			
11.5	02/18/14: Vacuum Truck Service - 11.5 hours to transport 4 loads from Camino Del Oro to Gold Canyon WWTP @ \$85.00/hour		85.00	977.50
1	14% Fuel Surcharge		136.85	136.85
12	02/25/14: Vacuum Truck Service - 12.0 hours to transport 4 loads from Camino Del Oro to Gold Canyon WWTP @ \$85.00/hour		85.00	1,020.00
1	14% Fuel Surcharge		142.80	142.80
Project No.: 110378 Start Date: 02/18/14				
Please remit to: P.O. Box 7030, Mesa, AZ 85216			Total	✓ \$2,277.15

Receipt # 33477

LIBERTY UTILITIES (SUB) CORP.

To: Brewer Trucking LLC

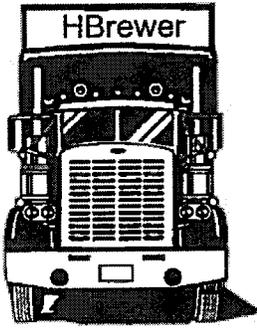
8020BRETRU

Check Number: 021428

Date: 03/17/2014

Invoice Number	Date	Description	Amount	Discount	Paid Amount
1915	03/05/2014	Job 8143-20014-000518 3	US\$2,277.15	US\$0.00	US\$2,277.15
1916	03/05/2014	Receivings Transaction Entry	US\$2,980.18	US\$0.00	US\$2,980.18
1916.1	03/05/2014	Receivings Transaction Entry	US\$3,115.21	US\$0.00	US\$3,115.21
1916.2	03/05/2014	Receivings Transaction Entry	US\$3,004.80	US\$0.00	US\$3,004.80
1916.3	03/05/2014	Receivings Transaction Entry	US\$1,869.30	US\$0.00	US\$1,869.30
1916.5	03/05/2014	Job 8143-20014-000518 3	US\$1,021.70	US\$0.00	US\$1,021.70
1916.4	03/05/2014	Job 8143-20014-000518 3	US\$954.61	US\$0.00	US\$954.61

TOTALS: US\$15,222.95 US\$0.00 US\$15,222.95



BREWER TRUCKING, LLC

.....servicing your environmental transportation needs

RECEIVED
MAR 10 2014

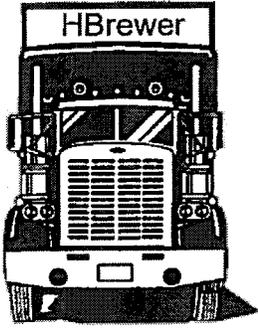
Invoice

Date	Invoice #
3/5/2014	1916

Bill To

Liberty Water
Attn: Accounts Payable
12725 W. Indian School Road, Ste. D-101
Avondale, AZ 85392

Start Date	P.O. No.	Terms	Project
2/3/2014	As Referenced Here...	Net 30	110378.2-Gold Canyon WWTP/Bin Svs.
Quantity	Description	Rate	Amount
	GOLD CANYON SEWER - Gold Canyon Wastewater Treatment Plant:		
	Roll-Off Bin Service		
12.05	02/03/14: Manifest #22309 - 12.05 tons @ \$74.50/ton (P.O. #23089)	74.50	897.73
1	14% Fuel Surcharge	125.67	125.67
			1023.40 ✓
11.24	02/06/14: Manifest #22195 - 11.24 tons @ \$74.50/ton (P.O. #23090)	74.50	837.38
1	14% Fuel Surcharge	117.23	117.23
			954.61 ✓
11.8	02/10/14: Manifest #22199 - 11.8 tons @ \$74.50/ton (P.O. #23091)	74.50	879.10
1	14% Fuel Surcharge	123.07	123.07
			1002.17 ✓
11.52	02/11/14: Manifest #22201 - 11.52 tons @ \$74.50/ton (P.O. #23092)	74.50	858.24
1	14% Fuel Surcharge	120.15	120.15
			978.39
12.86	02/13/14: Manifest #22204 - 12.86 tons @ \$74.50/ton (P.O. #23120)	74.50	958.07
1	14% Fuel Surcharge	134.12	134.12
			1092.19
12.3	02/17/14: Manifest #22212 - 12.3 tons @ \$74.50/ton (P.O. #23123)	74.50	916.35
1	14% Fuel Surcharge	128.28	128.28
			1044.63
11.88	02/18/14: Manifest #22215 - 11.88 tons @ \$74.50/ton (P.O. #23124)	74.50	885.06
1	14% Fuel Surcharge	123.90	123.90
			1008.96 ✓
12.31	02/19/14: Manifest #22217 - 12.31 tons @ \$74.50/ton (P.O. #23125)	74.50	917.10
1	14% Fuel Surcharge	128.38	128.38
			1045.48 ✓
11.19	02/21/14: Manifest #22223 - 11.19 tons @ \$74.50/ton (P.O. #23126)	74.50	833.66
1	14% Fuel Surcharge	116.70	116.70
			950.36
10.94	02/24/14: Manifest #22224 - 10.94 tons @ \$74.50/ton (P.O. #23127)	74.50	815.03
Please remit to: P.O. Box 7030, Mesa, AZ 85216			Total



BREWER TRUCKING, LLC

.....servicing your environmental transportation needs

Invoice

Date	Invoice #
3/5/2014	1916

Bill To Liberty Water Attn: Accounts Payable 12725 W. Indian School Road, Ste. D-101 Avondale, AZ 85392
--

Start Date	P.O. No.	Terms	Project	
2/3/2014	As Referenced Here...	Net 30	110378.2-Gold Canyon WWTP/Bin Svs.	
Quantity	Description		Rate	Amount
1	14% Fuel Surcharge		114.10	114.10
11.07	02/25/14: Manifest #22225 - 11.07 tons @ \$74.50/ton (P.O. #23128)		74.50	824.72
1	14% Fuel Surcharge		115.45	115.45
11.24	02/26/14: Manifest #22226 - 11.24 tons @ \$74.50/ton (P.O. #23129)		74.50	837.38
1	14% Fuel Surcharge		117.23	117.23
12.03	02/27/14: Manifest #22227 - 12.03 tons @ \$74.50/ton (P.O. #23130)		74.50	896.24
1	14% Fuel Surcharge		125.46	125.46
Project No.: 110378.2 Start Date: 02/03/14 Receipt # 33521 - \$2980.18 (1) Receipt # 33522 - \$3115.21 (2) Receipt # 33523 - \$3004.80 (3) Receipt # 33524 - \$1869.30 (4) Receipt # 33788 - \$954.41 (5) Receipt # 33525 - \$1021.70				
Please remit to: P.O. Box 7030, Mesa, AZ 85216			Total	\$12,945.80

**LIBERTY UTILITIES (ENTRADA DEL ORO SEWER) CORP.
DOCKET NO. SW-04316A-16-0078
RESPONSES TO STAFF'S FIRST SET OF DATA REQUESTS**

May 19, 2016

Respondent: Liberty Utilities (Entrada Del Oro Sewer) Corp.

Address: 12725 W. Indian School Road, Suite D-101
Avondale, AZ 85392

Company Response Number: CSB 1.9

- Q. **Cash Working Capital ("CWC")** – With regards to the Company's Cash Working Capital Allowance calculation (Referring to Schedule B-5 and associated supporting work papers), please answer or provide the following:
- a. Explain the negative 15 day revenue lag period shown in the Company's lead-lag study workpapers?
 - b. Does Liberty EDO require its customers to prepay for sewer services? If yes, provide a copy of the current tariff showing that such a service prepayment has been authorized by the ACC.
 - c. Explain why some of the lead lag study workpapers accompanying other recent Liberty rate case filings show positive service period lag day.
 - d. Does Liberty EDO have residential customers that take advantage of automatic bank account withdrawals as the means of payment sewer service bills as the come due? If yes, explain how these automatic bank draw arrangements were given consideration in the Company's lead lag study.
 - e. Copies of the actual customer bills that were randomly selected and evaluated as a part of this lead lag study.
 - f. When was this lead-lag study undertaken?
 - g. How did the Company identify the service time or period associated with the transactions chosen in its transaction sample? (Generally, Staff believes individual invoices would need to be reviewed and evaluated in order to determine the service period covered by individual three party invoices.)

**LIBERTY UTILITIES (ENTRADA DEL ORO SEWER) CORP.
DOCKET NO. SW-04316A-16-0078
RESPONSES TO STAFF'S FIRST SET OF DATA REQUESTS**

May 19, 2016

Respondent: Liberty Utilities (Entrada Del Oro Sewer) Corp.

Address: 12725 W. Indian School Road, Suite D-101
Avondale, AZ 85392

- h.** Regarding the miscellaneous expense category lead/lag of a negative (80) days, please explain why the Company would choose to pay the invoices noted on lines 29 through 33 of the AP Miscellaneous Exp Tab ahead of the service period for these items?
- i.** Why do the miscellaneous expense lead or lag days vary so much in the CWC calculations in the pending Entrada Del Oro Sewer, Bella Vista Water, Rio Rico Water and Sewer rate cases?
- j.** Explain the 177 lag days shown on the AP Purchased Power Tab?
- k.** Did the Company include insurance expense as a prepayment/other working capital item as well as including this in its CWC calculation? Explain your response and why this is appropriate?
- l.** Explain how often (e.g., monthly, quarterly, semi-annually, annually, etc.) APUC pays federal and state taxes for customers located in the United States of America. As part of your response, please provide supporting documentation for the expense lag of 37.00 days used for income tax.
- m.** Explain the 0 expense lag days used for chemicals. As part of your response, please provide supporting documentation.

RESPONSE:

- a.** The Company incorrectly calculated its Revenue Lag on the assumption that billings for EDO were performed in advance of the service period when, in fact, billings occur in arrears, or at the end of the period. Accordingly, the revenue lag should be 28.61 days consisting of a 15 day service lag, plus a 5

**LIBERTY UTILITIES (ENTRADA DEL ORO SEWER) CORP.
DOCKET NO. SW-04316A-16-0078
RESPONSES TO STAFF'S FIRST SET OF DATA REQUESTS**

May 19, 2016

Respondent: Liberty Utilities (Entrada Del Oro Sewer) Corp.

Address: 12725 W. Indian School Road, Suite D-101
Avondale, AZ 85392

day billing lag, plus an 8.61 day payment lag. The Company will update for this correction in its rebuttal.

- b. No.
- c. The Company cannot explain unspecified workpapers from other rate cases.
- d. The Company's lead lag study reflects present operating circumstances. The Company did not use a sample of customer bills. The Company used an accounts receivable turn-over analysis to determine the payment lag.
- e. Please see the workpaper file "EDO Lead Lag."
- f. The lead-lag study was performed in 2015 and is based upon 2014 accounts payable and accounts receivable data.
- g. Per discussion with Staff, the parenthetical part of the question is deleted. The service lag to be restated for the correction noted in a., above, reflects the average period, or one half of a typical 30-day month of service lag.
- h. The lag reflects an analysis of the company's actual AP activity. Some activity required payment is advance of service, and this increases the associated lead lag period.
- i. The lead lag analysis is performed on a case specific basis. If Staff wishes to identify specific differences between this case and other rate cases, the Company may be able to further respond.
- j. The AP Purchased Power Tab does not show a 177 day lag or lead.
- k. **SUPPLEMENT** No.
- l. **SUPPLEMENT** The Company, through Liberty Utilities, makes quarterly tax payments as required by the IRS regulations.

**LIBERTY UTILITIES (ENTRADA DEL ORO SEWER) CORP.
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- m. **SUPPLEMENT** The Company did not have any AP history to ascertain the payment lag so it used zero.

BEFORE THE ARIZONA CORPORATION COMMISSION

DOUG LITTLE
Chairman
BOB STUMP
Commissioner
BOB BURNS
Commissioner
TOM FORESE
Commissioner
ANDY TOBIN
Commissioner

IN THE MATTER OF THE APPLICATION OF)
LIBERTY UTILITIES (ENTRADA DEL ORO)
SEWER) CORP., AN ARIZONA CORPORATION,)
FOR A DETERMINATION OF THE FAIR VALUE)
OF ITS UTILITY PLANTS AND PROPERTY AND)
FOR INCREASES IN ITS WASTEWATER RATES)
AND CHARGES FOR UTILITY SERVICE BASED)
THEREON.)

DOCKET NO. SW-04316A-16-0078

IN THE MATTER OF THE APPLICATION OF)
LIBERTY UTILITIES (ENTRADA DEL ORO)
SEWER) CORP., AN ARIZONA CORPORATION,)
FOR AUTHORITY TO ISSUE EVIDENCE OF)
INDEBTEDNESS IN AN AMOUNT NOT TO)
EXCEED \$1,750,000.)

DOCKET NO. SW-04316A-16-0085

DIRECT
TESTIMONY
OF
BRENDAN ALADI
PUBLIC UTILITIES ANALYST
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

AUGUST 19, 2016

TABLE OF CONTENTS

	Page
INTRODUCTION	1
BACKGROUND	3
<i>Summary of Operating Income Adjustments</i>	<i>3</i>
OPERATING INCOME	3
<i>Revenues</i>	<i>3</i>
<i>Operating Income Adjustment No. 1 – Rate Case Expense</i>	<i>4</i>
<i>Operating Income Adjustment No. 2 – Depreciation Expense and Amortization Expense</i>	<i>5</i>
<i>Operating Income Adjustment No. 3 – Income Taxes</i>	<i>5</i>
<i>Operating Income Adjustment No. 4 – Interest on Customer Deposits</i>	<i>Error! Bookmark not defined.</i>
REVENUE REQUIREMENT	6

SCHEDULES

Operating Income Statement – Test Year and Staff Recommended	BCA-10
Summary of Operating Income Adjustments – Test Year.....	BCA-11
Operating Income Adjustment No. 1 – Rate Case Expense	BCA-12
Operating Income Adjustment No. 2 – Depreciation & Amortization.....	BCA-13
Operating Income Adjustment No. 3 – Income Taxes.....	BCA-14

EXECUTIVE SUMMARY
LIBERTY UTILITIES (ENTRADA DEL ORO SEWER), CORP.
DOCKET NOS. SW-04316A-16-0078 & SW-04316A-16-0085

Liberty Utilities (Entrada Del Oro Sewer), Corporation ("Entrada Del Oro" or "EDO" or "Company") is an Arizona public service corporation that provides wastewater utility service to approximately 336 customers that reside in the Entrada Del Oro development which is located approximately four miles east of Gold Canyon in Pinal County. The current rates for Entrada Del Oro were approved in Decision No. 68306, dated November 14, 2005.

Entrada Del Oro seeks Commission authority to increase its revenues by \$254,641 or 90.53 percent over its reported test year revenues of \$281,288, for a total of \$535,929. The Company's proposed revenue increase would produce an operating income of \$149,085 or a 6.92 percent rate of return on its reported Fair Value Rate Base ("FVRB") of \$2,154,978.

Staff recommends an increase of \$40,713 or 14.50 percent over the test year revenues, for a total of \$322,071. Staff's recommended revenue requirement results in an operating income of \$55,465 or a rate of return of 5.60 percent on Staff's adjusted FVRB of \$990,445.

1 **INTRODUCTION**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Brendan C. Aladi. I am a Public Utilities Analyst III employed by the Arizona
4 Corporation Commission (“Commission”) in the Utilities Division (“Staff”). My business
5 address is 1200 West Washington Street, Phoenix, Arizona 85007.

6
7 **Q. Briefly describe your responsibilities as a Public Utilities Analyst III.**

8 A. As a Public Utilities Analyst, I analyze and examine accounting, financial, statistical and other
9 information included in utility rate, financing and other applications. In addition, I prepare
10 written reports based on my analyses and present Staff’s recommendations to the
11 Commission on utility revenue requirements, rate design, and other issues. I am also
12 responsible for testifying at formal hearings on these matters.

13
14 **Q. Please describe your educational background and professional experience.**

15 A. I received a Bachelor of Science Degree in Accounting from Central State University, in
16 Wilberforce, Ohio and a Masters of Arts Degree in Accounting from the University of
17 Illinois, in Springfield.

18
19 Since joining the Commission in 2007, I have participated in numerous rate cases and other
20 regulatory proceedings involving water, and wastewater utilities. I have testified on matters
21 involving regulatory accounting and auditing. Additionally, I have attended utility-related
22 seminars sponsored by the National Association of Regulatory Utility Commissioners
23 (“NARUC”) on ratemaking and accounting designed to provide continuing and updated
24 education in these areas.

25

1 **Q. What is the scope of your testimony?**

2 A. I am presenting Staff's analysis and recommendations for the Liberty Utilities (Entrada Del
3 Oro Sewer), Corporation ("Entrada Del Oro" or "EDO" or "Company") revenues and
4 expenses.

5

6 **Q. What is the basis of Staff's recommendations?**

7 A. I have performed a regulatory audit of the Company's application to determine whether
8 sufficient, relevant, and reliable evidence exists to support the Company's requested revenues
9 and expenses. The regulatory audit consisted of examining and testing the financial
10 information, accounting records, and other supporting documentation and verifying that the
11 accounting principles applied were in accordance with the Commission-adopted NARUC
12 Uniform System of Accounts ("USOA").

13

14 **Q. What is the primary reason for EDO's requested permanent rate increase?**

15 A. According to the Application, the revenues from its utility operations are presently inadequate
16 to provide a fair rate of return. The Company is seeking Commission approval for certain
17 adjustments to its rates and charges for utility service so that the Company may recover its
18 operating expenses and have an opportunity to earn a reasonable rate of return on the fair
19 value of its property.

20

21 **Q. Have you prepared any schedules to accompany your testimony?**

22 A. Yes, I have prepared schedules BCA-10 through BCA-15.

23

1 **BACKGROUND**

2 **Q. Please provide a brief description of Entrada Del Oro and the service it provides.**

3 A. Entrada Del Oro is a for-profit Arizona Class D public service corporation engaged in the
4 business of providing wastewater service in portions of Pinal County, Arizona. EDO
5 provided wastewater service to approximately 336 customers during the test year. Liberty
6 Utilities purchased the stock of Entrada Del Oro in August of 2008. The current rates for
7 the Company were approved in Decision No. 68306, dated November 14, 2005.

8
9 *Summary of Operating Income Adjustments*

10
11 Rate Case Expense – This adjustment decreases rate case expense by \$21,667 to provide for a
12 normalized level of rate case expense.

13
14 Depreciation Expense – This adjustment decreases depreciation expense by \$58,437 to reflect
15 Staff's calculation of depreciation expense based upon Staff's recommended plant balances.

16
17 Income Tax Expense – This adjustment increases income tax expense by \$24,150 to reflect
18 the income tax obligation on Staff's adjusted test year taxable income.

19
20 **OPERATING INCOME**

21 *Revenues*

22 **Q. What are the results of Staff's analysis of test year revenues, expenses and operating**
23 **income of EDO?**

24 A. As shown on Staff Schedules BCA-10 and BCA-11, Staff's analysis resulted in test year
25 revenues of \$281,288, expenses of \$250,743 and operating income of \$30,545.

26

1 *Operating Income Adjustment No. 1 – Rate Case Expense*

2 **Q. What amount does Entrada propose for Rate Case expense for the test year ended**
3 **October 31, 2015?**

4 A. The Company proposed a \$130,000 estimate in rate case expense which was amortized over
5 three years for an annual rate case expense of \$43,333.

6
7 **Q. Does Staff agree with the Company's proposed \$130,000 estimate in rate case**
8 **expense?**

9 A. No. Staff requested documentation to support the \$130,000 estimate in rate case expense. In
10 response to data request BCA-7.1, the Company has only provided contractor's invoices
11 totaling \$22,135.56 and unsupported legal expenses totaling \$28,744.61 for a total of
12 \$50,880.17 as of August 2, 2016. Therefore, Staff is concerned that the Company estimate
13 for total rate case expense is too high.

14
15 **Q. Does Staff make an adjustment to Entrada Del Oro rate case expense?**

16 A. Yes. Staff reduces the EDO rate case expense by \$65,000 from \$130,000 to \$65,000.

17
18 **Q. What does Staff recommend for rate case expense for EDO?**

19 A. Staff recommends normalizing the \$65,000 rate case expense over three years for an annual
20 rate case expense of \$21,667 ($\$130,000 - \$65,000 / 3$) as shown on Schedule BCA-12.

21
22 **Q. Will Staff consider altering rate case expense if the Company provides additional**
23 **supporting invoices?**

24 A. Yes.

25

1 *Operating Income Adjustment No. 2 – Depreciation Expense and Amortization Expense*

2 **Q. What amount of depreciation and amortization expense did EDO propose for the test**
3 **year ended October 31, 2015?**

4 A. EDO proposed \$135,073 of depreciation expense for the test year ended October 31, 2015.

5
6 **Q. Did Staff make any adjustment to the proposed depreciation and amortization**
7 **expense?**

8 A. Yes. Staff made an adjustment of \$58,437 reducing EDO proposed depreciation and
9 amortization expense of \$135,073 to \$76,636. Staff adjusted depreciation expense to reflect
10 application of the Staff-recommended depreciation rates to the Staff recommended plant and
11 CIAC balances.

12
13 **Q. What is Staff's recommendation?**

14 A. Staff recommends decreasing depreciation expense in EDO by \$58,437, as shown on
15 Schedule BCA-13.

16
17 *Operating Income Adjustment No. 3 – Income Taxes*

18 **Q. What amount of income tax expense did EDO propose for the test year ended**
19 **October 31, 2015?**

20 A. EDO proposed income taxes expense of negative \$12,294.

21
22 **Q. Did Staff make any adjustments to test year Income Tax expense?**

23 A. Yes. Staff made an adjustment of \$24,150 increasing EDO proposed income tax expense of
24 negative \$12,294 to \$11,856. Staff's adjustment reflects Staff's calculation of the income tax
25 expense based upon Staff's adjusted test year taxable income.

26

1 **Q. What is Staff's recommendation?**

2 A. Staff recommends income tax expense of \$11,856 as shown on Schedules BCA-14.

3

4 **REVENUE REQUIREMENT**

5 **Q. What did the Company propose for an increase in Operating Revenue?**

6 A. The Company proposed increasing operating revenue by \$254,641 or 90.53 percent over its
7 reported test year revenue of \$281,288, for a total of \$535,929.

8

9 **Q. What does Staff recommend for an increase in Operating Revenue?**

10 A. Staff recommends a \$40,783 increase in operating revenue, from \$281,288 to \$322,071 as
11 shown on Schedule BCA-10.

12

13 **Q. How does the above revenue requirement translate to the bottom line, or available
14 operating income, for the Company?**

15 A. The Company's requested revenue requirement of \$535,929 results in an operating income
16 level of \$149,085 which is also a 6.92 percent rate of return. Staff's recommended revenue
17 requirement of \$322,071 results in an operating income level of \$55,465 which is also a 5.60
18 percent rate of return.

19

20 **Q. Does this conclude your direct testimony?**

21 A. Yes, it does.

OPERATING INCOME STATEMENT - ADJUSTED TEST YEAR AND STAFF RECOMMENDED

LINE NO.	DESCRIPTION	[A] COMPANY ADJUSTED TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	Adj. No.	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF RECOMMENDED CHANGES	[E] STAFF RECOMMENDED
1	<u>REVENUES:</u>						
2	Metered Wastewater Revenues	\$279,713	\$0		\$279,713	\$40,783	\$320,496
3	Unmetered Wastewater Revenues	0	0		0	0	0
4	Other Wastewater Revenues	1,575	0		1,575	0	1,575
5	Total Operating Revenues	\$281,288	\$0		\$281,288	\$40,783	\$322,071
6							
7	<u>OPERATING EXPENSES:</u>						
8	Salaries and Wages	\$0	\$0		\$0	\$0	\$0
9	Purchased Water	2,379	0		2,379	0	2,379
10	Sludge Removal	2,204	0		2,204	0	2,204
11	Purchased Power	16,374	0		16,374	0	16,374
12	Fuel for Power Production	0	0		0	0	0
13	Chemicals	770	0		770	0	770
14	Materials and Supplies	3,171	0		3,171	0	3,171
15	Contractual Services - Professional	46,007	0		46,007	0	46,007
16	Contractual Services - Testing	11,872	0		11,872	0	11,872
17	Contractual Services - Other	12,995	0		12,995	0	12,995
18	Office Supplies and Expenses	0	0		0	0	0
19	Transportation	100	0		100	0	100
20	Insurance	6,288	0		6,288	0	6,288
21	Regulatory Commission	43,333	(21,667)	1	21,667	0	21,667
22	Miscellaneous	21,362	0		21,362	0	21,362
23	Depreciation and Amortization	135,073	(58,437)	2	76,636	0	76,636
24	Taxes other than Income	0	0		0	0	0
25	Property Taxes	17,062	0		17,062	830	17,892
26	Income Taxes	(12,294)	24,150	3	11,856	15,034	26,890
27	Interest on Customer Deposit	0	0	4	0	0	0
28	Total Operating Expenses	\$306,696	(\$55,954)		\$250,743	\$15,864	\$266,606
29	Operating Income (Loss)	(\$25,408)	\$55,954		\$30,545	\$24,919	\$55,465
30							
31	<u>OTHER INCOME (EXPENSE):</u>						
32	Interest and Dividend Income	-	-		-	-	-
33	AFUDC Income	-	-		-	-	-
34	Miscellaneous Non-Utility Expense	-	-		-	-	-
35	Interest Expense	(22,606)	-		(22,606)	-	(22,606)
36	Total Other Income (Expense)	(22,606)	-		(22,606)	-	(22,606)
37							
38	Net Income (Loss)	(\$48,014)	\$55,954		\$7,939	\$24,918	\$32,858

References:

- Column [A]: Company Schedule C-1
- Column [B]: Schedule BCA-11
- Column [C]: Column [A] + Column [B]
- Column [D]: Schedules BAB-1 and BAB-2
- Column [E]: Column [C] + Column [D]

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR						
LINE NO.		[A]	[B]	[C]	[D]	[E]
	DESCRIPTION	COMPANY AS FILED	Regulatory Commission (Rate Case Expense) ADJ #1	Depreciation Expense ADJ #2	Income Tax Expense ADJ #3	STAFF ADJUSTED
			Ref: Sch BCA-12	Ref: Sch BCA-13	Ref: Sch BCA-14	
1	<u>REVENUES:</u>					
2	Metered Wastewater Revenues	\$279,713	\$0	\$0	\$0	\$279,713
3	Unmetered Wastewater Revenues	0	0	0	0	0
4	Other Wastewater Revenues	1,575	0	0	0	1,575
5	Total Operating Revenues	\$281,288	\$0	\$0	\$0	\$281,288
6						
7	<u>OPERATING EXPENSES:</u>					
8	Salaries and Wages	\$0	\$0	\$0	\$0	\$0
9	Purchased Water	2,379	0	0	0	2,379
10	Sludge Removal	2,204	0	0	0	2,204
11	Purchased Power	16,374	0	0	0	16,374
12	Fuel for Power Production	0	0	0	0	0
13	Chemicals	770	0	0	0	770
14	Materials and Supplies	3,171	0	0	0	3,171
15	Contractual Services - Professional	46,007	0	0	0	46,007
16	Contractual Services - Testing	11,872	0	0	0	11,872
17	Contractual Services - Other	12,995	0	0	0	12,995
18	Rents	0	0	0	0	0
19	Office Supplies and Expenses	0	0	0	0	0
20	Transportation	100	0	0	0	100
21	Insurance	6,288	0	0	0	6,288
22	Regulatory Commission	43,333	(21,667)	0	0	21,666
23	Miscellaneous	21,362	0	0	0	21,362
24	Depreciation and Amortization	135,073	0	(58,437)	0	76,636
25	Taxes other than Income	0	0	0	0	0
26	Property Taxes	17,062	0	0	0	17,062
27	Income Taxes	(12,294)	0	0	24,150	11,856
28	Interest on Customer Deposit	0	0	0	0	0
29	Total Operating Expenses	\$306,696	(\$21,667)	(\$58,437)	\$24,150	\$250,742
30	Operating Income (Loss)	(\$25,408)	\$21,667	\$58,437	(\$24,150)	\$30,546
31						
32	<u>OTHER INCOME (EXPENSE):</u>					
33	Interest and Dividend Income	\$0	\$0	\$0	\$0	\$0
34	AFUDC Income	0	0	0	0	0
35	Miscellaneous Non-Utility Expense	0	0	0	0	0
36	Interest Expense	(22,606)	0	0	0	(22,606)
37	Total Other Income (Expense)	(\$22,606)	\$0	\$0	\$0	(\$22,606)
38						
39	Net Income (Loss)	(\$48,014)	\$21,667	\$58,437	(\$24,150)	\$7,940

OPERATING INCOME ADJUSTMENT NO. 1 - REGULATORY COMMISSION EXPENSE

LINE NO.	<u>DESCRIPTION</u>	[A] COMPANY <u>PROPOSED</u>	[B] STAFF <u>ADJUSTMENTS</u>	[C] STAFF <u>RECOMMENDED</u>
1	Regulatory Commissions- Rate Case Expense	\$43,333	(\$21,667)	\$65,000
	Estimated Rate Case Expense			\$ 65,000
	Normalization Period			\$ 3
	Annual Normalization			\$ <u>21,667</u>
	Adjustment to Rate Case Expense			

References:

- Column A: Company Schedule C-1
- Column B: Testimony, BCA; Staff Direct Schedule
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 2 - DEPRECIATION EXPENSE ON TEST YEAR PLANT

LINE NO.	ACCT NO.	DESCRIPTION	[A]	[B]	[C]	[D]	[E]
			PLANT In SERVICE Per Staff	NonDepreciable or Fully Depreciated PLANT	DEPRECIABLE PLANT (Col A - Col B)	DEPRECIATION RATE	DEPRECIATION EXPENSE (Col C x Col D)
1	351	Organization	\$37,898	\$37,898	\$0	0.00%	\$0
2	352	Franchises	799	799	\$0	0.00%	0
3	353	Land	400,000	224,000	\$176,000	0.00%	0
4	354	Structures & Improvements	308,225	0	\$308,225	3.33%	10,264
5	355	Power Generation	124,916	0	\$124,916	5.00%	6,246
6	360	Collection Sewer Forced	7,141	0	\$7,141	2.00%	143
7	361	Collection Sewers Gravity	480,710	0	\$480,710	2.00%	9,614
8	362	Special Collecting Structures	0	0	\$0	2.00%	0
9	363	Customer Services	122,760	0	\$122,760	2.00%	2,455
10	364	Flow Measuring Devices	3,845	0	\$3,845	10.00%	385
11	365	Flow Measuring Installations	2,457	0	\$2,457	10.00%	246
12	370	Receiving Wells	26,226	0	\$26,226	3.33%	873
13	371	Pumping Equipment	153,187	152,687	\$500	12.50%	63
14	375	Reuse Trans. And Dist. System	126,541	0	\$126,541	2.50%	3,164
15	380	Treatment & Disposal Equipment	1,052,968	0	\$1,052,968	5.00%	52,648
16	381	Plant Sewers	27,752	0	\$27,752	5.00%	1,388
17	382	Outfall Sewer Lines	5,541	0	\$5,541	3.33%	185
18	389	Other Sewer Plant & Equipment	0	0	\$0	6.67%	0
19	390	Office Furniture & Equipment	1,747	0	\$1,747	6.67%	117
20	390.1	Computers and Software	12,188	0	\$12,188	20.00%	2,438
21	391	Transportation Equipment	0	0	\$0	20.00%	0
22	393	Tools, Shop & Garage Equipment	5,348	0	\$5,348	5.00%	267
23	394	Laboratory Equipment	5,947	0	\$5,947	10.00%	595
24	395	Power Operated Equipment	0	0	\$0	5.00%	0
25	396	Communication Equipment	0	0	\$0	10.00%	0
26	398	Other Tangible Plant	0	0	\$0	10.00%	0
27	903	Land and Land Rights - Corporate Allocation	1,129	0	\$1,129	0.00%	0
28	904	Structures and Improvements - Corporate Allocation	12,332	0	\$12,332	2.56%	316
29	940	Office Furniture & Equipment - Corporate Allocation	1,334	0	\$1,334	6.67%	89
30	940.1	Computers and Software - Corporate Allocation	12,514	0	\$12,514	20.00%	2,503
31							
32		Total Plant	\$2,933,505	\$415,384	\$2,518,121		\$93,996
33							
34		Contribution(s) in Aid of Construction (Gross)	\$1,267,984				
35		Less: Non Amortizable Contribution(s)	400,000				
36		Fully Amortized Contribution(s)	0				
37		Amortizable Contribution(s)	\$867,984				
38		Times: Staff Proposed Amortization Rate	2.00%				
39		Amortization of CIAC	\$17,360				
40							
41		Depreciation Expense Before Amortization of CIAC:	\$93,996				
42		Less Amortization of CIAC:	17,360				
43		Test Year Depreciation Expense - Staff:	\$76,636				
44		Depreciation Expense - Company:	135,073				
45		Staff's Total Adjustment:	(\$58,437)				

References:

- Column [A]: Schedule BAB-4a
- Column [B]: From Column [A]
- Column [C]: Column [A] - Column [B]
- Column [D]: Engineering Staff Report
- Column [E]: Column [C] x Column [D]

Liberty Utilities (Entrada Del Oro Sewer) Corp.
 Docket No. SW-04316A-16-0078
 Test Year Ended October 31, 2015

Schedule BCA-14

OPERATING INCOME ADJUSTMENT NO. 3 - TEST YEAR INCOME TAXES
--

LINE NO.	DESCRIPTION	Test Year
	<i>Calculation of Income Tax:</i>	
1	Revenue (Schedule BCA-11)	\$281,288
2	Operating Expenses Excluding Income Taxes	238,887
3	Synchronized Interest (L17)	<u>10,895</u>
4	Arizona Taxable Income (L1 - L2 - L3)	\$31,506
5	Arizona State Income Tax Rate	5.5000%
6	Arizona Income Tax (L4 x L5)	<u>\$1,733</u>
7	Federal Taxable Income (L4 - L6)	\$29,774
8	Total Federal Income Tax	<u>\$10,123</u>
9	Combined Federal and State Income Tax (L44 + L51)	<u><u>\$11,856</u></u>
10		
11		
12	<i>Calculation of Interest Synchronization:</i>	
13	Rate Base (Schedule BAB-3, Col. [F], L23)	\$990,445
14	Weighted Average Cost of Debt	<u>1.10%</u>
15	Synchronized Interest (L16 x L17)	<u><u>\$10,895</u></u>
16		
17		
18	Income Tax - Per Staff	\$11,856
19	Income Tax - Per Company	<u>(12,294)</u>
20	Staff Adjustment	\$24,150

PROPERTY TAX EXPENSE CALCULATION

LINE NO.	Property Tax Calculation	STAFF AS ADJUSTED	STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues	\$281,288	\$281,288
2	Weight Factor	<u>2</u>	<u>2</u>
3	Subtotal (Line 1 * Line 2)	\$562,576	\$562,576
4	Staff Recommended Revenue, Per Schedule BAB-1	281,288	322,071
5	Subtotal (Line 4 + Line 5)	\$843,864	\$884,647
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	\$281,288	\$294,882
8	Department of Revenue Mutilplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	\$562,576	\$589,765
10	Plus: 10% of CWIP -	0	0
11	Less: Net Book Value of Licensed Vehicles	3,492	3,492
12	Full Cash Value (Line 9 + Line 10 - Line 11)	\$559,084	\$586,273
13	Assessment Ratio	18.0%	18.0%
14	Assessment Value (Line 12 * Line 13)	\$100,635	\$105,529
15	Composite Property Tax Rate (Per Company Schedule C-2, Page 3, Line 15)	<u>16.9547%</u>	<u>16.9547%</u>
			\$0
16	Staff Test Year Adjusted Property Tax (Line 14 * Line 15)	\$17,062	
17	Company Proposed Property Tax	<u>17,062</u>	
18	Staff Test Year Adjustment (Line 16-Line 17)	<u>\$0</u>	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		\$17,892
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		17,062
21	Increase in Property Tax Expense Due to Increase in Revenue Requirement		<u>\$830</u>
22	Increase to Property Tax Expense		\$830
23	Increase in Revenue Requirement		40,783
24	Increase to Property Tax per Dollar Increase in Revenue (Line19/Line 20)		2.0346%

BEFORE THE ARIZONA CORPORATION COMMISSION

DOUG LITTLE
Chairman
BOB STUMP
Commissioner
BOB BURNS
Commissioner
TOM FORESE
Commissioner
ANDY TOBIN
Commissioner

IN THE MATTER OF THE APPLICATION OF)
LIBERTY UTILITIES (ENTRADA DEL ORO)
SEWER) CORP., AN ARIZONA CORPORATION,))
FOR A DETERMINATION OF THE FAIR)
VALUE OF ITS UTILITY PLANTS AND)
PROPERTY AND FOR INCREASES IN ITS)
WASTEWATER RATES AND CHARGES FOR)
UTILITY SERVICE BASED THEREON.)
_____)

DOCKET NO. SW-04316A-16-0078

IN THE MATTER OF THE APPLICATION OF)
LIBERTY UTILITIES (ENTRADA DEL ORO)
SEWER) CORP., AN ARIZONA CORPORATION,))
FOR AUTHORITY TO ISSUE EVIDENCE OF)
INDEBTEDNESS IN AN AMOUNT NOT TO)
EXCEED \$1,750,000.)
_____)

DOCKET NO. SW-04316A-16-0085

DIRECT
TESTIMONY
OF
CRYSTAL S. BROWN
EXECUTIVE CONSULTANT III
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION
AUGUST 19, 2016

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
FINANCING	4
SUMMARY OF TESTIMONY AND RECOMMENDATIONS	8
<i>Entrada's Proposed Overall Rate of Return</i>	11
II. THE WEIGHTED AVERAGE COST OF CAPITAL	11
III. CAPITAL STRUCTURE.....	13
<i>Background</i>	13
<i>Entrada's Capital Structure</i>	14
<i>Staff's Capital Structure</i>	14
IV. RETURN ON EQUITY.....	14
<i>Background</i>	14
<i>Risk</i>	17
V. ESTIMATING THE COST OF EQUITY	20
<i>Introduction</i>	20
<i>Discounted Cash Flow Model Analysis</i>	21
<i>The Constant-Growth DCF</i>	21
<i>The Multi-Stage DCF</i>	30
<i>Capital Asset Pricing Model</i>	32
VI. SUMMARY OF STAFF'S COST OF EQUITY ANALYSIS	36
VII. FINANCIAL RISK AND ECONOMIC ASSESSMENT ADJUSTMENTS.....	38
VIII. ORIGINAL COST WEIGHTED AVERAGE COST OF CAPITAL	41
IX. FAIR VALUE RATE OF RETURN ("FVROR") RECOMMENDATION	42

SCHEDULES

Financing

Financial Analysis	Financing Schedule CSB-1
Amortization Schedule	Financing Schedule CSB-2

Cost of Capital

Capital Structure and Weighted Average Cost of Capital	Cost of Capital Schedule CSB-1
Inflation Adjustment Included in the Fair Value Rate of Return	Cost of Capital Schedule CSB-2
Final Cost of Equity Estimates for Sample Water Utilities.....	Cost of Capital Schedule CSB-3
Average Capital Structure of Sample Water Utilities	Cost of Capital Schedule CSB-4
Growth in Earnings & Dividends of Sample Water Utilities	Cost of Capital Schedule CSB-5
Sustainable Growth for Sample Water Utilities	Cost of Capital Schedule CSB-6
Selected Financial Data of Sample Water Utilities	Cost of Capital Schedule CSB-7

Calculation of Expected Infinite Annual Growth in Dividends	Cost of Capital Schedule CSB-8
Multi-Stage DCF Estimates	Cost of Capital Schedule CSB-9
Cost of Capital Calculation Capitalization	Cost of Capital Schedule CSB-10

EXECUTIVE SUMMARY
LIBERTY UTILITIES (ENTRADA DEL ORO) CORP.,
DOCKET NOS. SW-04316A-16-0078 AND SW-04316A-16-0085

Financing

Entrada requested approval to borrow funds from Liberty Utilities Company ("Liberty Utilities") to rebalance its capital structures by replacing equity with debt. Entrada requests to borrow an amount not to exceed \$1,750,000. Staff recommends approval.

Cost of Capital

Entrada requested consideration of a fair value rate base and proposed a fair value rate of return ("FVROR") of 6.92 percent. Entrada's proposed FVROR was calculated using a 12.00 percent cost of equity, a 3.50 percent cost of debt, and a capital structure consisting of 30.0 percent debt and 70.0 percent equity.

Staff's recommended FVROR of 5.60 percent was calculated using a 9.40 percent cost of equity, a 3.50 percent cost of debt, a 0.46 percent cost for the fair value increment, and a capital structure consisting of 30.0 percent debt and 70.0 percent equity.

1 **I. INTRODUCTION**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Crystal S. Brown. I am an Executive Consultant III employed by the Arizona
4 Corporation Commission ("ACC" or "Commission") in the Utilities Division ("Staff"). My
5 business address is 1200 West Washington Street, Phoenix, Arizona 85007.

6
7 **Q. Briefly describe your responsibilities as an Executive Consultant III.**

8 A. I am responsible for the examination and verification of financial and statistical information
9 included in utility rate applications and other financial matters, including performing studies
10 to estimate the cost of capital component in rate filings and developing revenue requirements.
11 In addition, I prepare written reports, testimonies, and schedules that include Staff
12 recommendations to the Commission. I am also responsible for testifying at formal hearings
13 on these matters.

14
15 **Q. Please describe your educational background and professional experience.**

16 A. I received a Bachelor of Science Degree in Business Administration from the University of
17 Arizona, and a Bachelor of Science Degree in Accounting from Arizona State University.

18
19 Since joining the Commission in August 1996, I have participated in numerous rate cases and
20 other regulatory proceedings involving electric, gas, water, and wastewater utilities. I have
21 testified on matters involving regulatory accounting, auditing, and the cost of capital.
22 Additionally, I have attended utility-related seminars sponsored by the National Association
23 of Regulatory Utility Commissioners ("NARUC") on ratemaking and accounting designed to
24 provide continuing and updated education in these areas.

1 **Q. What is the scope of your testimony in this case?**

2 A. My testimony provides Staff's recommendations concerning the Company's shareholder cost
3 allocation and financing application. It also includes Staff's recommended capital structure,
4 cost of equity, and overall fair value rate of return ("FVROR") for establishing the revenue
5 requirement for Liberty Utilities (Entrada Del Oro) Corp., ("Entrada" or "Company").
6

7 Order of Testimony

8 **Q. What is the order of your testimony?**

9 A. I will first discuss Staff's analysis and recommendation regarding Entrada's financing followed
10 by Staff's cost of capital analysis and recommendations.
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FINANCING

1 **FINANCING**

2 **Q. Would you please provide a brief background of the financing application?**

3 A. On March 7, 2016, Entrada, filed a financing application to incur long term debt. Entrada
4 requested Commission approval to borrow an amount not to exceed \$1,750,000 from its
5 parent company Liberty Utilities Co. ("Liberty Utilities).

6
7 **Q. When did the Company file its certification of publication for the loan?**

8 A. The Company filed its certification of publication and proof of mailing on April 1, 2016.

9
10 **Q. What is the purpose of the loan?**

11 A. Entrada stated that the purpose of the loan is to rebalance its capital structure from 100
12 percent equity capital structure to a 70 percent equity and 30 percent debt capital structure.

13
14 **Q. What are the terms of the loan?**

15 A. The total amount of the loan will not exceed \$1,750,000. In addition, Entrada will enter into
16 additional loan agreements every six months as necessary to maintain a capital structure
17 consisting of 70 percent equity and 30 percent debt. However, at no time will the individual
18 loan exceed the total amount of debt that Entrada requested. The interest rate for the loan,
19 which is a fixed rate, is equal to the average of the 10-year United States Treasury bond rate
20 as published on Bloomberg Financial Markets for the prior 30 days plus an interest rate
21 spread to be equal to the indicative 10-year spread on Liberty Utilities' most recent private
22 placement. The maturity date of the loan is 10 years after closing on the loan.

23
24 **Q. Did Staff perform a financial analysis?**

25 A. Yes. Staff performed a general financial analysis to ensure that Entrada will have the funds to
26 make the required loan payments.

1 Staff's analysis is based on the Staff adjusted test year ending October 31, 2015. The financial
2 analysis shown on Financing Schedules CSB-1 present selected financial information from the
3 financial statements and the pro forma effect of the proposed debt amount.
4

5 **Q. Did Staff examine the effects of the proposed financing on the Company's times**
6 **interest earned ("TIER") and debt service coverage ("DSC") ratio?**

7 A. Yes, Financing Schedule CSB-1 also shows the DSC and the TIER ratio. DSC represents the
8 number of times internally generated cash (i.e. earnings before interest, income tax,
9 depreciation and amortization expenses) cover required principle and interest payments on
10 debt. A DSC greater than 1.0 means operating cash flow is sufficient to cover debt
11 obligations.
12

13 TIER represents the number of times earnings before income tax expense covers interest
14 expense on debt. A TIER greater than 1.0 means that operating income is greater than
15 interest expense. A TIER less than 1.0 may not be acceptable in the long term, but does not
16 necessarily mean that debt obligations cannot be met in the short term.
17

18 For Entrada, the TIER and DSC resulting from Staff's recommended revenue requirement
19 and fully drawing the loan in the amount of \$1,750,000, taken over 10 years at 3.50 percent
20 interest, results in a pro forma TIER and DSC of 1.16 and 0.70, respectively. However, since
21 the loan being serviced is a related party transaction, there is no concerning risk that the
22 parent company would foreclose on, or take legal action against, Entrada. If the 0.70 DSC is
23 a concern to the Company, Staff would expect that the Company would propose changes to
24 the terms of its financing such that it would have a DSC of at least a 1.0. Staff notes that if
25 the length of the loan were changed from 10 to 20 years (which more closely approximates

1 the composite life of the plant in rate base), the DSC would be approximately 1.19 and the
2 TIER would be approximately 1.13.

3
4 Staff further concludes that issuance of the debt financing under the conditions
5 recommended by Staff for the purposes stated in the application is within Entrada's
6 corporate powers, is compatible with the public interest, will not impair its ability to provide
7 services and is consistent with sound financial practices provided Staff's recommended
8 operating income and surcharge amounts are adopted.

9
10 **Q. What are Staff's recommendations?**

11 A. Staff recommends:

- 12 • That the Commission authorize Entrada to incur a 10-year loan in an amount not to
13 exceed \$1,750,000 with an interest rate not to exceed that which is equal to the
14 average of the 10-year United States Treasury bond rate as published on Bloomberg
15 Financial Markets for the prior 30 days plus a percent spread that is equal to the
16 spread on Liberty Utilities Co.'s most recent private placement.
- 17 • That the Commission authorize Entrada to engage in any transaction and to execute
18 any documents necessary to effectuate the authorizations granted.
- 19 • That Entrada be ordered to file with Docket Control, as a compliance item in this
20 matter, copies of the loan documents within 60 days of the execution of any financing
21 transaction authorized herein.

22
23 **Q. Does this conclude Staff's direct testimony regarding Entrada's requested financing**
24 **approvals?**

25 A. Yes, it does.

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COST OF CAPITAL

1 **SUMMARY OF TESTIMONY AND RECOMMENDATIONS**

2 **Q. Briefly summarize how Staff's cost of capital testimony is organized.**

3 A. Staff's cost of capital testimony is presented in eight sections. Section I is this introduction.
4 Section II discusses the concept of weighted average cost of capital ("WACC"). Section III
5 presents Staff's capital structure for Entrada. Section IV discusses the concepts of return on
6 equity ("ROE") and risk. Section V presents the methods employed by Staff to estimate
7 Entrada's ROE. Section VI presents the findings of Staff's ROE analysis. Section VII
8 discusses the financial risk and economic assessment adjustments. Section VIII presents
9 Staff's original cost weighted average cost of capital for Entrada. Section IX presents Staff's
10 FVROR recommendation.

11
12 **Q. Have you prepared any schedules in support of your cost of capital analysis?**

13 A. Yes, my supporting schedules are shown on CSB-1 to CSB-10.

14
15 **Q. Who else is filing testimony on behalf of Staff?**

16 A. Staff witness Britton Baxter is presenting Staff's recommendations concerning rate base,
17 revenue requirement, and rate design. Brendan Aladi is presenting Staff's recommendations
18 concerning operating revenues and expenses. Staff witness Jian Liu is presenting Staff's
19 recommendations concerning Staff's engineering recommendations.

20
21 **Q. Is there a primary conceptual basis for the difference in how risk is measured by**
22 **Entrada and how risk is measured by Staff?**

23 A. Yes. Entrada follows what is called a company-specific approach to measuring risk, whereas
24 Staff follows the portfolio approach.

25

1 **Q. What is the difference between the company-specific and the portfolio approach to**
2 **measuring risk?**

3 A. The company-specific approach to measuring risk views the risk of an investment as if that
4 investment were held in isolation as opposed to being included in a portfolio of investments.
5 Under Entrada's company-specific approach, a cost of equity ("COE") is calculated and then
6 the results of a number of company-specific risk considerations are added. Under Staff's
7 portfolio approach, the risk of an investment is viewed in the context of a diversified
8 portfolio. Company-specific risk adders are *not directly* given consideration because in the
9 capital markets such risks can be, *and are*, addressed by diversification of the investor's
10 portfolio so ratepayers *should not* be required to compensate for a risk that can be reasonably,
11 and simply, addressed through an investment tool existing in the market place. That tool is
12 "portfolio diversification."
13

14 **Q. Before discussing Staff's specific rate of return recommendations for Entrada, please**
15 **provide an overview of the approach Staff takes to developing the ROE it utilized in**
16 **quantifying Staff's recommended revenue requirement?**

17 A. First, let me say that Staff acknowledges that all models or approaches used in defining a fair
18 ROE range can have shortcomings, even if what are termed to be shortcomings are simply
19 differences of professional judgement regarding the assumptions to be made in generating
20 results from these generally accepted models. There is no perfect or absolute way to
21 determine "required return" in a constantly changing financial marketplace. As discussed in
22 greater detail later in my testimony, Staff utilizes traditionally accepted models for estimating
23 a reasonable COE range. Unlike Entrada, Staff does not attempt to quantify company-
24 specific risk factors but rather uses the portfolio approach of measuring risk.
25

1 **Q. Once the range resulting from Staff's four cost of equity models has been established,**
2 **how does Staff select a ROE within that range of reasonable ROE's?**

3 A. Generally, Staff believes that any ROE, or weightings of ROE's, falling within this model-
4 driven cost-of-equity range would be an acceptable ROE for the Commission to recognize in
5 quantifying its final rate change decision. Staff selects an ROE based upon the specifics of
6 the case.

7
8 **Q. Ms. Brown, please explain why Staff chose to recommend the high end of the model-**
9 **driven ROE range.**

10 A. As I will discuss in detail later in my testimony, the model-driven range for the ROE in the
11 Entrada case spans from a low of 7.2 percent to a high of 9.4 percent. Staff is aware of the
12 Commission's current efforts to redefine how ROE recommendations are efficiently and
13 fairly developed. Part of this Commission effort will be to require Staff to examine ROE
14 policies and procedures used in other state regulatory jurisdictions. This research is expected
15 to take a minimum of 90 days, so until this research is complete, Staff is taking a cautious but
16 reasonable approach to producing its ROE recommendations which, in this instance, resulted
17 in Staff recommending the high end of the ROE model driven reasonableness range.

18
19 **Q. What is Staff's recommended rate of return for Entrada?**

20 A. Staff recommends a 5.6 percent fair value rate of return as shown on Schedules CSB-1 and
21 CSB-2. The FVROR is calculated from the capital structure, ROE and cost of debt. Staff's
22 capital structure is composed of 70.0 percent equity and 30.0 percent debt. Staff's estimated
23 ROE for Entrada is based on the results of its Discounted Cash Flow ("DCF") and the
24 Capital Asset Pricing Model ("CAPM") cost of equity methodologies. The CAPM model-
25 driven range is 7.2 percent to 9.4 percent, while the DCF model range is 8.0 percent to 8.6
26 percent, as shown on Schedule CSB-3.

1 *Entrada's Proposed Overall Rate of Return*

2 **Q. Briefly summarize Entrada's proposed capital structure, cost of debt, ROE and**
3 **overall ROR for this proceeding.**

4 A. Table 1 summarizes the proposed capital structure, cost of debt, ROE and overall ROR of
5 9.45 percent for Entrada in this proceeding:

6
7 **Table 1**

	Weight	Cost	Weighted Cost
Long-term Debt	30.00%	3.50%	1.05%
Common Equity	70.00%	12.00%	<u>8.40%</u>
Cost of Capital/ROR			9.45%

8
9 **II. THE WEIGHTED AVERAGE COST OF CAPITAL**

10 **Q. Briefly explain the cost of capital concept.**

11 A. The cost of capital is the opportunity cost of choosing one investment over others with
12 equivalent risk. In other words, the cost of capital is the return that stakeholders expect for
13 investing their financial resources in a determined business venture over another alternative
14 business venture.

15
16 **Q. What is the overall cost of capital?**

17 A. The overall cost of capital for a firm issuing a variety of securities (i.e., stock and
18 indebtedness) represents an average of the various cost rates on all securities issued by the
19 firm adjusted to reflect the relative weighting of each security within the firm's capital
20 structure. Thus, for any given firm, the overall cost of capital is the firm's WACC.

21

1 **Q. How is the WACC calculated?**

2 A. The WACC is calculated by adding the weighted expected returns of a firm's securities. The
3 WACC formula is:

4 Equation 1.

5
6
$$\text{WACC} = \sum_{i=1}^n W_i * r_i$$

7

8 In this equation, W_i is the weight given to the i^{th} security (the proportion of the i^{th} security
9 relative to the portfolio) and r_i is the expected return on the i^{th} security.

10
11 **Q. Can you provide an example demonstrating application of Equation 1?**

12 A. Yes. For this example, assume that an entity has a capital structure composed of 60 percent
13 debt and 40 percent equity. Also, assume that the embedded cost of debt is 6.0 percent and
14 the expected return on equity, i.e., the cost of equity, is 10.5 percent. Calculation of the
15 WACC is as follows:

16
$$\text{WACC} = (60\% * 6.0\%) + (40\% * 10.5\%)$$

17
$$\text{WACC} = 3.60\% + 4.20\%$$

18
$$\text{WACC} = 7.80\%$$

19

20 The weighted average cost of capital in this example is 7.80 percent. The entity in this
21 example would need to earn an overall rate of return of 7.80 percent to cover its cost of
22 capital.
23

1 **III. CAPITAL STRUCTURE**

2 *Background*

3 **Q. Please explain the capital structure concept.**

4 A. The capital structure of a firm is the relative proportions of each type of security: Short-term
5 debt, long-term debt (including capital leases), preferred stock and common stock that are
6 used to finance the firm's assets.

7
8 **Q. How is the capital structure expressed?**

9 A. The capital structure of a company is expressed as the percentage of each component of the
10 capital structure (capital leases, short-term debt, long-term debt, preferred stock and common
11 stock) relative to the entire capital structure.

12
13 As an example, the capital structure for an entity that is financed by \$20,000 of short-term
14 debt, \$85,000 of long-term debt (including capital leases), \$15,000 of preferred stock and
15 \$80,000 of common stock is shown in Table 2.

16
17 **Table 2**

<u>Component</u>			<u>Percent</u>
Short-Term Debt	\$20,000	(\$20,000/\$200,000)	10.0%
Long-Term Debt	\$85,000	(\$85,000/\$200,000)	42.5%
Preferred Stock	\$15,000	(\$15,000/\$200,000)	7.5%
Common Stock	\$80,000	(\$80,000/\$200,000)	40.0%
Total	\$200,000		100.0%

18
19 The capital structure in this example is composed of 10.0 percent short-term debt, 42.5
20 percent long-term debt, 7.5 percent preferred stock and 40.0 percent common stock.

21

1 *Entrada's Capital Structure*

2 **Q. What capital structure does Entrada propose?**

3 A. Entrada proposes a capital structure composed of 30.0 percent long-term debt and 70.0
4 percent common equity as shown on Schedule CSB-1. Entrada's proposed capital structure
5 reflects projected long-term debt and common equity balances as of December 31, 2015.

6
7 **Q. How does Entrada's proposed capital structure compare to capital structures of
8 publicly-traded water utilities?**

9 A. Schedule CSB-4 shows the capital structures of six publicly-traded water companies ("sample
10 water companies" or "sample water utilities") as of December 2015. The average capital
11 structure for the sample water utilities is comprised of approximately 46.0 percent debt and
12 54.04 percent equity.

13
14 *Staff's Capital Structure*

15 **Q. What is Staff's recommended capital structure for Entrada?**

16 A. Staff recommends a capital structure composed of 30.0 percent debt and 70.0 percent equity.
17 Staff's recommended capital structure consists of \$848,454 long-term debt and \$1,979,726
18 common equity as shown on Schedule CSB-10.

19
20 **IV. RETURN ON EQUITY**

21 *Background*

22 **Q. Please define the term "cost of equity capital."**

23 A. The cost of equity is the rate of return that investors expect to earn on their investment in a
24 business entity given its risk. In other words, the cost of equity to the entity is the investors'
25 expected rate of return on other investments of similar risk. As investors have a wide

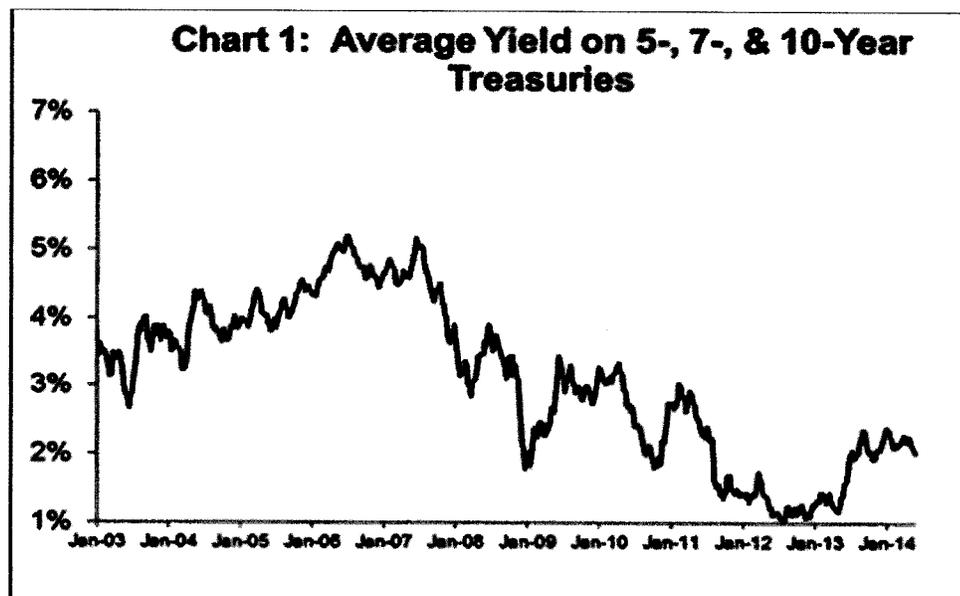
1 selection of investments to choose from, they will generally choose from investments with
2 similar risks and similar returns. Therefore, the market determines the entity's cost of equity.

3
4 **Q. Is there a correlation between interest rates and the cost of equity?**

5 A. Yes, there is a positive correlation between interest rates and the cost of equity, as the two
6 tend to move in the same direction. This relationship is reflected in the CAPM formula. The
7 CAPM is a market-based model employed by Staff for estimating the cost of equity. The
8 CAPM is further discussed in Section VI of this testimony.

9
10 **Q. What has been the general trend of interest rates in recent years?**

11 A. A chronological chart of interest rates is a good tool to show interest rate history and identify
12 trends. Chart 1 graphs intermediate U.S. treasury rates from January 3, 2003, to January 30,
13 2014.



1 As shown in Chart 1, intermediate-term interest rates generally trended upward from 2003 to
2 mid-2007, trended downward until late-2012, and have trended upward since that time.

3
4 **Q. What has been the general trend in interest rates longer term?**

5 A. U.S. Treasury rates from January 1964 - January 2014 are shown in Chart 2. The chart shows
6 that interest rates trended upward through the mid-1980s and have trended downward since
7 that time.



17 Source: Federal Reserve

18
19 **Q. Do these trends suggest anything in terms of cost of equity?**

20 A. Yes. As previously noted, interest rates and the cost of equity tend to move in the same
21 direction; therefore, the cost of equity has declined in the past 30 years.

22
23 **Q. Do actual returns represent the cost of equity?**

24 A. No. The cost of equity represents investors' *expected* returns and not realized returns.
25

1 **Q. Is there any information available that leads to an understanding of the relationship**
2 **between the equity returns required for a regulated water utility and those required in**
3 **the market as a whole?**

4 A. Yes. A comparison of Betas, a component of the CAPM discussed in Section V, for the
5 water utility industry and the market provide insight into this relationship. In theory, the
6 overall market has a Beta value of 1.0, with stocks bearing greater risk (less risk) than the
7 market having Beta values higher than (lower than) 1.0, respectively. Furthermore, in
8 accordance with the CAPM, the cost of equity capital moves in the same direction as Beta.
9 Therefore, because the average Beta value (0.71)¹ for a water utility is less than 1.0, the
10 required return on equity for a regulated water utility is below that of the market as a whole.

11
12 *Risk*

13 **Q. Please define risk in relation to cost of capital.**

14 A. Risk, as it relates to an investment, is the variability or uncertainty of the returns on a
15 particular security. Investors are risk averse and require a greater potential return to invest in
16 opportunities with relatively greater risk, i.e., investors require compensation for taking on
17 additional risk. Risk is generally separated into two components. Those components are
18 market risk (systematic risk) and non-market risk (unsystematic risk, diversifiable risk or firm-
19 specific risk).

20
21 **Q. What is market risk?**

22 A. Market risk, or systematic risk, is the risk associated with an investment that cannot be
23 reduced through diversification. Market risk stems from factors that affect all securities, such
24 as possibilities of recession, war, inflation and high interest rates. Since these factors affect
25 the entire market they cannot be eliminated through diversification. Market risk does not

¹ See Schedule CSB-7.

1 impact each security to the same degree. The degree to which a given security's return is
2 affected by market fluctuations can be measured using Beta. Beta reflects the business risk
3 and the financial risk of a security.
4

5 **Q. Please define business risk.**

6 A. Business risk is the potential fluctuation of earnings inherent in a firm's operations and
7 environment, such as competition and adverse economic conditions that may impair its
8 ability to provide returns on investment. Companies in the same industry or similar lines of
9 business tend to experience the same fluctuations in business cycles.
10

11 **Q. Please define financial risk.**

12 A. Financial risk is the potential fluctuation of earnings, inherent in the use of debt financing,
13 that may impair a firm's ability to provide adequate return; the higher the percentage of debt
14 in a firm's capital structure, the greater its exposure to financial risk.
15

16 **Q. Do business risk and financial risk affect the cost of equity?**

17 A. Yes.
18

19 **Q. Is a firm subject to any other risk?**

20 A. Yes. Firms may also be subject to unsystematic or firm-specific risk. Examples of
21 unsystematic risk include losses caused by labor problems, nationalization of assets, loss of a
22 big client or weather conditions. Investors can eliminate firm-specific risk by holding a
23 diverse portfolio; thus, it is not of concern to diversified investors.
24

1 **Q. How does Entrada's financial risk exposure compare to that of Staff's sample group**
2 **of water companies?**

3 A. CSB-4 shows the capital structures of Staff's seven sample water companies as of December
4 30, 2015, and Entrada's adjusted capital structure as of the end of the test year, October 31,
5 2015. As shown, the sample water utilities were capitalized with approximately 46 percent
6 debt and 54 percent equity, while Entrada's capital structure consists of approximately 30.0
7 percent debt and 70.0 percent equity. Thus, Entrada bear less financial risk than do Staff's
8 sample companies.

9
10 **Q. Is firm-specific risk measured by Beta?**

11 A. No. Firm-specific risk is not measured by Beta.

12
13 **Q. Is the cost of equity affected by firm-specific risk?**

14 A. No. Since firm-specific risk can be eliminated through diversification, it does not affect the
15 determination of a reasonable cost of equity.

16
17 **Q. Should investors expect additional returns for firm-specific risk?**

18 A. No. Investors who hold diversified portfolios can eliminate firm-specific risk and,
19 consequently, do not require any additional return. Since investors who choose to be less
20 than fully-diversified must compete in the market with fully-diversified investors, the former
21 cannot expect to be compensated for unique risk.

22

1 **V. ESTIMATING THE COST OF EQUITY**

2 *Introduction*

3 **Q. Did Staff directly estimate the cost of equity for Entrada?**

4 A. No. Entrada is a not publicly-traded company and, as such, Staff is unable to directly
5 estimate the market cost of equity due to the lack of firm-specific market data. Instead, Staff
6 must estimate Entrada's cost of equity indirectly using a representative sample group of
7 publicly traded water utilities as a proxy for Entrada. Use of a sample is appropriate, as it
8 reduces the sample error resulting from random fluctuations in the market at the time the
9 information is gathered.

10
11 **Q. What water utilities did Staff select for its proxy group of sample companies?**

12 A. Staff's sample consists of the following seven publicly-traded water utilities: American States
13 Water, California Water, Aqua America, Connecticut Water Services, Middlesex Water, SJW
14 Corp., and York Water. Staff chose these companies because they are publicly-traded and
15 receive the majority of their earnings from regulated operations.

16
17 **Q. What models did Staff implement to estimate Entrada's cost of equity?**

18 A. Staff used two market-based models to estimate the cost of equity for Entrada: The DCF
19 model and the CAPM.

20
21 **Q. Please explain why Staff chose the DCF and CAPM models.**

22 A. Staff chose to use the DCF and CAPM models because they are widely-recognized market-
23 based models and have been used extensively to estimate the cost of equity. An explanation
24 of the DCF and CAPM models follows.

25

1 *Discounted Cash Flow Model Analysis*

2 **Q. Please provide a brief summary of the theory upon which the DCF method of**
3 **estimating the cost of equity is based.**

4 A. The DCF method of stock valuation is based on the theory that the value of an investment is
5 equal to the sum of the future cash flows generated from the aforementioned investment
6 discounted to the present time. This method uses expected dividends, market price and
7 dividend growth rate to calculate the cost of capital. Professor Myron Gordon pioneered the
8 DCF method in the 1960s. The DCF method has become widely used to estimate the cost of
9 equity for public utilities due to its theoretical merit and its simplicity. Staff used the financial
10 information for the relevant six sample companies in the DCF model and averaged the results
11 to determine an estimated cost of equity for the sample companies.

12
13 **Q. Does Staff use more than one version of the DCF?**

14 A. Yes. Staff uses two versions of the DCF model: the constant-growth DCF and the multi-
15 stage or non-constant growth DCF. The constant-growth DCF assumes that an entity's
16 dividends will grow indefinitely at the same rate. The multi-stage growth DCF model
17 assumes the dividend growth rate will change at some point in the future.

18
19 *The Constant-Growth DCF*

20 **Q. What is the mathematical formula used in Staff's constant-growth DCF analysis?**

21 A. The constant-growth DCF formula used in Staff's analysis is:

Equation 2 :

$$K = \frac{D_1}{P_0} + g$$

where : K = the cost of equity
 D_1 = the expected annual dividend
 P_0 = the current stock price
 g = the expected infinite annual growth rate of dividends

1 Equation 2 assumes that the entity has a constant earnings retention rate and that its earnings
2 are expected to grow at a constant rate. According to Equation 2, a stock with a current
3 market price of \$10 per share, an expected annual dividend of \$0.45 per share and an
4 expected dividend growth rate of 3.0 percent per year has a cost of equity to the entity of 7.5
5 percent reflected by the sum of the dividend yield ($\$0.45 / \$10 = 4.5$ percent) and the 3.0
6 percent annual dividend growth rate.

7
8 **Q. How did Staff calculate the expected dividend yield (D_1/P_0) component of the**
9 **constant-growth DCF formula?**

10 A. Staff calculated the expected yield component of the DCF formula by dividing the expected
11 annual dividend (D_1) by the spot stock price (P_0) after the close of market on May 4, 2016, as
12 reported by *Yahoo Finance*.

13
14 **Q. Why did Staff use the May 4, 2016, spot price rather than a historical average stock**
15 **price to calculate the dividend yield component of the DCF formula?**

16 A. The current, rather than historic, market price is used in order to be consistent with financial
17 theory. In accordance with the Efficient Market Hypothesis, the current stock price is
18 reflective of all available information relating to the stock, and as such reveals investors'
19 expectations of future returns. Use of historical average stock prices illogically discounts the
20 most recent information in favor of less recent information. The latter is obviously stale and
21 is representative of underlying conditions that may have changed.

22
23 **Q. How did Staff estimate the dividend growth (g) component of the constant-growth**
24 **DCF model represented by Equation 2?**

25 A. The dividend growth component used by Staff is determined by the average of six different
26 estimation methods, as shown in Schedule CSB-8. Staff calculated historical and projected

1 growth estimates on dividend-per-share (“DPS”),² earnings-per-share (“EPS”)³ and
2 sustainable growth bases.

3
4 **Q. Why did Staff examine EPS growth to estimate the dividend growth component of the**
5 **constant-growth DCF model?**

6 A. Historic and projected EPS growth are used because dividends are related to earnings.
7 Dividend distributions may exceed earnings in the short run, but cannot continue indefinitely.
8 In the long term, dividend distributions are dependent on earnings.

9
10 **Q. How did Staff estimate historical DPS growth?**

11 A. Staff estimated historical DPS growth by calculating a compound annual DPS growth rate for
12 each of its sample companies over the 10-year period, 2006-2015. As shown in Schedule
13 CSB-5, the average historical DPS growth rate for the sample was 4.0 percent.

14
15 **Q. How did Staff estimate projected DPS growth?**

16 A. Staff calculated an average of the projected DPS growth rates for the sample water utilities
17 from *Value Line* through the period, 2019-2021. The average projected DPS growth rate is
18 6.6 percent, as shown in Schedule CSB-5.

19
20 **Q. How did Staff estimate historical EPS growth rate?**

21 A. Staff estimated historical EPS growth by calculating a compound annual EPS growth rate for
22 each of its sample companies over the 10-year period, 2006-2015. As shown in Schedule
23 CSB-5, the average historical EPS growth rate for the sample was 6.3 percent.

24

² Derived from information provided by *Value Line*.

³ Derived from information provided by *Value Line*.

1 **Q. How did Staff estimate projected EPS growth?**

2 A. Staff calculated an average of the projected EPS growth rates for the sample water utilities
3 from *Value Line* through the period, 2019-2021. The average projected EPS growth rate is
4 6.3 percent, as shown in Schedule CSB-5.

5
6 **Q. How does Staff calculate its historical and projected sustainable growth rates?**

7 A. Historical and projected sustainable growth rates are calculated by adding their respective
8 retention growth rate terms (*br*) to their respective stock financing growth rate terms (*vs*), as
9 shown in Schedule CSB-6.

10
11 **Q. What is retention growth?**

12 A. Retention growth is the growth in dividends due to the retention of earnings. The retention
13 growth concept is based on the theory that dividend growth cannot be achieved unless the
14 company retains and reinvests some of its earnings. The retention growth is used in Staff's
15 calculation of sustainable growth shown in Schedule CSB-6.

16
17 **Q. What is the formula for the retention growth rate?**

18 A. The retention growth rate is the product of the retention ratio and the book/accounting
19 return on equity. The retention growth rate formula is:

20

Equation 3:

$$\text{Retention Growth Rate} = br$$

where: b = the retention ratio (1 – dividend payout ratio)
 r = the accounting/book return on common equity

21

1 **Q. How did Staff calculate the average historical retention growth rate (br) for the**
2 **sample water utilities?**

3 A. Staff calculated the mean of the 10-year average historical retention rate for each sample
4 company over the period, 2006-2015. As shown in Schedule CSB-6, the historical average
5 retention (br) growth rate for the sample is 3.2 percent.

6
7 **Q. How did Staff estimate its projected retention growth rate (br) for the sample water**
8 **utilities?**

9 A. Staff used the retention growth projections for the sample water utilities for the period, 2019-
10 2021, from *Value Line*. As shown in Schedule CSB-6, the projected average retention growth
11 rate for the sample companies is 4.4 percent.

12
13 **Q. When can retention growth provide a reasonable estimate of future dividend growth?**

14 A. The retention growth rate is a reasonable estimate of future dividend growth when the
15 retention ratio is reasonably constant and the entity's market price to book value ("market-to-
16 book ratio") is expected to be 1.0. The average retention ratio has been reasonably constant
17 in recent years. However, the market-to-book ratio for the sample water utilities is 2.7,
18 notably higher than 1.0, as shown in Schedule CSB-7.

19
20 **Q. Is there any financial implication of a market-to-book ratio greater than 1.0?**

21 A. Yes. A market-to-book ratio greater than 1.0 implies that investors expect an entity to earn
22 an accounting/book return on its equity that exceeds its cost of equity. The relationship
23 between required returns and expected cash flows is readily observed in the fixed securities
24 market. For example, assume an entity contemplating issuance of bonds with a face value of
25 \$10 million at either 6 percent or 8 percent and, thus, paying annual interest of \$600,000 or
26 \$800,000, respectively. Regardless of investors' required return on similar bonds, investors

1 will be willing to pay more for the bonds if issued at 8 percent than if the bonds are issued at
2 6 percent. For example, if the current interest rate required by investors is 6 percent, then
3 they would bid \$10 million for the 6 percent bonds and more than \$10 million for the 8
4 percent bonds. Similarly, if equity investors require a 9 percent return and expect an entity to
5 earn accounting/book returns of 13 percent, the market will bid up the price of the entity's
6 stock to provide the required return of 9 percent.

7
8 **Q. How has Staff generally recognized a market-to-book ratio exceeding 1.0 in its cost of**
9 **equity analyses in recent years?**

10 A. Staff has assumed that investors expect the market-to-book ratio to remain greater than 1.0.
11 Given that assumption, Staff has added a stock financing growth rate (vs) term to the
12 retention ratio (br) term to calculate its historical and projected sustainable growth rates.

13
14 **Q. Do the historical and projected sustainable growth rates Staff uses to develop its DCF**
15 **cost of equity in this case continue to include a stock financing growth rate term?**

16 A. Yes.

17
18 **Q. What is stock financing growth?**

19 A. Stock financing growth is the growth in an entity's dividends due to the sale of stock by that
20 entity. Stock financing growth is a concept developed by Myron Gordon and discussed in his
21 book *The Cost of Capital to a Public Utility*.⁴ Stock financing growth is the product of the
22 fraction of the funds raised from the sale of stock that accrues to existing shareholders (v)
23 and the fraction resulting from dividing the funds raised from the sale of stock by the existing
24 common equity (s).

25

⁴ Gordon, Myron J. *The Cost of Capital to a Public Utility*. MSU Public Utilities Studies, Michigan, 1974. pp 31-35.

1 **Q. What is the mathematical formula for the stock financing growth rate?**

2 A. The mathematical formula for stock financing growth is:

Equation 4:

$$\text{Stock Financing Growth} = vs$$

where: v = Fraction of the funds raised from the sale of stock that accrues
to existing shareholders

s = Funds raised from the sale of stock as a fraction of the existing
common equity

3

4 **Q. How is the variable v presented above calculated?**

5 A. Variable v is calculated as follows:

Equation 5:

$$v = 1 - \left(\frac{\text{book value}}{\text{market value}} \right)$$

6

7 For example, assume that a share of stock has a \$30 book value and is selling for \$45. Then,
8 to find the value of v , the formula is applied:

$$v = 1 - \left(\frac{30}{45} \right)$$

9

In this example, v is equal to 0.33.

10

11 **Q. How is the variable s presented above calculated?**

12 A. Variable s is calculated as follows:

13 Equation 6:

14

$$s = \frac{\text{Funds raised from the issuance of stock}}{\text{Total existing common equity before the issuance}}$$

15

1 For example, assume that an entity has \$150 in existing equity, and it sells \$30 of stock.
2 Then, to find the value of s , the formula is applied:

$$s = \left(\frac{30}{150} \right)$$

3 In this example, s is equal to 20.0 percent.
4

5 **Q. What is the vs term when the market-to-book ratio is equal to 1.0?**

6 A. A market-to-book ratio of 1.0 reflects that investors expect an entity to earn a
7 book/accounting return on their equity investment equal to the cost of equity. When the
8 market-to-book ratio is equal to 1.0, none of the funds raised from the sale of stock by the
9 entity accrues to the benefit of existing shareholders, i.e., the term v is equal to zero (0.0).
10 Consequently, the vs term is also equal to zero (0.0). When stock financing growth is zero,
11 dividend growth depends solely on the br term.
12

13 **Q. What is the effect of the vs term when the market-to-book ratio is greater than 1.0?**

14 A. A market-to-book ratio greater than 1.0 reflects that investors expect an entity to earn a
15 book/accounting return on their equity investment greater than the cost of equity. Equation
16 5 shows that, when the market-to-book ratio is greater than 1.0, the v term is also greater than
17 zero. The excess by which new shares are issued and sold over book value per share of
18 outstanding stock is a contribution that accrues to existing stockholders in the form of a
19 higher book value. The resulting higher book value leads to higher expected earnings and
20 dividends. Continued growth from the vs term is dependent upon the continued issuance and
21 sale of additional shares at a price that exceeds book value per share.
22

1 **Q. What *vs* estimate did Staff calculate from its analysis of the sample water utilities?**

2 A. Staff estimated an average stock financing growth of 1.9 percent for the sample water utilities,
3 as shown in Schedule CSB-6.

4
5 **Q. What would occur if an entity had a market-to-book ratio greater than 1.0 as a result of**
6 **investors expecting earnings to exceed its cost of equity, and subsequently**
7 **experienced newly-authorized rates equal only to its cost of equity?**

8 A. Holding all other factors constant, one would expect market forces to move the Company's
9 stock price lower, closer to a market-to-book ratio of 1.0, to reflect investor expectations of
10 reduced expected future cash flows.

11
12 **Q. If the average market-to-book ratio of Staff's sample water utilities were to fall to 1.0**
13 **due to authorized ROEs equaling their cost of equity, would inclusion of the *vs* term**
14 **be necessary to Staff's constant-growth DCF analysis?**

15 A. No. As discussed above, when the market-to-book ratio is equal to 1.0, no portion of the
16 funds raised from the sale of stock by the entity accrues to the benefit of existing
17 shareholders because the *v* term is equal to zero; thus, the *vs* term is also equal to zero. When
18 the market-to-book ratio equals 1.0, dividend growth depends solely on the *br* term. Staff's
19 inclusion of the *vs* term assumes that the market-to-book ratio continues to exceed 1.0, and
20 that the sample water utilities will continue to issue and sell stock at prices above book value
21 with the effect of benefitting existing shareholders.

22
23 **Q. What are Staff's historical and projected sustainable growth rates?**

24 A. Staff's estimated historical sustainable growth rate is 5.2 percent based on an analysis of
25 earnings retention for the sample water companies. Staff's projected sustainable growth rate

1 is 6.4 percent based on retention growth projected by Value Line. Schedule CSB-6 presents
2 Staff's estimates of the sustainable growth rate.

3
4 **Q. What is Staff's expected infinite annual growth rate in dividends?**

5 A. Staff's expected dividend growth rate (g) is 5.8 percent, which is the average of historical and
6 projected DPS, EPS, and sustainable growth estimates. Staff's calculation of the expected
7 infinite annual growth rate in dividends is shown in Schedule CSB-8.

8
9 **Q. What is Staff's constant-growth DCF estimate for the sample utilities?**

10 A. Staff's constant-growth DCF estimate is 8.0 percent, as shown in Schedule CSB-3.

11
12 *The Multi-Stage DCF*

13 **Q. Why did Staff implement the multi-stage DCF model to estimate Entrada's cost of**
14 **equity?**

15 A. Staff generally uses the multi-stage DCF model to consider the assumption that dividends
16 may not grow at a constant rate. The multi-stage DCF uses two stages of growth, the first
17 stage (near-term) having a four-year duration, followed by the second stage (long-term) of
18 constant growth.

19

1 **Q. What is the mathematical formula for the multi-stage DCF?**

2 A. The multi-stage DCF formula is shown in the following equation:

Equation 7 :

$$P_0 = \sum_{t=1}^n \frac{D_t}{(1+K)^t} + \frac{D_n(1+g_n)}{K-g_n} \left[\frac{1}{(1+K)} \right]^n$$

Where: P_0 = current stock price
 D_t = dividends expected during stage 1
 K = cost of equity
 n = years of non – constant growth
 D_n = dividend expected in year n
 g_n = constant rate of growth expected after year n

3

4 **Q. What steps did Staff take to implement its multi-stage DCF cost of equity model?**

5 A. First, Staff projected future dividends for each of the sample water utilities using near-term
6 and long-term growth rates. Second, Staff calculated the internal rate of return (cost of
7 equity) which equates the present value of the forecasted dividends to the current stock price
8 for each of the sample water utilities. Lastly, Staff calculated an overall sample average cost
9 of equity estimate.

10

11 **Q. How did Staff calculate near-term (stage-1) growth?**

12 A. The stage-1 growth rate is based on *Value Lines's* projected dividends for the next twelve
13 months, when available, and on the average dividend growth (g) rate of 5.8 percent, calculated
14 in Staff's constant DCF analysis for the remainder of the stage as shown on Schedule CSB-8.

15

1 **Q. How did Staff estimate long-term (stage-2) growth?**

2 A. Staff calculated the stage-2 growth rate using the arithmetic mean rate of growth in Gross
3 Domestic Product (“GDP”) from 1929 to 2015.⁵ Using the GDP growth rate assumes that
4 the water utility industry is expected to grow at the same rate as the overall economy.

5
6 **Q. What is the historical GDP growth rate that Staff used to estimate stage-2 growth?**

7 A. Staff used 6.4 percent to estimate the stage-2 growth rate as shown on Schedule CSB-9.

8
9 **Q. What is Staff’s multi-stage DCF estimate for the sample utilities?**

10 A. Staff’s multi-stage DCF estimate is 8.6 percent, as shown in Schedule CSB-3.

11
12 *Capital Asset Pricing Model*

13 **Q. Please describe the CAPM.**

14 A. The CAPM is used to determine the prices of securities in a competitive market. The CAPM
15 model describes the relationship between a security’s investment risk and its market rate of
16 return. Under the CAPM, an investor requires the expected return of a security to equal the
17 rate on a risk-free security plus a risk premium. The model also assumes that investors will
18 sufficiently diversify their investments to eliminate any non-systematic or unique risk.⁶ In
19 1990, Professors Harry Markowitz, William Sharpe, and Merton Miller earned the Nobel
20 Prize in Economic Sciences for their contribution to the development of the CAPM.

21

⁵ www.bea.doc.gov.

⁶ The CAPM makes the following assumptions: 1) single holding period; 2) perfect and competitive securities market; 3) no transaction costs; 4) no restrictions on short selling or borrowing; 5) the existence of a risk-free rate; and 6) homogeneous expectations.

1 **Q. Did Staff use the same sample water utilities in its CAPM and DCF cost of equity**
2 **estimation analyses?**

3 A. Yes. Staff's CAPM cost of equity estimation analysis uses the same sample water companies
4 as in its DCF cost of equity estimation analysis.

5
6 **Q. What is the mathematical formula for the CAPM?**

7 A. The mathematical formula for the CAPM is:
8

Equation 8:

$$K = R_f + \beta (R_m - R_f)$$

where: R_f = risk free rate
 R_m = return on market
 β = beta
 $R_m - R_f$ = market risk premium
 K = expected return

9
10 The equation shows that the expected return (K) on a risky asset is equal to the risk-free
11 interest rate (R_f) plus the product of the market risk premium ($R_m - R_f$) multiplied by the
12 Beta (β) coefficient, where Beta represents the riskiness of the investment relative to the
13 market.

14
15 **Q. What is the risk-free rate?**

16 A. The risk-free rate is the rate of return of an investment free of default risk.
17

1 **Q. What does Staff use as surrogates to represent estimations of the risk-free rates of**
2 **interest in its historical and current market risk premium CAPM methods?**

3 A. As previously noted, Staff uses separate parameters as surrogates for the estimations of the
4 risk-free rates of interest for the historical market risk premium CAPM cost of equity
5 estimation and the current market risk premium CAPM cost of equity estimation. Staff uses
6 the average of three (5-, 7-, and 10-year) intermediate-term U.S. Treasury securities' spot rates
7 in its historical market risk premium CAPM cost of equity estimation, and the 30-year U.S.
8 Treasury bond spot rate in its current market risk premium CAPM cost of equity estimation.
9 Rates on U.S. Treasuries are largely verifiable and readily available.

10
11 **Q. What does Beta measure?**

12 A. Beta is a measure of a security's price volatility, or systematic risk, relative to the market as a
13 whole. Since systematic risk cannot be diversified away, it is the only risk that is relevant
14 when estimating a security's required return. Using a baseline market Beta of 1.0, a security
15 having a Beta value less than 1.0 will be less volatile (i.e., less risky) than the market. A
16 security with a Beta value greater than 1.0 will be more volatile (i.e., more risky) than the
17 market.

18
19 **Q. How did Staff estimate Entrada's Beta?**

20 A. Staff used the average of the *Value Line* Betas for the sample water utilities as a proxy for
21 Entrada's Beta. Schedule CSB-7 shows the *Value Line* Betas for each of the sample water
22 utilities. The 0.71 average Beta for the sample water utilities is Staff's estimated Beta for
23 Entrada. A security having a Beta value of 1.0 is less volatile than the market as a whole, and
24 thus requires a lower return on equity than does the overall market.

25

1 **Q. What is the market risk premium ($R_m - R_f$)?**

2 A. The market risk premium is the expected return on the market, minus the risk-free rate.
3 Simplified, it is the return an investor expects as compensation for market risk.

4
5 **Q. What did Staff use for the market risk premium?**

6 A. Staff uses separate calculations for the market risk premium in its historical and current
7 market risk premium CAPM methods.

8
9 **Q. How did Staff calculate an estimate for the market risk premium in its historical
10 market risk premium CAPM method?**

11 A. Staff uses the intermediate-term government bond income returns published in the Ibbotson
12 Associates' *Stocks, Bonds, Bills, and Inflation 2015 Appendix A* to calculate the historical market
13 risk premium. Ibbotson Associates calculates the historical risk premium by averaging the
14 historical arithmetic differences between the S&P 500 and the intermediate-term government
15 bond income returns for the period 1926-2015. Staff's historical market risk premium
16 estimate is 7.5 percent, as shown in Schedule CSB-3.

17
18 **Q. How did Staff calculate an estimate for the market risk premium in its current market
19 risk premium CAPM method?**

20 A. Staff solves equation 8 above to arrive at a market risk premium using a DCF-derived
21 expected return (K) of 12.03 ($2.20 + 9.73^7$) percent using the expected dividend yield (2.30
22 percent over the next twelve months) and the annual per share growth rate (9.73 percent) that
23 *Value Line* projects for all dividend-paying stocks under its review⁸ along with the current
24 long-term risk-free rate (30-year Treasury note at 2.88 percent) and the market's average Beta

⁷ The three to five year price appreciation is 45%. $1.45^{0.25} - 1 = 12.03\%$.

⁸ June 3, 2016 issue date.

1 of 1.0. Staff calculated the current market risk premium as 9.2 percent,⁹ as shown in Schedule
2 CSB-3.

3
4 **Q. What is the result of Staff's historical market risk premium CAPM and current market**
5 **risk premium CAPM cost of equity estimations for the sample utilities?**

6 A. Staff's cost of equity estimates are 7.2 percent using the historical market risk premium
7 CAPM and 9.4 percent using the current market risk premium CAPM as shown on Schedule
8 CSB-3.

9
10 **VI. SUMMARY OF STAFF'S COST OF EQUITY ANALYSIS**

11 **Q. What is the result of Staff's constant-growth DCF analysis to estimate the cost of**
12 **equity for the sample water utilities?**

13 A. Schedule CSB-3 shows Staff's constant-growth DCF estimate of the cost of equity for the
14 sample water utilities is 8.0 percent as follows:

15 $k = \text{Dividend Yield} + \text{Expected Dividend Growth}$

16 $k = 2.2\% + 5.8\% = 8.0\%$

17
18 **Q. What is the result of Staff's multi-stage DCF analysis to estimate of the cost of equity**
19 **for the sample utilities?**

20 A. Schedule CSB-9 shows Staff's multi-stage DCF estimate of the cost of equity for the sample
21 water utilities is 8.6 percent calculated as follows:

22
23

Company	Equity Cost Estimate (k)
American States Water	8.6%
California Water	8.7%
Aqua America	8.5%
Connecticut Water	8.5%

24
25
26
27
28

⁹ 12.03% = 2.30% + 1 x 9.73%

1	Middlesex Water	8.5%
2	SJW Corp	8.7%
3	York Water	<u>8.6%</u>
4		
5	Average	8.6%
6		

7 **Q. What is the result of Staff's historical market risk premium CAPM analysis to estimate**
8 **the cost of equity for the sample utilities?**

9 A. Staff's CAPM estimate (using the historical market risk premium) of the cost of equity for the
10 sample water utilities is 7.2 percent. Schedule CSB-3 shows the result of Staff's CAPM
11 analysis using the historical risk premium estimate. The result is as follows:

12 $k = R_f + \beta \times R_p$

13 $k = 1.9\% + 0.71 \times 7.5\%$

14 $k = 7.2\%$

15
16 **Q. What is the result of Staff's current market risk premium CAPM analysis to estimate**
17 **the cost of equity for the sample utilities?**

18 A. Staff's CAPM estimate (using the current market risk premium) of the cost of equity for the
19 sample water utilities is 9.4 percent. Schedule CSB-3 shows the result of Staff's CAPM
20 analysis using the current market risk premium estimate. The result is:

21
22 $k = R_f + \beta \times R_p$

23 $k = 2.9\% + 0.71 \times 9.2\%$

24 $k = 9.4\%$

25
26 **Q. Please summarize the results of Staff's cost of equity analysis for the sample utilities.**

27 A. The full range of Staff's cost of equity analysis results is 7.2 percent to 9.4 percent as shown
28 in the following table:

Table 2

Method	Estimate
Constant Growth DCF Estimate	8.0%
Multi-Stage DCF Estimate	8.6%
Historical CAPM Estimate	7.2%
Current CAPM Estimate	9.4%

1
2
3 **Q. Ms. Brown, in the recent past, Staff chose not to incorporate the results of its CAPM-**
4 **based ROE in developing its overall ROE recommendation. Would you please**
5 **explain why Staff has moved away from that previous position?**

6 **A.** Yes. Staff has always calculated the CAPM Model-driven ROE range but effectively gave this
7 result a zero weighting. The zero weighting approach was followed due to a noted divergence
8 of the CAPM Model-driven results from the DCF Model-driven results.

9
10 **VII. FINANCIAL RISK AND ECONOMIC ASSESSMENT ADJUSTMENTS**

11 **Q. Has Staff discontinued the direct recognition of the financial risk and economic**
12 **assessment adjustments in its cost of equity analysis?**

13 **A.** Yes. Staff has moved to an approach of developing its ROE recommendation that it believes
14 is more straight forward, conceptually sound, and simpler to understand.

15
16 Let me say again that while Staff's recommended revenue requirement is based upon a
17 specific ROE recommendation, Staff also believes that defining a point-in-time specific fair
18 and reasonable ROE can only realistically be achieved to the point of establishing an ROE
19 range of reasonableness. Therefore, while Staff retains the right to evaluate and/or to argue
20 considerations of relevance that might support a more specifically defined ROE, Staff
21 generally believes that any ROE falling within the ROE range it will discuss in specific rate
22 case dockets would constitute an acceptable Commission decision. I will expand upon this

1 statement as I progress through my explanation of Staff's current approach to developing its
2 ROE recommendations.

3
4 **Q. Ms. Brown, does Staff continue to include separate ROE modifiers for such things as**
5 **financial risk and the previous economic assessment adjustment?**

6 A. No, because under the portfolio view and Staff's new methodology these separate modifiers
7 are not necessary.

8
9 **Q. Ms. Brown, please explain how Staff believes the Commission should view the results**
10 **of the ROE range established through use of the traditional ROE Models.**

11 A. When boiled down, the argument regarding the ROE range defined through use of these
12 traditional ROE models is that any ROE falling within this range should be considered a
13 reasonable ROE for alternative investments with similar risk considerations. Or, said another
14 way, the lowest ROE resulting from the Model runs is just as valid as any other ROE point
15 defined by these Model runs.

16
17 **Q. Ms. Brown, what was the ROE adder recommended by Mr. Bourassa?**

18 A. I would note that Mr. Bourassa spends a great deal of time identifying and discussing such
19 risk factors, specifically on pages 44 through 46 of the cost-of-capital testimony he sponsors.
20 As seen on Mr. Bourassa's Schedule D-4.1, the Model-driven results have all been individually
21 adjusted upward by 230 basis points, before factoring in a 30 basis point reduction
22 attributable to Mr. Bourassa's financial risk arguments.

23

1 **Q. Ms. Brown, are you aware of any other instances where Mr. Bourassa’s testimony has**
2 **suggested that he was using an approach which gives consideration to these other**
3 **risk factors is very close to the manner being recommended by Staff?**

4 **A. Yes. In the cost of capital testimony filed in both the Liberty Utilities (Bella Vista Water**
5 **Corp.) rate case (Docket No. 15-0367) and in the instant Liberty Utilities (Rio Rico Water and**
6 **Wastewater & Sewer) Corp. rate cases (Docket No. 15-0368), page 6 line 14 through page 7,**
7 **line 5, Mr. Bourassa seems to suggest that he followed an approach very similar to the**
8 **approach Staff is now recommending. In response to a question regarding the “other risk**
9 **factors” he considered in determining the appropriate ROE for these three utility divisions,**
10 **Mr. Bourassa says:**

11 “I considered explicit adjustments to my ROE estimate for these
12 factors and I did take them into consideration when determining
13 **where, within the reasonableness range of analytical results** from
14 the DCF, CAPM, and RPM models, the required ROE for each of the
15 two utilities rightfully falls.” [Emphasis supplied.]
16

17

1 Q. Ms. Brown, I would like to return to the initial caveat you expressed on behalf of Staff,
2 i.e.,

3
4 “Staff also believes that defining a point-in-time specific fair and
5 reasonable ROE can only realistically be achieved to the point of
6 establishing an ROE range of reasonableness. Therefore, while
7 Staff retains the right to evaluate and/or to argue considerations
8 of relevance that might support a more specifically defined
9 ROE, Staff generally believes that any ROE falling within the
10 ROE range it will discuss in specific rate case dockets would
11 constitute an acceptable Commission decision.”

12
13 By this caveat is Staff suggesting that the Commission should accept its approach to
14 establishing an ROE but then continue to encourage parties to interject general
15 arguments regarding the recognition of ROE adders to accommodate other general
16 risk factors?

17 A. No. Regulated utilities, especially smaller utilities, often raise concerns about the
18 complexities, cost, and lack of transparency associated with the process employed to define a
19 range of reasonableness for ROE. Staff shares, and understands these concerns and believes
20 that steps to simplification should be given fair consideration. The caveat raised by Staff was
21 not meant to suggest that Staff was only interested in injecting yet another layer of complexity
22 into the process. Staff’s intent was to acknowledge the broad discretion of the Commission
23 to base its final ROE decision on the full range of evidence before it. On a case-by-case
24 basis, any number of additional considerations, individually and collectively, could impact the
25 Commission’s ultimate ROE decision.

26
27 **VIII. ORIGINAL COST WEIGHTED AVERAGE COST OF CAPITAL**

28 Q. What overall original cost rate of return did Staff determine for Entrada?

29 A. Staff determined a 7.7 percent ROR for Entrada, as shown in Schedule CSB-1 and the
30 following table:

Table 3

	Weight	Cost	Weighted Cost
Long-term Debt	30.00%	3.50%	1.10%
Common Equity	70.00%	9.40%	<u>6.60%</u>
Overall Original Cost ROR			<u>7.70%</u>

IX. FAIR VALUE RATE OF RETURN ("FVROR") RECOMMENDATION

Q. What FVROR does the Company propose in this proceeding?

A. The Company proposes a 6.92 percent FVROR. In making its FVROR calculation, the Company, as well as Staff, utilized the methodology recommended by Staff in an earlier docket, and adopted by the Commission in Decision No. 70665¹⁰.

Q. What FVROR does Staff Recommend for Entrada?

A. Staff recommends a 5.60 percent FVROR for the Company, as shown in Schedule CSB-1.

Q. How did Staff calculate its recommended FVROR?

A. Staff calculated the FVROR utilizing the methodology previously adopted in Decision No. 7066,5 for Southwest Gas Corporation. In short, the FVROR methodology first sets up a fair value capital structure that is composed of debt, equity, and an appreciation increment. Next, the percentages for each of these components relative to the total are calculated and are then multiplied by the cost rate for each component as shown in Schedule CSB-1.

Q. How did Staff calculate the cost rate for the appreciation increment?

A. Staff first calculated the difference between the nominal yield (i.e., unadjusted for inflation) on the 30-year U.S. Treasury bond and the real yield (i.e., inflation adjusted) on the same 30-

¹⁰ Southwest Gas Corporation, Docket No. G-01551A-07-0504.

1 year treasury security. The spread between the nominal and real yields on the 30-year treasury
2 security is reflective of the additional return (i.e., the inflation adjustment) required by
3 investors for the loss of purchasing power due to inflation over this same 30-year horizon.
4 Since the OCRB which does not include inflation represents 50 percent of the FVRB, Staff
5 reduced the inflation return by 50 percent for purposes of calculating the FVROR. Details of
6 Staff's inflation adjustment calculation are presented in Schedule CSB-2.

7
8 **Q. Why did Staff use a 30-year U.S. Treasury bond?**

9 A. The preferred term for calculating the accretion term is that which most closely matches the
10 weighted average expected life of the plant included in the fair value rate base. Thirty years
11 reflects a 3.33 percent depreciation rate and 20 years reflects a 5.0 percent depreciation rate.
12 Thirty years more closely reflects the weighted average life of the plant included in the fair
13 value rate base than does 20 years.

14
15 **Q. Did Staff use spot U.S. Treasury security yields for purposes of making its FVROR**
16 **estimate?**

17 A. Yes. Staff used the closing spot nominal and real yields on the 30-year U.S. Treasury bond as
18 of June 1, 2016, to correspond with the spot price date selected for Staff's sample companies.
19 Use of the current bond yield is consistent with financial theory (i.e., the Efficient Market
20 Hypothesis).

21
22 **Q. Does this conclude your direct testimony concerning Staff's recommendations**
23 **concerning the cost of capital?**

24 A. Yes, it does.

Shareholder Cost Allocation
Schedule CSB-1

SHAREHOLDER COST ALLOCATION

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	Contractual Services Professional	\$ 34,562	\$ 0	\$ 34,562
2				
3	Corporate Expense Allocation			
4	Legal	\$ 488	\$ -	\$ 488
5	Tax Services	\$ 818	\$ -	\$ 818
6	Audit	\$ 982	\$ -	\$ 982
7	Investor Relations	\$ 577	\$ (501)	\$ 76
8	Directors Fees & Insurance	\$ 1,182	\$ (1,026)	\$ 156
9	Licenses & Fees	\$ 280	\$ -	\$ 280
10	Escrow Transfer	\$ 34	\$ (29)	\$ 4
11	Other Professional	\$ 633	\$ (550)	\$ 83
12	Office Administration	\$ (711)	\$ 618	\$ (94)
13	Salaries & Benefits	\$ 7,162	\$ (6,219)	\$ 943
14	Subtotal-Corporate Exp Allocation	\$ 11,446	\$ (7,709)	\$ 3,737
15				
16	Total (Line 1 + Line 8)	\$ 46,007	\$ (7,708)	\$ 38,299

[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]
COSTS TO BE ALLOCATED TO ENTRADA DEL ORO - PER COMPANY									
(From Company's Response to CSB 1.17, "Summary Page" and CSB 1.34 Contractual Service Summary)									
APUC Allocation - Admin Costs By Category	Allocation to Regulated Utilities DR CSB 1.17	Regulated Facility Expense Percent	APUC Admin to Regulated Facilities \$3,339.11	Column H Expressed in Percent	Canadian Corp. Alloc LABS Corp Admin (Col I x \$1,851.85)	Canadian Corp. Alloc LABS Nonlabor Alloc (Col I x \$3,098.14)	Canadian Corp. Alloc LU Canada Admin (Col I x \$3,156.56)	Total Shareholder Costs	
Description	Summary Worksheet	\$3,339 + \$439,678	Col F x Col G	Col H + \$3,339.11	\$1,851.85	\$3,098.14	\$3,156.56	Columns H+J+K+L	
25 Legal	\$ 18,756.80	0.76%	\$ 142.45	4.27%	\$ 79.00	\$ 132.17	\$ 134.66	\$ 488.28	
26 Tax Services	\$ 31,410.82	0.76%	\$ 238.55	7.14%	\$ 132.30	\$ 221.33	\$ 225.51	\$ 817.68	
27 Audit	\$ 37,717.94	0.76%	\$ 286.45	8.58%	\$ 158.86	\$ 265.78	\$ 270.79	\$ 981.87	
28 Investor Relations	\$ 22,180.10	0.76%	\$ 168.45	5.04%	\$ 93.42	\$ 156.29	\$ 159.24	\$ 577.39	
29 Directors Fees & Insurance	\$ 45,395.27	0.76%	\$ 344.75	10.32%	\$ 191.20	\$ 319.87	\$ 325.90	\$ 1,181.73	
30 Licenses & Fees	\$ 10,769.09	0.76%	\$ 81.79	2.45%	\$ 45.36	\$ 75.88	\$ 77.31	\$ 280.34	
31 Escrow Transfer	\$ 1,304.82	0.76%	\$ 9.91	0.30%	\$ 5.50	\$ 9.19	\$ 9.37	\$ 33.97	
32 Other Professional	\$ 24,328.36	0.76%	\$ 184.76	5.53%	\$ 102.47	\$ 171.43	\$ 174.66	\$ 633.31	
33 Office Administration	\$ (27,320.26)	0.76%	\$ (207.48)	-6.21%	\$ (115.07)	\$ (192.51)	\$ (196.14)	\$ (711.20)	
34 Salaries & Benefits	\$ 275,134.84	0.76%	\$ 2,089.50	62.58%	\$ 1,158.82	\$ 1,938.71	\$ 1,975.26	\$ 7,162.29	
35 Travel	\$ -	0.76%	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	
36	\$ 439,677.78		\$ 3,339.11	100.00%	\$ 1,851.85	\$ 3,098.14	\$ 3,156.56	\$ 11,445.66	

[N]	[O]	[P]	[Q]	[R]	[S]	[T]	[U]	[V]	[W]	[X]	[Y]
COSTS TO BE ALLOCATED TO ENTRADA DEL ORO - PER STAFF											
APUC Allocation - Admin Costs By Category	Allocation to Regulated Utilities DR CSB 1.17	Regulated Facility Expense Percent	APUC Admin to Regulated Facilities \$3,339.11	Column H Expressed in Percent	Canadian Corp. Alloc LABS Corp Admin (Col I x \$1,851.85)	Canadian Corp. Alloc LABS Nonlabor Alloc (Col I x \$3,098.14)	Canadian Corp. Alloc LU Canada Admin (Col I x \$3,156.56)	Total Shareholder Costs Per Staff	Staff's Adjustment	Total Shareholder Costs Per Company	
Description	Summary Worksheet	\$3,339 + \$439,678	Col F x Col G	Col H + \$3,339.11	\$1,851.85	\$3,098.14	\$3,156.56	Columns H+J+K+L	Col W - Col Y	Company	
47 Legal	\$ 18,756.80	0.76%	\$ 142.45	4.27%	\$ 79.00	\$ 132.17	\$ 134.66	\$ 488.28	\$ -	\$ 488.28	
48 Tax Services	\$ 31,410.82	0.76%	\$ 238.55	7.14%	\$ 132.30	\$ 221.33	\$ 225.51	\$ 817.68	\$ -	\$ 817.68	
49 Audit	\$ 37,717.94	0.76%	\$ 286.45	8.58%	\$ 158.86	\$ 265.78	\$ 270.79	\$ 981.87	\$ -	\$ 981.87	
50 Investor Relations	\$ 22,180.10	0.10%	\$ 22.18	0.66%	\$ 12.30	\$ 20.58	\$ 20.97	\$ 76.03	\$ (501.36)	\$ 577.39	
51 Directors Fees & Insurance	\$ 45,395.27	0.10%	\$ 45.40	1.36%	\$ 25.18	\$ 42.12	\$ 42.91	\$ 155.60	\$ (1,026.12)	\$ 1,181.73	
52 Licenses & Fees	\$ 10,769.09	0.76%	\$ 81.79	2.45%	\$ 45.36	\$ 75.88	\$ 77.31	\$ 280.34	\$ -	\$ 280.34	
53 Escrow Transfer	\$ 1,304.82	0.10%	\$ 1.30	0.04%	\$ 0.72	\$ 1.21	\$ 1.23	\$ 4.47	\$ (29.49)	\$ 33.97	
54 Other Professional	\$ 24,328.36	0.10%	\$ 24.33	0.73%	\$ 13.49	\$ 22.57	\$ 23.00	\$ 83.39	\$ (549.92)	\$ 633.31	
55 Office Administration	\$ (27,320.26)	0.10%	\$ (27.32)	-0.82%	\$ (15.15)	\$ (25.35)	\$ (25.83)	\$ (93.65)	\$ 617.55	\$ (711.20)	
56 Salaries & Benefits	\$ 275,134.84	0.10%	\$ 275.13	8.24%	\$ 152.59	\$ 255.28	\$ 260.09	\$ 943.10	\$ (6,219.20)	\$ 7,162.29	
57 Travel	\$ -	0.76%	\$ -	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
58	\$ 439,677.78		\$ 1,090.25	32.65%	\$ 604.65	\$ 1,011.57	\$ 1,030.65	\$ 3,737.12	\$ (7,708.55)	\$ 11,445.66	

References:

- Column A: Company Schedule C-1
- Column B: Testimony, CSB, Company Data Request Responses CSB 1.17 and CSB 1.34
- Column C: Column [A] + Column [B]

Financing Schedules CSB-1 & CSB-2

FINANCIAL ANALYSIS

Selected Financial Information
 Pro forma Includes Immediate Effects of the Proposed Long-term Debt

[A]

10/31/2015
 Staff Recommended Revenue
 Full Amount of Proposed Loan

1	Operating Income	\$	45,859	
2	Depreciation & Amortization Expense	\$	77,204	
3	Income Tax Expense	\$	22,318	
4	Interest Expense on Debt	\$	58,878	
5	Repayment of Principal	\$	148,782	
TIER				
6	[1+3] ÷ [4]			1.16
DSC				
7	[1+2+3] ÷ [4+5]			0.70
8	Long-term Debt	\$	1,601,218	20.68%
9	Equity	\$	6,142,053	79.32%
10	Total Capital	\$	7,743,271	100.00%

Liberty Utilities (Entrada Del Oro Sewer) Corp.
 Docket Nos. SW-04316A-16-0078 and SW-04316A-16-0085
 Application For Financing

Financing Schedule CSB-2

Loan Amount Requested	\$1,750,000		
Down Payment:	\$0		
Amount Financed:	\$1,750,000		
Number of years:	10	Compounding Periods:	12
Interest rate (r):	3.50%	APR:	3.56%

LOAN AMORTIZATION SCHEDULE

Period	Loan payment (1)	Beginning-of-month principal (2)	Payments		End-of-month principal [(2) - (4)] (5)	Annual Interest (6)	Annual Principal (7)	Annual Debt Payment (8)
			Interest [r * (2)] (3)	Principal [(1) - (3)] (4)				
1	\$17,305.03	\$1,750,000.00	\$5,104.17	\$12,200.86	\$1,737,799.14			
2	17,305.03	1,737,799.14	5,068.58	12,236.45	1,725,562.70			
3	17,305.03	1,725,562.70	5,032.89	12,272.13	1,713,290.56			
4	17,305.03	1,713,290.56	4,997.10	12,307.93	1,700,982.63			
5	17,305.03	1,700,982.63	4,961.20	12,343.83	1,688,638.81			
6	17,305.03	1,688,638.81	4,925.20	12,379.83	1,676,258.98			
7	17,305.03	1,676,258.98	4,889.09	12,415.94	1,663,843.04			
8	17,305.03	1,663,843.04	4,852.88	12,452.15	1,651,390.89			
9	17,305.03	1,651,390.89	4,816.56	12,488.47	1,638,902.42			
10	17,305.03	1,638,902.42	4,780.13	12,524.89	1,626,377.53			
11	17,305.03	1,626,377.53	4,743.60	12,561.42	1,613,816.10			
12	17,305.03	1,613,816.10	4,706.96	12,598.06	1,601,218.04	58,878.35	148,781.96	207,660.31

Cost of Capital Schedules CSB-1 to CSB-10

CAPITAL STRUCTURE AND WEIGHTED AVERAGE COST OF CAPITAL

Line Staff Recommended Original Cost Capital Structure

No.	[A]	[B]	[C]	[D]	[E]
					OCRB WACC
1					
2	<u>Description</u>	<u>Amount</u>	<u>Weight</u>	<u>Cost</u>	
3	Debt	\$ 848,454	30.00% x	3.50%	= 1.05%
4	Equity	\$1,979,726	70.00% x	9.40%	= 6.58%
5	Total	\$2,828,180	100.00%		<u>7.63%</u>

8 Staff Recommended Fair Value Capital Structure

	[A]	[B]	[C]	[D]	[E]	[F]	[G]
		OCRB	Cost	Amount Financing	FVRB		FVRB
11	<u>Description</u>	<u>Weight</u>	<u>OCRB</u>	<u>OCRB</u>	<u>Weight</u>	<u>Cost</u>	<u>WACC</u>
12	Debt	30.00% x	\$ 586,768	= \$ 176,030	x 21.49%	x 3.50%	= 0.75%
13	Equity	70.00% x	\$ 586,768	= \$ 410,738	x 50.15%	x 9.40%	= 4.71%
14		100.00%		\$ 586,768	71.64%		5.47%
15	Fair Value Capital Increment			¹ \$ 232,239	x 28.36%	x 0.46%	= 0.13%
16	Total			\$ 819,007	100.00%		<u>5.60%</u>

¹ Calculation of Fair Value Capital Increment

19	FVRB	\$ 819,007
20	Less: OCRB	\$ 586,768
21		<u>\$ 232,239</u>

24 Company Proposed Original Cost Capital Structure

	[A]	[B]	[C]	[D]	[E]
					OCRB WACC
27	<u>Description</u>	<u>Amount</u>	<u>Weight</u>	<u>Cost</u>	
28	Debt	\$ 848,454	30.00% x	3.50%	= 1.05%
29	Equity	\$1,979,726	70.00% x	12.00%	= 8.40%
30	Total	\$2,828,180	100.00%		<u>9.45%</u>

33 Company Recommended Fair Value Capital Structure

	[A]	[B]	[C]	[D]	[E]	[F]	[G]
		OCRB	Cost	Amount Financing	FVRB		FVRB
36	<u>Description</u>	<u>Weight</u>	<u>OCRB</u>	<u>OCRB</u>	<u>Weight</u>	<u>Cost</u>	<u>WACC</u>
37	Debt	30.00% x	\$ 1,489,794	= \$ 446,938	x 20.74%	x 3.50%	= 0.73%
38	Equity	70.00% x	\$ 1,489,794	= \$ 1,042,856	x 48.39%	x 12.00%	= 5.81%
39		100.00%		\$ 1,489,794	69.13%		6.53%
40	Fair Value Capital Increment			² \$ 665,186	x 30.87%	x 1.25%	= 0.39%
41	Total			\$ 2,154,980	100.00%		<u>6.92%</u>

² Calculation of Fair Value Capital Increment

44	FVRB	\$ 2,154,980
45	Less: OCRB	\$ 1,489,794
46		<u>\$ 665,186</u>

Liberty Utilities (Entrada Del Oro Sewer) Corp., Cost of Capital Calculation
 Inflation Adjustment (Accretion Return)
 Included in the Fair Value Rate of Return
 Staff Recommended

Description

<u>Risk Free Rate</u>	2.63% ¹
Less: Inflation Rate	- <u>1.72%</u> ²
<u>Appreciation Increment Fair Value Rate of Return</u>	0.91%
Times: 50% factor ⁴	x <u>50.00%</u>
Appreciation Increment Fair Value Rate of Return	0.46%

1

² Calculation of Inflation Rate:

30-Year Treasury Yield (as of 6/1/2016) -- Nominal	2.63% ³
<u>Less: 30-Year Treasury Yield (@ 6/1/2016) -- Real</u>	<u>0.91%</u> ³
Return Required by Investors due to Inflation	1.72%

³ <http://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/default.aspx>

⁴ This factor recognizes that the OCRB represents 50% of the FVRB, and the the OCRB includes no inflation.

Note: The above Fair Value Rate of Return calculation is consistent with the methodology adopted in Decision No. 70665.

Liberty Utilities (Entrada Del Oro Sewer) Corp.
Average Capital Structure of Sample Water Utilities

[A]	[B]	[C]	[D]
<u>Company</u>	<u>Debt</u>	<u>Common Equity</u>	<u>Total</u>
American States Water	39.4%	60.6%	100.0%
California Water	46.1%	53.9%	100.0%
Aqua America	52.2%	47.8%	100.0%
Connecticut Water	45.3%	54.7%	100.0%
Middlesex Water	40.6%	59.4%	100.0%
SJW Corp	53.4%	46.6%	100.0%
York Water	<u>44.7%</u>	<u>55.3%</u>	<u>100.0%</u>
 Average Sample Water Utilities	 45.96%	 54.04%	 100.0%
 Entrada Del Oro	 30.00%	 70.00%	 100.0%

Source:
Sample Water Companies from Value Line

Liberty Utilities (Entrada Del Oro Sewer) Corp.
Growth in Earnings and Dividends
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
<u>Company</u>	Dividends Per Share 2006 to 2015 <u>DPS¹</u>	Dividends Per Share Projected <u>DPS¹</u>	Earnings Per Share 2006 to 2015 <u>EPS¹</u>	Earnings Per Share Projected <u>EPS¹</u>
American States Water	6.8%	7.5%	9.3%	7.1%
California Water	1.6%	8.1%	2.5%	11.2%
Aqua America	8.0%	8.8%	7.2%	8.9%
Connecticut Water	2.1%	5.2%	8.8%	2.9%
Middlesex Water	1.5%	3.1%	5.6%	2.8%
SJW Corp	3.9%	6.1%	5.1%	NA
York Water	<u>3.7%</u>	<u>7.1%</u>	<u>5.6%</u>	<u>5.2%</u>
 Average Sample Water Utilities	4.0%	6.6%	6.3%	6.3%

1 Value Line

Liberty Utilities (Entrada Del Oro Sewer) Corp.
 Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
<u>Company</u>	<u>Symbol</u>	<u>Spot Price</u> <u>6/1/2016</u>	<u>Book Value</u>	<u>Mkt To</u> <u>Book</u>	<i>Value Line</i> <u>Beta</u> <i>b</i>	<u>Raw</u> <u>Beta</u> <i>braw</i>
American States Water	AWR	39.83	14.11	2.8	0.75	0.60
California Water	CWT	29.52	13.59	2.2	0.75	0.60
Aqua America	WTR	32.84	9.67	3.4	0.75	0.60
Connecticut Water	CTWS	49.51	21.61	2.3	0.60	0.37
Middlesex Water	MSEX	37.88	12.68	3.0	0.70	0.52
SJW Corp	SJW	34.97	17.37	2.0	0.75	0.60
York Water	YORW	28.22	8.78	<u>3.2</u>	<u>0.70</u>	<u>0.52</u>
Average				2.7	0.71	0.54

[C]: Msn Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

[G]: (-0.35 + [F]) / 0.67

Liberty Utilities (Entrada Del Oro Sewer) Corp.
Calculation of Expected Infinite Annual Growth in Dividends
Sample Water Utilities

[A]	[B]
<u>Description</u>	g
DPS Growth - Historical ¹	4.0%
DPS Growth - Projected ¹	6.6%
EPS Growth - Historical ¹	6.3%
EPS Growth - Projected ¹	6.3%
Sustainable Growth - Historical ²	5.2%
<u>Sustainable Growth - Projected²</u>	<u>6.4%</u>
Average	5.8%

1 Schedule CSB-5

2 Schedule CSB-6

Liberty Utilities (Entrada Del Oro Sewer) Corp.
Multi-Stage DCF Estimates
Sample Water Utilities

[A] [B] [C] [D] [E] [F] [G] [H]

Company	Current Mkt. Price (P_0) ¹ 6/1/2016	Projected Dividends ² (Stage 1 growth) (D_t)				Stage 2 growth ³ (g_n)	Equity Cost Estimate (K) ⁴
		d_1	d_2	d_3	d_4		
American States Water	39.8	0.90	0.95	1.00	1.06	6.4%	8.6%
California Water	29.5	0.70	0.74	0.79	0.83	6.4%	8.7%
Aqua America	32.8	0.71	0.75	0.79	0.84	6.4%	8.5%
Connecticut Water	49.5	1.07	1.14	1.20	1.27	6.4%	8.5%
Middlesex Water	37.9	0.80	0.85	0.90	0.95	6.4%	8.5%
SJW Corp	35.0	0.82	0.87	0.92	0.97	6.4%	8.7%
York Water	28.2	0.63	0.66	0.70	0.74	6.4%	8.6%

$$P_0 = \sum_{t=1}^n \frac{D_t}{(1+K)^t} + \frac{D_n(1+g_n)}{K-g_n} \left[\frac{1}{(1+K)} \right]^n$$

Average **8.6%**

Where : P_0 = current stock price
 D_t = dividends expected during stage 1
 K = cost of equity
 n = years of non - constant growth
 D_n = dividend expected in year n
 g_n = constant rate of growth expected after year n

1 [B] see Schedule JAC-7

2 Derived from Value Line Information

3 Average annual growth in GDP 1929 - 2012 in current dollars.

4 Internal Rate of Return of Projected Dividends

Liberty Utilities (Entrada Del Oro Sewer) Corp.				
Capitalization				
	<u>Interest Rate</u>	<u>Annual Interest</u>	<u>Long-Term Debt Amount outstanding as of 10/31/2015</u>	<u>Percentage of Capital Structure</u>
	3.50%	\$ 29,696	\$ 848,454	
<hr/>				
Total		\$ 29,696	\$ 848,454	30.00%
Short-Term Debt		\$ -		0.00%
Total Debt		\$ 29,696	\$ 848,454	30.00%
Common Equity			\$ 1,979,726	
Common Shares Outstanding				
Paid in Capital				
Retained Earnings				
Total Common Equity			\$ 1,979,726	70.00%
Total Capitalization			\$ 2,828,180	100.00%

BEFORE THE ARIZONA CORPORATION COMMISSION

DOUG LITTLE
Chairman
BOB STUMP
Commissioner
BOB BURNS
Commissioner
TOM FORESE
Commissioner
ANDY TOBIN
Commissioner

IN THE MATTER OF THE APPLICATION OF)
LIBERTY UTILITIES (Entrada Del Oro Sewer))
CORP., AN ARIZONA CORPORATION,)
FOR A DETERMINATION OF THE FAIR)
VALUE OF ITS UTILITY PLANTS AND)
PROPERTY FOR INCREASES IN ITS SEWER)
CHARGES FOR UTILITY SERVICE BASED)
RATES AND THEREON.)
_____)

DOCKET NO. SW-04316A-16-0078

IN THE MATTER OF THE APPLICATION OF)
LIBERTY UTILITIES (Entrada Del Oro Sewer))
CORP., AN ARIZONA CORPORATION,)
FOR AUTHORITY TO ISSUE EVIDENCE OF)
INDEBTEDNESS IN AN AMOUNT NOT TO)
EXCEED \$1,750,000.)
_____)

DOCKET NO. SW-04316A-16-0085

DIRECT

TESTIMONY

OF

JIAN W. LIU

UTILITIES ENGINEER

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

AUGUST 19, 2016

TABLE OF CONTENTS

	Page
INTRODUCTION	1
PURPOSE OF TESTIMONY.....	2
ENGINEERING REPORTS.....	3
RECOMMENDATIONS AND CONCLUSIONS.....	3

EXHIBIT

Engineering Report for Entrada Del Oro Sewer Company	JWL
--	-----

1 **INTRODUCTION**

2 **Q. Please state your name, place of employment and job title.**

3 A. My name is Jian W. Liu. My place of employment is the Arizona Corporation Commission
4 ("ACC" or "Commission"), Utilities Division, 1200 West Washington Street, Phoenix,
5 Arizona 85007. My job title is Water/Wastewater Engineer.

6
7 **Q. How long have you been employed by the Commission?**

8 A. I have been employed by the Commission since October 2005.

9
10 **Q. Please list your duties and responsibilities.**

11 A. My main responsibilities are to inspect, investigate and evaluate water and wastewater
12 systems. This includes obtaining data, preparing reconstruction cost new and/or original cost
13 studies, investigative reports, interpreting rules and regulations, and to suggest corrective
14 action and provide technical recommendations on water and wastewater system deficiencies.
15 I also provide written and oral testimony in rate cases and other cases before the
16 Commission.

17
18 **Q. How many companies have you analyzed for the Utilities Division?**

19 A. I have analyzed more than 50 companies fulfilling these various responsibilities for Utilities
20 Division Staff ("Staff").

21
22 **Q. Have you previously testified before this Commission?**

23 A. Yes, I have testified before this Commission.

24

1 **Q. What is your educational background?**

2 A. I am a Ph.D. Candidate in Geotechnical Engineering from Arizona State University ("ASU").
3 I have a Master of Science Degree in Natural Science from ASU and a Master of Science
4 Degree in Civil Engineering from the Institute of Rock & Soil Mechanics ("IRSM"),
5 Academy of Sciences, China.
6

7 **Q. Briefly describe your pertinent work experience.**

8 A. From 1982 to 2000, I was employed by IRSM, SCS Engineers, and URS Corporation as a
9 Civil and Environmental Engineer. In 2000, I joined the Arizona Department of
10 Environmental Quality ("ADEQ"). My responsibilities with ADEQ included review and
11 approval of water distribution systems, sewer distribution systems, and on-site wastewater
12 treatment facilities. I remained with ADEQ until transferring to the Commission in October
13 2005.
14

15 **Q. Please state your professional memberships, registrations, and licenses.**

16 A. I am a licensed professional civil engineer in the State of Arizona.
17

18 **PURPOSE OF TESTIMONY**

19 **Q. What was your assignment in this proceeding?**

20 A. My assignment was to provide Staff's engineering evaluation of the subject rate proceeding. I
21 reviewed the Liberty Utilities (Entrada Del Oro Sewer) Corp. ("EDO" or "Company")
22 application and responses to data requests, and I inspected the EDO wastewater system.
23 This testimony, and its attachment present Staff's engineering evaluation. The findings of my
24 engineering evaluation are contained in the Engineering Report that I have prepared for this
25 proceeding. The report is included as Exhibit JW1 to this pre-filed testimony.

1 **ENGINEERING REPORTS**

2 **Q. Please describe the information contained in your Engineering Reports.**

3 A. The Report is divided into three general sections: 1) *Executive Summary*; 2) *Engineering Report*
4 *Discussion*, and 3) *Engineering Report Exhibits*. The *Discussion* section for the Wastewater System
5 is divided into eight subsections: A) Location of Company; B) Description of the Wastewater
6 System; C) Wastewater Flow; D) Growth; E) ADEQ Compliance; F) ACC Compliance; G)
7 Depreciation Rates; H) Other Issues.

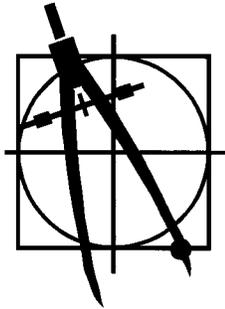
8
9 **RECOMMENDATIONS AND CONCLUSIONS**

10 **Q. What are Staff's conclusions and recommendations regarding the Company's**
11 **operations?**

12 A. Staff's conclusions and recommendations from the engineering report are contained in the
13 "Executive Summary" of Exhibit JWL.

14
15 **Q. Does this conclude your Direct Testimony?**

16 A. Yes, it does.



**Engineering Report for
Liberty Utilities Corp. – Entrada Del Oro
Sewer Company
Docket Nos. SW-04316A-16-0078 (Rates)
and SW-04316A-16-0085 (Finance)**

By Jian Liu

June 22, 2016

CONCLUSIONS

- A. A check with the Arizona Corporation Commission (“ACC” or “Commission”) Utilities Division Compliance Section showed no delinquent compliance items for Liberty Utilities (Entrada Del Oro Sewer) Corp. (“EDO” or “Company”). (ACC Compliance Section Email dated March 29, 2016).
- B. Staff concludes that the Company has adequate wastewater treatment capacity to serve the existing customer base and reasonable growth.
- C. Staff concludes that Company’s existing wastewater treatment plant (“WWTP”) has 44 percent excess capacity.

RECOMMENDATIONS

- 1. Staff has developed typical and customary depreciation rates within a range of anticipated equipment life. These rates are presented in Table G-1 and it is recommended that the Company use these depreciation rates by individual National Association of Regulatory Utility Commissioners (“NARUC”) category.
- 2. Staff recommends that Staff Proposed Adjustments for Original Plant Cost in Attachment A be used for purposes of this application.
- 3. Staff recommends that Staff Proposed Adjustments for Reconstruction Cost New (“RCN”) numbers in Attachment B be used for purposes of this application.

TABLE OF CONTENTS

	<u>PAGE</u>
A. INTRODUCTION.....	1
B. DESCRIPTION OF THE SEWER SYSTEM.....	1
FIGURE 1. COUNTY MAP	3
FIGURE 2. CERTIFICATED AREA	4
C. SEWER FLOWS	5
SEWER FLOWS.....	5
SYSTEM ANALYSIS	5
D. GROWTH.....	6
E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (“ADEQ”) COMPLIANCE	6
F. ACC COMPLIANCE.....	6
G. DEPRECIATION RATES.....	6
H. OTHER ISSUES.....	8
1. EXCESS CAPACITY.....	8
2. RECONSTRUCTION COST NEW (“RCN”).....	8
3. FINANCE APPLICATION.....	9

A. INTRODUCTION

On March 3, 2016, Liberty Utilities (Entrada Del Oro Sewer) Corp. ("EDO" or "Company") filed an application with the Arizona Corporation Commission ("ACC" or "Commission") to increase its rates (Docket No. SW-04316A-16-0078) and on March 7, 2016, EDO filed a finance application with the Commission requesting authority from the Commission to issue evidence of indebtedness in a total amount not to exceed \$1,750,000 (Docket No. SW-04316A-16-0085).

Per Procedural Order dated March 22, 2016, Docket Nos. SW-04316A-16-0078 and SW-04316A-16-0085 were consolidated. The ACC Utilities Division Staff ("Staff") engineering review and analysis of the applications are presented in this report.

The Company serves the Entrada Del Oro development, which is located approximately about four miles east of Gold Canyon in Pinal County. EDO had 336 wastewater customers in October 2015. Figure 1 shows the location of the Company within Pinal County and Figure 2 shows the Certificate of Convenience and Necessity covering approximately 609 acres.

B. DESCRIPTION OF THE SEWER SYSTEM

The sewer system was field inspected on June 1, 2016, by Jian Liu, Staff Utilities Engineer, in the accompaniment of Gilbert Grajeda, Bhaskar Kolluri, Gerry Becker, Steve Chiquete and Alysia Maya representing the Company.

The sewer treatment system is a Marwood package wastewater treatment plant ("WWTP"). Wastewater collected in the Company's service area is treated by nitrification, denitrification, filtration, and ultraviolet ("UV") disinfection.

The EDO WWTP was constructed in 2006 with an original design capacity of 150,000 gallons per day (gpd). The plant could treat up to 300,000 gpd with additional improvements. Effluent disposal is through permitted discharge at an unnamed wash approximately one mile north of the facility. The detailed plant facility descriptions as follows:

Table 1. Wastewater Treatment Facility

Type of Treatment	Designed Plant Capacity
Extended Aeration, Step Aeration, Oxidation Ditch, Aerobic Lagoon, Trickling Filter, Septic Tank, Wetland, etc.	300,000 GPD

Table 2. Lift Stations

Location	No. of Pumps	Horsepower per Pump	Capacity per Pump (GPM)	Wet Well Capacity (Gals)
Entrance to Plant	2	7.5 HP	705	1,080

Table 3. Collection Mains

Diameter	Length (ft.)
6-inch	326
8-inch	14,213
10-inch	928
12-inch	1,749

Table 4. Manholes

Size	Quantity
Standard 4'	54
Drop	7
Standard 5'	9

Table 5. Force Mains (C-900 Purple Effluent)

Diameter	Length (ft.)
8-inch	6,000

Table 6. Service Laterals

Lateral Size	Quantity
4-inch	372
Total:	372

PINAL COUNTY - SEWER

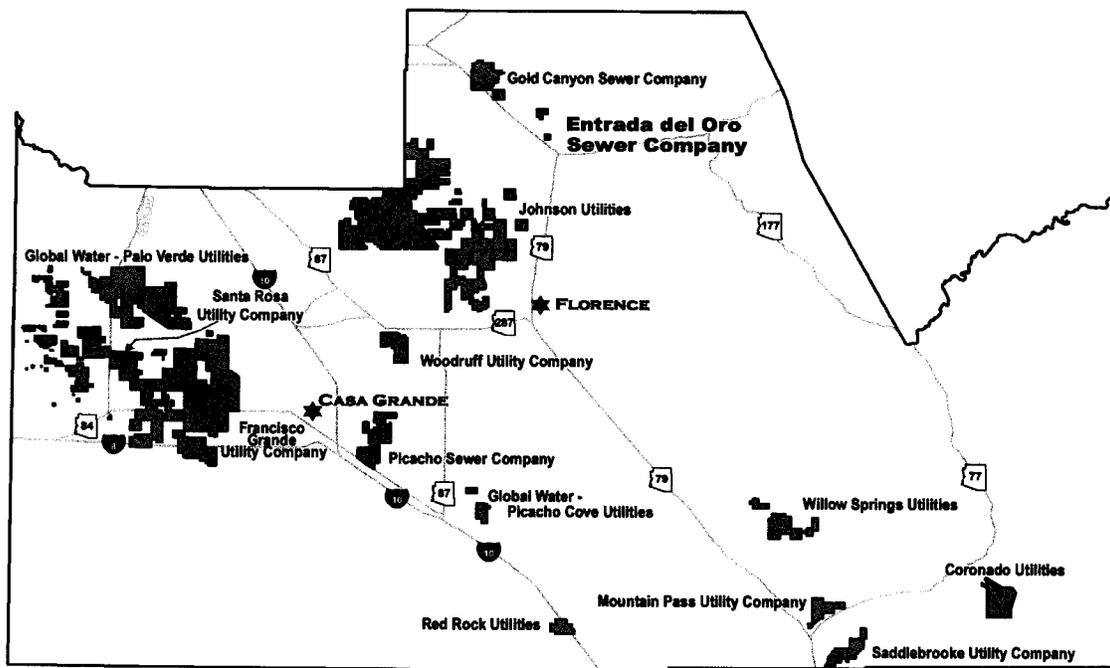


Figure 1. County Map

P I N A L C O U N T Y

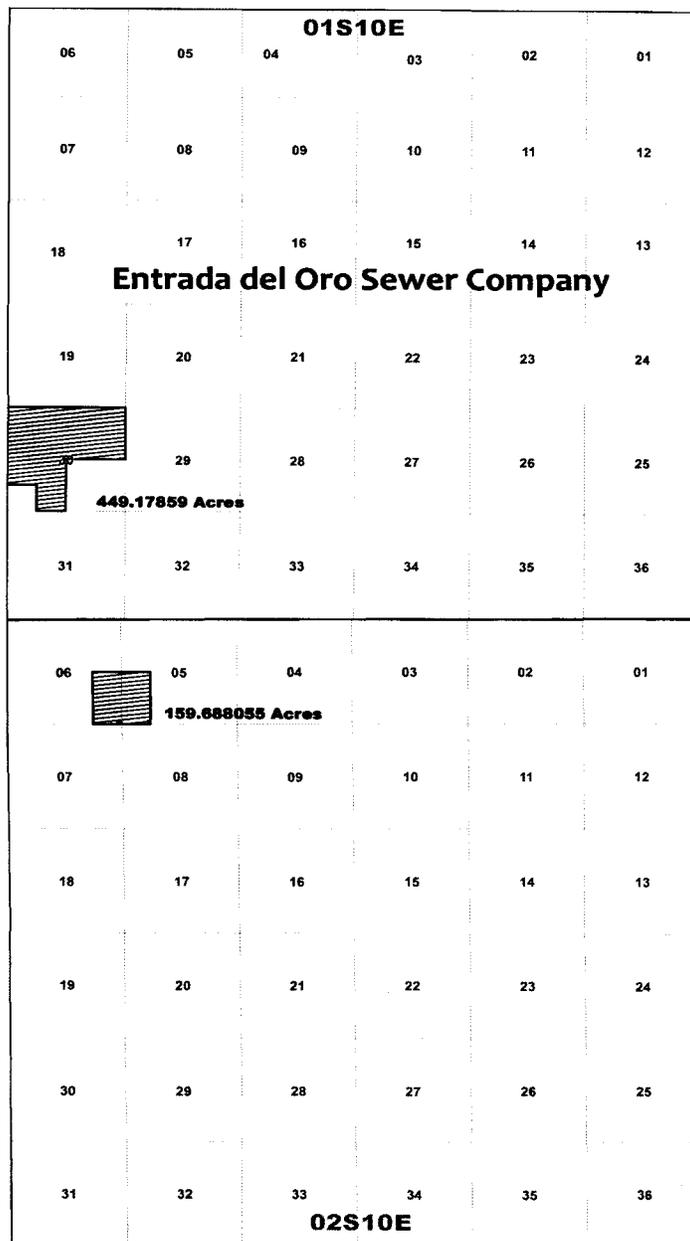


Figure 2. Certificated Area

C. SEWER FLOWS

Sewer Flows

Based on the information provided by the Company, sewer flows for the test year ending October 31, 2015 are presented in Figure C-1. Customers experienced a high monthly average wastewater flow of 115 GPD per connection and a low monthly average wastewater flow of 82 GPD per connection for an average annual wastewater flow of 98 GPD per connection.

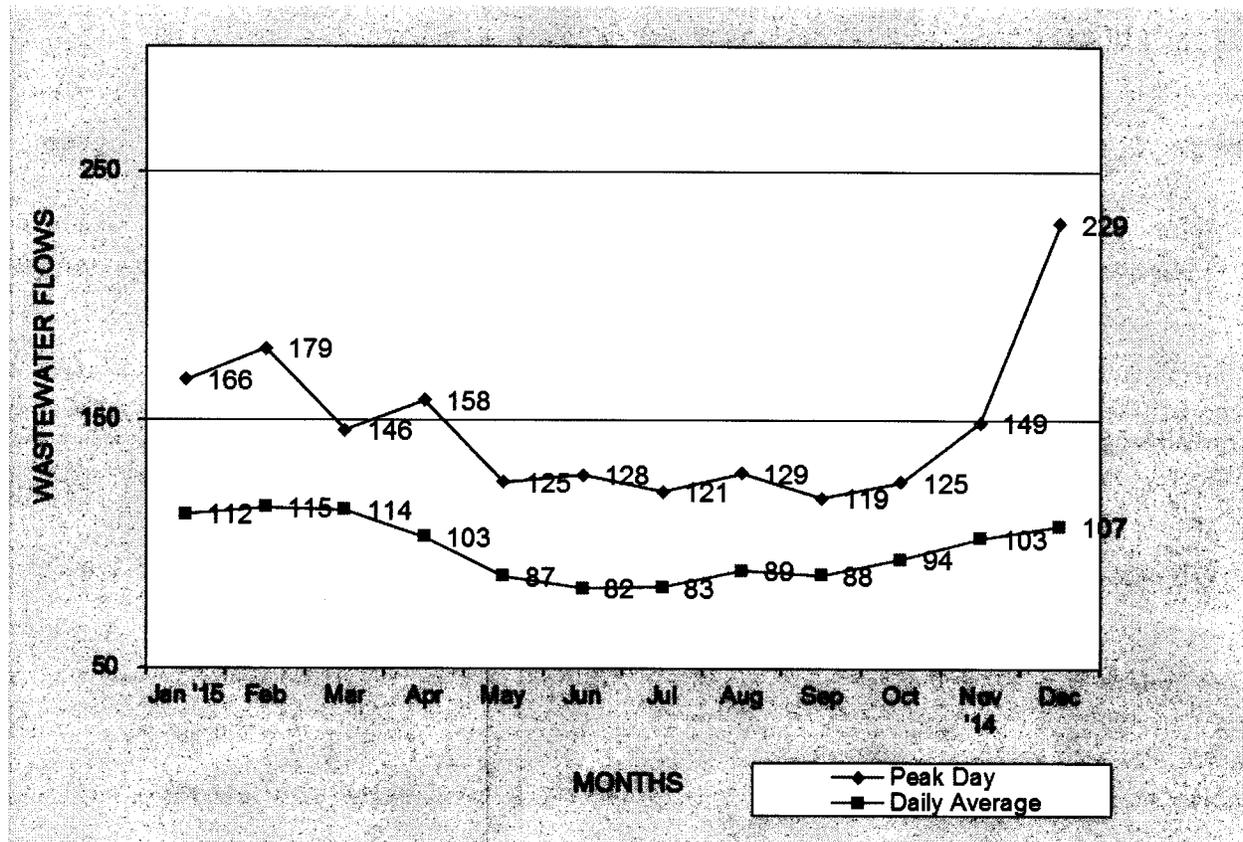


Figure C-1. Sewer Flows

System Analysis

The EDO WWTP was constructed in 2006 with treatment capacity of 150,000 gpd. The plant could treat up to 300,000 gpd with additional improvements. Effluent disposal is through permitted discharge at an unnamed wash approximately one mile north of the facility.

The following table 7 shows the Treatment Capacity Utilization Rate on the Average Daily Flow for Peak Month during test year.

Table 7

Treatment Capacity in service on October 31, 2015 gallon per day ("GPD")	Design Capacity (GPD)	Peak Monthly Sewage Flow During Test Year (March 2015, GPD)	Average Daily Flow for Peak Month During Test Year (GPD)	Treatment Capacity Utilization Rate During Peak Month for Existing Treatment Capacity	Treatment Capacity Utilization Rate During Peak Month for Design Capacity
150,000	300,000	1,186,000	38,258	25.5%	12.75%

Staff concludes that the Company has adequate wastewater treatment capacity to serve the existing customer base and reasonable growth.

D. GROWTH

EDO had 337 wastewater customers in 2011. It had 336 wastewater customers in October 2015. The Company has been losing customers and therefore predicts that little or no growth will occur in the next five years.

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY ("ADEQ") COMPLIANCE

ADEQ regulates the Company's wastewater treatment system under Aquifer Protection Permit ("APP") No. 105488 and National Pollutant Discharge Elimination System ("NPDES") Permit No. AZ0024899. ADEQ reported that "Based upon the data submitted by the facility, ADEQ has determined that as of this date the facility was not in violation at a level at which ADEQ would take an action or issue a Notice of Opportunity to Correct or Notice of Violation and/or is in compliance with the Order/Judgement for the review period noted above". (ADEQ revised compliance status report dated July 21, 2016).

F. ACC COMPLIANCE

A check with ACC Utilities Division Compliance Section showed no delinquent compliance items for the Company. (ACC Compliance Section Email dated March 29, 2016).

G. DEPRECIATION RATES

Staff has developed typical and customary depreciation rates within a range of anticipated equipment life. These rates are presented in Table G-1 and it is recommended that the Company use these depreciation rates by individual National Association of Regulatory Utility Commissioners ("NARUC") category.

Table G-1. Depreciation Rates

NARUC Acct. No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
351	Organization	----	0.00
352	Franchises	----	0.00
353	Land and Land Rights	----	0.00
354	Structures & Improvements	30	3.33
355	Power Generation Equipment	20	5.00
360	Collection Sewers – Force	50	2.00
361	Collection Sewers- Gravity	50	2.00
362	Special Collecting Structures	50	2.00
363	Services to Customers	50	2.00
364	Flow Measuring Devices	10	10.00
365	Flow Measuring Installations	10	10.00
366	Reuse Services	50	2.00
367	Reuse Meters & Meter Installations	12	8.33
370	Receiving Wells	30	3.33
371	Pumping Equipment	8	12.50
374	Reuse Distribution Reservoirs	40	2.50
375	Reuse Transmission & Distribution System	40	2.50
380	Treatment & Disposal Equipment	20	5.00
381	Plant Sewers	20	5.00
382	Outfall Sewer Lines	30	3.33
389	Other Plant & Miscellaneous Equipment	15	6.67
390	Office Furniture & Equipment	15	6.67
390.1	Computers & Software	5	20.00
391	Transportation Equipment	5	20.00
392	Stores Equipment	25	4.00
393	Tools, Shop & Garage Equipment	20	5.00
394.1	Laboratory Equipment	10	10.00
395	Power Operated Equipment	20	5.00
396	Communication Equipment	10	10.00
397	Miscellaneous Equipment	10	10.00
398	Other Tangible Plant	See Note 2	See Note 2

NOTES:

1. These depreciation rates represent average expected rates. Wastewater companies may experience different rates due to variations in construction, environment, or the physical and chemical characteristics of the wastewater.
2. Acct. 398, Other Tangible Plant may vary from 5 percent to 50 percent. The depreciation rate would be set in accordance with the specific capital items in this account.

H. OTHER ISSUES

1. *Excess Capacity*

Table 7 above is based on actual flow data provided by the Company. The current customers used approximately 26 percent of the treatment capacity of the plant, and approximately 13 percent of the design capacity of the plant for the peak month of the test year.

Company states¹ "...based on EDO's current customer count of 336 using 2.5 persons per home design flow for existing current customers² is 84,000 gpd". It is Staff's opinion the 84,000 gpd design flow for EDO is reasonable for the following reasons:

- A. It meets ADEQ wastewater design flow standards;
- B. It provides EDO a 119 percent reserve treatment capacity based on actual flow data for the peak month of the test year;
- C. The Company has predicted that little or no growth will occur in the next five years.

In determining excess capacity³, Staff typically uses the average daily flow from the peak month of the test year as the requirement and 5 years as a reasonable planning period.

Since $84,000 \text{ gpd} / 150,000 \text{ gpd} = 56\%$, Staff concludes that Company's existing WWTP has 44% excess capacity.

Please see "Attachment A" for Staff Proposed Adjustments to Original Plant Cost for this excess treatment capacity.

Staff recommends that the Staff Proposed Adjustments to the Original Plant Costs listed in Attachment A be used for purposes of this application.

2. *Reconstruction Cost New ("RCN")*

The Company submitted its RCN study. EDO believes that the RCN numbers by NCS Report are reasonable amounts because they reflect actual costs for constructions under RS Means and industry standards.

Staff reviewed the NCS Report and noted that the costs for several plant items are increased from 225 percent to 1,131 percent. Staff asked the Company about the reasonableness of these cost

¹ Page 2 of the NCS Engineers Report, dated September 4, 2015.

² Company used 250 GPD per household design flow. ADEQ has a 240 GPD per household standard.

³ Excess Capacity refers to constructed plant facilities that exceed the system requirements within a reasonable planning period.

trends the Company didn't offer any additional explanation. Staff has been unable to verify the reasonableness of these numbers.

Using the Handy-Whiteman Index of Public Utility Construction Costs – Bulletin No. 182 (1912 to July 1, 2015), Staff calculated the following cost trends:

<u>Items</u>	<u>Cost Increase (%)</u>
Structural Steel Erected	18.8
Ready-Mix Concrete	18.5
Labor	41.6
PVC Main	17.5

Therefore, Staff proposes the following RCN Factors for the plant accounts described below:

TABLE 8

<u>Description</u>	<u>Material Cost Increase (%)</u>	<u>Labor Cost Increase (%)</u>	<u>Total Cost Increase (%)</u>	<u>Staff proposes RCN Factor</u>
Structures & Improvements	18.8	41.6	60.4	1.604
Collection Sewers Gravity	17.5	41.6	59.1	1.591
Outfall Sewer Lines	18.8	41.6	60.4	1.604

Please see "Attachment B" for Staff Proposed Adjustments to the RCN estimates.

Staff recommends that the Staff Proposed Adjustments to the RCN estimates in Attachment B be used for purposes of this application.

3. *Finance Application*

March 7, 2016, EDO filed a finance application with the Commission requesting authority from the Commission to issue evidence of indebtedness in a total amount not to exceed \$1,750,000. There is no proposed wastewater system upgrades or plant additions within this Financing Application.

Liberty Utilities (Entrada Del Oro Sewer) Corp.

Docket Nos. SW-04316A-16-0078 (Rates)

SW-04316A-16-0085 (Finance)

Page 10

ATTACHMENT A

Attachment A

Acct. No.	Description	Company Adjusted		Excess Capacity Factor	Staff Adjusted		
		Original Cost	Cost		Excess Capacity	Original Cost	
Engineering Recommended adjustments by account							
353	Land		\$400,000	1.00	\$0	\$400,000	
354	Structures & Improvements		550,401	0.44	(242,177)	308,225	
380	Treatment & Disposal Equipment		1,887,896	0.44	(830,674)	1,057,222	
Sub-total for all other unadjusted accounts			1,145,004	0	0	1,145,004	
SUBTOTAL			\$3,983,301		(\$1,072,851)	\$2,910,450	

**See Exhibit

Schedule B-2

Page 3 -- by Mr Bourassa

Liberty Utilities (Entrada Del Oro Sewer) Corp.

Docket Nos. SW-04316A-16-0078 (Rates)

SW-04316A-16-0085 (Finance)

Page 11

ATTACHMENT B

Attachment B

Plant Acct.	Description	Company Adjusted Original Cost		Company As Filed RCN		Company Adjusted RCN**		Staff Recommended RCN Factor		Staff Recommended Adjustment for RCN		Staff Recommended Adjusted RCN		Staff Excess Capacity		Staff Recommended Adjusted RCN	
Engineering Recommended adjustments by account																	
353	Land					412,000		1.0000				412,000					412,000
354	Structures & Improvements	\$550,401		2.25		\$1,239,996		1.6040	(\$357,153)		\$882,843				0		494,392
361	Collection Sewers Gravity	480,710		3.43		1,648,990		1.5910	(884,180)		\$764,810				-388,451		
380	Treatment & Disposal Equipment					1,958,835		1.0000			1,958,835						1,096,948
382	Outfall Sewer Lines	5,541		11.31		62,680		1.6040	(53,792)		\$8,888						
	Sub-total for all other unadjusted accounts	2,946,649				3,543,636			1		3,543,636						
	TOTALS	\$3,983,301				\$6,495,302			(\$1,295,125)		\$5,200,177				-1,250,338		\$3,949,839

**See Exhibit
Schedule B-3
Page 3 by Mr Bourassa