

BEFORE THE
NEW YORK STATE
PUBLIC SERVICE COMMISSION

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Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of New York State Electric & Gas Corporation for Electric Service	Case 09-E- 0715
Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of New York State Electric & Gas Corporation for Gas Service	Case 09-G- 0716
Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Rochester Gas and Electric Corporation for Electric Service	Case 09-E- 0717
Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Rochester Gas and Electric Corporation for Gas Service	Case 09-G- 0718

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**REBUTTAL TESTIMONY OF
EARL M. ROBINSON**

February 12, 2010

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1 **I. INTRODUCTION**

2 Q. Please state your name.

3 A. My name is Earl M. Robinson.

4 Q. Are you the same Earl Robinson who submitted Direct Testimony in these
5 proceedings on behalf of New York State Electric & Gas Corporation ("NYSEG"
6 or the "Company") and Rochester Gas and Electric Corporation ("RG&E" or the
7 "Company"). (Where appropriate, RG&E and NYSEG are referred to collectively
8 herein as the "Companies").

9 A. Yes, I submitted Direct Testimony in support of Depreciation Studies conducted
10 by Aus Consulting Inc. ("AUS") on behalf of RG&E (Electric and Gas &
11 Common) and NYSEG-Gas.

12 Q. What is the purpose of your rebuttal testimony?

13 A. The purpose of my rebuttal testimony is to respond to certain statements and
14 recommendations set forth in the PSC Staff Depreciation Panel's testimony and
15 exhibits ("Staff" or the "Depreciation Panel"). I will address Staff's position
16 regarding the existing variance between the Companies' current book depreciation
17 reserve and related theoretical depreciation reserves. I will also respond to Staff's
18 proposed alternative net salvage and average service life parameters, and Staff's
19 use of Whole Life depreciation (in general), and specifically for RG&E's Other
20 Production Plant.

21 Q. Are you sponsoring any exhibits in support of your rebuttal testimony?

22 A. Yes. I am sponsoring the following exhibits:

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- 1 • Exhibit ____ (DEP-1): [Staff Adj'd Depr Tables-NS & ASL Impacts-
2 RGE-Elect]
- 3 • Exhibit ____ (DEP-2): [Staff Adj'd Depr Tables-NS & ASL Impacts-RGE-
4 Gas]
- 5 • Exhibit ____ (DEP-3): [Staff Adj'd Depr Tables-NS & ASL Impacts-
6 NYSEG-Gas]
- 7 • Exhibit ____ (DEP-4): [NARUC Depr Manual Pages]
- 8 • Exhibit ____ (DEP-5): [Traditional Versus Cash Basis NS Recovery]
- 9 • Exhibit ____ (DEP-6): [RGE-Elec Summary Net Salv Exp Versus Staff
10 Prop]
- 11 • Exhibit ____ (DEP-7): [Summary of Gas Industry Depr Parameters]
- 12 • Exhibit ____ (DEP-8): [Depr Panel Acct 367 Proposed Life Plot]
- 13 • Exhibit ____ (DEP-9): [Co Account 367 Proposed Life Plot]
- 14 • Exhibit ____ (DEP-10): [Depr Panel Acct 368 Proposed Life Plot]
- 15 • Exhibit ____ (DEP-11): [Co Account 368 Proposed Life Plot]
- 16 • Exhibit ____ (DEP-12): [Depr Panel Acct 370 Proposed Life Plot]
- 17 • Exhibit ____ (DEP-13): [Co Account 370 Proposed Life Plot]
- 18 • Exhibit ____ (DEP-14): [Depr Panel Acct 380.10 Proposed Life-Plot]
- 19 • Exhibit ____ (DEP-15): [Co Account 380.10 Proposed Life-Plot]
- 20 • Exhibit ____ (DEP-16): [376.10 & 376.20 Plot & OLT]
- 21 • Exhibit ____ (DEP-17): [380.10 & 380.20 Plot & OLT]

22 Q. Do you have preliminary comments concerning Staff's testimony in this
23 proceeding?

24 A. Yes. One of the key areas of my rebuttal testimony is to respond to the proposal
25 advanced by the Staff Policy Panel concerning the variances between RG&E-

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1 Electric's and NYSEG-Electric's book depreciation reserves and theoretical
2 depreciation reserves. I also address Staff's approaches to forecasting estimated
3 net salvage factors and average service lives which are inconsistent with generally
4 accepted depreciation practices and concepts as used both by depreciation
5 professionals and regulatory agencies, and as set forth in the leading depreciation
6 text books, such as the 1996 National Association of Regulatory Commissions
7 ("NARUC") manual entitled, "Public Utility Depreciation Practices" (the
8 "NARUC Depreciation Practices Manual"), as well as The Estimation of
9 Depreciation, by W.C. Fitch, F.K. Wolf, and B.H Bissinger, and Engineering
10 Valuation and Depreciation, by Marston, Winfrey, and Hempstead. In summary,
11 Staff's methods result in a reduction to many of the AUS-proposed negative net
12 salvage parameters. Staff's mathematical-only approach to computing average
13 service lives also produces longer average service lives (compared to those
14 proposed by the Companies and the lives underlying the parameters used to
15 establish the current depreciation rates).

16 Q. Describe the NARUC Depreciation Practices Manual?

17 A. The NARUC Depreciation Practices Manual is a widely utilized textbook that has
18 been published numerous times starting in the early 1940s or before. The most
19 recent textbook was updated as of August, 1996 by the NARUC Staff
20 Subcommittee on Depreciation of The NARUC Finance and Technology
21 Committee and reviewed by educators, regulatory staff, and consultants in the
22 publication process. The textbook is viewed as an education tool for training as
23 well as an ongoing reference of depreciation practices.

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1 Q. Please summarize your response to Staff's proposed depreciation adjustments.

2 A. I address the flaws in the Staff Policy Panel's and Depreciation Panel's calculation
3 of NYSEG-Electric's and RG&E-Electric's excess book depreciation reserves, and
4 the artificial bright-line of 10% Staff uses to define an excess depreciation
5 reserve. I also analyze Staff's unreasonably low net salvage factors that result
6 from Staff's non-traditional approach to estimating net salvage on a cash basis,
7 instead of the longstanding and generally accepted accrual accounting
8 depreciation principles followed by AUS. I also analyze Staff's unrealistically
9 long average service lives that are based upon unconventional, backward looking
10 methodology that appears to rely solely on a mathematical analysis of historical
11 data, without taking other factors into account, such as visual analysis, and other
12 circumstances. Finally, I have prepared exhibits that demonstrate the impact of
13 Staff's proposals on the Companies' depreciation proposals (Exhibit __ (DEP-1)
14 for RG&E-Electric, Exhibit __ (DEP-2) for RG&E Gas & Common, and Exhibit
15 __ (DEP-3) for NYSEG-Gas).

16 Q. Does Staff's recommendation for a substantial reduction in proposed depreciation
17 rates, and in some cases, reductions from present depreciation rates, have a
18 financial impact on the Companies?

19 A. Yes, as described by the NARUC standard definition of depreciation, depreciation
20 expense enables a company to recover in a timely manner the capital costs related
21 to its plant-in-service that benefits the company's customers. The use of an
22 appropriate level of depreciation recovery in revenue requirements allows
23 recovery of a company's investments in depreciable assets over a life that

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1 provides for full recovery of those investments, less net salvage, thus,
2 appropriately reflecting the cost to the company's customers of the plant used to
3 serve those customers. Without the appropriate recovery of depreciation costs,
4 NYSEG and RG&E will not be able to meet their financial obligations related to
5 the continued provision of safe and reliable service to customers.
6

7 **II. REBUTTAL**

8 A. Staff Policy Panel Depreciation Reserve Adjustment

9 Q. Please explain what is meant by a book versus theoretical depreciation reserve
10 variance.

11 A. Subsequent to the installation of property, in each accounting period, a company
12 accrues annual depreciation expense (through the application of a depreciation
13 rate to the gross plant-in-service balance) to recover the cost of the property over
14 the useful life of the property. Along the way, various components of the
15 installed property are retired from service. At any point in time, a company will
16 have charged depreciation expense as well as booked retirements for property
17 taken out of service. A company's book reserve (relative to plant-in-service) is
18 equal to the aggregate accumulation of depreciation expense less the amounts of
19 property retirements. Over time (years), estimates of service life change and the
20 depreciation rate changes accordingly. The book versus theoretical depreciation
21 reserve comes in to play in a current period when a new depreciation study is
22 completed and a comparison is made between what aggregate book depreciation

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1 reserve actually exists and what level should exist based upon the current
2 estimates of average service life and net salvage parameters.

3 Q. Please explain the theoretical reserve calculation.

4 A. The first principle is that the theoretical depreciation reserve is calculated
5 prospectively, meaning that the depreciation reserve is equal to the original cost
6 of the surviving plant in service minus the level of estimated original cost and net
7 salvage recovery that will collect in future years while the property is still in
8 service. That is, the standard definition of the depreciation reserve ratio, with
9 which the theoretical reserve amount is calculated (reserve ratio for each vintage
10 multiplied by the corresponding vintage's surviving investment) for each
11 depreciable property group, is 1, minus the future life expectancy (average
12 remaining life or "ARL") divided by the Average Service Life ("ASL"). By the
13 nature of the calculation, the theoretical reserve calculation assumes that the same
14 level of average service life and net salvage that are currently estimated have
15 always been the underlying depreciation parameters for the plant-in-service since
16 the day that the plant was placed into service, and will always be the same.
17 However, estimated service lives and net salvage change with the completion of
18 each depreciation study over the life of the property. While the depreciation
19 parameters and rates that were in place during earlier years were correct given the
20 circumstances of the time, due to changing circumstances, they most likely are no
21 longer appropriate today. Accordingly, by the nature of the theoretical
22 depreciation reserve calculation, variances can vary considerably from
23 depreciation study to depreciation study. This is because service lives increase

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1 and/or decrease depending upon changes in growth activity, *etc.* Therefore, it is
2 impossible not to have a book versus theoretical depreciation reserve variance.
3 With every change of the parameters in a new depreciation study, the variance
4 will either increase for decrease. Furthermore, the impact of Staff's inappropriate
5 lengthening of service lives and lower estimates of future net salvage (as done in
6 the current depreciation studies) together with the mechanism of the theoretical
7 depreciation calculation can exacerbate the level of the variance.

8 Q. Please comment on the Staff Policy Panel's statements and position relative to
9 RG&E-Electric's and NYSEG-Electric's book versus theoretical depreciation
10 reserve variances.

11 A. On page 93 of its testimony, the Staff Policy Panel states that the Depreciation
12 Panel represented that NYSEG-Electric and RG&E-Electric have excess book
13 depreciation reserves of \$304 and \$125 million, respectively. First, the NYSEG
14 & RG&E calculations are subject to all the general flaws of theoretical
15 depreciation reserves previously discussed, including but not limited to the
16 assumption that the depreciation parameters (ASL and Iowa survivor curves) used
17 to perform the calculation have been in place since the original inception of the
18 property. Secondly, the depreciation parameters used to calculate the NYSEG
19 theoretical depreciation reserve are based upon data from five years ago. Changes
20 over the past five years within the electric industry, in addition to changes due to
21 significant proposed infrastructure will impact the useful life of property in
22 coming years. Thirdly, Staff's estimates of life and salvage, upon which its
23 statements are based regarding the level of depreciation reserve variances, are

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1 flawed. The flawed estimates of life and salvage have a direct bearing on the
2 level of book versus theoretical depreciation reserve variance. Fourthly, while the
3 Depreciation Panel and Policy Panel addressed and made recommendations
4 regarding when the book reserve was perceived to be excessively greater than the
5 theoretical depreciation, they failed to acknowledge the excess of the theoretical
6 versus book depreciation reserve of NYSEG-Gas (NYSEG-Gas theoretical
7 reserve of \$301 million exceeded the Company's book depreciation reserve of
8 \$269 million by \$32 million, or 11.9 percent — (NYSEG Depr Study Report Sec
9 2, page 2-10)) and RGE-Gas (RGE-Gas theoretical reserve of \$272 million
10 exceeded the Company's book depreciation reserve of \$224 million by \$48
11 million, or 21.4 percent — (RG&E Depr Study Report Sec 2, page 2-10)).
12 Finally, while the Staff Depreciation Panel used an artificial 10% bright line to
13 define an excess book depreciation reserve, the Staff Policy Panel represented the
14 entire stated RG&E –Electric and NYSEG-Electric variance to be used for rate
15 mitigation, but was silent on the gas depreciation reserve variances. This
16 erroneously assumes that no level of book versus theoretical depreciation reserve
17 should exist. Such an occurrence is impossible given that each time depreciation
18 parameters are revised a variance will automatically will occur.

19 Q. What are the Companies proposing with regard to the current depreciation reserve
20 variances?

21 A. NYSEG-Electric and RG&E-Electric are not proposing any special treatment of
22 the current depreciation reserve variances, but instead are relying on the normal
23 course of plant activities to close the variances over the lives of their properties.

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1 As previously noted, with each new depreciation study, variances will either grow
2 or decline depending upon the circumstances impacting plant-in-service at a
3 particular point in time. With the planned significant increases in infrastructure
4 investments and other changes, there is a strong probability that along with
5 increased related retirements the more recent longer service life indications will
6 decline towards more typical lives for the various property groups. Likewise,
7 with increased retirement activity, the levels of negative net salvage are also
8 likely to increase. Either of these events would serve to reduce the electric
9 property book versus theoretical depreciation reserve variances.

10 Q. Is it appropriate to adjust the book depreciation reserve variance to a zero
11 amount?

12 A. No, in fact, Staff has indicated that it is its general policy to consider potential
13 adjustments once the depreciation reserve variance exceeds 10%. As previously
14 discussed, each time a depreciation study is performed and a theoretical reserve
15 calculation is prepared, the level of the variance will change, either upward or
16 downward, depending upon the current circumstances surrounding the
17 Companies' plant-in-service. Accordingly, the 10% guideline variance should be
18 viewed as a general floor beyond which adjustments should not be made.

19 Q. Please explain how the average remaining life ("ARL") depreciation technique
20 would correct the book versus theoretical depreciation reserve variance and why
21 the Whole Life depreciation technique does not.

22 A. The ARL depreciation technique automatically corrects any book versus
23 theoretical depreciation reserve variance. The key to the ARL depreciation

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1 technique's automatic true-up (correction of the book depreciation reserve) is
2 attributable to the fact that the ARL depreciation technique incorporates a
3 company's current book depreciation reserve in setting proposed prospective
4 depreciation rates. By incorporating a company's book depreciation reserve into
5 the calculation of ARL-based depreciation rates, the prospective depreciation
6 rates are set either higher or lower than a simple Whole Life technique calculation
7 to compensate for the fact that the book depreciation reserve is higher or lower
8 than required to recovery a company's plant cost over its useful life. Accordingly,
9 any currently existing book versus theoretical depreciation reserve variance is
10 automatically corrected over the remaining life of the property group.
11 Conversely, given that the Whole Life depreciation technique does not
12 incorporate the level of a company's current book depreciation reserve into the
13 depreciation rate calculation it is impossible for the Whole Life depreciation
14 technique to generate the correct prospective depreciation rates. The use of ARL
15 depreciation rates is the most efficient and most appropriate mechanism to
16 address any occurrence of book versus theoretical depreciation reserve variances
17 now and in the future.

18

19 B. Impact of Staff's Proposals

20 Q. Do you have exhibits that identify the depreciation expense impact of Staff's
21 alternative recommendations of average service lives and net salvage
22 percentages?

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1 A. Yes, Exhibit__(DEP-1), Exhibit__(DEP-2), and Exhibit__(DEP-3) were prepared
2 for RG&E-Electric, RG&E-Gas & Common, and NYSEG-Gas plant,
3 respectively. Column M of each exhibit calculates the impact of the Total Staff's
4 proposed Depreciation Adjustment on the Company's depreciation proposal.
5 Column N of each exhibit calculates the impact of the Staff's proposed Net
6 Salvage Adjustment on the Company's depreciation proposal. Column O of each
7 exhibit calculates the impact of the Staff's proposed Average Service Life
8 Adjustment on the Company's depreciation proposal:

- 9 • For RG&E-Electric's depreciation proposal, Staff's proposed adjustments
10 result in a 21.5% reduction (-12.7% net salvage adjustment and -8.8% life
11 adjustment).
- 12 • For RG&E-Gas & Common, Staff's proposed adjustments result in a
13 13.9.5% reduction (-2.5% net salvage adjustment and -11.4% life
14 adjustment);
- 15 • For NYSEG-Gas, Staff's proposed adjustments results in a 12.9%
16 reduction (-1.7% net salvage adjustment and -11.2% life adjustment).

17
18 C. Whole Life vs. Average Remaining Life for RG&E Hydro Facilities

19 Q. Is Staff's analysis of the impact of the ARL depreciation technique on RG&E-
20 Electric's hydro facilities correct?

21 A. No. On page 14, lines 18-21, Staff states that it "does not agree with using the
22 remaining life technique because the license periods do not represent an
23 appropriate life to recover the cost of the hydro assets." The development of an
24 average service life or average remaining life over which to recover a company's
25 fixed capital cost (both original cost and end-of-life cost) in not dependent upon

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1 the depreciation technique used in developing the recovery rate. The
2 recovery/depreciation rate of location-type property groups, such as RG&E's
3 generating facilities, are routinely developed by using the Life Span Method in
4 which various investment vintages within a property location are life-spanned to a
5 probable retirement or significant reconstruction date. In that way, when the
6 future event occurs, a company will have appropriately recovered the cost of the
7 facilities. The difference between general mass-type properties (Transmission,
8 Distribution, *etc.*) and location-type properties (*e.g.*, generating facilities) is that
9 the individual units within the mass-type properties are routinely retired
10 independent of one another, while location-type properties are typically
11 interdependent and tend to retire or get materially reconstructed all at the same
12 time. Hence, the Life Span method develops a life for the applicable property
13 which is representative of the location property characteristic. The Life Span
14 method can be applied either using the Whole Life technique or the Remaining
15 Life technique. The only difference in the application is whether to incorporate a
16 company's current book depreciation reserve in the recovery calculation. The
17 Average Remaining Life technique calculation incorporates a company's book
18 depreciation reserve while the Whole Life technique does not. Not including a
19 company's current book depreciation reserve in the development of proposed
20 depreciation rates is a critical failure in properly addressing the appropriate
21 depreciation recovery rate. This fact is applicable not only to location-type
22 property, but equally to mass type-property (Transmission, Distribution, and
23 General) as well. Staff correctly discusses the ARL technique on page 10, lines 9-

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1 13 of its testimony in which it states, "The essential difference [between whole
2 and average remaining life] is that the remaining life technique incorporates the
3 book depreciation reserve in the calculation [of developing a depreciation rate]
4 and divides by the remaining life rather than dividing by the whole life, that is, the
5 average service life." However, Staff fails to acknowledge the superiority of the
6 ARL technique over Whole Life, given that the ARL depreciation technique
7 includes all factors affecting the appropriate recovery while the Whole Life
8 depreciation technique fails to include a critical component (a company's current
9 book depreciation reserve) in the development of proposed depreciation rates.

10 Q. If the ARL depreciation technique produces more appropriate depreciation
11 recovery why did AUS prepare the proposed depreciation rates (with the
12 exception of the RG&E Hydro Production Functional) using the Whole Life
13 depreciation technique?

14 A. In the last NYSEG electric rate proceeding, in Case 05-E-122, Staff proposed and
15 the Commission specifically directed that the Whole Life technique be used to
16 develop depreciation rates (exclusive of the Company's generating plant).
17 However, as I have previously testified before this Commission and as other state
18 commissions have recognized, the ARL depreciation technique produces superior
19 depreciation rates to that produced using the Whole Life depreciation technique.
20 For this reason ARL-based depreciation rates are used by the majority of
21 regulatory agencies, including Federal Energy Regulatory Commission, the
22 Federal Communications Commission, and by the state commissions of
23 Massachusetts, Connecticut, Pennsylvania, New Jersey, Ohio, Indiana, Illinois,

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1 Kentucky, Arizona, California, Nevada, to name several. In fact, as discussed
2 previously, in Section II.A., the use of ARL depreciation rates can directly correct
3 the book versus theoretical depreciation reserve variances.

4
5 D. Net Salvage

6 1. General

7 Q. Does Staff agree with a number of the depreciation parameters set forth in the
8 Companies' Depreciation study reports?

9 A. Yes. Although based on different methodologies, Staff's and AUS's net salvage
10 factors for certain accounts are either the same, or not materially different.
11 However, as explained in greater detail bellow, Staff's non-traditional approach
12 for estimating net salvage results in illogical and unreasonable proposed
13 depreciation rates for many accounts.

14 Q. Please explain how and why Staff's estimated net salvage parameters are
15 inappropriate to be included in the development of proposed annual depreciation
16 rates.

17 A. Staff's proposed net salvage factors are inconsistent with longstanding and
18 generally accepted depreciation principles and are illogically and unreasonably
19 low in comparison to what will be experienced by the Companies' property over
20 its useful service life. Staff essentially proposes to move a single component of
21 the ratemaking accounting for utility property from accrual accounting treatment
22 to effective cash-basis accounting. That is, the recovery of the Companies'
23 property investments as well as other accounting transactions are based upon

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1 accrual accounting concepts in which costs are attributed to the period of time in
2 which revenues are received or benefits are provided to the Companies'
3 customers. Staff's approach to estimating the level of net salvage (typically
4 negative for the most part) is effectively on a cash basis. On page 18, lines 10-13
5 of its testimony, Staff states " . . . we recommend that the (depreciation) rate be
6 adjusted to more closely reflect the recent five year average of actual dollars of
7 net salvage incurred." Staff's position is incorrect and will create significant
8 intergenerational inequities between the Companies' customers of different
9 periods.

10 Q. Please explain what you mean by "intergenerational inequities."

11 A. Certainly. Today's customers are obtaining benefit of the use of the Companies'
12 entire current plant-in-service. Staff's proposal to set the net salvage (essentially
13 cost-of-removal) recovery component only to the level of current cash
14 expenditures misses a significant portion of the true (ratable) cost of removal
15 being incurred by the Companies. Under accrual treatment of costs, there is a
16 distinct difference between dollars expended for an item and ratable portion of
17 costs incurred related to the same item. Just because the Companies have not
18 expended dollars for the cost of removal of an item does not mean it has not
19 incurred a cost. The level currently being expended by the Companies for net
20 salvage or end-of-life cost is merely attributable to the limited portion of property
21 that currently happens to be reaching end-of-life. The overwhelming portion of
22 the Companies' current plant-in-service will not reach end-of-life until some
23 future date. Under Staff's net salvage position, today's customers, even while

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1 using and consuming portions of the Companies' total plant-in-service, will not
2 pay their fair share of the end-of-life cost for plant not yet retired. That is, end-of-
3 life cost cannot have been expended for the property not yet retired. Under Staff's
4 position, customers would only effectively pay for end-of-life costs after amounts
5 are expended for its retirement/removal. This position is inappropriate and
6 inequitable in that it pushes today's incurred cost off on tomorrow's customers. It
7 is analogous to the ratemaking treatment of pension costs, where today's
8 customers pay their fair share although they will not receive the benefits under the
9 pension plans until some future date. Today's end of life costs which are very
10 modest, in comparison to the Companies' total plant-in-service investment, are
11 attributable to the far lower amount of property placed into service years earlier.

12 Q. Please comment on Staff's testimony on page 19, lines 5-6, "The [Companies]'
13 proposed [net salvage] rate was developed on the concept of a relationship of net
14 salvage costs to plant dollars retired."

15 A. The Companies' methodology has been widely acknowledged by depreciation
16 professionals and regulators alike. *See* Exhibit___(DEP-4, page 5 of 5). Page
17 159 of the NARUC Depreciation Practices Manual specifically identifies the
18 manner in which net salvage (Gross Salvage and Cost of Removal) should be
19 analyzed as a percentage of retirements. Likewise, page 37 of the California
20 Public Utilities Commission Standard Practice U-4 in addressing net salvage
21 analysis states, "...To do this, total the retirements for each year and determine
22 the corresponding totals of gross salvage and cost of removal. Dividing each of
23 the latter by the retirements gives the percent gross salvage and percent cost of

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1 removal realized for each year In using this information for determining
2 estimates it is often helpful to plot a graph of successive values each year."

3 Q. Please comment on Staff's statement at page 19, lines 11-15, ". . .for most
4 accounts with negative net salvage, which means that the cost of removal exceeds
5 the salvage, costs are closer to the current labor cost of plant removal than it is to
6 the original cost of the plant retired."

7 A. Staff's statement is ambiguous and implies that the cost of removal is at today's
8 price level while the retired plant (which generated the negative net salvage) was
9 placed into service during earlier years. This simply reflects the fact that plant is
10 placed into service at the beginning of its life and is retired some years later, at the
11 end of its life. Cost of removal (or cost to retire) always occurs at end-of-life, so
12 there will always be a period of years between installation and retirement; the
13 only difference is the length of time between when property is placed into service
14 and when it is retired. The historical retirements that have occurred within the
15 Companies' various property groups (as well as the utility industry in general)
16 routinely have occurred at ages much younger than average service life. Hence,
17 the analysis of the historical retirements and related net negative salvage that has
18 occurred to date is much lower than can be anticipated relative to the future
19 overall retirement of the Companies' existing plant-in-service. That is,
20 recognizing that the average ages of past retirements have been at ages less than
21 average service life, future retirements will need to occur at older ages if each
22 property group is going to achieve the anticipated average service life for its
23 group. With the increased/longer period of time between installation and

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1 retirement (along with ongoing increases in labor costs) it follows logically that
2 future negative net salvage will be higher when the remaining portion of the
3 existing plant-in-service is retired.

4 Accordingly, Staff's proposal to use recent levels of cash expenditures as a basis
5 for estimating future net salvage is flawed and inappropriate. Staff's proposal also
6 penalizes future customers as a result of pushing off the current customers' ratable
7 share of end-of-life plant costs to future customers. Lastly, Staff's use of recent
8 cash expenditure experience is simply a short-term approach with long-term
9 consequences.

10 Q. Do you have an exhibit that illustrates the improper recovery stream that is
11 produced by Staff's use of the recent five years' expenditures for a basis of the net
12 salvage estimate to be included in proposed depreciation rates?

13 A. Yes. Exhibit____(DEP-5) is an illustrative schedule showing the level of yearly
14 net salvage recovery that occurs under Staff's recent five-year expenditure (cash)
15 approach versus the level of yearly net salvage recovery that occurs under the
16 Traditional Approach incorporated within the Companies' proposed depreciation
17 rates. The model is built using an initial \$1 million property investment with an
18 Iowa 10-R3 life characteristic. In addition, it is estimated that the property will
19 experience negative 75 percent net salvage when property is retired from service.
20 Exhibit____(DEP-5) shows that the net salvage recovery proposed by Staff is
21 back-end loaded with the result that customers currently benefiting from the
22 plant-in-service significantly under-pay their fair share of the property cost used
23 in the receipt of service. Conversely, the traditional approach of estimating future

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1 net salvage as a percentage of retirements and incorporating the estimate into the
2 depreciation rate (as proposed by the Companies) provides a ratable recovery of
3 cost over the life of the property. Under Staff's proposal, the greatest amount of
4 cost of removal is charged to customers when the least amount of plant is in
5 service. Furthermore, under Staff's proposal, the book depreciation reserve
6 applicable to the plant-in-service actually goes negative during the later years of
7 the property's life. This situation places the Companies at great risk of not
8 recovering the cost of its plant, and places the greatest burden on the fewest
9 number customers. Lastly, the significant under-recovery throughout the
10 property's life results in higher carrying charges to the Companies' customers.

11 Q. Have you performed a calculation to illustrate the higher carrying charges to
12 customers that result from Staff's net salvage approach?

13 A. Yes, on Exhibit____(DEP-5) I have included Columns (p) and (q) in which I have
14 calculated the annual variance between the resulting Staff net salvage proposal
15 related net rate base and the Company (Traditional) net salvage approach related
16 net rate base. Consistent with Staff's backend recovery of the negative net
17 salvage, Staff's net salvage proposal retains a higher level of net rate base over the
18 life of the property. Column (q) is a representative cost of the higher retained rate
19 base (under the Staff proposal) using a nominal 10% rate of return. In this
20 illustration of a \$1 million investment and negative 75 percent net salvage, the
21 additional cost to customers is more than \$500,000.

22 Q. Is your position supported by NARUC or other depreciation treatises?

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1 A. Yes. The NARUC Public Utility Depreciation Practices manual, on page 22-23
2 (Exhibit __ (DEP-4), pages 2 of 5 and 3 of 5) under regulatory considerations,
3 provides as follows:

4 *".....Prescribing depreciation rates is one of the most important*
5 *regulatory commission activities impacting customer rates. The*
6 *estimation of depreciation parameters is not, of course, a scientifically*
7 *exact process, since it involves a large element of informed judgment*
8 *regarding future developments. At the same time, it cannot be an*
9 *arbitrary figure selected for convenience, **because it must allocate the full***
10 ***cost (original cost plus end of life costs) over the life of the property in a***
11 ***rational manner "** (Emphasis added).*

12 Q. Have you prepared an exhibit that summarizes your net salvage analysis?

13 A. Yes, Exhibit __ (DEP-6) summarizes the range of RG&E-Electric's net salvage
14 experience along with Staff's recommended net salvage, the net salvage proposal
15 include in the RG&E-Electric depreciation study, as well as the impact of Staff's
16 lower proposed negative net salvage estimates on the annual depreciation accrual.
17 The exhibit clearly identifies that RG&E-Electric has been and will continue to
18 experience negative net salvage in conjunction with the retirement of property
19 from these asset classes as well as its remaining asset property groups. These four
20 illustrated property accounts are simply the assets categories in which Staff's
21 inappropriate and improper net salvage approach resulted in the greatest impact.
22 The column on Exhibit ____ (DEP-6) headed "1999-2008 Yearly Net Salv Exp" is
23 the range of net salvage percent experienced during the 10-year period 1999 to

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1 2008. The standard traditional method for identifying the level of net salvage that
2 future retirements are anticipated to incur is to analyze experienced net salvage as
3 a relationship to experienced retirements. The next column to the right, headed
4 "1999-2008 3-Yr Rolling Avg Net Salv Experience" is a rolling band average of
5 the prior column and provides smoothing of the data to make observations easier.
6 Comparing the two columns just discussed with the column headed " Staff Net
7 Salv % Estimate" it clear that Staff, through the use of a cash-based net salvage
8 estimation approach, has significantly understated the level of net salvage that
9 RG&E-Electric is currently experiencing notwithstanding the higher levels of net
10 salvage that is anticipated in future years. Looking at the next column to the
11 right, headed "Company Net Salv % Estimate" it is obvious that the net salvage
12 percentages included in the development of the Company's proposed depreciation
13 rates are well with the RG&E-Electric's range of experience, if not on the lower
14 side of the experienced net salvage range.

15 2. Company-Specific Net Salvage Analysis

16 Q. Are Staff's net salvage estimates relative to RG&E's Hydro plant accounts
17 correct?
18 A. No, Staff's net salvage estimates are not correct. As noted above in Section II.C
19 (Whole Life vs. Average Remaining Life for Hydro Facilities), the depreciation
20 parameters and rates for location-type production plant accounts are developed
21 via the Life Span method in which net salvage is comprised of interim net salvage
22 and terminal net salvage estimates. Table 2a of RGE-Electric's depreciation
23 report sets forth the estimates of the interim and terminal net salvage of each of

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1 the hydro facilities. Interim net salvage is attributable only to that portion of the
2 interim property that is anticipated to be retired between original installation and
3 the truncation date. Terminal net salvage is estimated for the portion of the
4 original property anticipated to be remaining in service as of the truncation date.
5 Again, Staff's estimate of net salvage for RG&E's Hydro Production accounts is
6 based upon a mass-account treatment, and therefore, is inappropriate.

7 Q. Is Staff's position not to use the FERC license date as a depreciation development
8 factor correct?

9 A. No. The FERC licenses have a specific date beyond which RG&E cannot legally
10 operate the various plants. It is speculative whether RG&E will seek to renew
11 one or more of the FERC licenses. Furthermore, if a renewal is sought, the period
12 of the license renewal, if granted, is also speculative. One driver behind the
13 change in the end-of-life point (probably year of retirement/rehabilitation) of an
14 operating plant would typically be the specific renewal of a license and/or upon
15 the completion of a major upgrade/reconstruction project that would provide the
16 capability for the facility's life to be extend beyond the original license or design
17 period. Neither of those events has been completed for RG&E's hydro facilities.

18 Q. Based upon the above discussion, are the depreciation parameters and rates set
19 forth in the RG&E-Electric Study for the hydro facilities more appropriate for
20 these properties than the alternatives proposed by the Staff?

21 A. Yes.

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1 Q. Please summarize your response to Staff's proposed alternative net salvage factors
2 for each of RG&E-Electric (Hydro); RG&E-Electric (General); RG&E Gas and
3 Common and NYSEG-Gas.

4 A. Certainly. Staff's alternative net salvage proposals cause the greatest reduction to
5 the Companies' proposed depreciation rates and expense. For each of RG&E-
6 Electric (Hydro Facilities and General), RG&E-Gas and Common, and NYSEG-
7 Gas, Staff's analysis is erroneous in that it relies on an unconventional, non-
8 traditional, and unsupported approach to estimating net salvage for the
9 Companies' operating property. Staff's estimates are based upon the Companies'
10 recent historical experience, instead of the correct approach which reflects the
11 ratable recovery of the total net salvage level that will occur in conjunction with
12 the retirement of property throughout the life of each of the property groups.
13 (Although for NYSEG-Gas, Staff's alternative net salvage proposals for three
14 Storage accounts and three Distribution accounts are based upon the same faulty
15 premise as for the other divisions, Staff's adjustments to NYSEG-Gas's net
16 salvage factors are not material.)

17

18 (a) Net Salvage Factors – RG&E-Electric's Hydro Facilities

19 Q. Describe Staff's changes to the net salvage factors for RG&E-Electric's Hydro
20 Facilities.

21 A. Staff proposed changes to five Hydro Production Plant accounts for the largest
22 reductions to the Companies' proposed depreciation rates and expense. AUS
23 developed the depreciation parameters and rates for these location-type

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1 production plant accounts using the Life Span method in which net salvage is
2 comprised of interim net salvage and terminal net salvage estimates, while Staff's
3 analysis treats Hydro Plant as if it is mass-property:

4 *Account 331 and Account 332 (Hydro)*

- 5 • **RG&E-Electric Depreciation Study:** AUS proposed 13.8% negative net
6 salvage for Account 331; AUS proposed 36% negative net salvage
7 Account 332.
- 8 • **Staff Proposal:** Staff estimated net salvage of negative 50% for the
9 property in Account 331, resulting in a \$38,000 adjustment; Staff
10 estimated net salvage of negative 50% for the property in Account 332,
11 resulting in a \$200,000 adjustment.
- 12 • **Rebuttal for Accounts 331 and 332:** Staff incorrectly treats Hydro Plant
13 as if it is mass-property, instead of location-type property. Interim net
14 salvage is attributable only to that portion of the interim property that is
15 anticipated to be retired between original installation and the truncation
16 date. Terminal net salvage is estimated for the portion of the original
17 property anticipated to be remaining in service as of the truncation date.

18
19 (b) Net Salvage Factors – RG&E-Electric (General)

20 Q. Describe Staff's changes to the net salvage factors for RG&E-Electric (General).

21 A. Staff's proposed changes to six RG&E-Electric Transmission accounts, and 13
22 Distribution accounts. For each of the accounts detailed below, the level of
23 negative net salvage was offset by modest amounts of return to stores or insurance
24 recoveries which is attributable to only small portions of total plant-in-service as
25 opposed to cost of removal which is attributable to the majority of plant.

26 *Account 364 - Poles*

- 27 • **RG&E-Electric Depreciation Study:** AUS proposed negative 75 percent
28 net salvage for this property group.

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- **Staff Proposal:** Based upon its review of the actual dollars expended in recent years, Staff estimated net salvage of only negative 15 percent for the property in this account.
- **Rebuttal:** Negative net salvage has been trending to increasingly high levels in recent years, ranging from negative 40 percent to negative 180 percent during the three-year rolling bands starting in 2002. The forecast of negative net salvage is negative 112 percent. The future net salvage forecast recognizes the fact that historic retirements to date that generated the high levels of negative net salvage have occurred at relative young average ages of only 16 (+) years of age. As the average age of retirements increase in future years to achieve the estimated 52-year average service life for the property group, the actual historical range of recent net salvage of negative 40 percent to negative 180 percent will increase to higher levels.

Account 365 - Overhead Conductors and Devices

- **RG&E-Electric Depreciation Study:** Negative 40 percent net salvage was proposed in AUS depreciation study for this group.
- **Staff Proposal:** Based upon its review of the actual dollars expended in recent years, Staff estimated net salvage of only negative 10 percent for the property in this account resulting in a \$1.2 million adjustment.
- **Rebuttal:** This account has been trending higher during recent years. Three-year rolling bands have ranged between negative 66 and negative 192 per cent net salvage since 2001.

Account 366 – Underground Conduit:

- **RG&E-Electric Depreciation Study:** Negative 80 percent net salvage was proposed in the AUS depreciation study
- **Staff Proposal:** Based upon its review of the actual dollars expended in recent years, Staff estimated net salvage of only negative 15 percent for the property in Account 366, resulting in a \$1.3 million adjustment.
- **Rebuttal:** Negative net salvage has been trending to increasingly high levels in recent years, ranging from negative 74 percent to negative 374 percent during the three-year rolling bands starting in 2001. The forecast of negative net salvage is negative 355 percent. The future net salvage forecast recognizes that historic retirements to date that generated the high levels of negative net salvage have occurred at relative young average ages of only 18 + plus years of age. As the average age of retirements increase in future years to achieve the estimated 72-year average service

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1 life for the property group, the actual historical range of recent net salvage
2 of negative 74 percent to negative 355 percent will increase to higher
3 levels.

4 *Account 367 - Underground Conductors and Devices*

- 5 • **RG&E-Electric Depreciation Study:** Negative 30 percent net salvage
6 was proposed in the Company's depreciation study.

- 7 • **Staff Proposal:** Based upon its review of the actual dollars expended in
8 recent years, Staff, estimated net salvage of only negative 10 percent for
9 the property in this account, resulting in a \$50,000 adjustment.

- 10 • **Rebuttal:** Negative net salvage has been trending to increasingly high
11 levels of negative net salvage in recent years, ranging from negative 10
12 percent to negative 216 percent during the three year rolling bands starting
13 in 2000. Although the forecast of net salvage is 32 percent, this positive
14 calculation was influenced by a gross salvage percent from a modest level
15 of positive gross salvage and even smaller retirement amount.
16 Furthermore, the small level of positive net salvage is attributable to only
17 limited portion of total plant-in-service as opposed to cost of removal
18 which will be attributable to the majority of plant. The future net salvage
19 forecast recognizes that historic retirements to date that generated the high
20 levels of negative net salvage, have occurred at relative young average
21 ages of only 14 + years of age. As the average age of retirements increase
22 in future years to achieve the estimated 50-year average service life for the
23 property group, the actual historical range of recent net salvage of negative
24 10 percent to negative 216 percent will increase to higher levels.

25 (c) Net Salvage Factors -- RG&E-Gas and Common

26 Q. Please provide your comments related to the Staff's proposed alternative net
27 salvage factors for RG&E-Gas and Common.

28 A. Staff proposed alternative net salvage factors for eight RG&E-Gas Distribution
29 accounts, the primary driver for which is Staff's use of the same unconventional,
30 non-traditional, and unsupported approach to estimating net salvage for the
31 Company's electric property. The level of negative net salvage for the gas
32 accounts was also offset by various amounts of return to stores or insurance
33 recovery which is attributable to only small portions of total plant-in-service as

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1 opposed to cost of removal which is attributable to the majority of plant. The
2 principal examples on the gas side are:

3 *Account 376.10 - Steel Mains*

- 4 • **RG&E-Gas & Common Depreciation Study:** Negative 70 percent net
5 salvage was proposed for steel mains in the gas depreciation study.
- 6 • **Staff Proposal:** Based upon its review of the actual dollars expended in
7 recent years, Staff estimated net salvage of negative 65 percent for the
8 property in this account, resulting in a \$14,000 adjustment.
- 9 • **Rebuttal:** *See Exhibit __ (DEP-7).* Negative net salvage has been
10 trending to increasingly high levels in recent years, ranging upwards to in
11 excess of negative 140 percent during the three year rolling bands over the
12 past ten years. The forecast of negative net salvage is negative 199
13 percent. The future net salvage forecast recognizes that historic
14 retirements to date that generated the high levels of negative net salvage,
15 have occurred at relative young average ages of only 25 + years of age.
16 As the average age of retirements increase in future years to achieve the
17 estimated 67-year average service life for the property group, the actual
18 historical range of recent net salvage will increase to higher levels.

19 *Account 376.20 - Plastic Mains*

- 20 • **RG&E-Gas & Common Depreciation Study:** Negative 70 percent net
21 salvage was proposed for plastic mains in the study.
- 22 • **Staff Proposal:** Based upon its review of the actual dollars expended in
23 recent years, Staff estimates net salvage of negative 65 percent for the
24 property in this account, resulting in a \$100,000 adjustment.
- 25 • **Rebuttal:** *See Exhibit __ (DEP-7);* Negative net salvage for this account
26 has been trending to increasingly high levels in recent years, ranging
27 upwards to in excess of negative 300 percent. The historic retirements to
28 date that generated the high levels of negative net salvage, have occurred
29 at relative young average ages of only 18 plus years of age. As the
30 average age of retirements increase in future years to achieve the
31 estimated 72 year average service life for the property group, the actual
32 historical range of recent net salvage of percent to negative 325 percent
33 will increase to higher levels.

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Account 380.20 - Plastic Services

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- **RG&E-Gas & Common Depreciation Study:** Negative 30 percent net salvage was proposed for plastic services in the Company's depreciation study.
- **Staff Proposal:** Based upon its review of the actual dollars expended in recent years, Staff estimates net salvage of negative 25 percent for the property in this account, resulting in a \$180,000 adjustment.
- **Rebuttal:** See Exhibit __ (DEP-7). Negative net salvage for this account has ranged from negative 17 percent to negative 80 percent during the three year rolling bands and historically averaged negative 27 percent. The forecast of net salvage is 63 percent. The future net salvage forecast recognizes that historic retirements to date that generated the high levels of negative net salvage, have occurred at relative young average ages of only 13 plus years of age. As the average age of retirements increase in future years to achieve the estimated 44 year average service life for the property group, the actual historical range of recent negative net salvage will increase to higher levels.

(d) Summary of Net Salvage Analysis

Q. Mr. Robinson, please summarize your findings on Staff's Depreciation Panel's net salvage analysis and recommendations for each of RG&E-Electric, RG&E Gas and Common and NYSEG-Gas.

A. In my expert opinion, Staff's analysis and recommendations for each of RG&E-Electric, RG&E Gas and Common and NYSEG-Gas set forth above are:

- Illogically low in comparison to what will be experienced over the property's useful life.
- Inconsistent with long-standing generally accepted depreciation principles related to the relationship of retirements and related net salvage percentages.
- Proposes to move one single component of ratemaking (net salvage estimation) to cash accounting concepts from accrual accounting concepts.
- Creates significant intergenerational inequities between customers of different time periods as a result of deferring appropriate recovery of

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negative net salvage from the cost-causing customers to a later point in time.

- Denies the fact that the Company annually incurs end-of-life costs relative to consumed property just because the cash expenditure for the cost has not been spent.
- Under Staff's proposal, cost causing customers do not pay their ratable fair share of the cost of the plant consumed in receipt of service.

Q. Why is it appropriate for a company's current customers to pay a ratable recovery of cost as opposed to Staff's proposed deferrals of cost recovery to future years?

Do current customers receive any benefit?

A. Under Staff's net salvage position, today's customers, even while using and consuming portions of the Companies' total plant-in-service, will not pay their fair share of the end-of-life cost for plant not yet retired. Under Staff's position, customers only effectively pay for end-of-life cost after amounts are expended for its retirement/removal. This position is inappropriate and inequitable in that it pushes today's incurred costs off on tomorrow's customers. Today's end-of-life costs which are very modest, in comparison to the Companies' total plant-in-service investment, are attributable to the far lower amount of property placed into service years earlier. To the extent that annual recovery is higher and the book depreciation is higher, the additional deduction results in lower rate base and lower carrying cost to today's customers.

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1 E. Average Service Lives Analysis

2 1. General

3 Q. Did the depreciation study analysis performed by AUS for the three studies in
4 these proceedings encompass a comprehensive life analysis over the range of the
5 Companies' available data?

6 A. Yes, contrary to Staff's testimony on page 5, lines 20-23 which states "The
7 remaining RG&E plant accounts were examined using one band of information,"
8 a full complement of study analysis was performed. For clarity, the proposed
9 estimate of average service life and survivor curve for each depreciable property
10 group was displayed in Section 5 of each Company's depreciation study report.
11 This is a standard presentation approach used by depreciation professionals and is
12 consistent with Staff's testimony at page 32 which states (relative to the
13 Companies' future depreciation studies) "The Companies should also include, for
14 the band that was chosen in each account, a plot of the observed curve, smooth
15 curve.....". However, to include plots of all bands and curves analyzed would
16 make the already voluminous report more unwieldy and convoluted for a reviewer
17 to comprehend.

18 Q. Please comment on how Staff's life recommendations (recovery proposals) would
19 impact the Companies' proposed depreciation recovery.

20 A. With regard to forecasts of average service lives, Staff's life recommendations
21 appear to be based upon an unconventional, backward looking approach that
22 solely relies upon a mathematical analysis of historical data. In various cases
23 throughout Staff's testimony references are made to 'better fits' of historical data.

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1 (e.g., testimony page 16, lines 15-16 and page 17, lines 1-1 "...survivor curves
2 for the 11 accounts selected by the Panel (titled Staff) **fit or track the actual**
3 **retirement history** better than the curves selected by the Company..."; testimony
4 page 20 lines 20-22 "...band analysis indicates that the Panel's selected lives **fit**
5 **the observed life better** than the Company's selection" ; testimony page 22, lines
6 17-20 "The survivor curves and ASLs for the 14 RG&E accounts and 16 NYSEG
7 accounts selected by the Panel fit or **track the actual retirement history** better
8 than the curves selected by AUS". In other words, Staff simply conducted a
9 statistical fit of historical data points and accepted those clerical results as the
10 final and best service life forecast without other considerations. For example,
11 Staff did not incorporate a visual review of the data points generated from the
12 historical analysis, and did not consider the property account content or the
13 typical service lives for the property group.

14 Q. Explain why it is inappropriate to rely on a purely statistical analysis to forecast
15 average service lives.

16 A. It is inappropriate to only use the results of a best fit historical data analysis to
17 forecast future service lives for property. Although history is a reasonable
18 benchmark from which to start the life forecasting process, it does not provide the
19 entire picture. Page 126 of the NARUC Public Utility Depreciation Practices
20 (Exhibit____(DEP-4), page 4 of 5) manual states:

21 *"Depreciation analysts should avoid becoming ensnared in the mechanics*
22 *of the historical life study and relying solely on mathematical solutions.*

23 *The reason for making an historical life analysis is to develop a sufficient*

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1 *understand of history in order to evaluate whether it is a reasonable*
2 *predictor of the future. The importance of being aware of circumstances*
3 *having direct bearing on the reason for making an historical life analysis*
4 *cannot be understated. These circumstances, when factored into the*
5 *analysis, determine the application and limitations of an historical life*
6 *analysis."* (Emphasis added).

7 Q. Did the Companies provide "Rolling and Shrinking Band Analysis" information
8 with each of the depreciation study workpapers?

9 A. Yes, for each of the accounts studied, in which information was available, the
10 Companies provided "Rolling and Shrinking Band Analysis" Observed Life
11 Tables which contain all the exposures, retirement and observed data points for
12 each of the age intervals experienced by the Companies' numerous depreciable
13 property groups (for RG&E-Electric, RG&E-Gas & Common, and NYSEG-Gas).

14 Q. Why did AUS use Iowa Curves as opposed to h Curves in its depreciation
15 analysis and calculations.

16 A. Survival characteristics (Iowa Curves, h Curves, or other curve parameters) are
17 merely tools to define the survival pattern of a property group's useful service life.
18 Iowa Curves were used because they are the most widely used set of depreciation
19 parameters within the depreciation professional community as well as before
20 regulatory agencies. Furthermore, the Iowa set of depreciation parameters (even
21 excluding the O Mode curves which are infrequently used because utility property
22 does not typically experience those life patterns) has a greater quantity of curve
23 shapes (26 Iowa curves) as opposed to the h Curve family (19 h curves).

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1 Whichever system of survivor curves are used, for uniformity sake and ease of
2 comparison across a study, it is general practice to use the same family of curves
3 throughout the entire depreciation study. While Staff used the Iowa curve family
4 for recommending depreciation parameters in the RG&E-Electric and RG&E-Gas
5 and Common studies, Staff used a mixture of Iowa and h Curves in its NYSEG
6 depreciation recommendations. Staff's process of life estimation suffers from the
7 same inherent defect with regard to survival curves (Iowa Curves), and thus
8 affects all Staff's alternative recommendations throughout the three depreciation
9 studies, *i.e.*, RG&E-Electric, RG&E-Gas & Common and NYSEG-Gas. The
10 cause of the failure to identify the appropriate survival pattern is the automatic
11 inclusion of all data points and hence an equal weighting of information near the
12 end of life of the property group being studied, resulting in unreasonable
13 recommended service life parameters.

14 2. Company-Specific Average Service Life Analysis

15 Q. What are your comments regarding Staff's selection of alternative service lives
16 relative to the RG&E-Electric property?

17 A. Staff recommended alternative service lives or curves for one Hydro Production
18 account, four Transmission accounts, seven Distribution accounts, and three
19 General Plant accounts. For the majority of the property categories, the actual life
20 differences were not material in nature, but were generally the product of the
21 simple mathematical approach to service life estimation I discuss above, and,
22 therefore, Staff's adjustments are not supportable.

23

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1 (a) RG&E-Electric -- Hydro Facilities

2 Q. Please address Staff's proposed alternative Average Service Life factors for the
3 RG&E-Electric hydro facilities.

4 A. As previously explained in Section II.C., RG&E's Hydro facilities are location-
5 type assets in which the various components are interdependent upon one another
6 (*i.e.*, vs. mass-type assets in which each individual property unit that makes up the
7 asset class has an opportunity to retire at any point in time, from zero age to
8 maximum life, under the estimated life and curve such as a pole or meter).

9 Furthermore, when the facilities are either retired or significantly reconstructed all
10 of the components within the plant are subject to that event regardless of whether
11 the property was placed into service thirty years prior or thirty days prior. Such
12 exposure to retirement is referred to the truncation of an interim retirement curve
13 because certain later-installed components do not have the opportunity to live
14 their full life cycle. Accordingly, average service lives for location-type property
15 are estimated using a Life Span generation arrangement which recognizes a future
16 truncation point for recovery beyond which the current investments will not
17 provide further service without rehabilitation, *etc.*

18 Q. Explain why the Life Span method is used for estimating average service lives for
19 location-type property.

20 A. Under the Life Span method, the depreciation recovery is the combination of the
21 recovery of the investments over the time from original installation to the
22 estimated truncation age of each vintage investment. Furthermore, it is
23 recognized that 100 percent of the originally installed property investments will

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1 not continue to provide service for the entire period between original installation
2 and the truncation point. This property, which is retired during the period
3 (between original installation year and truncation year), is referred to as interim
4 retirements. Given that the investments related to interim retirements (referred to
5 as an interim retirement rate) do not live the full period, the average service must
6 be adjusted (reduced accordingly). Historically, the retirements that have
7 occurred within the Hydro Production plant accounts are interim retirements as
8 opposed to terminal plant (end-of-life) retirements. Accordingly, the analysis that
9 was included in RG&E-Electric's depreciation study are interim retirements
10 curves, and not total life curve as Staff has used them. That is, Staff has treated
11 RG&E's investments in its Hydro Production plants as if they were mass-type
12 assets as opposed to location-type assets. In doing so, Staff has erred in using the
13 estimated life and curves for each of the Hydro Production accounts as total life
14 curves, when in fact the estimated depreciation parameters for the Hydro
15 Production accounts was only part of the overall depreciation Life Span
16 development process.

17 Q. Please summarize your response to Staff's proposed alternative average service
18 life factors for each of RG&E-Electric (General); RG&E Gas and Common and
19 NYSEG-Gas.

20 A. The ASL analysis for each division of each company is addressed in the next
21 section.

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1 (b) Average Service Life Factors - RG&E-Electric

2 Q. Please summarize your response to Staff's proposed alternative average service
3 life factors for RG&E-Electric.

4 A. The following examples from Staff's testimony highlight the defects in Staff's
5 proposed average service lives for certain RG&E-Electric accounts: Staff's
6 Exhibit DP-2 Page 13 and 14 of 24 (for RG&E Account 367-UG Conductors),
7 Exhibit DP-2 Page 15 and 16 of 24 (for RG&E Account 368-Line Transformers),
8 and Exhibit DP-2 Page 17 and 18 of 24 (for RG&E Account 370.10-Meters). In
9 each case, Staff's simplistic mathematical data fit places undue weight on the
10 historical end-of-life data which is unlikely to occur.

11 *Account 367 -- Underground Conductors*

- 12 • **RG&E-Electric Study:** The 50-S5 curve proposed by AUS for this
13 property group results in a maximum age of 78 years. Throughout the
14 industry underground cable has experienced increasing failures as this
15 class of property ages.
- 16 • **Staff's Proposal:** Staff recommends an Iowa 53-L0.5 life and curve
17 (shown on Exhibit __ (DEP-8)) indicating that the last property to be
18 retired from the property group would have to live to nearly 200 years.
19 Staff states its estimate *mathematically* produces a 'better fit' of all the
20 historical data points. Staff's proposal results in a \$170,000 adjustment.
- 21 • **Rebuttal:** See page 4-38 of the RG&E depreciation report, relative to
22 Account 367 which states: "This property group includes the investment
23 related to direct buried secondary distribution cables. Significant
24 increases in retirement levels occurred during the early 2000s.
25 Furthermore, industry information has shown the propensity for increased
26 failure levels in the class of property as it continues to age...". In other
27 words, in future years, there is a good probability that the end of life of
28 this property will be shorter than previously occurred. The graphical plot
29 of the 50-S0.5 life and curve for this account in Exhibit __ (DEP-9) better
30 fits RG&E's experience without undue weighting placed on the tail end of
31 the property group's life.

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Account 368 -- Line Transformers

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- **RG&E-Electric Study:** The 50-R1.5 curve in the RG&E-Electric study for this property group results in a maximum age of 97 years.

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- **Staff's Proposal:** Staff recommends an Iowa 62-L0.5 life and curve (shown on Exhibit __ (DEP-10)) indicating that the last property to be retired from the property group would have to live to nearly 227 years of age. Staff states its estimate mathematically produces a better fit of all the historical data points. Staff's proposal results in a \$490,000 adjustment.

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- **Rebuttal:** See page 4-40 of the RG& report which states: "Distribution line transformers are identified for replacement or upgrade on an as required basis and/or upon failure. Such changes will tend to proportionately impact older vintages of plant to a greater degree therefore older vintage property has the greatest exposure to retirement" (emphasis added). As shown on Exhibit __ (DEP-11) a graphical plot of the 50-R1 life and curve estimate for the property group in the RG&E-Electric study, equally fits the Company's historical data points through age 50. Subsequent to age 50, the historical data points were heavily discounted by AUS due to the pending changes within the industry and specifically anticipated by RG&E.

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Account 370.10 -- Meters

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- **RG&E-Electric Study** The AUS study recommends a 41-S0.5 life and curve for this account indicating that the last retirement from the property group would occur at 82 years of age.

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- **Staff Proposal:** Staff recommends an Iowa 46-L1 life and curve, in which case the estimate survival characteristic has a maximum life of 315% of average service life which indicates that the last retirement of the property group would occur at 144 years of age (*See Exhibit __ (DEP-12)*). Staff's proposal results in a \$107,000 adjustment.

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- **Rebuttal:** While 82 years is still a long maximum life for meters, given the likely changes in future years, it is significantly more reasonable than the 144 years proposed by Staff. See Exhibit __ (DEP-13). Page 4-46 of the RG&E report describes how the installation of Automated Meter Reading technology could impact the Company's current meters and potentially result in the current service life of the class being shortened in future years. Accordingly, the older aged property within the property group will not experience the 100-year age that occurred for a few select individual meters in earlier years.

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Accounts 357.10-.21,-.23

- **RG&E-Electric Study:** AUS proposes a 60-R5 life and curve for the accounts in this group. While generally limited in investment scope, these accounts taken together illustrate the inadequacy of exclusive reliance on a simple mathematical result.
- **Staff Proposal:** For Account 357.10-.21, Staff estimated an average service life of 84 years with an L3 survivor curve. Given that the L3 survival curve has a maximum life of 238% of average service life, the last property to be retired would live to be 200 years of age. By comparison, general industry data identifies that this property group, on average, is being depreciated using a 51-year life. Staff's proposal results in adjustments of \$89,000 (for Account 357.10-.21) and \$17,000 (for Account 357.23).
- **Rebuttal:** Staff's life and curve estimate for this account produces an illogical result because of the heavy reliance on mathematical/statistical indications without the inclusion of informed judgment in the study process. The same illogical life and curve was used as a basis for developing the depreciation rate for Account 357.23.

Account 397.20 – Communication Equipment Field Lines

- **RG&E-Electric Study:** AUS proposed a 40-L3 life and curve for this account in the Company's depreciation study. The general industry life estimate for the Account 397 property group is 18 years
- **Staff Proposal:** Staff estimated an Iowa 92-L0 life and curve for the property group. The L0 curve has a maximum life of 408% of average service life which indicates that the last property to be retired from the property group would occur at 375 years of age.
- **Rebuttal:** Staff's L0 curve clearly produces an illogical result, *i.e.*, 375 years vs. 18 years. The reason that both of the property groups produce meaningless results is the fact that somewhat limited levels of retirements have occurred to date plus the fact that Staff used all the data points to produce their mathematically-driven recommendations without applying reason and judgment to the results.

(c) Average Service Life Analysis -- RG&E-Gas & Common

Q. Please summarize your response to Staff's recommended average service life analysis for certain RG&E-Gas & Common accounts.

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1 A. Staff recommends alternative service lives or curves for nine gas distribution
2 accounts, and one Common Plant account. Similar to the RGE-Electric
3 depreciation study, in the majority of the property categories, the actual life
4 differences proposed by Staff, while not material in nature, are generally the
5 product of the same simple mathematical approach to service life estimation and
6 are therefore not reasonable or accurate. The results of my analysis of Staff's
7 recommendations for RG&E-Gas & Common Accounts 376.20, 380.10 and
8 380.20 are as follows:

9 *Account 376.20 -- Plastic Mains*

- 10 • **RG&E-Gas & Common Study:** AUS estimated an average service life
11 for RG&E-gas plastic mains of 60 years.
- 12 • **Staff Proposal:** Staff proposes an alternative average service life estimate
13 of 80 years for Plastic Mains, stating "...plastic mains, . . . are expected to
14 have an even longer life that protected steel mains." (Depr Panel
15 testimony page 26). Other than this generalization, Staff provides no
16 empirical evidence in support of a longer life for plastic mains. Staff's
17 proposal results in an \$850,000 adjustment.
- 18 • **Rebuttal:** Plastic Mains have routinely experienced service lives shorter
19 than metallic mains because Plastic Mains are often placed in higher
20 growth areas and they are more susceptible to physical damage and or
21 stress-related failures, etc. See Exhibit __ (DEP-16) for a summary of
22 Plastic versus Metal average service lives for a variety of other operating
23 companies' properties demonstrating that Plastic Mains routinely
24 experience shorter service lives than metallic mains. This exhibit clearly
25 supports AUS' 60-year average service life for Plastic Mains

26 *Account 380.10 -- Steel Services*

- 27 • **RG&E-Gas & Common Study:** AUS proposes a 35-R0.5 life and curve
28 in the RG&E-Gas report, for a maximum life of 70 years.
- 29 • **Staff Proposal:** Staff estimated an average service life of 45 years with
30 an O3 survivor curve. As an O3 survival curve has a maximum life of
31 386% of average service life, the last property to be retired, under Staff's

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1 estimate, would live to be 135 years of age. Staff's proposal results in a
2 \$200,000 adjustment.

- 3 • **Rebuttal:** Contrast Exhibit ___(DEP- 14) (380.1 Staff) with Exhibit
4 ___(DEP-15) to demonstrate AUS's more appropriate forecast for this
5 account. These modes of survivor curve indicate a very high level of
6 retirements early in life and characteristics which are very uncommon with
7 utility type of property. The Staff's life characteristics are simply
8 unrealistic and reflect over-reliance on a simple mathematical approach to
9 estimating service lives.

10 *Account 380.20 - Plastic Services:*

- 11 • Staff's treatment of Plastic Mains is inconsistent with Plastic Services,
12 where Staff accepts the AUS proposed shorter service life.

13 Q. In addition to the specific examples addressed above, does Staff recommend
14 changes to the average service lives of other accounts.

15 A. Yes. The above examples are the most extreme and warrant special mention.
16 Staff's recommended alternative average service life variances to those contained
17 in the Company's depreciation study for the remaining property groups are less
18 material, as compared to the above illustrations. Again, the Iowa Curves
19 proposed by Staff for other accounts were driven almost entirely by
20 mathematical/statistical calculation results. Such an approach consistently
21 yielded improper forecast of future lives and ignores real life experience.

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23 (d) RG&E-Gas Depr Study-376 and 380 Plot & Observed Life
24 Table Revisions
25

26 Q. Explain the proposed revision to the RG&E-Gas depreciation plant database and
27 depreciation study results.

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1 A. Within the RG&E-Gas depreciation database and analysis for Accounts 376.20-
2 Plastic Mains and Account 380.20-Plastic Services there were some limited
3 quantities of retirements of earlier vintage (install year) property prior to the years
4 when Plastic materials were installed that was inadvertently included within the
5 Plastic historical depreciation database. Those items should have been included
6 with the applicable Steel categories. Also, the analysis of the Plastic Mains and
7 Plastic Service categories failed to include the 2008 retirement transactions.

8 Q. Do you have exhibits that include the results of the revised RG&E-Gas databases
9 and updated study results?

10 A. Yes, Exhibit____(DEP-16), pages 1 through 7 contains the revised Observed Life
11 Tables and Curve Plots for Account 376.10-Steel Mains and 376.20-Plastic
12 Mains. The inclusion of the additional data into Account 376.10-Steel Mains
13 resulted in no change to the study results for this category of property. However,
14 for Account 376.20-Plastic Mains, the changes to the database inclusive of the
15 additional 2008 retirements resulted in the life indication changing from the prior
16 estimate of an Iowa 60-R4 life and curve to an Iowa 47-R2 life and curve. This
17 additional data clearly supports the Company's estimated Iowa 60-R4 average
18 service life parameters over the much longer Iowa 80-R1.5 life and curve
19 estimated by Staff.

20 Q. Do you have similar exhibits for the revised RG&E-Gas Account 380 – Services
21 updated information?

22 A. Yes, Exhibit____(DEP-17), pages 1 through 8 contains the revised Observed Life
23 Tables and Curve Plots for Account 380.10-Steel Services and 380.20 Plastic

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1 Services. The inclusion of the additional data into Account 380.10-Steel Services
2 resulted in no change to the study results for this category of property. The
3 changes to the database inclusive of the additional 2008 retirements for Account
4 380.20 Plastic Service resulted in a limited Iowa Curve change for the property
5 group. The change was from the prior estimate of an Iowa 44-L3 life and curve
6 to an Iowa 44-R2.5.

7 (e) Average Service Life Factors – NYSEG-Gas

8 Q. What are your comments regarding Staff's selection of alternative service lives for
9 the NYSEG-Gas property?

10 A. Staff recommended alternative service lives or curves for four Transmission
11 accounts, eight Distribution accounts, and two General Plant accounts. Staff's
12 average service life analysis for NYSEG-Gas suffers from the same defects as
13 already explained in the preceding discussion of RG&E-Electric and RG&E-Gas
14 and Common, although for most property categories, the actual life differences
15 were not material. Due to the inadequacies of Staff's mathematical-only
16 approach, Staff's adjustments to the NYSEG-Gas service lives are invalid and
17 unsupportable. My analysis of Staff's methodology is summarized as follows:

18 *Plastic Mains and Plastic Services*

- 19 • **NYSEG-Gas Study:** AUS' average service life estimates for NYSEG-Gas
20 Plastic Mains is 60 years. For Plastic Services, AUS' average service life
21 is 45 years.
- 22 • **Staff Proposal:** Staff proposes an alternative average service life estimate
23 of 70 years for Plastic Mains and 60 years for Plastic Services. As
24 discussed in RG&E-Gas above, Staff's justification for the longer life
25 estimate is statement that "...plastic mains, which are expected to have an

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1 even longer life that protected steel mains." (Depr Panel testimony page
2 26). Other than this generalization, Staff provides no empirical evidence in
3 support of its proposed longer lives. Staff's proposal results in a \$510,000
4 adjustment for Plastic mains and a \$1.2 million adjustment for Plastic
5 services.

6 • **Rebuttal:** Plastic Mains have routinely experienced service lives shorter
7 than metallic mains. Plastic Mains and Services are often placed in higher
8 growth areas; they are more susceptible to physical damage and/or stress
9 related failures, *etc.* See Exhibit __ (DEP-7) (A summary of Plastic versus
10 Metal average service lives for other operating companies' property
11 demonstrating that Plastic Mains and Services routinely experience shorter
12 service lives than metallic mains). Exhibit __ (DEP-16) and
13 Exhibit____(DEP-17) clearly support the 60-year average service life
14 proposed for the Company's Plastic Mains and the 45-year average service
15 life for NYSEG-Gas' Plastic Services.

16 F. Accounting Policy Change

17 Q. Does Staff acknowledge RG&E and NYSEG-Gas' change of depreciation policy
18 for Account 382 -- Meter Installations and Account 384 -- House Regulator
19 Installations in the development of its proposed alternative depreciation rates for
20 these accounts?

21 A. No, Staff does not address the accounting policy change (on a going-forward
22 basis installation costs, Accounts 382 and 384, related to Meters and House
23 Regulators, will be included with the respective apparatus costs) and developed its
24 proposed depreciation rates for those property groups as if costs and depreciation
25 for Account 382 and Account 384 will continue as all other property accounts.
26 Given the change in accounting policy and practice of including the cost of
27 installations with Meters and House Regulators, individual accounting details
28 (retirements) will not be available for the installation property groups on a going
29 forward basis. Accordingly, this necessitates that the embedded costs within the

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1 existing installation accounts be amortized on a fixed schedule. The RG& E-Gas
2 depreciation study sets forth amortization schedules (Table 7, page 2-21 and
3 Table 8, page 2-22 for Account 382 and 384, respectively) for that purpose.
4 Likewise, the NYSEG-Gas depreciation study sets forth amortization schedules
5 (Table 7, page 2-18 to 2-19 and Table 8, page 2-20 to 2-21 for Account 382 and
6 384, respectively) for that purpose.

7 G. Staff Depreciation Schedule Discrepancies

8 Q. Are there discrepancies within the Staff's Exh DP-3, page 1 of 3 (RG&E-Gas) and
9 page 2 of 3 (NYSEG-Gas) with regard to Staff rates and Staff Annual Accrual and
10 reference Company proposed accrual amount?

11 A. Yes. Within Staff Exh DP-3 page 1 of 3 (RG&E) and page 2 of 3 (NYSEG-Gas)
12 Staff lists its recommended service lives and net salvage percentages. Staff also
13 lists its Annual Accrual Rate and Staff Accrual plus the annual accrual proposed
14 by the Company. In reviewing the initially filed schedule it is noted that the
15 developed Staff Accrual Rates do not reflect the underlying Staff proposed
16 depreciation parameters. On February 8, Staff provide a followup schedule that
17 correct most of the discrepancies in the RG&E summary schedule. On both the
18 RG&E-Gas and NYSEG-Gas some limited discrepancies still exist in which the
19 developed Staff Accrual Rates/Amounts do not reflect the underlying Staff
20 proposed depreciation parameters.

21 Also, on both summary schedules, there are some limited discrepancies within
22 Company proposed depreciation accrual amount column. With regard to each of

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1 the referenced items there are reconciliations of the differences shown on the
2 bottom of the second page of Exhibit____(DEP-2) and Exhibit____(DEP-3).

3

4 **III. CONCLUSION**

5 Q. Does this conclude your rebuttal testimony at this time?

6 A. Yes, it does.