BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

In the Matter of the Application of	)	
MONTANA-DAKOTA UTILITIES CO.	)	
For Authority to Increase its	)	**DOCKET NO. NG12-008**
Natural Gas Rates	)	

Direct Testimony

of

Jacob Pous

On behalf of

South Dakota Public Utilities Commission Staff

Diversified Utility Consultants, Inc.

1912 West Anderson Lane, Suite 202

Austin, TX 78757

DATE October 1, 2013

DIRECT TESTIMONY AND EXHIBITS OF JACOB POUS

ACRONYMS

2008 STUDY	Depreciation Studies, dated December 31, 2008
AICPA	American Institute of Certified Public Accountants
ALG	Average Life Group
ASL	Average Service Life
CFR	Code of Federal Regulations
CI	Conformance Index
CPI	Consumer Price Index
DUCI	Diversified Utility Consultants, Inc.
ELG	Equal Life Group
FERC	Federal Energy Regulatory Commission
MDU or COMPANY	Montana-Dakota Utilities Company
MPSC	Montana Public Service Commission
OLT	Observed Life Table
PEF	Progress Energy Florida
REI	Retirement Experience Index
SDPUC or COMMISSION	South Dakota Public Utilities Commission
SPR	Simulated Plant Records
USOA	Uniform System of Accounts

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In the Matter of the Application of   )
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1   **SECTION I: INTRODUCTION**

2

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

4   A.   My name is Jacob Pous and my business address is 1912 W Anderson Lane, Suite 202,

5   Austin, Texas 78757.

6

7   **Q.   WHAT IS YOUR OCCUPATION?**

8   A.   I am a principal in the firm of Diversified Utility Consultants, Inc. ("DUCI"). A copy of

9   my qualifications appears as Appendix A.

10

11   **Q.   PLEASE DESCRIBE DIVERSIFIED UTILITY CONSULTANTS, INC.**

12   A.   DUCI is a consulting firm located in Austin, Texas with an international client base. The

13   personnel of DUCI provide engineering, accounting, economic, and financial services to

14   its clients. DUCI provides utility consulting services to municipal governments with

15   utility systems, to end-users of utility services, and to regulatory bodies such as state

16   public service commissions. DUCI provides complete rate case analyses, expert

17   testimony, negotiation services, and litigation support to clients in electric, gas,

18   telephone, water, sewer, and cable utility matters.

19

20   **Q.   HAVE YOU PREVIOUSLY TESTIFIED IN PUBLIC UTILITY PROCEEDINGS?**

21   A.   Yes. Appendix A also includes a list of proceedings in which I have previously presented

22   testimony. In addition, I have been involved in numerous utility rate proceedings that

23   resulted in settlements before testimony was filed. In total, I have participated in well

1		over 400 utility rate proceedings in the United States and Canada. Also worthy of note is
2		that I have testified on behalf of the staff of five different state regulatory commissions
3		and one Canadian regulatory commission.
4		
5	Q.	**WHAT IS YOUR PROFESSIONAL BACKGROUND?**
6	A.	I am a registered professional engineer. I am registered to practice as a Professional
7		Engineer in the State of Texas, as well as several other states.
8		
9	Q.	**ON WHOSE BEHALF ARE YOU PROVIDING THIS TESTIMONY?**
10	A.	I am testifying on behalf of the staff of the South Dakota Public Utilities Commission
11		("SDPUC" or the "Commission").
12		
13	Q.	**WHAT IS THE PURPOSE OF YOUR TESTIMONY?**
14	A.	I have been requested to review Montana-Dakota Utilities Company's ("MDU" or the
15		"Company") depreciation request, and to the extent I identify concerns or problems to
16		address such concerns and problems with an alternative recommendation.
17		
18	Q.	**PLEASE SUMMARIZE YOUR TESTIMONY.**
19	A.	The Company retained AUS Consultants to perform depreciation analyses for both its
20		Gas and Common plant divisions. Mr. Robinson of AUS Consultants developed two
21		depreciation studies ("2008 Study") both based on plant ending as of December 31, 2008.
22		The first study is for the Gas division and is identified as Exhibit No._(EMR-1), while the
23		second study is for Common plant and is presented as Exhibit No._(EMR-2). Based on
24		plant as of December 31, 2008, the Company seeks a $525,793 increase in gas plant
25		depreciation expense, and a $733,017 decrease in common plant depreciation expense.[1]
26		After review of the Company's studies, workpapers, and responses to discovery, I
27		conclude that the results of the studies are significantly flawed and yield excessive levels
28		of depreciation expense. A brief summary of the issues I address follows.
29		
30		**Gas Plant**

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[1] 2008 Study cover letters dated January 28, 2010.

1   • **Life** – While the Company has retirement data necessary to perform the preferred
2   actuarial life analysis approach, it has "determined" that the level of data was not
3   "complete" and decided to rely on the Simulated Plant Records ("SPR") semi-actuarial
4   analysis approach. The SPR analysis relies only on unaged data for life analysis
5   investigation. Making the situation worse was the Company's initial decision to destroy
6   or fail to retain the underlying results of the SPR statistical analyses. Due to criticism
7   raised regarding the failure to retain its SPR results in its current rate case in Montana,
8   the Company has now recreated its SPR workpapers. Based on the available information,
9   an adjustment to MDU's proposal for its largest plant account, Account 376 –
10   Distribution Mains, is warranted. The Company's proposed 47-year average service life
11   ("ASL") with a R4 Iowa Survivor curve dispersion pattern significantly understates the
12   reasonable expected life for the investment in this account. My recommended 60R2.5
13   life-curve combination reflects a more realistic life expectation and results in a
14      $1,043,790 reduction in total Company annual depreciation expense based on plant as of
15   December 31, 2008.

16

17   • **Net Salvage** – The Company fails to reasonably support or explain its various proposals.
18   In addition, the Company employs an unusual quantitative analysis that assumes inflation
19   is the sole driving factor of future net salvage expectations. Review of the available data
20   and correction of the inappropriate reliance on inflation results in the need to modify the
21   Company's proposal for the three largest accounts. The three largest accounts represent
22   the vast majority of depreciation expense at issue. Adoption of more realistic negative
23   net salvage values for the three accounts results in a $1,496,989 reduction to total
24   Company depreciation expense based on plant as of December 31, 2008.

25

26   • **Combined Impact** – The combined impact of the various life and salvage adjustments is
27   not simply the summation of the individual standalone impacts when both life and net
28   salvage adjustments are proposed for the same account. The combined impact of my
29   recommendations for gas plant depreciation expense is a total Company reduction of
30      $2,279,808 for plant as of December 31, 2008 and is set forth on Exhibit (JP-1) page 1.

31

Common Plant

- **Life** – Account 390 – Structures & Improvements represents the majority of the investment at issue in Common plant. Mr. Robinson performed an actuarial analysis on the data and appears to rely on his interpretation of the results of such analyses for his proposal of a 35-year ASL. Upon review of the Company's investment in this account, which is overwhelmingly associated with steel office buildings, a much longer ASL is warranted. Adoption of a 53-year ASL results in a $244,104 reduction to total Company depreciation expense based on plant as of December 31, 2008.

- **Net Salvage** – Without support or explanation, Mr. Robinson proposes a zero (0)% net salvage for retirement of steel office buildings after his proposed 35-year ASL. Review of historical data, Mr. Robinson's unusual future forecasting analysis, as well as the actual retirement of 10 buildings by the Company during the last 20 years clearly demonstrates that a zero (0) level of net salvage for the investment in this account is woefully inadequate. Adoption of an initial step to a positive 20% net salvage in this proceeding results in a $283,205 reduction in total Company depreciation expense based on plant as of December 31, 2008.

- **Combined Impact** – The combined impact of the various life and salvage adjustments is not simply the summation of the individual standalone impacts when both life and net salvage adjustments are proposed for the same account. The combined impact of my recommendations for Common plant depreciation expense is a total Company reduction of $371,008 and is set forth on Exhibit (JP-1) page 2.

Q. IS THERE AN AREA OF CONCERN THAT NEEDS TO BE ADDRESSED PRIOR TO THE BALANCE OF YOUR TESTIMONY?

A. Yes. As discussed extensively in the balance of my testimony, there is a significant problem with the Company's presentation in support of its various depreciation proposals. The Commission and customers are entitled to know the support and basis for the Company's various depreciation parameters. However, in spite of the Company's depreciation related testimony, depreciation studies consisting of a few hundred pages, and discovery responses, the actual basis and support for the Company's specific life and

1		net salvage parameters are still unknown. Given that the Company's request for
2		depreciation expense for all jurisdictions is approximately $12 million, this is no small
3		matter.
4		
5	Q.	**CAN THE COMPANY REASONABLY CLAIM THAT THE DEPRECIATION**
6		**RELATED TESTIMONY OF MR. ROBINSON IS MORE THAN ADEQUATE**
7		**SUPPORT FOR ITS VARIOUS PROPOSALS?**
8	A.	No. In spite of the fact that Mr. Robinson submitted 31 pages of Direct Testimony
9		addressing the topic of depreciation, the specific basis for his various proposals are not
10		presented. Mr. Robinson states that he investigated and analyzed the historical data and
11		reviewed the Company's past experiences and future expectations to determine remaining
12		lives of the Company's plant assets.[2] However, this level of presentation as support and
13		explanation for the specific depreciation parameters is meaningless. An unsupported
14		statement that historical data has been analyzed does not by itself demonstrate the
15		validity and appropriateness of various depreciation parameters. Indeed, Mr. Robinson
16		states that the "life estimation process is not one of simple arithmetic calculation of
17		historical data."[3] Therefore, presentation of historical data and historical analysis does not
18		constitute Mr. Robinson's basis and explanation of the actual depreciation parameters he
19		proposed.
20		
21		While the Company fails to present specific and meaningful basis for its various
22		depreciation proposals in its testimony, it instead elects to present pages of testimony on
23		matters not at issue in this case. For example, Mr. Robinson's testimony devotes many
24		pages to a discussion of equal life group depreciation, yet that calculation procedure is
25		not utilized by the Company.[4] The key takeaway from Mr. Robinson's testimony is it
26		reflects generalized discussions of depreciation, with no specifics in support of very
27		specific life and net salvage parameters that, if adopted by the Commission, would result
28		in substantial revenue requirements.
29		

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[2] Mr. Robinson's Direct Testimony at page 2.
[3] Response to PUC 6-32.
[4] Mr. Robinson's Direct Testimony at pages 8-11 and page 13.

1 **Q.**   **DID THE COMPANY FILE LENGTHY DEPRECIATION STUDIES IN**
2   **SUPPORT OF ITS DEPRECIATION REQUEST?**

3 A.   Yes. However, in spite of the fact that the 2008 Study contains hundreds of pages, it is

4   devoid of specific, meaningful and adequate support for its various life and net salvage

5   parameters. The 2008 Study and Mr. Robinson's testimony do reference expectations in

6   the future, but they provide minimal specifics as to what those expectations are and the

7   basis and support for such expectations. While reliance on informed judgment in

8   establishing depreciation parameters is appropriate and realistic, it does not relieve the

9   Company of providing support and justification for what is claims as professional

10   judgment. There must be some reasonable definition to the "professional judgment" that

11   is employed to support one particular value versus any other value.

12 **Q.**   **DOES SECTION 4 OF THE COMPANY'S 2008 STUDY PRESENT AN**
13   **ACCOUNT-BY-ACCOUNT NARRATIVE DISCUSSION IDENTIFIED AS**
14   **"PLANT CONSIDERATIONS/FUTURE EXPECTATIONS"?**

15 A.   Yes. However, this section of the 2008 Study, where one would expect specific

16   information in support of the Company's proposal, is also not forthcoming regarding

17   meaningful basis for various proposals. Indeed, Section 4 is completely silent on the

18   Company's proposed net salvage values from a narrative standpoint. Section 4, while

19   providing some narrative regarding the life aspect of the Company's various proposals, is

20   basically deficient of meaningful information.

21

22   For example, Account 376.2 – Distribution Mains – Plastic is the largest single plant

23   investment account analyzed in the 2008 Study. For this account, the Company presents

24   three sentences in support of its considerations and expectations.[5] The first sentence

25   simply identifies that the investment is typically related to more recently installed mains.

26   The second sentence references an expectation of shorter life for plastic pipe than metal

27   pipe since that is what Mr. Robinson has often experienced for other utilities and which

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[5]   2008 Study at page 4-5.

1 he incorrectly claims was the case for the Company.[6] The last sentence refers to what
2 may often transpire regarding physical damage, but such statement in no way
3 demonstrates the validity of any specific ASL. In other words, the totality of the
4 Company's narrative explanation for its future expectations is of such a generalized and
5 vague nature that it provides no support for the Company's proposal, or for that matter,
6 any other proposal. What is missing from the Company's presentation is why the longer
7 ASL that would result from its SPR analysis of what has actually been experienced, or
8 the results of actuarial analyses of Company data, should be ignored, or if discounted to
9 what extent. Simply referring to what might "often" occur at other utilities between metal
10 and plastic pipe, or what might "often" occur due to physical damage, or the
11 unsubstantiated claim that plastic pipe is "often" installed in high growth or replacement
12 areas does not explain why the Company should ignore its actual experience that does not
13 reflect the "often" referenced expectations.

14

15 **Q. IS MR. ROBINSON AWARE OF YOUR CONCERNS AS IT APPLIES TO THE**
16 **LEVEL OF SUPPORT PROVIDED IN RATE PROCEEDINGS?**
17 A. Yes. In the most recent Progress Energy Florida ("PEF") case before the Florida Public
18 Service Commission, the same situation arose regarding lack of support and reliance on
19 general statements. In that proceeding, the Florida commission concluded that "PEF
20 failed to carry its burden of proof" and agreed with "OPC witness Pous that PEF has
21 provided only generalized statements with little support or documentation."[7]

22

23 **Q. HAS MR. ROBINSON PROVIDED MORE INFORMATION IN THIS**
24 **PROCEEDING THAN HE DID ON BEHALF OF PEF?**
25 A. No. In fact, the overall presentation of testimony, depreciation study, and discovery
26 responses indicates even less meaningful information has been provided in this
27 proceeding than was the situation in the Florida proceeding.

28

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[6] Mr. Robinson is incorrect regarding such statement as it applies to the Company. The current ASL for Mains –
Steel is 45 years, which is equivalent to the current ASL for Mains – Plastic, as noted on pages 4-4 and 4-5 of the
2008 Study.
[7] Docket No. 090079, a Progress Energy Florida proceeding before the Florida Public Service Commission, as noted
on page 22 of the Final Order.

1	**Q.**	**WHAT DO YOU PROPOSE REGARDING THIS SITUATION?**
2	A.	The Company should be required to provide specific and detailed basis in support of its
3		proposals, by account, for both life and net salvage values in its next depreciation study.

4

5

6 **SECTION II: DEPRECIATION**

7

8 **Q.   WHAT IS DEPRECIATION?**

9 A.   There are two commonly-cited definitions of depreciation. The first comes from the

10   Federal Energy Regulatory Commission ("FERC"):[8]

11
12   'Depreciation,' as applied to depreciable plant, means the loss in service
13   value not restored by current maintenance, incurred in connection with the
14   consumption or prospective retirement of gas plant in the course of service
15   from causes which are known to be in current operation and against which
16   the utility is not protected by insurance. Among the causes to be given
17   consideration are wear and tear, decay, action of the elements, inadequacy,
18   obsolescence, changes in the art, changes in demand and requirements of
19   public authorities.
20
21   The second definition, from the American Institute of Certified Public Accountants

22   ("AICPA"), is similar:

23
24   Depreciation accounting is a system of accounting which aims to
25   distribute the cost or other basic value of tangible capital assets, less
26   salvage (if any) over the estimated useful life of the unit (which may be a
27   group of assets) in a systematic and rational manner. It is a process of
28   allocation, not of valuation. Depreciation for the year is a portion of the
29   total charge under such a system that is allocated to the year. Although
30   the allocation may properly take into account occurrences during the year,
31   it is not intended to be a measurement of the effect of all such occurrences.
32

---

[8] Title 18 of the Code of Federal Regulations (CFR) Part 201, Definition 12.

1 **Q. WHAT ARE THE TWO GENERAL FORMULAS USED IN DETERMINING**
2 **DEPRECIATION RATES?**

3 A. The whole life and the remaining life technique are the most commonly used formulas.

4 The whole life technique is as follows:[9]

$$\text{Depreciation Rate (\%)} = \left[\frac{\frac{(\text{Original Cost} - \text{Net Salvage})}{\text{Average Service Life}}}{\text{Original Cost}} \right]$$

5
6 The remaining life technique is as follows:

$$\text{Depreciation Rate (\%)} = \left[\frac{\frac{\text{Original Cost} - \text{Accumulated Provision For Depreciation} - \text{Net Salvage}}{\text{Remaining Service Life}}}{\text{Original Cost}} \right]$$

7
8 The two formulas should equal each other when the difference between the theoretical
9 reserve and the actual Accumulated Provision for Depreciation is recovered over the
10 remaining life of the investment under the whole life technique.

11 **Q. ARE THERE ADDITIONAL CONSIDERATIONS IN DEPRECIATION BEYOND**
12 **THE DEFINITIONS?**

13 A. Yes. The definitions provide only a general outline of the overall utility depreciation
14 concept. In order to arrive at a depreciation-related revenue requirement in a rate
15 proceeding, a depreciation system must be established.

16

17 **Q. WHAT IS A DEPRECIATION SYSTEM?**

18 A. A depreciation system constitutes the method, procedure, and technique employed in the
19 development of depreciation rates.

20

21 **Q. BRIEFLY DESCRIBE WHAT IS MEANT BY "METHOD."**

22 A. "Method" identifies whether a straight-line, liberalized, compound interest, or other type
23 of calculation is being performed. The straight-line method is normally employed for
24 utility depreciation proceedings.

---

[9] A theoretical depreciation reserve calculation is developed and compared to the actual accumulated provision for depreciation in conjunction with the whole life technique. If the differential is significant, an amortization of the differential for some period of time may be recommended.

1		
2	**Q.**	**BRIEFLY DESCRIBE WHAT IS MEANT BY "PROCEDURE."**
3	A.	"Procedure" identifies a calculation approach or grouping. For example, procedures can
4		reflect the grouping of only a single item, items by vintage (year of addition), items by
5		broad group or total grouping, or equal life groupings ("ELG"). The average life group
6		("ALG") procedure is used by the vast majority of utilities. Both Mr. Robinson and I
7		have utilized the ALG procedure in this case.
8		
9	**Q.**	**BRIEFLY DESCRIBE WHAT IS MEANT BY "TECHNIQUE."**
10	A.	There are two main categories of techniques with various sub-groupings: the whole life
11		technique and the remaining life technique. The whole life technique simply reflects
12		calculation of a depreciation rate based on the whole life (*e.g.*, a 10-year life would imply
13		a 10% depreciation rate over the life of the plant). The remaining life technique
14		recognizes that depreciation is a forecast or estimation process that is never precisely
15		accurate and that requires true-ups in order to recover exactly 100% of what a utility is
16		entitled to over the entire life of the investment. Therefore, as time passes, the remaining
17		life technique attempts to recover the remaining unrecovered balance over the remaining
18		life or other period of time. Most utilities rely on a remaining life technique in utility rate
19		matters. Both the Company and I have utilized the remaining life technique.
20		
21	**Q.**	**DO THE METHODS, PROCEDURES, AND TECHNIQUES INTERACT WITH**
22		**ONE ANOTHER?**
23	A.	Yes. Different depreciation rates will result depending on what combination of method,
24		procedure, and technique is employed. Differences will occur even when beginning with
25		the same ASL and net salvage values.
26		
27	**Q.**	**WHAT IS NET SALVAGE?**
28	A.	Net salvage is the value obtained from retired property (the gross salvage) less the cost of
29		removal. Net salvage can be either positive, in cases where gross salvage exceeds cost of
30		removal, or negative, in cases where cost of removal is greater than gross salvage.
31		

1	**Q.**	**HOW DOES NET SALVAGE IMPACT THE CALCULATION OF**
2		**DEPRECIATION?**
3	A.	The intent of the depreciation process is to allow the Company to recover 100% of
4		investment less net salvage. Therefore, if net salvage is a positive 10%, then the utility
5		should only recover 90% of its investment through annual depreciation charges, under the
6		theory that it will recover the remaining 10% through net salvage at the time the asset
7		retires (90% + 10% = 100%). Alternatively, if net salvage is a negative 10%, then the
8		utility should be allowed to recover 110% of its investment through annual depreciation
9		charges so that the negative 10% net salvage that is expected to occur at the end of the
10		property's life will still leave the utility whole (110% - 10% = 100%).

11

12

13   **SECTION III: LIFE ANALYSIS**

14

15   **A. General**

16

17	**Q.**	**WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?**
18	A.	This section of my testimony will address the Company's proposed life-curve
19		combinations represented by an ASL and a corresponding Iowa Survivor curve for each
20		plant account. In order to develop a depreciation rate for each account, a remaining life
21		based on a specific life-curve combination must be developed.

22

23	**Q.**	**HOW ARE LIFE-CURVE COMBINATIONS NORMALLY DEVELOPED FOR**
24		**UTILITY PROPERTY?**
25	A.	Normally, for mass property accounts such as those at issue in this particular case,
26		statistical life analyses are performed either on an actuarial or semi-actuarial basis.
27		Actuarial analyses are performed when aged data is available.[10] Alternatively, when only
28		unaged data is available, semi-actuarial analyses utilizing the SPR method are normally
29		relied upon. In this case, the Company performed SPR analyses for gas plant and
30		actuarial analyses for Common plant.

---

[10] Aged data represents a situation where a utility maintains the installation year corresponding to each item of plant so that the age can be obtained when the item retires.

1

Q.   **DOES MR. ROBINSON PRESENT GENERAL INFORMATION REGARDING**
2
3   **IOWA SURVIVOR CURVES IN HIS TESTIMONY AND 2008 STUDY?**

4 A.   Yes.   Since Mr. Robinson has already presented a generalized explanation of Iowa
5   Survivor curves I will not repeat or expand upon such explanations in my testimony.

6

7   **B. Actuarial Analyses**

8

9 Q.   **IS THERE ANY NEED TO INVESTIGATE THE MANNER IN WHICH MR.**
10   **ROBINSON EMPLOYED ACTUARIAL ANALYSIS?**

11 A.   Yes. While Mr. Robinson did not perform actuarial analyses for Distribution mains, I did
12   perform an actuarial analysis on available age data provided by the Company.   In
13   addition, I recommend an adjustment to Mr. Robinson's actuarial analyses for Common
14   plant Account 390 – General Plant Structures & Improvements.

15

16 Q.   **HOW DID THE COMPANY DEVELOP ITS PROPOSED LIFE-CURVE**
17   **COMBINATIONS BASED ON THE ACTUARIAL PROCESS?**

18 A.   The Company performed an actuarial analysis based on a corrected 1977-2008
19   experience band in combination with a 1927-2008 placement band.[11] Placement bands
20   refer to the years in which plant was installed and establishes the years of data reflected
21   in the database analyzed. For example, a 1927-2008 placement band captures all annual
22   additions from 1927 through 2008 used to perform actuarial life analyses. Therefore, if a
23   1977-2008 experience band is combined with a 1927-2008 placement band, the actuarial
24   results would yield the surviving plant pattern for plant added since 1927 taking into
25   account only the retirements that occurred to those additions since 1977.

26

27 Q.   **WHAT RESULT IS OBTAINED FROM ACTUARIAL ANALYSIS?**

28 A.   The results produced by actuarial analyses are identified as an observed life table
29   ("OLT"), and are presented in both numerical and graphical form. An OLT simply
30   represents the annual pattern of retirement activity, and thus survivors, by individual age

---

[11] While this correction is not in the Company's filing, it was presented in Mr. Robinson's Rebuttal Testimony in
Docket No. D2012.9.100 before the Montana Public Service Commission ("MPSC").

1   groups. At the beginning of the zero (0) age interval, 100% of the investment survives,

2   and as additional ages are examined and retirements occur, the OLT declines from 100%

3   surviving towards zero (0)% surviving. If the OLT fully declines to zero (0)% surviving,

4   it is called a complete survivor curve. OLTs that do not decline to zero (0)% surviving

5   are identified as stub curves. If a stub curve is too short (i.e., it does not decline very far

6   from 100% surviving), then limited useful information can be garnered from such

7   analyses. The limited information is normally that a long ASL is indicated if a significant

8   level of years has transpired without significant decline in the OLT.

9

10   **Q.   ONCE AN OLT IS OBTAINED, HOW IS IT UTILIZED TO DEVELOP A**

11   **REPRESENTATIVE LIFE-CURVE COMBINATION?**

12   A.   Both the Company and I employed visual curve-fitting of the OLTs with standardized

13   Iowa Survivor curves.[12] Use of standardized Iowa Survivor curves provides smooth,

14   complete survivor curves so that various calculations necessary to establish a remaining

15   life and depreciation rate can be obtained. In particular, the area under a survivor curve

16   yields the ASL of the assets being analyzed. Therefore, as an OLT rises or elevates so

17   does the ASL, all else equal.

18

19   **Q.   IN THE PROCESS OF MATCHING AN OLT WITH A SMOOTH IOWA**

20   **SURVIVOR CURVE, ARE THERE DIFFERENT AREAS OF THE CURVE**

21   **FITTING PROCESS THAT ARE SIGNIFICANT?**

22   A.   Yes. It is more important to match a standard Iowa Survivor curve with the middle and

23   upper portions of an OLT than the tail portion (end of the curve), depending on the dollar

24   levels of exposures at issue.[13] Mr. Robinson notes a similar understanding when he states

25   that the "middle portion of the observed life table is more meaningful."[14] Mr. Robinson

26   further notes data points in the curve-fitting process "are considered less significant or

27   insignificant ... where a modest level of additional retirements could significantly move

[12] At page 3-18 of the Common Plant 2008 Study, reference is made to "least square technique" or mathematical curve fitting. While some depreciation analysts also perform mathematical curve fitting as part of the actuarial computerized process, such results are rarely relied on due to the infirmities associated with such process as noted in authoritative text such as Wolf and Fitch's publication Depreciation Systems at pages 46-47.

[13] Wolf and Fitch publication Depreciation Systems at pages 46-47.

[14] Docket No. 13-06-08, a current Connecticut Natural Gas Company case before the Connecticut Public Utilities Regulatory Authority, response to OCC-201(a).

1	the observed life table."[15] The dollar level of exposures represents the plant that is
2	subject to retirement forces during that age interval. If the lower portions of an OLT are
3	matched with an Iowa Survivor curve in the curve-fitting process while sacrificing the
4	curve fit at the middle or the upper portions of the OLT, then it is more probable that an
5	inappropriate result will be obtained. Therefore, part of the judgmental process employed
6	by a depreciation analyst is to determine what ASL and corresponding Iowa Survivor
7	curve constitutes the "best" fit of the OLT. It is important to realize that in the curve-
8	fitting process that life-curve combinations with noticeably different ASL may provide a
9	good fit. Therefore, additional information is often helpful in the selection process. It is
10	also important to note that mathematical matching of curves (i.e., sum of squared
11	differences) is not normally relied upon for selection purposes unless a valid numerical
12	weighting is assigned to each point in the OLT.
13	
14	**Q.** **WHY IS IT IMPORTANT TO SPECIFICALLY REVIEW THE DOLLAR**
15	**LEVELS OF EXPOSURES AT DIFFERENT AGE INTERVALS IN THE CURVE-**
16	**FITTING PROCESS?**
17	A. The movement in the OLT from one age to the next is affected both by the dollar level of
18	exposures in that age interval as well as the corresponding dollar level of retirement
19	activity that has transpired during the same age interval. As time passes between
20	depreciation studies, and as both existing investment and new investment age, the pattern
21	of the OLT will often change. In other words, if plant is continuously added and there
22	are no retirements during a five-year period, then the OLT will elevate (i.e., the curve
23	will be higher) from the position it previously exhibited in a prior study. A higher or
24	elevated OLT normally translates into a longer ASL.
25	
26	In addition, even if no new additions were to occur during the five years between
27	depreciation studies, but the existing plant aged for five additional years with no
28	additional retirements, then the mid portion and tail portion of the OLT would also be
29	expected to elevate, thus resulting in a longer ASL. Indeed, the lower portions of the
30	OLT may elevate significantly under these circumstances since they are based on limited

---

[15] *Id.* at response to OCC-201(a) and (c).

1		levels of exposures. Finally, if retirement activity occurs, but to a lesser degree than is
2		reflected historically in the various age brackets, then the OLT again is expected to
3		elevate and results in a longer ASL. Simply put, the tail end or lower mid sections of an
4		OLT that is based on limited levels of exposures can move dramatically between one
5		depreciation study and the next. Normally, the head or top portions of the OLT remains
6		relatively stable between depreciation studies, as do the upper portions of the mid range
7		of the OLT if they are based on significant dollar levels of plant exposures.
8		
9	Q.	**SHOULD THE INTERPRETATION OF ACTUARIAL RESULTS BE THE**
10		**EXCLUSIVE BASIS FOR LIFE EXPECTATIONS?**
11	A.	No, not generally. Actuarial analysis represents a review of historical patterns.
12		Historical patterns should be tested to the extent possible to determine their reasonable
13		predictive capability for future expectations. For example, if there have been significant
14		technological improvements in plastic pipe that have resulted in a longer life expectancy
15		for newer investment compared to the life characteristics of older plant reflected in
16		actuarial results, then such information must be taken into account in conjunction with
17		the interpretation of the historical actuarial or semi-actuarial results.
18		
19	Q.	**DID THE COMPANY PROVIDE A DETAILED EXPLANATION OF ITS CURVE**
20		**SELECTION?**
21	A.	No. The Company addresses the general concept of actuarial analyses in Mr. Robinson's
22		testimony, but provides no specifics as to how he interpreted the results to obtain his
23		ultimate proposal.[16] In addition, Section 4, which does contain a reference to a "full
24		depth" experience band, provides no meaningful information that supports the process or
25		final result as proposed. This lack of meaningful information is significant given that Mr.
26		Robinson's position is that his proposals are "not one of simple arithmetic calculation of
27		historical data" but also consider "current Company factors and future events [that] must
28		be incorporated into the process."[17]
29		

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[16] Mr. Robinson's Direct Testimony at pages 22-23.
[17] Docket No. 13-06-08, a current Connecticut Natural Gas Company case before the Connecticut Public Utilities regulatory Authority, response to OCC-189.

1   **C. SPR Analyses**

2

3   **Q.   PLEASE DISCUSS THE SPR ANALYSIS IN THIS PROCEEDING.**

4   A.   For gas plant, Mr. Robinson relied on the SPR method even though actuarial analyses is

5   the preferred method if aged data is available.[18]   The SPR method simulates plant

6   balances over time and compares the simulated results to actual plant balances for each of

7   32 different Iowa Survivor curves.   The best-fitting curves resulting from a sum of

8   squared difference calculation are ranked, and a Retirement Experience Index ("REI") is

9   produced as part of the SPR analyses.[19]   In this particular situation, Mr. Robinson chose

10   to initially destroy or not retain the output of each of his various unidentified SPR

11   analyses for each account.   Only after being criticized for not retaining workpapers that

12   related to his "primary input" for his ASL proposals in the Company's current Montana

13   rate case did Mr. Robinson decide to rerun and produce such information.[20]

14

15   **Q.   WHY DID MR. ROBINSON NOT INITIALLY RETAIN CRITICAL**

16   **WORKPAPERS?**

17   A.   Mr. Robinson takes the unusual position that the basic input data associated with life or

18   net salvage analysis constitutes his workpapers, and analysis of such data through SPR

19   analysis does <u>not</u> constitute workpapers and therefore are not necessary to be retained or

20   provided when requested.

21

22   **Q.   IS THERE POTENTIALLY ANOTHER REASON WHY MR. ROBINSON**

23   **CHOSE TO INITIALLY DESTROY OR NOT RETAIN THE OUTPUT OF THE**

24   **COMPUTER ANALYSIS HE PERFORMED AND ADMITS WAS THE**

25   **PRIMARY INPUT FOR HIS DETERMINATION OF LIFE CHARACTERISTICS**

26   **FOR THE INVESTMENT?**

27   A.   Yes.   Now that Mr. Robinson has rerun his analysis and produced the results, it is clear to

28   see that the results do <u>not</u> support his proposals.

---

[18] Transcript page 206 of Mr. Robinson's cross examination in Docket No. D2012.9.100, MDU's current case before the MPSC.

[19] Retirement Experience Index simply represents the completeness of the Iowa Survivor curve and must be considered in conjunction with sum of squared difference statistics.

[20] Docket No. D.2012.9.100, a MDU case before the MPSC, Exhibit No._(EMR-6) and response to MCC-177.

1

Q. **IF THE "PRIMARY INPUT" RELIED UPON BY MR. ROBINSON FOR HIS ASL PROPOSALS DO NOT SUPPORT HIS PROPOSALS, HOW DOES MR. ROBINSON EXPLAIN SUCH INCONSISTENCY?**

A. In spite of admitting that the SPR analysis was the "primary input" for gas plant ASL proposals, Mr. Robinson now contends that such life analyses are only an additional tool in the overall process of establishing life parameters and that there are other factors which must be taken into account.[21]

Q. **SHOULD THE RESULTS OF STATISTICAL ANALYSES BE THE ONLY CONSIDERATION IN ESTABLISHING LIFE EXPECTATIONS FOR UTILITY PROPERTY?**

A. No, not generally. Other factors such as understanding of the type of investment currently in place versus the type of investment reflected in historical retirements, changes in technology, changes in Company policy, and other factors can have an impact in certain instances. However, it must be reemphasized that Mr. Robinson states that the SPR analysis was the "primary input" for the ASL proposals.[22]

Q. **DID MR. ROBINSON PROVIDE ANY SPECIFICS ASSOCIATED WITH ANY OTHER FACTORS FOR ANY OF HIS LIFE ANALYSIS PROPOSALS?**

A. No. Mr. Robinson chose to reference "other factors," but only in the most general sense.[23] None of Mr. Robinson's general or vague references support any given ASL or related Iowa Survivor curve selection.

   D. Other Life Analysis Information

Q. **GIVEN THE LACK OF SUPPORT PRESENTED BY MR. ROBINSON, HOW WERE YOU ABLE TO PERFORM YOUR ANALYSES?**

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[21] Response to PUC 6-32.
[22] Response to PUC 6-32 and MCC-177 in Docket. No. D.2012.9.100, a MDU case before the MPSC.
[23] *Id.*

1   A.   For gas plant, the investment and corresponding depreciation expenses at issue are highly
2   concentrated in three accounts. In fact, Account 376 – Distribution Mains, Account 380 –
3   Distribution Services, and Account 381 – Distribution Meters reflect approximately 84%
4   and 90% of the investment and depreciation expense at issue, respectively.[24] For these
5   three accounts, Mr. Robinson's ASL proposal for Account 376 – Distribution Mains on
6   its face appears to be low. The reason Mr. Robinson's proposal stood out on its face is
7   that the industry discussion now generally centers on values for Distribution mains
8   between the upper 50-year range to the mid 70-year range. In comparison, Mr. Robinson
9   proposes a 47-year ASL. Absent a strong showing associated with situations that may
10   reflect problematic pipe that must be replaced early, a 47-year ASL requires substantial
11   justification before acceptance. As previously discussed, Mr. Robinson provides no
12   meaningful justification for any of his proposals. Due to Mr. Robinson's short ASL
13   proposal for this account, I focused my efforts there. This single account represents 47%
14   of the Company's investment in Distribution plant as of the depreciation study period.
15   Given that the Company actually had aged data for this account, I performed an actuarial
16   based life analysis.

17

18   **Q.**   **FROM A HIGH LEVEL PERSPECTIVE, WHAT IS THE COMPANY'S BASIS**
19   **FOR ITS PROPOSED 47-YEAR ASL?**

20   A.   Mr. Robinson states that the "proposed average service life for each subproperty group
21   [in Account 376 – Mains] was changed in accordance with the life indication developed
22   through an analysis of the Company's historical data and consideration of future
23   expectations."[25] Elsewhere in the 2008 Study, Mr. Robinson states that he also held
24   discussions with MDU management to obtain an overview of the Company's facilities
25   and to discuss the general scope of operations together with other factors, which "could"
26   have a bearing on the service life of the property.[26] In other words, from a high level, Mr.
27   Robinson states that he analyzed historical data using the SPR statistical technique and
28   held discussions with Company management in order to obtain information that "could"
29   have a meaningful bearing on the overall life expectancy of plant at issue. However, as

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[24] 2008 Study Exhibit No._(EMR-1) page 2-1.
[25] 2008 Study Exhibit No._(EMR-1) at page 1-5.
[26] 2008 Study Exhibit No._(EMR-1) at pages 3-1 and 3-2.

1		previously noted, the "primary input" for Mr. Robinson's proposed 47-year ASL was his
2		SPR analyses, which he elected to initially destroy or not retain, and which when reran
3		and provided do not support his proposal.
4		
5	Q.	**PLEASE DISCUSS MR. ROBINSON'S ANALYSIS OF HISTORICAL DATA.**
6	A.	Mr. Robinson performed a SPR band analysis of the overall data, as well as numerous
7		five-year band analyses. However, one of the unusual aspects of Mr. Robinson's
8		presentation is that his five-year band analyses date all the way back to the 1949-1953
9		time period. Short experience band analyses corresponding to Mr. Robinson's five-year
10		selection for data in the 1950s, 1960s, and 1970s are meaningless as it relates to current
11		investment. Indeed, the Company's database for its largest subaccount (Account 376.2 –
12		Mains – Plastic) identifies less than one-half of one percent of the investment being
13		installed prior to 1970.[27]
14		
15	Q.	**IF AGED DATA WAS AVAILABLE AND MR. ROBINSON ADMITS IT IS THE**
16		**PREFERRED METHOD FOR LIFE ANALYSIS PURPOSES, WHY DID HE NOT**
17		**RELY ON SUCH MORE ACCURATE METHOD?**
18	A.	Mr. Robinson states that he was "required" to utilize the SPR method in analyzing past
19		historical data since the Company does not have "complete" historical vintage based
20		investment records.[28]
21		
22	Q.	**IS MR. ROBINSON CORRECT IN HIS STATEMENT THAT HE WAS**
23		**REQUIRED TO PERFORM ONLY AN SPR ANALYSIS?**
24	A.	No. As noted in Mr. Robinson's testimony, the SPR method is used "if only un-aged
25		date is available."[29] However, aged data was available.
26		
27	Q.	**WAS MR. ROBINSON COMPELLED TO IGNORE ACTUARIAL ANALYSES**
28		**SINCE HE CLAIMED THAT A COMPLETE HISTORICAL VINTAGE BASED**
29		**INVESTMENT DATABASE WAS NOT AVAILABLE?**

---

[27] Response to PUC 6-23 Attachment.
[28] 2008 Study at page 22.
[29] Mr. Robinson's Direct Testimony at page 7.

1 A.   No.   Indeed, in a current case before the Connecticut Regulatory Public Utilities

2   Authority, Mr. Robinson performed actuarial analysis on a six-year band of data, and in a

3   prior case in Connecticut ran a two-year actuarial band analysis for a gas utility.[30]   The

4   actuarial database for MDU is much more significant or "complete" than the actuarial

5   database relied upon by Mr. Robinson in his Connecticut depreciation studies. Therefore,

6   it is clear that Mr. Robinson had other unexplained and unsubstantiated reasons for not

7   performing the preferred life analysis method.

8

9 **Q.   TURNING TO THE OTHER ASPECT OF LIFE ESTIMATION PROCESS,**

10   **BEING THE OTHER FACTORS MR. ROBINSON ALLUDED TO IN HIS**

11   **TESTIMONY, WHAT DID MR. ROBINSON ACTUALLY PRESENT IN**

12   **SUPPORT OF HIS POSITION?**

13 A.   Unfortunately, Mr. Robinson's presentation for the "other factors" is no better than his

14   presentation of SPR results.   Apparently, Mr. Robinson believes his proposals are

15   adequately supported by simply stating the final life parameter and that the parameter is

16   based on undocumented generalized concepts. Indeed, the greatest level of definition to

17   the other factors is set forth in Section 4 of his Gas plant 2008 Study, which in reality

18   provides no specificity in support of his proposals.

19

20   **E. Gas Plant Account 376**

21

22 **Q.   WHAT DOES MR. ROBINSON CLAIM FOR THE LARGEST PLANT**

23   **ACCOUNT, ACCOUNT 376 – DISTRIBUTION MAINS?**

24 A.   For Account 376.1 – Distribution Mains – Steel, Mr. Robinson identifies that a portion of

25   the property is associated with bare steel while the Company now continues to install

26   coated and wrapped steel mains for higher pressure and larger size requirements.[31]

27   However, these items of information in no way define a specific life; rather they only

28   give insight as to why there is a trend in the data towards a longer life.

29

---

[30] Docket No. 13-06-08, a current Connecticut Natural Gas Company case before the Connecticut Public Utilities
regulatory Authority.
[31] 2008 Study Exhibit No._ (EMR-1) page 4-4.

1 **Q.   DID YOU SPECIFICALLY INQUIRE AS TO THE CATEGORIZATION OF**
2 **INVESTMENT IN ACCOUNT 376 – DISTRIBUTION MAINS BETWEEN BARE**
3 **STEEL, COATED STEEL, WRAPPED STEEL, ETC.?**

4

5 A.   Yes, yet the Company claims it does not keep track of steel mains by bare, coated, or
6 wrapped steel.[32] In addition, I inquired as to the dollar level of retirement by year
7 associated with Account 376.1 – Distribution Steel Mains by type of pipe.[33] However,
8 the Company again claimed that it did not maintain information associated with its
9 investment or retirement of such investment in steel mains by type of steel. Therefore,
10 Mr. Robinson's brief reference to bare steel versus coated steel or wrapped steel as
11 considerations for future expectations in his 2008 Study either points to a longer ASL or
12 are meaningless.

13

14 **Q.   TURNING TO ACCOUNT 376.2 – DISTRIBUTION MAINS – PLASTIC, DID**
15 **MR. ROBINSON'S AND THE COMPANY'S PRESENTATION YIELD BETTER**
16 **INFORMATION THAN IT DID FOR STEEL MAINS?**
17 A.   No.   For plastic Distribution mains, Mr. Robinson claims in numerous completed
18 depreciation studies for other utilities he has experienced shorter lives for plastic mains
19 than for steel mains, and that plastic mains are often installed in areas that experience
20 higher growth and thus replacements.[34] In other words, the total additional other factors
21 that he identifies under plant considerations for future expectations reference what he
22 claims to be his experience with other systems and thus may have nothing to do with this
23 specific analysis or any particular item of information obtained from MDU's
24 management. Moreover, such a limited item of information in no way supports an ASL
25 as short as 47 years.

26

27 **Q.   IS MR. ROBINSON'S STATEMENT REGARDING PLASTIC MAINS HAVING**
28 **A SHORTER LIFE THAN STEEL MAINS SUPPORTED BY HIS ANALYSIS IN**
29 **OTHER PROCEEDINGS?**

---

[32] Response to PUC 6-35.
[33] Response to PUC 6-36.
[34] 2008 Study Exhibit No._(EMR-1) at page 4-5.

1   A.   Not on a consistent basis. For the limited number of other studies provided by Mr.
2   Robinson, the largest gas system analyzed had a much longer life for plastic mains than
3   what Mr. Robinson proposed for steel mains.[35] In other words, some of the results Mr.
4   Robinson recommended for other utilities are inconsistent with his claim in this
5   proceeding, thus calling into question the credibility of the very limited other generalized
6   statement he presented in his 2008 Study.
7
8   Q.   **IN REVIEW OF MR. ROBINSON'S OTHER STUDIES, DID YOU FIND**
9   **INDICATIONS THAT HE RECOMMENDS LONGER ASLs FOR**
10   **DISTRIBUTION MAINS ELSEWHERE?**
11   A.   Yes. While Mr. Robinson's recommendations for mains generally appear to be lower
12   than the recommendations currently relied upon elsewhere in the industry, he often does
13   recommend ASLs for other utilities significantly longer than the 47-year ASL he
14   proposes for MDU in this proceeding. Thus, it has to be questioned why Mr. Robinson
15   believes that MDU has not or cannot obtain the same life expectancy for its Distribution
16   mains as other utilities are able to do, even those that Mr. Robinson analyzes.
17
18   Q.   **DO YOU AGREE WITH MR. ROBINSON'S PROPOSED 47-YEAR ASL FOR**
19   **DISTRIBUTION MAINS?**
20   A.   No. As previously noted, absent a strong showing in support of such an artificially short
21   value, the ASL must be increased. I recommend an initial step to a 60R2.5 life-curve
22   combination.
23
24   Q.   **WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**
25   A.   My recommendation is based on a combination of investigations into statistical results of
26   the historical data, an understanding of the changes in the industry over time, and more
27   realistic industry expectations.
28
29   While Mr. Robinson performed a statistical SPR analysis, such analyses indicate much
30   longer ASLs than either the 47-year level he proposed or the 60-year level I

---

[35] Response to PUC 6-28.

1   recommend.[36] However, in reviewing the data provided by the Company, I found that
2   aged data necessary to perform actuarial analyses for plastic and steel mains is
3   available.[37] Based on the age data associated with plastic and steel mains, I performed
4   actuarial analyses that yielded good-fitting life indications in the 60- to 70-year ASL
5   range.

6

7   Review of the SPR results provided by Mr. Robinson indicates that even based on this
8   secondary means of analysis, a mid-50- to upper-60-year ASL is warranted.[38] Indeed,
9   Mr. Robinson's selection of a 47-year ASL with an R4 dispersion pattern is the ninth
10   poorest fit for both the full band and the most recent five-year band analyses out of 32
11   curves analyzed. This means Mr. Robinson ignored many better-fitting life-curve
12   combinations from the statistical analysis he identified as the "primary input" for his ASL
13   proposal. He apparently ignored better fitting results due to a preconceived decision that
14   an R4 Iowa Survivor curve "provided an excellent fit."[39] As demonstrated by his own
15   SPR analyses, his preconceived position is not valid for MDU.

16

17   More important is the fact that since the Company did provide aged data for the
18   investment in this account, I was able to perform an actuarial analysis. As shown in the
19   following graphs, the actuarial analysis yielded good-fitting indications in the 60- to 70-
20   year ASL range. In other words, the actuarial analysis yielded results indicative of the
21   same general results that would have been obtained from SPR analysis had Mr. Robinson
22   properly interpreted such information rather than selecting the ninth poorest fitting
23   dispersion pattern out of 32 different patterns listed in his own analyses.

24

---

[36] Response to PUC 6-32.
[37] Response to MCC-135 in Docket No. D.2012.9.100 a MDU case before the MPSC.
[38] The results of SPR analysis for the full band and the most recent five-year band with excellent REI values and either the corresponding highest CIs or excellent CIs, depending on whether the full band or most recent five-year band is relied upon, yield better fitting results for Iowa Survivor curves other than Mr. Robinson's proposed R4. For the full band, the highest CI with an excellent REI yielded a 62-year ASL. For the most recent 5-year band, the highest CI with an excellent REI yielded a 69-year ASL.
[39] Response to PUC 6-32.

376.2 - DISTRIBUTION MAINS - PLASTIC

Legend: P:70 E:70 — 47R4 — 60R2.5

1

2
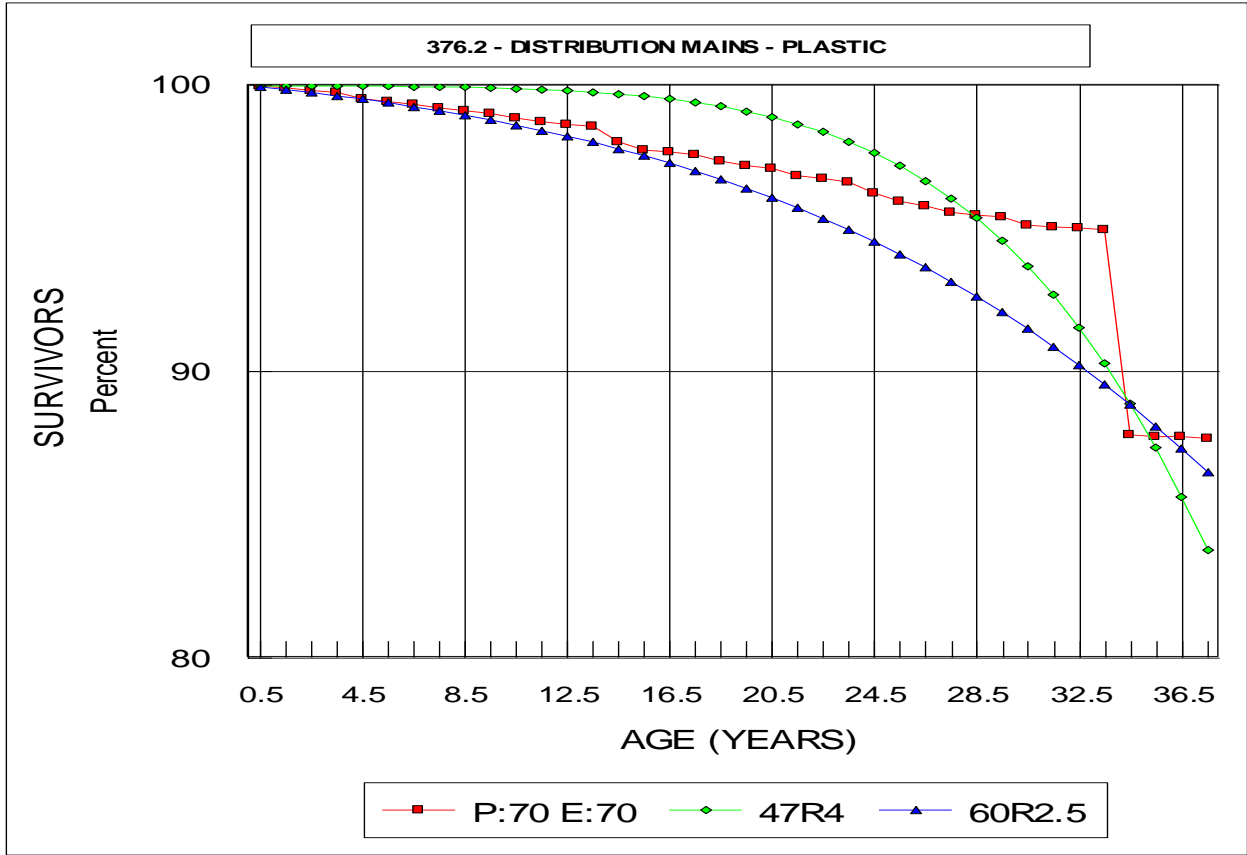
3　　While the 60R2.5 life-curve combination is a good fit, as shown in the graph below a

4　　67R2.5 life-curve combination is even a better fit for plastic mains.

5

376.2 - DISTRIBUTION MAINS - PLASTIC

SURVIVORS Percent

AGE (YEARS)

P:70 E:70   47R4   67R2.5
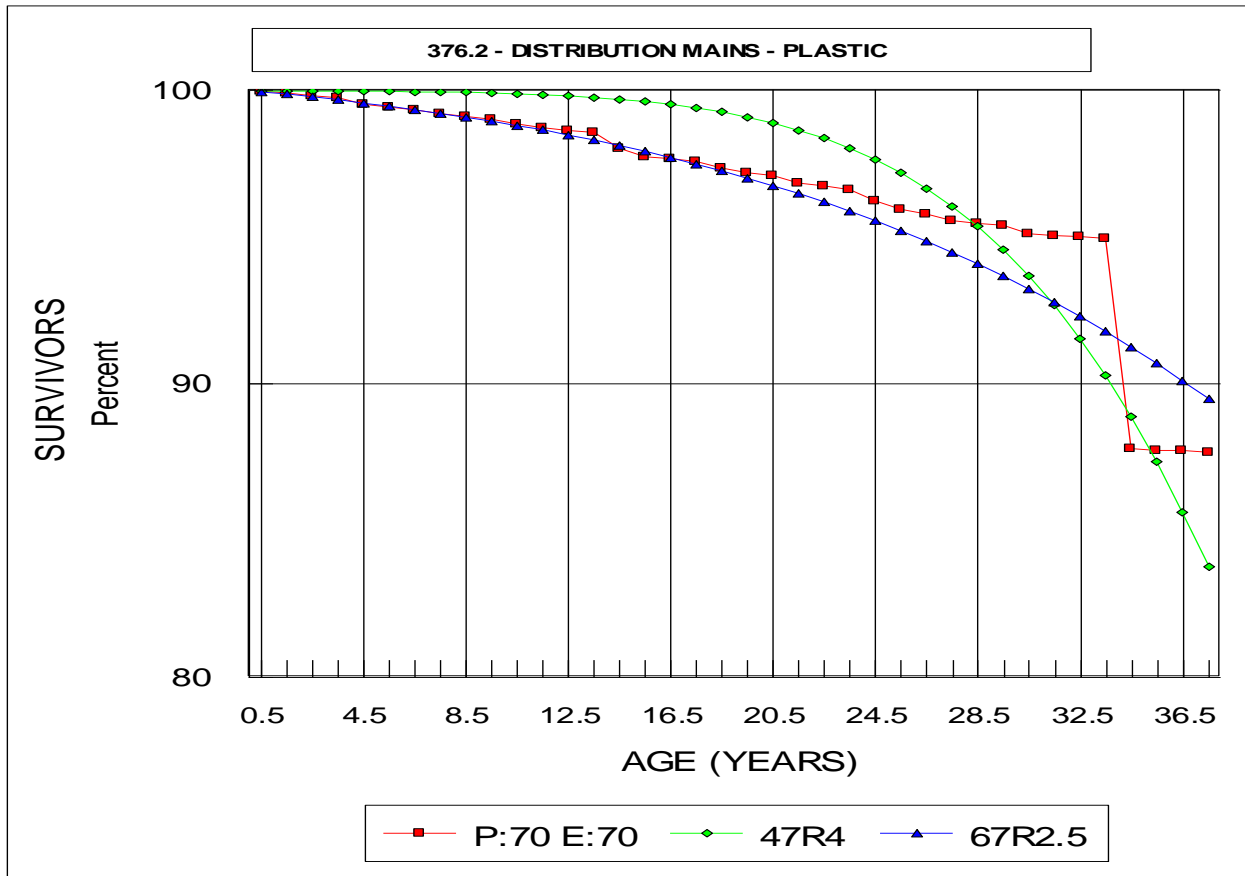
3   However, until the Company provides more information for its investment and the life

4   characteristics for its investment in the next depreciation study, I have limited the level of

5   increase in ASL to the 60-year level.

7   It must also be noted that life indications for plastic mains in the 40- to 50-year range, as

8   indicated for the poor fitting R4 Iowa survivor curve in many of Mr. Robinson's recent

9   SPR analyses, are more indicative of early generations of plastic pipe installed in the

10   1960s and early 1970s. Early generation plastic pipe had chemical composition problems

11   as well as installation problems. Such problems resulted in shorter life expectancy for

12   such investment compared to life expectations for newer generation plastic pipe installed

13   in the 1980s, 1990s, and 2000s. Given that the vast majority of investment in this

14   account for MDU was placed into service after the 1980s, one would expect that the 60-

15   to 70-year ASLs indicated by the actuarial analysis to be more appropriate than Mr.

16   Robinson's proposed 47-year ASL for plastic mains.

28

1

2   The actuarial information for steel mains is more limited than that for plastic mains, but

3   still indicates a much longer life. As set forth in the graph below, a 68S0.5 life-curve

4   combination is a superior fit to the OLT than is Mr. Robinson's proposed 47R4 life-curve

5   combination. Therefore, given the conservative estimate I recommend for plastic mains,

6   such a recommendation would also be conservative for steel mains.

7

376.1 - DISTRIBUTION MAINS - STEEL

8
9
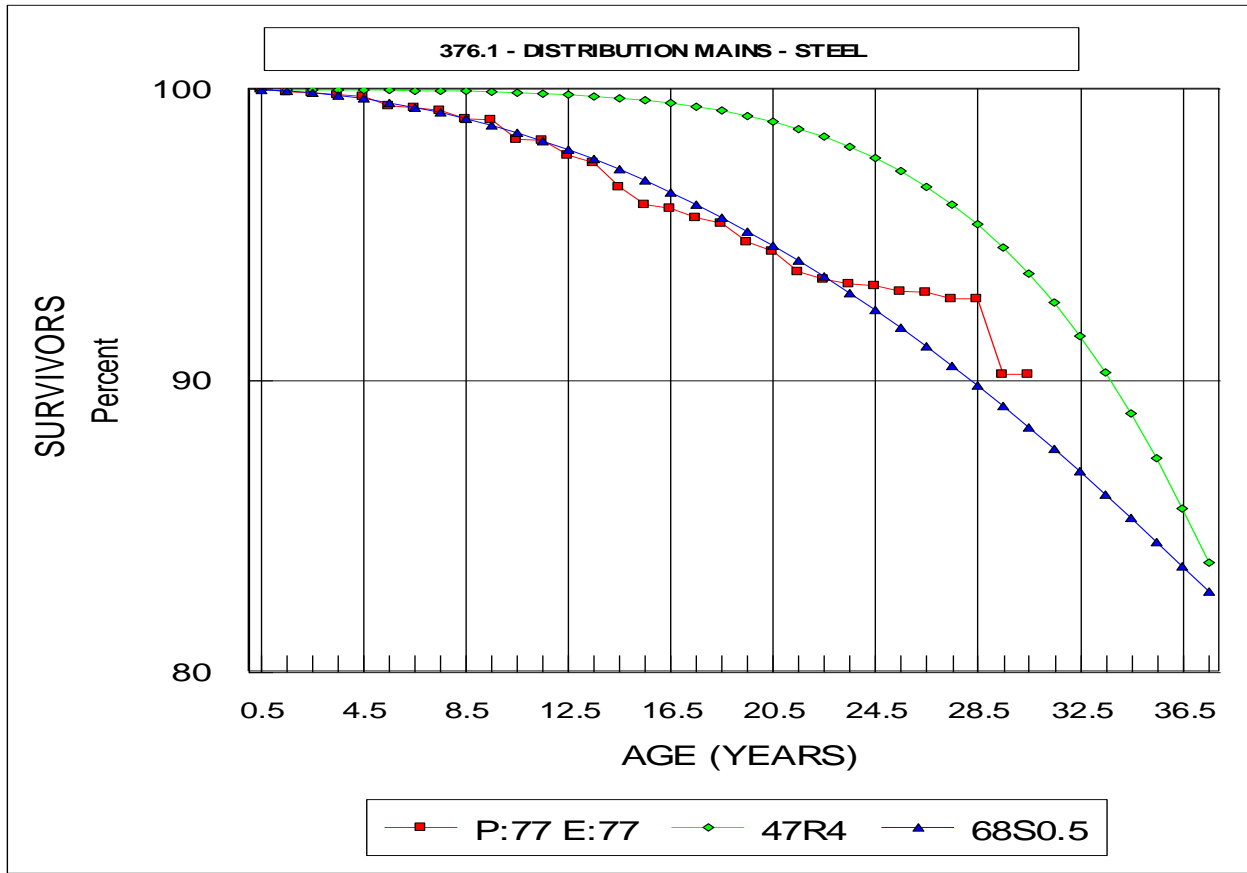
10   Turning to industry comparative data, it must be noted that even Mr. Robinson, in his

11   limited number of gas cases during the past five years, has also proposed ASLs for

12   Distribution mains in the mid-60- to even the mid-70-year level.[40] In other words, given

13   the heavier weighting of investment to more current periods (e.g., the 1980s through the

14   present), ASLs in the 60- to 70-year range are indicative of industry expectations and

15   values even proposed by Mr. Robinson.

---

[40] Response to PUC 6-28.

1		
2		In summary, whether viewed from appropriate SPR results, to the results from the
3		preferred actuarial analysis, to Mr. Robinson's own industry comparative data, or to other
4		industry comparative data as well as recognition of the change in material and installation
5		practices during the past several decades, an ASL no shorter than 60 years for
6		Distribution mains should be adopted for any subaccount that Mr. Robinson proposed a
7		47-year ASL.
8		
9	**Q.**	**WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**
10	A.	My recommendation for an initial step to a 60-year R2.5 life-curve combination results in
11		a $1,043,790 reduction in total Company depreciation expense based on plant as of
12		December 31, 2008.
13		
14		**F. Common Plant Life Analysis**
15		
16	**Q.**	**WHAT IS THE ISSUE IN THIS PORTION OF YOUR TESTIMONY?**
17	A.	This portion of my testimony will address the Company's proposed life for Common
18		plant Account 390. Common plant Account 390 is by far the largest single Common
19		plant account and has the largest depreciation expense for any Common plant account.
20		For this account, Mr. Robinson proposes a 35-year ASL. Given the type of investment in
21		the account, a 35-year ASL is artificially short.
22		
23	**Q.**	**WHAT DOES THE COMPANY PROPOSE FOR COMMON PLANT ACCOUNT**
24		**390 – STRUCTURES & IMPROVEMENTS?**
25	A.	The Company proposes a 35R1 life-curve combination.[41]
26		
27	**Q.**	**WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?**
28	A.	As was the case for gas plant, the Company's basis for its actual proposal for this account
29		is limited to vague and generalized statements relating to analysis of historical
30		information and discussion with Company personnel. However, for Common plant, Mr.

---

[41] Exhibit No._(EMR-2) page 2-5 Column I.

1		Robinson performed actuarial analyses rather than SPR analysis as he performed for gas
2		plant. In performing actuarial analyses Mr. Robinson did provide the resulting OLT. The
3		OLT associated with actuarial analyses provides more information than the graphical
4		presentation of simulated balances to actual balances, which is all he initially provided in
5		the SPR analyses for gas plant.
6		
7	**Q.**	**DO YOU AGREE WITH THE COMPANY'S PROPOSAL?**
8	A.	No. The Company's proposal represents an artificially short ASL. I recommend nothing
9		shorter than a 53L1 life-curve combination.
10		
11	**Q.**	**WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**
12	A.	My recommendation not only relies on the results of the corrected actuarial analyses, but
13		unlike Mr. Robinson, recognizes the actual type of investment in the account.
14		
15		In particular, the vast majority of the investment in this account is associated with major
16		office buildings and service centers.[42] These investments are steel buildings with either
17		brick or pre-cast concrete exteriors and are owned, not leased, by the Company. Office
18		buildings, warehouses, and service centers can and do last for 60 or 70 years or even
19		longer periods. Indeed, MDU's general office in Bismarck, North Dakota was built in
20		1968 and is still in service with no identified plans for retirement.[43] In other words, the
21		largest single investment in this account has already lasted 45 years compared to Mr.
22		Robinson's proposed 35-year ASL for this account. It should be noted that in rebuttal
23		testimony in the Company's current Montana proceeding, Mr. Robinson did admit that
24		the retirement at age six of the Company's new corporate office building should have
25		been removed from the life analysis. However, Mr. Robinson's updated interpretation of
26		his corrected actuarial results led him to believe that the removal of a major retirement at
27		an age of six years resulted in only a slightly longer ASL, but a different dispersion

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[42] Response to PUC 6-44.
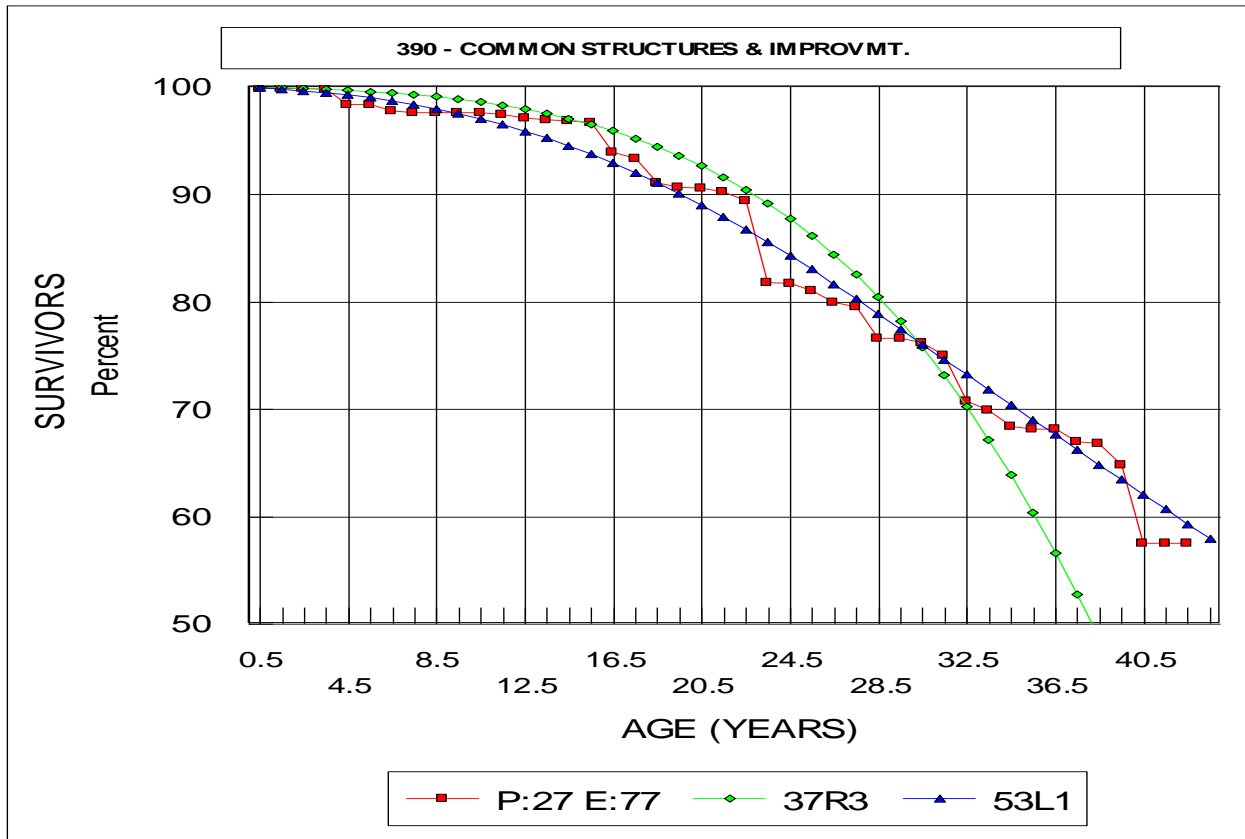[43] Response to PUC 6-44.

1	pattern which caused the remaining life to actually be lower than his initial proposal.
2	Therefore, he decided that no further adjustment was warranted.[44]
3	
4	Analysis of the corrected actuarial data strongly supports a longer ASL. As shown on the
5	graph below, my recommended 53L1 life-curve combination is a superior fit to Mr.
6	Robinson's corrected 37R3 life-curve combination through the meaningful portion of the
7	OLT. Indeed, Mr. Robinson's corrected proposal begins to significantly deviate from the
8	OLT after age 32.5 years. As shown on Exhibit_(JP-2), Mr. Robinson's updated and
9	corrected actuarial analysis attempts to fit the data points in the mid-40- to 50-year age
10	range. However, that is precisely the portion of the OLT that should be significantly
11	discounted or ignored given the fact that some of the dollar level of exposures fell to
12	$76,000 compared to $27.6 million at age zero (0). Moreover, it is during this age bracket
13	that even modest changes in retirement activity would have a significant impact on the
14	OLT. Therefore, in compliance with authoritative sources and even Mr. Robinson's own
15	admitted criteria corresponding to where data becomes insignificant in the curve-fitting
16	process, Mr. Robinson should have ignored the tail of the survivor curve. Unfortunately,
17	Mr. Robinson chose to emphasize the tail and ignored much more meaningful portions of
18	the curve.

---

[44] Mr. Robinson's Rebuttal Testimony at page 31 in Docket No. D.2012.9.100 a MDU case before the MPSC.

390 - COMMON STRUCTURES & IMPROVMT.

Legend: P:27 E:77 — 37R3 — 53L1

Y-axis: SURVIVORS Percent
X-axis: AGE (YEARS)

1

2

3   While the replacement of air conditioning systems, roofs, and other interim retirements

4   will have an impact on the overall ASL for this account, a 35-year ASL is unrealistically

5   short. Recognizing that the majority of the investment in this account is in actual steel

6   buildings that can last for 60 or 70 years or longer, relying on a 53-year ASL is a more

7   realistic expectation for the investment by the Company. This would be equivalent to

8   assuming approximately a 70-year life span for the buildings, which represents a

9   conservative estimate, and a 20-year life span for roofs and air conditioning systems, with

10   a 70/30 split in investment, respectively. While the assumed 70/30 split between

11   buildings and interim components is conservative, it does provide a logical basis at

12   arriving at a 53-year overall ASL.[45]

13

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[45] It should be noted that Mr. Robinson in rebuttal testimony in Montana did attempt to present an example at pages 32 and 33 which attempted to show that a shorter life would be indicated if similar components such as air conditioning units, roofs, etc. of office buildings were to be retired and reflected in the historical analysis. Mr. Robinson's analysis was flawed and misleading, and to the extent he attempts to present an equivalent argument in this proceeding, it should be dismissed as it is illogical and not accurate.

1   **Q.   WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

2   A.   My recommendation results in a $244,104 reduction to total Company Common plant

3   depreciation expense based on plant as of December 31, 2008.

4

5

6   **SECTION IV: NET SALVAGE**

7

8   **A. Gas Plant Net Salvage General**

9

10 **Q.   WHAT IS THE ISSUE IN THIS PORTION OF YOUR TESTIMONY?**

11 A.   This portion of my testimony addresses the Company's request for significant levels of

12   negative net salvage in its calculation of gas plant depreciation expense. Indeed, the

13   Company's request reflects the fact that a majority of its requested depreciation expense

14   is associated with its proposed net salvage parameters.[46]

15

16 **Q.   GIVEN THE SIGNIFICANCE OF THE COMPANY'S REQUESTED LEVEL OF**

17 **   NET SALVAGE, DID IT PROVIDE DETAILED EXPLANATION AND**

18 **   SUPPORT FOR ITS REQUEST FOR VARIOUS ACCOUNTS IN ITS FILING?**

19 A.   No. In spite of the magnitude of the impact associated with the proposed net salvage

20   values, Mr. Robinson presents little more than generalized statements that he performed

21   historical analysis, attempted to identify trends, and was influenced by future estimates of

22   the cost of removal based on age consideration of plant retired compared to the estimated

23   ASL.[47] A review of Mr. Robinson's testimony, 2008 Study, and workpapers yields the

24   fact that the Company's proposed net salvage ratios are unsubstantiated and

25   unsupported.[48] It is essential to recognize that generalized phrases of performing

26   historical analysis and considering future expectations are meaningless in establishing

---

[46] Reliance on a zero net salvage would reduce depreciation expense by $5.9 million, or 57.8% based on plant as of
December 31, 2008.
[47] Mr. Robinson's testimony at pages 5, 15, and 18.
[48] In response to PUC 6-7 and 6-8 Mr. Robinson attempted to provide some specificity to his proposals. However,
his responses still rely on generalized terms such as "likely" or "anticipated" expectations, and are not supported or
substantiated.

1		whether a -50%, a -30%, or any other value is the appropriate value to be utilized for
2		ratemaking purposes for any given account.
3		
4		It is also worth noting that in Section 7 of the 2008 Study Mr. Robinson does provide his
5		estimated quantification of future inflation as support for his proposal. However, Mr.
6		Robinson's inflation methodology is not one utilized by others in the industry. Also, in
7		Section 4 of the 2008 Study, where limited narrative is provided in association with
8		consideration of future expectations, Mr. Robinson remains totally silent regarding any
9		narrative basis supporting the establishment of net salvage for these accounts.
10		
11	Q.	**DOES MR. ROBINSON'S UNIQUE PROCESS OF QUANTITATIVELY**
12		**INCORPORATING A CALCULATION OF FUTURE INFLATION IN HIS**
13		**PRESENTATION HAVE A SIGNIFICANT IMPACT ON HIS NET SALVAGE**
14		**PROPOSALS?**
15	A.	Yes. For the largest single account, Distribution mains, Mr. Robinson's assumption that
16		future inflation is an important consideration results in taking $1.00 of current expected
17		net salvage cost and inflating it to a level of $2.71.[49] In other words, Mr. Robinson wants
18		current customers to pay for future escalated costs with their current dollars. This
19		proposal is inappropriate as, at a minimum, it creates intergenerational inequity and
20		violates the matching principle. Moreover, Mr. Robinson could not identify a single
21		reason why future expected costs should not be discounted or present valued to the
22		present so as to comply with standard economic principles and not discriminate against
23		current customers.[50]
24		
25	Q.	**IS MR. ROBINSON CORRECT IN ASSUMING FUTURE INFLATION APPLIED**
26		**TO HISTORICAL ANALYSES IS THE APPROPRIATE APPROACH TO**
27		**ESTIMATING FUTURE NET SALVAGE?**
28	A.	No, and in this particular instance there are additional problems with Mr. Robinson's
29		analyses. First, it must be noted that if inflation were the only consideration for changes

---

[49] 2.75% annual inflation rate for 36.8 years compounded annually results in a 2.71 factor as shown on page 7-13 of the 2008 Study.
[50] Response to PUC 6-21.

1   in future net salvage, there would be no need to hire a depreciation expert to quantify the

2   impact that such a driving factor would have on the final determination of net salvage. In

3   reality, the historical analysis Mr. Robinson presents clearly demonstrates that there is not

4   a continuous increase in negative net salvage as would be expected if inflation were the

5   driving or major factor associated with gross salvage and cost of removal. Indeed, there

6   are numerous other factors and considerations that go into net salvage analyses.

7   Unfortunately, Mr. Robinson fails to reasonably focus on any factor other than his

8   estimate of future inflation.

9

10   **Q.   WHAT ARE SOME OTHER FACTORS THAT SHOULD BE CONSIDERED?**

11   A.   Some of the other factors that can affect net salvage are the circumstances associated with

12   a particular retirement, the internal accounting for costs incurred between a new

13   installation that replaces retired plant and the cost recorded as cost of removal, the actual

14   item being retired within an account, the quantity of assets retired at any given time, as

15   well as other considerations. For example, the per unit cost to remove a section of main

16   can be dramatically different depending on several factors. The cost to remove identical

17   sections of main can differ greatly where one is of minimum length equal to a property

18   unit in a high traffic area, and another is the same length and size, but a component of a

19   mile-long section being removed in a rural area. The cost to remove the section of pipe

20   that stands alone as one property unit in a high trafficked area will be noticeably more

21   costly on a per-unit basis than the cost to remove the identical length in a rural area where

22   the overall project consists of removing a mile or longer section of main at one time.

23

24   **Q.   EVEN IF ONE WERE TO ASSUME FUTURE INFLATION WAS A**

25   **MEANINGFUL FACTOR IN ESTIMATING FUTURE NET SALVAGE, HAS**

26   **MR. ROBINSON'S ASSUMED 2.75% ANNUAL INFLATION RATE BEEN**

27   **ACCURATE IN THE YEARS THAT HAVE PASSED SINCE THE 2008**

28   **DEPRECIATION STUDY?**

1   A.   No. Inflation as measured by the Consumer Price Index (CPI) from the end of the 2008

2   Study through 2012 was 6.6%.[51] The 6.6% increase in CPI over the past four years

3   compares to Mr. Robinson's estimation of 11.5% for the same period.[52] Indeed, during

4   the four years subsequent to Mr. Robinson's depreciation study, his estimation of future

5   inflation is in error by 73%.[53]

6

7   Q.   **HOW DID MR. ROBINSON SPECIFICALLY TAKE INFLATION INTO**

8   **ACCOUNT?**

9   A.   As with the balance of Mr. Robinson's depreciation study, his explanation of how he

10   incorporated his concept of future inflation into the development of his final proposed net

11   salvage parameters is extremely vague. When specifically requested to provide how

12   annual inflation was employed or relied upon in the development of the final proposed

13   net salvage parameters, Mr. Robinson responded by saying the forecast is "simply a tool

14   that is used to calculate and display the anticipated end of life net salvage."[54] He further

15   states that his estimation process:

16

17   gives consideration to the overall average, recent experience, and

18   forecasted analysis. The estimation process is one of gradualism towards

19   more future looking calculations which is more representative of future net

20   salvage that can be anticipated at the end of life of the property group.[55]

21

22   In other words, even when specifically requested to provide how he employed his

23   inflation calculation in determining the final proposed net salvage values, he continues

24   the process of being exceptionally vague and essentially nonresponsive to what he

25   actually did to arrive at net salvage factors. This failure to identify what is the basis for

26   his proposal is inappropriate and unacceptable given that his net salvage estimations

27   represent the majority of the requested depreciation expense. As will be discussed in the

---

[51] U.S. Bureau of Labor Statistics CPI Index December 2012 value of 229.594 versus December 2008 value of 215.303.
[52] $1.0275^4 = 11.5\%$.
[53] 11.5% / 6.6%.
[54] Response to PUC 6-20.
[55] *Id.*

1   account specific section of my testimony, Mr. Robinson's failure to provide specifics

2   appears to be tied in part to the significance he actually did give to his future inflation

3   estimates in his process of proposing net salvage values for accounts.

4

5 **Q.**   **BASED ON YOUR REVIEW OF THE MAJOR GAS PLANT ACCOUNTS, ARE**

6   **YOU RECOMMENDING ADJUSTMENTS?**

7 A.   Yes. I am recommending adjustments to the three major gas plant accounts which

8   comprise in excess of 90% of the depreciation expense requested in the 2008 Study. The

9   table below sets forth for the three accounts, the Company's proposals, my

10   recommendations, and the standalone difference of each recommendation on a total

11   Company basis as of December 31, 2008.

12

Account Description	MDU Proposed	PUC STAFF Recommended	Impact of Adjustment
Account 376 – Distribution Mains	-50%	-30%	$761,817
Account 380 – Distribution Services	-200%	-175%	$507,095
Account 381 – Distribution Meters	-15%	-5%	$228,078
Total			$1,496,990

13

14   In addition, I am recommending an adjustment to Common plant Account 390 –

15   Structures & Improvements.

16

17 **Q.**   **IS   THERE   A   FURTHER   GENERAL   MATTER   THAT   WARRANTS**

18   **DISCUSSION?**

19 A.   Yes. In rebuttal in the current Montana proceeding, Mr. Robinson presented recorded net

20   salvage data for the period 2009 through 2012 in support for his proposal.

21

22 **Q.**   **IS SUCH PRESENTATION APPROPRIATE AND MEANINGFUL?**

1 A.   No. First, it must be noted that Mr. Robinson submitted his 2008 Study in January of

2   2010.[56] In other words, the 2008 Study was submitted to the Company prior to any of the

3   2009 through 2012 data being available. Therefore, Mr. Robinson could not have relied

4   upon such information in the development of his proposals.

5

6   Further, had Mr. Robinson and the Company believed that such data was meaningful or

7   appropriate for consideration in support of its depreciation request in this proceeding,

8   they had every opportunity to update the 2008 Study prior to its filing in late 2012, but

9   chose not to. Moreover, in response to discovery, neither Mr. Robinson nor the Company

10   elected to present or reference such information as being meaningful in the determination

11   of appropriate depreciation rates in this proceeding.

12

13   Finally, the presentation of net salvage data subsequent to the end of the 2008 Study

14   without corresponding updated information for life analysis purposes would be

15   inappropriate. In other words, the plant activity for 2009 through 2012 also has an

16   impact on the life characteristics of the plant during the same time period. Failure to

17   properly analyze both life and salvage characteristics at the same time negates the

18   relevance of an individual component.

19

20   In summary, the data as presented by the Company must stand on its own as the basis for

21   the Company's proposal. Any subsequent data can be and should be taken into account

22   in updated depreciation studies as filed by the Company in its next depreciation filing.

23   Any subsequent reliance by Mr. Robinson or the Company on 2009 through 2012 data

24   for determination of appropriate depreciation rates in this proceeding is inappropriate.

25

26   **B. Gas Plant Account Specific**

27

28   **Account 376 – Distribution Mains**

29

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[56] Cover letter to Exhibit No._(EMR-1).

1	Q.	**WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 376 –**
2		**DISTRIBUTION MAINS?**
3	A.	The Company proposes a -50% net salvage, which is less negative than the existing -60%
4		net salvage for this account.[57]
5		
6	Q.	**WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?**
7	A.	The Company presents no specific basis for its proposal. As previously noted, Mr.
8		Robinson has provided various generalized and vague references to concepts, trends, and
9		other information, yet has failed to provide any specifics as to how he arrived at his
10		proposed -50% net salvage value.
11		
12	Q.	**DO YOU AGREE WITH THE COMPANY'S PROPOSAL?**
13	A.	No. The Company's proposal is excessively negative. I recommend a -30% net salvage
14		for this account.
15		
16	Q.	**WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**
17	A.	My recommendation is based on an analysis of historical data recognizing patterns or
18		trends in the data and taking into account the likely type of activity that is occurring.
19		First, it must be noted that while Mr. Robinson claims that he relies on trends in the data,
20		for this account that statement is not accurate. The trend in the data from the early 2000s
21		through 2008 has been generally to a less negative level between approximately -20%
22		and -30%.[58] Relying on the three-year rolling average band analyses presented by Mr.
23		Robinson, the trend has also been towards a -25% to -35% value.[59] Moreover, it is worth
24		noting that during the past 20 years the Company has experienced a value as negative as a
25		-50% in only two years.[60] In fact, for four out of the past five years, the Company has
26		experienced a negative net salvage less negative than a -35%. Therefore, from a trend
27		analysis or analysis of recent historical data, a net salvage value between -25% and -30%
28		would be more appropriate.

---

[57] 2008 Study Exhibit No._(EMR-1) Section 4 page 4-4.
[58] 2008 Study Exhibit No._(EMR-1) at page 7-10.
[59] *Id.* at page 7-12.
[60] *Id.* at pages 7-9 and 7-10.

1

2   Another consideration is that on systems such as the Company's, mains are frequently

3   replaced due to emergency situations or replacements of small quantities of pipe. The

4   level of negative net salvage that is incurred during emergency replacement activity or

5   with the replacement of small quantities of pipe is normally more negative than would

6   normally be expected in the future, as a greater quantity of mains are retired on a more

7   planned basis. Unfortunately, the Company cannot identify what level of retirement

8   activity is associated with emergency situations.[61]

9

10   In addition, my recommendation is approximately the level experienced by the Company

11   over the entire historical database relied upon by Mr. Robinson in his 2008 Study (-30%

12   versus -31.57%).[62] I, however, did not incorporate the impact of estimated future

13   inflation as did Mr. Robinson. In fact, for this account, it would appear that the only

14   pathway to a -50% net salvage as proposed by Mr. Robinson would be to give significant

15   weight to his future inflated -92% value. Indeed, it would be necessary to give Mr.

16   Robinson's estimated future inflation results of a negative 92% an approximate 40%

17   weighting with a 60% weighting for the current or trend values of approximately a -25%

18   to -30% to arrive at an overall -50% net salvage level.[63] Such analysis by Mr. Robinson

19   is inappropriate and demonstrates the fatal flaw reflected in his proposal.

20

21   **Q.   WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

22   A.   My recommendation of a -30% net salvage for this account results in a $761,817

23   reduction in total Company annual depreciation expense based on plant as of December

24   31, 2008.

25

---

[61] Response to PUC 6-17. It must be noted that in rebuttal testimony in the current Montana proceeding, Mr. Robinson claimed that reference to emergency replacements as a basis for net salvage adjustment was "preposterous". He claims that mains are typically repaired and not replaced, with costs being charged to maintenance expense. He further claimed that any emergency replacement would be de minimis, yet provided no support or justification for such position. Given the Company's response that it cannot identify emergency replacement activity, Mr. Robinson's unsupported Rebuttal Testimony in Montana is not credible and would be contrary to the situation experienced by many other utilities.

[62] 2008 Study at page 7-13.

[63] $(-92\% \times 40\% + -25\% \times 60\%) = 51.8\%$.

1   **Account 380 – Distribution Services**

2

3   Q.   WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 380 –
4   DISTRIBUTION SERVICES?

5   A.   The Company proposes a -200% net salvage, or a value more negative than the existing
6   -175% net salvage.[64]

7

8   Q.   WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?

9   A.   As with all other accounts, the Company provided no specific explanation as to how it
10   arrived at its proposed -200% net salvage in its application. However, the proposed
11   -200% net salvage is approximately equal to the inflation adjusted forecasted future
12   expected net salvage value developed by Mr. Robinson (-210%).[65]   In response to
13   discovery the Company did note that negative net salvage has been climbing over time
14   and has routinely been above a -200% net salvage for many recent years.[66]

15

16   Q.   DO YOU AGREE WITH THE COMPANY'S PROPOSAL?

17   A.   No. The Company's proposal is one of the most negative net salvage levels utilized in the
18   industry. In fact, it must be realized that the Company's proposed -200% net salvage
19   represents a situation where the Company seeks to recover $3 from customers for every
20         $1 it invests in Distribution services. Given the Company's lack of detailed information
21   associated with its investment in this account, I conservatively recommend retaining the
22   existing -175% net salvage.

23

24   Q.   WHAT IS THE BASIS FOR YOUR RECOMMENDATION?

25   A.   The Company's historical values vary significantly over time. The range of values
26   reported by the Company for years that cost of removal or gross salvage values are
27   recorded range from a high of a -28% to a low of a -286%.[67] In addition, it is common
28   for the Company to report annual variations of 40 percentage points or more. Annual

---

[64] 2008 Study Exhibit No._(EMR-1) at Section 4 pages 4-11 through 4-13.
[65] 2008 Study Exhibit No._(EMR-1) at Section 7 page 7-28.
[66] Response to PUC 6-8.
[67] 2008 Study at Pages 7-24 through 7-25.

1   variations of this magnitude call into question the Company's accounting practices as
2   well as field practices associated with the retirement of services.

3

4   While the overall historical database presented by the Company yields a -88% net
5   salvage, the overall value includes numerous years where no gross salvage or cost of
6   removal was reported.[68] When the historical database is reviewed from 1995 through
7   2008, corresponding to the period when the Company did record gross salvage or cost of
8   removal in each consecutive year, the resulting net salvage is a -179%. While a -179% is
9   still excessively negative compared to industry values and realistic expectations, it may
10   be the best information available given the Company's presentation.

11

12   From an industry standpoint, even one grounded in Mr. Robinson's recent experience, the
13   proposed -200% net salvage for this account is excessively negative. Indeed, during the
14   past five years the most negative net salvage value proposed by Mr. Robinson is a -160%,
15   with the average proposed negative net salvage value being approximately a -88%.[69] In
16   other words, even the existing -175% net salvage is more negative than any value Mr.
17   Robinson proposed during the past five years and in fact is as much as <u>eight times</u> more
18   negative than the -25% value he proposed for Rochester Gas & Electric for the same
19   depreciation test period as reflected in the Company's 2008 Study.[70] Variations of this
20   magnitude demand significant support and justification, none of which has been provided
21   by Mr. Robinson or the Company.

22

23   While I am uncomfortable recommending retention of even the -175% existing net
24   salvage level, it is the only conservative value that can reasonably be identified based on
25   the information provided by the Company. However, in conjunction with recommending

---

[68] *Id.* at Pages 7-24 through 7-28.
[69] Response to PUC 6-28.
[70] It must be noted that in Mr. Robinson's Rebuttal Testimony in the current Montana proceeding, he claimed that such comparison to his prior testimonies was misleading and further claimed that there can be specific reasons for such low levels of negative net salvage such as some companies under the jurisdiction of the New York Public Service Commission artificially cap the level of cost of removal recorded (Rebuttal Testimony at pages 25-26). However, Mr. Robinson could not state whether the referenced Rochester Gas & Electric Company was one of those utilities where the New York Public Service Commission employed the claimed artificial cap. Mr. Robinson provided no support for his claim.

1		the retention of the -175% net salvage, I also recommend that the Commission order the
2		Company to make a full and complete analysis of why its recorded levels of negative net
3		salvage are not only becoming more negative, but are at high negative levels compared to
4		the rest of the industry. Such analysis should include a detailed review and justification
5		of those costs directly assigned to cost of removal when replacement activity occurs
6		notwithstanding the fact that the Company creates separate work orders for installation
7		and retirement. It may very well be a situation where activities that should be assigned to
8		the new replacement investment are being booked as cost of removal. However, in no
9		instance should the Commission adopt a more negative value than currently exists.
10		
11	Q.	**WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**
12	A.	My recommendation to retain the -175% net salvage results in a $507,095 reduction in
13		total Company annual depreciation expense based on plant as of December 31, 2008.
14		

Account 381 – Distribution Meters

16		
17	Q.	**WHAT DOES THE COMPANY PROPOSE FOR ACCOUNT 381 –**
18		**DISTRIBUTION METERS?**
19	A.	The Company proposes a significant change in net salvage. The Company proposes a -
20		15% compared to the existing zero (0) level of net salvage.[71]
21		
22	Q.	**WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?**
23	A.	As with all other accounts, the Company does not provide any meaningful basis for how
24		it arrived at its proposed net salvage value in its filing. Based on a review of the
25		Company's historical analysis, it would appear that the -15% proposal is based on Mr.
26		Robinson's reliance on his forecast of future inflation, which results in a -19% and
27		reliance on a few recorded occurrences of values that are atypical.[72] However, such basis
28		would require Mr. Robinson to ignore the overall average, gradualism and the trend in the
29		data, all of which he claims he also relied on.

---

[71] 2008 Study Exhibit No._(EMR-1) at page 4-14.
[72] *Id.* at pages 7-30 through 7-33.

1		
2	Q.	**DO YOU AGREE WITH THE COMPANY'S PROPOSAL?**
3	A.	No. The Company's proposal is excessively negative. I recommend a value no more
4		negative than a -5%.
5		
6	Q.	**WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**
7	A.	Review of the historical database indicates a <u>positive</u> overall 7% net salvage.[73] Further
8		review of historical data indicates that, during just the past 10 years, the Company
9		experienced a range from a high of positive 75% to a low of a -175%.[74] Moreover, the
10		trend in the data based on three-year rolling averages is towards a less negative value but
11		is heavily influenced by the most recent 2008 value corresponding to a -175%. Thus, to
12		the extent that moving to a negative value is appropriate, nothing more negative than a -
13		5% is warranted, and in fact, even such movement may be unwarranted. However,
14		without any further additional information a -5% net salvage recommendation is a
15		conservative value.
16		
17	Q.	**WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**
18	A.	My recommendation results in a $228,078 reduction in total Company annual
19		depreciation expense based on plant as of December 31, 2008.
20		
21		**C. Common Plant Net Salvage**
22		
23	Q.	**WHAT IS THE ISSUE IN THIS PORTION OF YOUR TESTIMONY?**
24	A.	This portion of my testimony addresses the Company's proposal for a zero (0) level of
25		net salvage associated with Common plant Account 390 – General Structures &
26		Improvements.
27		
28	Q.	**WHAT DOES THE COMPANY PROPOSE FOR ITS COMMON PLANT**
29		**ACCOUNT 390 – GENERAL PLANT STRUCTURES & IMPROVEMENTS?**

---

[73] *Id.* at Page 7-33.
[74] *Id.* at Page 7-30.

1 A.   The Company proposes a zero (0) net salvage for the investment in this account.

2

3 Q.   **WHAT IS THE COMPANY'S BASIS FOR ITS PROPOSAL?**

4 A.   As with all other proposals by the Company, there is no specific basis provided, either in

5   testimony or in the 2008 Study.   However, review of Mr. Robinson's net salvage

6   presentation in Section 7 of his 2008 Study for Common plant indicates that a positive

7   net salvage is warranted based on either review of historical data or Mr. Robinson's

8   forecasted inflation analysis.[75]

9

10 Q.   **DO YOU AGREE WITH MR. ROBINSON'S PROPOSAL?**

11 A.   No. Mr. Robinson's proposal significantly understates the realistic future net salvage

12   expectations for this account.   I recommend a positive 20% as a first step towards

13   recognition of the true value these investments will produce when retired.

14

15 Q.   **WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**

16 A.   My recommendation is based both on an analysis of historical transactions by the

17   Company and analysis of the type of investment that currently exists.   From either

18   standpoint, the positive 20% net salvage is the minimal first step that must be taken.

19

20   An analysis of the overall historical database relied upon by the Company yields a

21   positive 21% net salvage.[76]   In addition, the three-year rolling bands produced by Mr.

22   Robinson of historical data indicate 50% to 90% positive net salvage values.   Therefore,

23   based on actual Company experience, a positive net salvage significantly in excess of

24   positive 20% is warranted.

25

26   Investigation into historical retirements of buildings further yields a strong historical

27   pattern of positive net salvage value for such investments.   Indeed, during the past 20

28   years the Company retired approximately 10 general office structures.[77]   In all instances,

---

[75] 2008 Study Common plant Exhibit No._(EMR-2) Section 7 pages 7-1 through 7-5, even if the transfer of the corporate office is removed.
[76] *Id.* at page 7-5 (approximately +12% if the corporate office transfer is removed).
[77] Response to PUC 6-45.

1	the Company experienced positive net salvage. In fact, the overall level of positive net
2	salvage experienced by the Company for its retirement of general office structures during
3	the past 20 years was in excess of a positive 75%.[78] Not only is a large positive net
4	salvage demonstrated by Company actual experience, but is consistent with both logic
5	and common sense. A building, if constructed appropriately and maintained over its
6	useful life for a particular owner, is normally expected to have a significant positive level
7	of net salvage.[79] Given that the vast majority of the Company's investment in this
8	account currently corresponds to steel office buildings, there is no reasonable expectation
9	that it will receive a zero (0) level of net salvage when it does retire such facilities.
10	
11	Finally, it must be noted that had Mr. Robinson given consideration to his forecasted
12	future net salvage calculations as he has done in other accounts, he would have
13	recognized a value significantly in excess of a positive 20% net salvage. A value much
14	greater than a positive 20% represents a net salvage value more positive than the level I
15	recommend in this proceeding.
16	
17	In summary, whether viewed from a standpoint of the overall actual data for the account,
18	the actual experience for approximately 10 buildings retired over the last 20 years, the
19	standard understanding of appreciation of buildings over time that are appropriately
20	constructed and maintained, recognition of the type of investment currently in service, or
21	even Mr. Robinson's forecast analyses, there is no logical basis for assuming a zero (0)
22	net salvage as proposed by the Company. My recommended positive 20% net salvage
23	should be viewed as a very conservative initial step in conjunction with the
24	recommendation that the Commission order the Company to perform a detailed analysis
25	of reasonable net salvage expectations for its investment in office buildings to be
26	incorporated in the Company's next depreciation study.
27	

---

[78] *Id.*

[79] In Mr. Robinson's rebuttal testimony in the current MDU Montana case, he claimed that any buyer of the Company's building "…would likely be purchasing the underlying land as opposed to the outdated structure. Hence any future gross salvage is anticipated to be exceeded by the corresponding cost of removal." (pages 34-35). Not only is such claim unsupported in any manner, but it is incorrect. The Company maintains its building, and when it has retired its buildings it always reports a positive sale value.

1	**Q.**	**WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**
2	A.	My recommendation results in a $283,205 reduction to total Company depreciation
3		expense based on plant as of December 31, 2008.
4		
5	**Q.**	**DOES THIS CONCLUDE YOUR TESTIMONY?**
6	A.	Yes. However, to the extent I have not addressed an issue, method, procedures, or other
7		matter relevant to the Company's rate case, it should not be construed that I am in
8		agreement with the Company's proposed issue, method, or procedures. In addition, I
9		provide Exhibit__ (JP-3) which sets forth the discovery and other information I relied
10		upon.