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BEFORE THE ARIZONA CORPORATION COMMISSION

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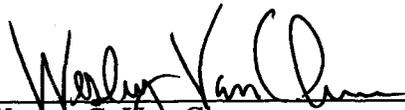
IN THE MATTER OF THE APPLICATION OF
UTILITY SOURCE, LLC, AN ARIZONA
CORPORATION, FOR A DETERMINATION
OF THE FAIR VALUE OF ITS UTILITY
PLANTS AND PROPERTY AND FOR
INCREASES IN ITS CHARGES FOR UTILITY
SERVICE BASED THEREON.

DOCKET NO. WS-04235A-13-0331

**NOTICE OF FILING
STAFF SURREBUTTAL TESTIMONY**

The Utilities Division ("Staff") of the Arizona Corporation Commission ("Commission")
hereby files Surrebuttal Testimony of John A. Cassidy, in the above-referenced docket.

RESPECTFULLY SUBMITTED this 20th day of October, 2014.



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**Original and thirteen (13) copies of
the foregoing filed this 20th day of
October, 2014, with:**

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Arizona Corporation Commission
DOCKETED

OCT 20 2014

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BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP

Chairman

GARY PIERCE

Commissioner

BRENDA BURNS

Commissioner

SUSAN BITTER SMITH

Commissioner

BOB BURNS

Commissioner

IN THE MATTER OF THE APPLICATION OF)
UTILITY SOURCE, LLC, AN ARIZONA)
CORPORATION, FOR A DETERMINATION)
OF THE FAIR VALUE OF ITS UTILITY)
PLANTS AND PROPERTY AND FOR)
INCREASES IN ITS WATER AND)
WASTEWATER RATES AND CHARGES FOR)
UTILITY SERVICE BASED THEREON.)
_____)

DOCKET NO. WS-04235A-13-0331

SURREBUTTAL

TESTIMONY

OF

JOHN A. CASSIDY

PUBLIC UTILITIES ANALYST

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

OCTOBER 20, 2014

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**EXECUTIVE SUMMARY
UTILITY SOURCE, LLC
DOCKET NO. WS-04235A-13-0331**

The surrebuttal testimony of Staff witness John A. Cassidy addresses the following issues:

Capital Structure – Staff recommends that the Commission adopt a capital structure for Utility Source, LLC (“Company”) for this proceeding consisting of 0.0 percent debt and 100.0 percent equity.

Cost of Equity – Staff recommends that the Commission adopt a 9.8 percent cost of equity for the Company. Staff’s estimated cost of equity for the Company is based on the 9.2 percent average of its discounted cash flow method (“DCF”) cost of equity methodology estimates for the sample companies of 8.8 percent for the constant-growth DCF model and 9.5 percent for the multi-stage DCF model. Staff’s recommended cost of equity includes an upward economic assessment adjustment of 60 basis points (0.6 percent).

Cost of Debt – Staff recommends that the Commission adopt a 0.0 percent cost of debt for the Company.

Overall Rate of Return – Staff recommends that the Commission adopt a 9.8 percent overall rate of return.

Mr. Bourassa’s Testimony – The Commission should reject the Company’s proposed 11.0 percent return on equity (“ROE”) for the following reasons:

Mr. Bourassa’s primary Future Growth DCF estimates rely exclusively on analysts’ forecasts of earnings per share growth. Effectively, Mr. Bourassa’s overall DCF estimate is weighted 75 percent by his Future Growth DCF estimates. Mr. Bourassa’s capital asset pricing model (“CAPM”) estimates are overstated due to the use of a forecasted risk-free rate. The current market risk premium in Mr. Bourassa’s current market risk premium (“MRP”) CAPM model is not reflective of current market conditions, and thus serves to overstate his CAPM cost of equity estimate. Mr. Bourassa’s proposed cost of equity has been inflated by an implicit upward adjustment for financial risk and small company risk premium.

1 **I. INTRODUCTION**

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

3 A. My name is John A. Cassidy. I am a Public Utilities Analyst 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. Are you the same John A. Cassidy who filed direct testimony in this case?**

8 A. Yes, I am.

9
10 **Q. What is the purpose of your surrebuttal testimony in this rate proceeding?**

11 A. The purpose of my surrebuttal testimony is to update Staff's cost of capital analysis, and to
12 respond to the cost of capital rebuttal testimony of Utility Source, LLC ("USL" or
13 "Company") witness, Mr. Thomas J. Bourassa ("Mr. Bourassa's Rebuttal").

14
15 **Q. Please explain how Staff's surrebuttal testimony is organized.**

16 A. Staff's surrebuttal testimony is presented in three sections. Section I is this introduction.
17 Section II presents Staff's comments on the rebuttal testimony of the Company's cost of
18 capital witness, Mr. Bourassa. Lastly, Section III presents Staff's recommendations.

19
20 **II. STAFF RESPONSE TO COMPANY'S COST OF CAPITAL WITNESS MR.**
21 **THOMAS J. BOURASSA**

22 **Q. Please summarize the capital structure, cost of equity, and overall rate of return**
23 **proposed in Mr. Bourassa's rebuttal.**

24 A. Mr. Bourassa continues to propose a capital structure for the Company consisting of 0.00
25 percent debt and 100.00 percent equity and an 11.00 percent cost of equity, resulting in an
26 overall rate of return ("ROR") for USL of 11.00 percent.

1 Q. In Rebuttal, Mr. Bourassa asserts that when the market value of a firm's assets
2 exceeds their book value, reliance on the discounted cash flow method ("DCF")
3 model tends to understate the investors' required return. In an effort to demonstrate
4 this, he presents an example (see Bourassa Rebuttal, p. 10) to show that when
5 applied to Staff's sample average book value per share, Staff's average 9.0 percent
6 DCF estimated cost of equity understates the market-based rate of return. How does
7 Staff respond?

8 A. First, as shown in Surrebuttal Schedule JAC-3, Staff's updated DCF estimated cost of equity
9 for USL is now 9.2 percent, a figure which exceeds by 20 basis points Mr. Bourassa's own
10 updated 9.0 percent average DCF estimate.¹ Second, the example presented by Mr.
11 Bourassa is overly simplistic and misleading, as his calculations of "average" market price
12 and "average" book value per share of Staff's sample companies fail to give recognition to
13 differences in market float and total capitalization between the sample companies. For
14 instance, among Staff's sample group of companies Aqua America has the highest float
15 (177,060,756 common shares outstanding) and market capitalization (\$4,160,927,766), while
16 Connecticut Water has the smallest float (11,080,435 common shares outstanding) and York
17 Water the lowest market capitalization (\$256,684,676).² The calculations presented in Mr.
18 Bourassa's example are not reflective of a "weighted average" price per share, and thus
19 should be disregarded. Third, and most importantly, as discussed in Staff's direct testimony³
20 Staff's constant growth DCF model includes a stock financing growth (w) term, giving
21 recognition to the circumstance where a sample company's market-to-book ratio exceeds
22 1.0. As shown in Surrebuttal Schedule JAC-6, Staff's updated sample average w term is 2.5
23 percent, and is a component of both Staff's historical- and projected sustainable dividend
24 growth estimates. Furthermore, as shown in Surrebuttal Schedule JAC-8, Staff's 6.7 percent

¹ Bourassa Rebuttal Schedules D-4.8 and D-4.1.

² Common shares outstanding as per *Value Line* (July 18, 2014); market capitalization figures are based upon Staff's updated spot prices, as shown in Surrebuttal Schedule JAC-7.

³ Cassidy Direct, pp. 19-23.

1 projected sustainable growth estimate is the *highest* among the six measures used to estimate
2 dividend growth in Staff's constant growth DCF model.

3
4 **Q. Does the inclusion of a stock financing growth (*vs*) term in Staff's constant growth
5 DCF model render moot the market-to-book ratio raised by Mr. Bourassa in
6 Rebuttal?**

7 A. Yes, as inclusion of the *vs* term in Staff's constant growth DCF model assumes the average
8 market-to-book ratio for Staff's sample group of companies is expected to remain above 1.0.

9
10 **Q. In Rebuttal, Mr. Bourassa presents a schedule of actual and projected returns on
11 equity for Staff's sample group of publicly-traded companies, as reported by *Value
12 Line*, and a table of authorized returns for these same sample companies as reported
13 by *AUS Utility Reports* (see Bourassa Rebuttal, pp. 5-6), concluding that they are
14 "much higher" than the returns produced by Staff's models "before any
15 consideration of financial or other risks." To what extent does USL have exposure to
16 financial risk?**

17 A. As noted in Staff's Direct,⁴ USL has no exposure to financial risk, as its capital structure is
18 comprised of 100.0 percent common equity. As discussed in Staff's Direct,⁵ financial risk
19 relates to the fluctuation in earnings inherent in the use of fixed cost debt financing, with
20 exposure to financial risk being a matter of degree: the higher (lower) the percentage of debt
21 in the capital structure, the greater (lesser) the exposure.

22

⁴ Cassidy Direct, p. 13, lines 10-11.

⁵ Cassidy Direct, p. 12, lines 20-23.

1 **Q. Does financial risk affect a firm's cost of equity?**

2 A. Yes.⁶ Financial risk is a component of market risk and investors require compensation for
3 market risk. However, as noted in Staff's Direct,⁷ market risk does not impact each security
4 to the same degree. Thus, the degree to which a firm has exposure to financial risk affects its
5 cost of equity.

6
7 **Q. Do the seven publicly-traded companies in Staff's proxy group have greater exposure
8 to financial risk than USL?**

9 A. Yes. As shown in Surrebuttal Schedule JAC-4, the sample average capital structure for Staff's
10 proxy group of water utilities is comprised of approximately 47.9 percent debt and 52.1
11 percent common equity. Therefore, Staff's sample group of companies has significantly
12 greater exposure to financial risk than does USL, and on a risk-adjusted basis one would
13 logically expect the cost of equity for Staff's sample group of companies to be *higher* than the
14 cost of equity for USL.

15
16 **Q. Did Staff make a downward adjustment to its recommended cost of equity for USL to
17 give recognition to the Company's lack of exposure to financial risk?**

18 A. For the reasons noted in Staff Direct,⁸ no downward financial risk adjustment was made to
19 Staff's recommended cost of equity for USL.

20

⁶ Cassidy Direct, p. 13, lines 1-2.

⁷ Cassidy Direct, p. 11, line 17.

⁸ Cassidy Direct, p.27, lines 9-25.

1 **Q. Does Staff agree with Mr. Bourassa’s assertion that no explanation was provided for**
2 **not incorporating cost of equity estimates derived from the capital asset pricing**
3 **model (“CAPM”) into its analysis?⁹**

4 A. No. As noted in direct testimony,¹⁰ Staff ceased reliance on the CAPM due to a “continuing
5 divergence of the CAPM-indicated cost of equity results relative to those derived by the DCF
6 model;” a circumstance resulting, in part, from the United States Federal Reserve’s (“The
7 Fed”) accommodative monetary policy intended to keep interest rates low, and in part by
8 strength in the equity markets where investors continue to seek out higher yields/returns on
9 investment.

10
11 **Q. Has the “continuing divergence” alluded to above between cost of equity estimates**
12 **derived from Staff’s CAPM and DCF models persisted?**

13 A. Yes.¹¹
14

15 **Q. Does Mr. Bourassa employ the same CAPM cost of equity methodology in rebuttal**
16 **testimony as he did when filing direct testimony?**

17 A. No. As noted in his Rebuttal,¹² Mr. Bourassa has changed the methodology used to compute
18 the current market risk premium (“MRP”) component in his current MRP CAPM model.
19 When filing direct testimony, Mr. Bourassa utilized *Value Line’s* median 3-5 year projected
20 market price appreciation estimate to compute the current MRP component. For purposes
21 of his rebuttal testimony, however, he has utilized *Value Line’s* median 3-5 year projected

⁹ Bourassa Rebuttal, p. 7, lines 16-17.

¹⁰ Cassidy Direct, pp. 3-4, 15:14.

¹¹ Historically, Staff’s cost of equity methodology involved obtaining estimates from two DCF models and two CAPM models. Staff would calculate an average DCF estimate and an average CAPM estimate, with Staff’s overall estimated cost of equity computed as the average (i.e., 50 percent weight) of the DCF and CAPM results. As shown in Surrebuttal Schedule JAC-3, Staff’s average DCF cost of equity estimate is 9.2 percent. Staff continues to obtain estimates for the cost of equity from its two CAPM models, and when updating its analysis for purposes of this Surrebuttal, Staff obtained an average CAPM cost of equity estimate of 8.1 percent, a figure 110 basis points *lower* than Staff’s 9.2 percent DCF estimate.

¹² Bourassa Rebuttal, p. 2, lines 13-19.

1 earnings per share (“EPS”) growth estimates and median 3-5 year projected dividend per
2 share (“DPS”) growth estimates to compute the current MRP component in his current MRP
3 CAPM. Mr. Bourassa states that “[u]sing these inputs is consistent with the methodology
4 recommended by Dr. Morin for computing the current MRP,” and provides the citation to
5 the source document from which he obtains his new methodology.¹³

6
7 **Q. To Staff’s knowledge, has Mr. Bourassa previously employed this new current MRP**
8 **CAPM methodology when testifying before the Arizona Corporation Commission?**

9 A. No.

10
11 **Q. Does Mr. Bourassa state why he elected to alter his current MRP CAPM methodology**
12 **at this juncture (i.e., for purposes of filing rebuttal testimony), rather than having**
13 **done so when filing direct testimony in this docket?**

14 A. Mr. Bourassa’s Rebuttal is silent as to that specific point. However, he justifies altering his
15 current MRP CAPM methodology on grounds that

16
17 “Using EPS and DPS inputs is more consistent with the DCF method used
18 to estimate the current MRP. Just as important, I have found that using EPS
19 growth and DPS growth inputs in the MRP estimation approach is less
20 volatile than using the 3-5 year price appreciation which I noted in my direct
21 was a concern of its use.”¹⁴

22
23 Thus, while it appears he may have had concerns about the continued use of his traditional
24 current MRP CAPM methodology when filing direct testimony in this docket, Mr. Bourassa
25 did not act on those concerns and change his methodology at that time.
26

¹³ Morin, Roger A., *New Regulatory Finance* (Public Utility Reports: 2006), pp. 165-166.

¹⁴ Bourassa Rebuttal, p. 2, lines 19-23.

1 **Q. Does Staff believe that EPS and DPS growth inputs are superior to use of a 3-5 year**
2 **price appreciation potential estimate for purposes of calculating the MRP component**
3 **in the current MRP CAPM model?**

4 A. No. The CAPM is a single holding period model,¹⁵ and as such a 3-5 year stock price
5 appreciation projection makes for a particularly appropriate parameter by which the MRP
6 component can be measured for use in the current MRP CAPM. In contrast, the DCF model
7 estimates the cost of equity by discounting anticipated future cash flows (i.e., dividend
8 distributions) into infinity, which is why measures of DPS and EPS growth are appropriate as
9 inputs in the DCF model. Conceptually, the MRP component of the current MRP CAPM
10 should be reflective of *current* market conditions, and with the equity markets having recently
11 achieved new all-time highs,¹⁶ *Value Line's* median price appreciation potential estimate for
12 the market has fallen since the filing of Mr. Bourassa's direct testimony. Thus, Mr. Bourassa's
13 election to modify his current MRP CAPM methodology at this time appears to be self-
14 serving, as cost of equity estimates derived from a current MRP CAPM utilizing EPS and
15 DPS growth inputs to calculate the MRP component are *not* reflective of current market
16 conditions, and serve to overstate the cost of equity.

17
18 **Q. When filing direct testimony in this docket, did Staff point out that the initial 8.61**
19 **percent MRP in Mr. Bourassa's current MRP CAPM was not reflective of current**
20 **market conditions?**

21 A. Yes.¹⁷

¹⁵ 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.

¹⁶ Cassidy Direct, p.4, footnote 4. It should be noted that since the filing of Staff's Direct, both the Dow Jones Industrial Average ("DJIA") and the Standard S&P 500 Index ("S&P 500") have reached new all-time intra-day and closing highs. On September 19, 2014, the DJIA reached intra-day and closing highs of 17,350.64 and 17,279.74, respectively; the S&P 500 reached an all-time closing high of 2,011.36 on September 18, 2014, and an all-time intra-day high of 2,019.26 on September 19, 2014.

¹⁷ Cassidy Direct, p.36, lines 4-20.

1 **Q. When filing testimony in other dockets, has Staff found it necessary to likewise point**
2 **this out when responding to cost of capital testimony filed by Mr. Bourassa?**

3 A. Yes.¹⁸
4

5 **Q. What is Mr. Bourassa's updated estimate of the MRP component in his current MRP**
6 **CAPM model?**

7 A. As shown in Bourassa Rebuttal Schedule D-4.11, Mr. Bourassa's updated current MRP is 8.33
8 percent. As noted, this figure is computed utilizing *Value Line's* median 3-5 year projected
9 EPS and DPS growth estimates, measured over the recent 3-month period, June-August,
10 2014. In contrast, as shown in Bourassa Schedule D-4.11, Mr. Bourassa's original 8.61
11 percent current MRP was based upon *Value Line's* median 3-5 year projected market price
12 appreciation potential estimate, measured over the 6-month period, February-July, 2013.
13 Thus, over the 19-month period (i.e., February 2013-August 2014) during which he measures
14 his current MRP, Mr. Bourassa's recommended current MRP fell by 28 basis points ($.0861 -$
15 $.0833 = .0028$).
16

17 **Q. As a broad measure of the strength of the U.S. equity markets, how did the S&P 500**
18 **Index perform over the 19-month period, February 2013-August 2014?**

19 A. The broader U.S. equity markets performed very well over the 19-month period, February
20 2013-August 2014, as evidenced by the S&P 500 Index rising from a level of 1,498.11 to a
21 level of 2,003.37, an increase of 505.26 points, or 33.73 percent ($(2,003.37 -$
22 $1,498.11)/1,498.11$).¹⁹
23

¹⁸ See Cassidy Direct (Docket No. W-01944A-13-0215), pp. 40-41, lines 8:2; and Cassidy Direct (Docket No. SW-03437A-13-0292), pp. 38-39, lines 17:9.

¹⁹ <http://finance.yahoo.com/q/hp?s=%5EGSPC+Historical+Prices>

1 **Q. How did the S&P 500 Index perform during the 13-month interim between the end of**
2 **Mr. Bourassa's first measurement period and the end of his second measurement**
3 **period (i.e., July 2013-August 2014)?**

4 A. Over this 13-month period, the S&P 500 Index rose from a level of 1,685.73 to 2,003.37, an
5 increase of 317.64 points, or 18.84 percent $((2,003.37-1,685.73)/1,685.73)$. Thus, the lion's
6 share of the 33.73 percent stock price appreciation noted above came during the period
7 following the computation of Mr. Bourassa's initial 8.61 percent current MRP.

8
9 **Q. In light of the above, is the 8.33 percent current MRP recommended by Mr. Bourassa**
10 **in Rebuttal reflective of current market conditions?**

11 A. No, it is not.

12
13 **Q. As noted earlier, Mr. Bourassa asserts that the inputs used in his new current MRP**
14 **CAPM methodology are consistent with those used by Dr. Morin. Did Staff review**
15 **the source materials cited in Rebuttal as support for Mr. Bourassa's new current MRP**
16 **CAPM methodology?**

17 A. Yes, Staff has reviewed the book cited by Mr. Bourassa as support for use of *Value Line's* 3-5
18 year median EPS and DPS growth projections to compute the MRP component of the
19 current MRP CAPM.²⁰

20

²⁰ Morin, Roger A., *New Regulatory Finance* (Public Utility Reports: 2006), pp. 165-166.

1 Q. After reviewing the case study appearing on pages 165-166 of Dr. Morin's book, did
2 Staff identify inconsistencies between the inputs in the current MRP CAPM
3 methodology as described by Dr. Morin, and that as applied by Mr. Bourassa in
4 rebuttal testimony?

5 A. Yes, Staff noticed several inconsistencies between the inputs described by Dr. Morin, and
6 those used by Mr. Bourassa. First, as described by Dr. Morin, the expected market return (k)
7 value is calculated as the sum of "[t]he average *spot dividend yield* (*i.e.*, D_0/P_0)... added to the
8 average dividends and earnings growth forecasts" (emphasis added).²¹ However, as shown in
9 Rebuttal Schedule D-4.11, rather than adding the average spot (D_0/P_0) dividend yield to his
10 median 3-5 year projected EPS and DPS growth (g) rate, Mr. Bourassa instead elects to use
11 the expected dividend yield (D_1/P_0) in his calculation. As shown in Rebuttal Schedule D-
12 4.11, this inconsistency in methodology serves to overstate the current MRP component in
13 Mr. Bourassa's current MRP CAPM.

14
15 Second, and more significantly, Dr. Morin recommends exclusive use of the current spot 30-
16 year U.S. Treasury yield as the risk-free (R_f) rate in the current MRP CAPM methodology
17 described, whereas Mr. Bourassa conveniently uses two different measures of the risk-free
18 (R_f) rate in his current MRP CAPM methodology. Specifically, as shown in Rebuttal Schedule
19 D-4.11, Mr. Bourassa uses a 3-month average measure of the 30-year U.S Treasury yield (3.32
20 percent) for purposes of computing the MRP component in his current MRP CAPM model,
21 but as shown in Rebuttal Schedule D-4.12, uses a forecasted risk-free rate (4.30 percent) in
22 the calculation of his 10.3 percent current MRP CAPM estimated cost of equity. Had Mr.
23 Bourassa applied his newly adopted current MRP CAPM methodology in a manner
24 consistent with that appearing in Dr. Morin's book, his current MRP CAPM estimated cost

²¹ Id.

1 of equity would have been 9.32 percent, a figure 98 basis points *lower* rather than the 10.3
2 percent cost rate shown in Rebuttal Schedule D-4.12.²²

3
4 **Q. As evidenced by a review of his Rebuttal, Mr. Bourassa thinks highly of Dr. Morin,**
5 **citing him at various times in his testimony.²³ When reviewing Dr. Morin's book, did**
6 **Staff determine that Mr. Bourassa's use of a forecasted risk-free in his historical MRP**
7 **CAPM model similarly conflicted with the CAPM methodology advocated by Dr.**
8 **Morin?**

9 A. Yes. In regard to the appropriate risk-free rate to be used in the CAPM, Dr. Morin writes as
10 follows:

11
12 "At the conceptual level, because common stock is a long-term
13 investment and because the cash flows to investors in the form of
14 dividends last indefinitely, the yield on very long-term government
15 bonds, namely, the yield on 30-year Treasury bonds, is the best
16 measure of the risk-free rate for use in the CAPM and Risk-Premium
17 methods."²⁴

18
19 **Q. In light of the above, does this suggest that Mr. Bourassa's 9.1 percent historical MRP**
20 **CAPM estimated cost of equity shown in Rebuttal Schedule D-4.12 has similarly been**
21 **overstated?**

22 A. Yes, as he uses the same 4.30 percent forecasted risk-free rate in his historical MRP CAPM as
23 he does in his current MRP CAPM.

24

²² Calculated as the difference between Mr. Bourassa's 4.30 percent forecasted risk-free rate and the 3.32 percent 3-month average 30-year U.S Treasury yield used in the calculation of his current MRP: $.0430 - .0332 = .0098$.

²³ Bourassa Rebuttal, pp. 7-9, and p. 12.

²⁴ Morin, Roger A., *New Regulatory Finance* (Public Utility Reports: 2006), p. 151.

1 **Q. Has Staff prepared a restatement of Bourassa Rebuttal Schedules D-4.11 and D-4.12 to**
2 **demonstrate what his CAPM cost of equity estimates would have been had he**
3 **consistently applied the CAPM methodology described by Dr. Morin?**

4 A. Yes, Staff has prepared such a restatement. As shown in Surrebuttal Exhibit JAC-A, Staff
5 first makes a restatement to Rebuttal Schedule D-4.11, correcting for the overstatement to
6 Mr. Bourassa's current MRP resulting from the use of an expected (D_1/P_0) dividend yield
7 rather than an average spot (D_0/P_0) dividend yield. As shown, the Staff corrected current
8 MRP is 8.13 percent. Staff then restates Rebuttal Schedule D-4.12, utilizing the Staff
9 corrected 8.13 percent current MRP value in the current MRP CAPM, and applying Mr.
10 Bourassa's 3.32 percent 3-month average 30-year U.S Treasury yield as a proxy for the risk-
11 free (R_f) rate in both the historical- and current MRP CAPM models. As shown, utilizing the
12 inputs consistent with Dr. Morin's CAPM methodology, Mr. Bourassa's historical MRP
13 CAPM estimated cost of equity would fall from 9.1 percent to 8.14 percent, and his current
14 MRP CAPM estimated cost of equity would fall from 10.3 percent to 9.18 percent. Overall,
15 Mr. Bourassa's average and median CAPM cost of equity estimates fall to a level of 8.66
16 percent, 104 basis points *lower* than the 9.7 percent average and median CAPM estimates
17 shown in Bourassa Rebuttal Schedule D-4.12.

18
19 **Q. Having restated the MRP component of Mr. Bourassa's current MRP CAPM utilizing**
20 **the inputs and methodology as described by Dr. Morin, does Staff believe its 8.13**
21 **percent restatement of Mr. Bourassa's current MRP to be reflective of current market**
22 **conditions?**

23 A. No. For the reasons discussed earlier, Staff believes that use of *Value Line's* median 3-5 year
24 price appreciation potential estimate is the appropriate means by which the current market
25 risk premium can be measured for use in the current MRP CAPM. The above discussion of

1 Dr. Morin's current MRP CAPM methodology is intended to demonstrate only that Mr.
2 Bourassa's application of that methodology is inconsistent with that described by Dr. Morin.

3
4 **Q. In Rebuttal, Mr. Bourassa asserts that Staff's reliance on a study performed by Annie**
5 **Wong²⁵ regarding firm size is unwarranted. Furthermore, he states that when**
6 **testifying in the Rio Rico Utilities rate case,²⁶ Mr. Cassidy testified that he had not**
7 **previously read Ms. Wong's actual paper. How does Staff Respond?**

8 A. When filing testimony in the Rio Rico case, it is true that I had not previously read Ms.
9 Wong's published paper. However, I had previously read an abstract of the paper detailing
10 the findings of her study, and acknowledged having done so when testifying at hearing.

11
12 **Q. Mr. Cassidy, following the hearing in the Rio Rico case in which you testified, did you**
13 **have the opportunity to read Ms. Wong's published paper?**

14 A. Yes.

15
16 **Q. And having done so, are you in agreement with the conclusions she draws which you**
17 **cite to in your direct testimony?²⁷**

18 A. Yes.

19

²⁵ Wong, Annie, "Utility Stock and the Size Effect: An Empirical Analysis," Journal of the Midwest Finance Association, (1993), pp. 95-101.

²⁶ Docket No. WS-02676A-12-0196.

²⁷ Cassidy Direct, p. 38, lines 15-31.

1 Q. To support his assertion that Staff's reliance on Ms. Wong's research findings is
2 unjustified, Mr. Bourassa points to a study conducted by Dr. Thomas M. Zepp,²⁸
3 claiming that his research refutes Ms. Wong's findings, and concludes that her "weak
4 results were due to a flawed analysis."²⁹ Mr. Cassidy, are you familiar with Dr. Zepp's
5 research?

6 A. I know of it, as Dr. Zepp included the research paper to which Mr. Bourassa makes reference
7 as an exhibit to his pre-filed direct testimony in a prior Arizona Water Company ("AWC")
8 rate case³⁰ in which I testified. As Staff's cost of capital witness in the case, I read the paper
9 and familiarized myself with his conclusions.

10
11 Q. Having read Dr. Zepp's published research findings, Mr. Cassidy, do you agree with
12 Dr. Zepp's conclusions that there is a small firm effect in the utility sector?

13 A. No.

14
15 Q. As the cost of capital witness advocating on behalf of AWC in that rate docket, did Dr.
16 Zepp propose that a small company risk premium adjustment be made to the cost of
17 equity for AWC?

18 A. Yes, Dr. Zepp's proposed 12.5 percent cost of equity in that case included a 90 basis point
19 upward risk premium adjustment.

20

²⁸ Zepp, Thomas M. "Utility Stocks and the Size Effect – Revisited," *The Quarterly Review of Economics and Finance*, Vol. 43, Issue 3, Autumn 2003, 578-582.

²⁹ Bourassa Rebuttal, p. 20, lines 13-14.

³⁰ Docket No. W-01445A-11-0310. The paper was included in Dr. Zepp's pre-filed direct testimony as Exhibit TMZ-3.

1 Q. To your knowledge, in the numerous times Dr. Zepp has testified as a cost of capital
2 witness before the Commission, has his recommended cost of equity—inclusive of a
3 small company risk premium—ever been approved of by the Commission?

4 A. No. When asked under cross examination by Staff Counsel the question, “So in the time that
5 you have testified here, the number of times that you’ve testified here at the Commission, has
6 your recommendation ever been adopted?,” Dr. Zepp responded, “No.”³¹

7
8 Q. In light of the above, does Staff believe there is reason to give credence to Mr.
9 Bourassa’s assertion that Dr. Zepp’s research findings justify the inclusion of a small
10 size risk premium adjustment to the cost of equity for USL in the instant docket?

11 A. No.

12
13 Q. Does Staff agree with Mr. Bourassa’s assertion that USL has “nearly 9 times more
14 business risk than the publicly traded water utilities?”³²

15 A. No. As noted in Staff’s direct testimony,³³ business risk relates to the fluctuations inherent in
16 a firm’s operations and environment, with companies in the same line of business tending to
17 experience the same fluctuations in business cycles. Accordingly, as a regulated public water
18 utility one would expect USL’s exposure to business risk to be essentially the same as that of
19 regulated, publicly-traded water utilities.

20

³¹ Transcript from May 21, 2012 hearing (p. 920, lines 22-25), in Docket No. W-01445A-11-0310).

³² Bourassa Rebuttal, p.7, lines 3-4.

³³ Cassidy Direct, p. 12, lines 15-18.

1 **Q. Does Staff agree with Mr. Bourassa's assertion that USL has "much higher operating**
2 **leverage" than publicly traded water utilities?**³⁴

3 A. No. Operating leverage is a measure of the level of fixed costs faced by a firm relative to
4 variable costs, with firms having a higher proportion of fixed costs using more operating
5 leverage than those having a higher proportion of variable costs. As a regulated public utility,
6 USL's operating leverage should not be expected to deviate significantly from that of the
7 regulated publicly-traded water utilities.

8
9 **Q. Did Staff review the annual reports filed by USL with the Commission to determine if**
10 **they might indicate the degree to which USL has a high level of operating leverage?**

11 A. Yes, Staff reviewed USL's annual reports filed with the Commission for the 10-year period,
12 2004-2013. Although the information contained in the annual reports did not allow for an
13 analysis of operating leverage, per se, as shown in Surrebuttal Exhibit JAC-B, USL has
14 consistently reported operating losses for both its water and wastewater divisions.³⁵ To the
15 extent that the Company's annual reports are reflective of its actual operating performance
16 over this 10-year period of time, USL should consider filing for rate relief on a more regular
17 basis.

18
19 **III. STAFF RECOMMENDATIONS**

20 **Q. Based on Staff's review of Mr. Bourassa's rebuttal testimony and its updated cost of**
21 **capital analysis, what are Staff's recommendations for the Company?**

22 A. Staff recommends the following for USL's cost of capital:

- 23
24 1. A capital structure of 0.00 percent debt and 100.0 percent common equity.

³⁴ Bourassa Rebuttal, p.7, line 4.

³⁵ Over the 10-year period, 2004-2013, the only operating gain reported by USL came in 2007 for its water division. Operating losses were reported in all other years for both water and wastewater.

- 1 2. A 9.8 percent cost of equity (a figure which includes an upward 60 basis point (0.6
2 percent) economic assessment adjustment).
3 3. A 9.8 percent overall rate of return.

4
5 **Q. Does this conclude your surrebuttal testimony?**

6 A. Yes, it does.

Utility Source, LLC Cost of Capital Calculation
 Capital Structure
 And Weighted Average Cost of Capital
 Staff Recommended and Company Proposed

| [A] | [B] | [C] | [D] |
|------------------------------------|-------------------|-------------|----------------------|
| <u>Description</u> | <u>Weight (%)</u> | <u>Cost</u> | <u>Weighted Cost</u> |
| Staff Recommended Structure | | | |
| Debt | 0.0% | 0.0% | 0.0% |
| Common Equity | 100.0% | 9.8% | 9.8% |
| Weighted Average Cost of Capital | | | |
| Company Proposed Structure | | | |
| Debt | 0.0% | 0.0% | 0.00% |
| Common Equity | 100.0% | 11.00% | <u>11.00%</u> |
| Weighted Average Cost of Capital | | | |
| | | | 11.00% |

[D] : [B] x [C]

Supporting Schedules: JAC-2, JAC-3 and JAC-4.

Intentionally left blank

Utility Source, LLC Cost of Capital Calculation
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 | 40.8% | 59.2% | 100.0% |
| California Water | 47.2% | 52.8% | 100.0% |
| Aqua America | 52.0% | 48.0% | 100.0% |
| Connecticut Water | 50.8% | 49.2% | 100.0% |
| Middlesex Water | 45.9% | 54.1% | 100.0% |
| SJW Corp | 54.7% | 45.3% | 100.0% |
| York Water | <u>44.2%</u> | <u>55.8%</u> | <u>100.0%</u> |
| Average Sample Water Utilities | 47.9% | 52.1% | 100.0% |
| Utility Source, LLC - Actual Capital Structure | 0.0% | 100.0% | 100.0% |

Source:

Sample Water Companies from Value Line

Utility Source, LLC Cost of Capital Calculation
Growth in Earnings and Dividends
Sample Water Utilities

| [A] | [B] | [C] | [D] | [E] |
|------------------------------------|--|---|---|--|
| <u>Company</u> | Dividends Per Share 2003 to 2013 <u>DPS¹</u> | Dividends Per Share Projected <u>DPS¹</u> | Earnings Per Share 2003 to 2013 <u>EPS¹</u> | Earnings Per Share Projected <u>EPS¹</u> |
| American States Water | 5.6% | 7.7% | 15.2% | 3.9% |
| California Water | 1.3% | 8.0% | 4.9% | 8.9% |
| Aqua America | 7.6% | 9.0% | 9.7% | 6.0% |
| Connecticut Water | 1.7% | 3.4% | 3.7% | 3.3% |
| Middlesex Water | 1.5% | 2.0% | 5.4% | 3.1% |
| SJW Corp | 4.1% | 5.2% | 2.1% | 8.7% |
| York Water | <u>4.1%</u> | <u>6.0%</u> | <u>4.8%</u> | <u>8.0%</u> |
| Average Sample Water Utilities | 3.7% | 5.9% | 6.5% | 6.0% |

¹ Value Line

Utility Source, LLC Cost of Capital Calculation
Sustainable Growth
Sample Water Utilities

| [A] | [B] | [C] | [D] | [E] | [F] |
|------------------------------------|--|---|---|---|--|
| Company | Retention Growth 2003 to 2013 <u>br</u> | Retention Growth Projected <u>br</u> | Stock Financing Growth <u>vs</u> | Sustainable Growth 2003 to 2013 <u>br + vs</u> | Sustainable Growth Projected <u>br + vs</u> |
| American States Water | 4.1% | 5.6% | 1.6% | 5.7% | 7.2% |
| California Water | 2.6% | 3.8% | 2.8% | 5.4% | 6.6% |
| Aqua America | 4.2% | 6.0% | 1.7% | 5.9% | 7.7% |
| Connecticut Water | 2.1% | 3.5% | 3.4% | 5.4% | 6.9% |
| Middlesex Water | 1.3% | 2.8% | 2.6% | 3.9% | 5.4% |
| SJW Corp | 3.2% | 3.6% | 0.8% | 4.1% | 4.4% |
| York Water | <u>2.2%</u> | <u>4.0%</u> | <u>4.4%</u> | <u>6.5%</u> | <u>8.4%</u> |
| Average Sample Water Utilities | 2.8% | 4.2% | 2.5% | 5.3% | 6.7% |

[B]: Value Line

[C]: Value Line

[D]: Value Line, MSN Money, and Form 10-Ks filed with the Securities and Exchange Commission (<http://www.sec.gov/>)

[E]: [B]+[D]

[F]: [C]+[D]

Utility Source, LLC Cost of Capital Calculation
 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>10/1/2014</u> | <u>Book Value</u> | <u>Mkt To</u> <u>Book</u> | <u>Value Line</u> <u>Beta</u> <u>β</u> | <u>Raw</u> <u>Beta</u> <u>β_{raw}</u> |
| American States Water | AWR | 30.30 | 12.79 | 2.4 | 0.70 | 0.52 |
| California Water | CWT | 22.17 | 12.32 | 1.8 | 0.70 | 0.52 |
| Aqua America | WTR | 23.5 | 8.60 | 2.7 | 0.70 | 0.52 |
| Connecticut Water | CTWS | 32.46 | 16.48 | 2.0 | 0.65 | 0.45 |
| Middlesex Water | MSEX | 19.51 | 12.11 | 1.6 | 0.70 | 0.52 |
| SJW Corp | SJW | 26.77 | 15.66 | 1.7 | 0.80 | 0.67 |
| York Water | YORW | 19.83 | 8.31 | <u>2.4</u> | <u>0.75</u> | <u>0.60</u> |
| Average | | | | 2.1 | 0.71 | 0.54 |

[C]: Msn Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

[G]: $(-0.35 * [F]) / 0.67$

Utility Source, LLC Cost of Capital Calculation
Calculation of Expected Infinite Annual Growth in Dividends
Sample Water Utilities

| [A] | [B] |
|---|-------------|
| <u>Description</u> | <u>g</u> |
| DPS Growth - Historical ¹ | 3.7% |
| DPS Growth - Projected ¹ | 5.9% |
| EPS Growth - Historical ¹ | 6.5% |
| EPS Growth - Projected ¹ | 6.0% |
| Sustainable Growth - Historical ² | 5.3% |
| <u>Sustainable Growth - Projected²</u> | <u>6.7%</u> |
| Average | 5.7% |

¹ Schedule JAC-5

² Schedule JAC-6

Utility Source, LLC Cost of Capital Calculation
 Multi-Stage DCF Estimates
 Sample Water Utilities

| [A] | [B] | [C] | [D] | [E] | [F] | [G] | [H] |
|-----------------------|--|---|-------|-------|-------|---------------------------------------|---|
| Company | Current Mkt. Price (P_0) ¹ 10/1/2014 | 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 | 30.3 | 0.86 | 0.90 | 0.96 | 1.01 | 6.5% | 9.2% |
| California Water | 22.2 | 0.66 | 0.70 | 0.74 | 0.78 | 6.5% | 9.4% |
| Aqua America | 23.5 | 0.64 | 0.68 | 0.72 | 0.76 | 6.5% | 9.1% |
| Connecticut Water | 32.5 | 1.05 | 1.11 | 1.17 | 1.23 | 6.5% | 9.6% |
| Middlesex Water | 19.5 | 0.77 | 0.81 | 0.86 | 0.91 | 6.5% | 10.3% |
| SJW Corp | 26.8 | 0.76 | 0.80 | 0.85 | 0.90 | 6.5% | 9.2% |
| York Water | 19.8 | 0.58 | 0.61 | 0.65 | 0.68 | 6.5% | 9.3% |

Average 9.5%

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

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

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

Restatement of Bourassa Rebuttal Schedule D-4.10
 (Computation of Current Market Risk Premium)
 and
 Restatement of Bourassa Rebuttal Schedules D-4.12
 (Traditional Capital Asset Pricing Model - CAPM)

| <u>Staff Correction to Bourassa Rebuttal Schedule D-4.11</u> | | | | | | | | |
|--|---|---|---|---|---|---|---|--|
| <u>3-month average</u> <u>(D₀/P₀)</u> | + | <u>EPS/DPS</u> <u>Growth</u> <u>(g)</u> | = | <u>Return on</u> <u>Market</u> <u>(R_M)</u> | - | <u>30-year</u> <u>Treasury</u> <u>Yield</u> | = | <u>Market</u> <u>Risk</u> <u>Premium</u> |
| 2.01% | + | 9.44% | = | 11.45% | - | 3.32% | = | 8.13% |
| <u>Staff Correction to Bourassa Rebuttal Schedule D-4.12</u> | | | | | | | | |
| | | <u>R_f</u> | + | <u>Beta</u> | * | <u>RP_M</u> | = | <u>K</u> |
| Historical MRP CAPM | | 3.32% | + | 0.72 | * | 6.70% | = | 8.14% |
| Current MRP CAPM | | 3.32% | + | 0.72 | * | 8.13% | = | 9.18% |
| Average | | | | | | | | 8.66% |
| Median | | | | | | | | 8.66% |

Notes: Staff Corrections to D-4.11 reflect use of 2.01 percent 3-month average current dividend yield (D₀/P₀)
 Staff Corrections to D-4.12 reflect adoption of the Staff corrected 8.13 percent current MRP in the current MRP CAPM, and use of the same 3.32 percent current 30-year Rf rate as that used to calculate the current MRP in Rebuttal Schedule D-4-11.

Utility Source, LLC
Data Compiled from Annual Reports filed for the Years, 2004-2013

| Year | Utility Plant in Service | Balances Reported in Annual Reports | | | | Rate Base | | | Operating Revenues | | Operating Margin | | |
|------|--------------------------|-------------------------------------|--------------|------|----------|--------------|-----------------|--------------------|--------------------------|--------------------|------------------|--------------|-------------|
| | | Accumulated Depreciation | Net Plant | AMC | Net CIAC | Rate Base | Annual % Change | Combined Rate Base | Combined Annual % Change | Operating Revenues | Annual % Change | (Dollars \$) | (Percent %) |
| 2004 | Water | \$ 91,296 | \$ 2,586,604 | \$ - | \$ - | \$ 2,586,604 | | \$ 4,096,034 | | \$ 46,498 | | \$ (23,512) | -50.37% |
| 2004 | Sewer | 65,149 | 1,509,430 | - | - | 1,509,430 | | 4,096,034 | | 28,031 | | (16,083) | -57.37% |
| 2005 | Water | 116,024 | 3,304,440 | - | - | 3,304,440 | 27.75% | 4,863,820 | 18.74% | 84,647 | 82.05% | (142,708) | -168.59% |
| 2005 | Sewer | 65,422 | 1,559,380 | - | - | 1,559,380 | 3.31% | 4,863,820 | 18.74% | 47,803 | 70.54% | (86,799) | -181.58% |
| 2006 | Water | 235,695 | 3,294,293 | - | - | 3,294,293 | -0.31% | 4,788,251 | -1.55% | 104,224 | 23.13% | (143,557) | -137.72% |
| 2006 | Sewer | 190,844 | 1,493,958 | - | - | 1,493,958 | -4.20% | 4,788,251 | -1.55% | 50,034 | 4.67% | (165,683) | -331.14% |
| 2007 | Water | 365,511 | 3,469,114 | - | 278,538 | 3,190,576 | -3.15% | 4,433,564 | -7.41% | 117,216 | 12.46% | (143,366) | -122.31% |
| 2007 | Sewer | 196,266 | 1,428,536 | - | 185,548 | 1,242,988 | -16.89% | 4,433,564 | -7.41% | 49,531 | -1.01% | (177,319) | -358.00% |
| 2008 | Water | 493,019 | 2,713,327 | - | 272,643 | 2,440,684 | -23.50% | 3,413,512 | -23.01% | 243,491 | 107.73% | 39,160 | 16.08% |
| 2008 | Sewer | 240,734 | 1,154,417 | - | 181,589 | 972,829 | -21.73% | 3,413,512 | -23.01% | 124,583 | 151.53% | (68,790) | -55.22% |
| 2009 | Water | 628,031 | 3,331,456 | - | 387,734 | 2,943,722 | 20.61% | 4,043,985 | 18.47% | 247,952 | 1.83% | (65,468) | -26.40% |
| 2009 | Sewer | 294,888 | 1,100,263 | - | 368,646 | 2,827,810 | -3.94% | 4,043,985 | 18.47% | 132,293 | 6.19% | (85,017) | -64.28% |
| 2010 | Water | 763,031 | 3,196,456 | - | 349,558 | 2,846,908 | -3.27% | 3,873,919 | -4.21% | 209,071 | -15.68% | (93,113) | -44.54% |
| 2010 | Sewer | 349,042 | 1,046,109 | - | 349,558 | 1,046,109 | -4.92% | 3,873,919 | -4.21% | 123,132 | -6.92% | (85,922) | -69.78% |
| 2011 | Water | 898,612 | 3,084,807 | - | 330,470 | 2,754,249 | -5.18% | 3,727,204 | -3.79% | 212,316 | 1.55% | (108,797) | -51.24% |
| 2011 | Sewer | 403,196 | 991,955 | - | 349,558 | 991,955 | -3.82% | 3,727,204 | -3.79% | 116,436 | -5.44% | (78,850) | -67.72% |
| 2012 | Water | 1,024,415 | 2,961,124 | - | 330,470 | 2,630,654 | -3.82% | 3,570,432 | -4.21% | 214,550 | 1.05% | (43,363) | -20.21% |
| 2012 | Sewer | 457,492 | 939,779 | - | 311,382 | 939,779 | -5.26% | 3,570,432 | -4.21% | 115,849 | -0.50% | (91,285) | -78.80% |
| 2013 | Water | 1,140,299 | 2,845,240 | - | 311,382 | 2,533,858 | -3.68% | 3,418,909 | -4.24% | 217,085 | 1.18% | (58,584) | -26.99% |
| 2013 | Sewer | 512,219 | 885,052 | - | 885,052 | 885,052 | -5.82% | 3,418,909 | -4.24% | 113,784 | -1.78% | (93,314) | -82.01% |

Source: Utility Source, LLC Annual Reports, 2004 - 2013.