

EXHIBIT

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Depreciation
Michael Majoros
Direct
Public Counsel
ER-2004-0570
September 20, 2004

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

FILED

DEC 28 2004

DIRECT TESTIMONY

of

MICHAEL MAJOROS

Missouri Public
Service Commission

Exhibit No. 89
Case No(s) ER-2004-0570
Date 2-6-04 Rptr xf

September 20, 2004

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

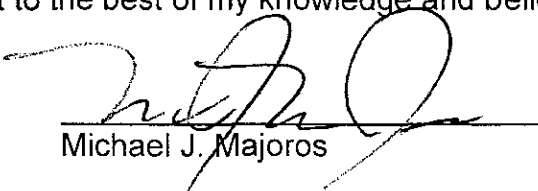
In the Matter of the tariff filing of The)
Empire District Electric Company)
to implement a general rate increase for) Case No. ER-2004-0570
retail electric service provided to customers)
in its Missouri service area.)

AFFIDAVIT OF MICHAEL J. MAJOROS

Washington,)
) SS
District of Columbia)

Michael J. Majoros, of lawful age and being first duly sworn, deposes and states:

- 1) My name is Michael J. Majoros, Jr. I am Vice President of Snavelly King Majoros O'Connor & Lee, Inc. ("Snavelly King"), an economic consulting firm located at 1220 L Street, N.W., Suite 410, Washington, D.C. 20005.
- 2) Attached hereto and made a part hereof for all purposes is my direct testimony consisting of pages 1 through 70 and Schedules MJM-1 through MJM- 7.
- 3) I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.


Michael J. Majoros

Subscribed and sworn to be this 20th day of September 2004.


Angel L. Finch
Notary Public

My commission expires March 14, 2006.

1 **Introduction**

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

3 A. My name is Michael J. Majoros, Jr. I am Vice President of Snavelly King Majoros
4 O'Connor & Lee, Inc. ("Snavelly King"), an economic consulting firm located at
5 1220 L Street, N.W., Suite 410, Washington, D.C. 20005.

6 **Q. Please describe Snavelly King.**

7 A. Snavelly King was founded in 1970 to conduct research on a consulting basis into
8 the rates, revenues, costs and economic performance of regulated firms and
9 industries. The firm has a professional staff of 15 economists, accountants,
10 engineers and cost analysts. Most of its work involves the development,
11 preparation and presentation of expert witness testimony before Federal and
12 state regulatory agencies. Over the course of its 33-year history, members of the
13 firm have participated in more than 1,000 proceedings before almost all of the
14 state commissions and all Federal commissions that regulate utilities or
15 transportation industries.

16 **Q. Have you prepared a summary of your qualifications and experience?**

17 A. Yes. Schedule MJM-1 is a summary of my qualifications and experience. It also
18 contains a tabulation of my appearances as an expert witness before state and
19 Federal regulatory agencies.

20 **Q. For whom are you appearing in this proceeding?**

21 A. I am appearing on behalf of the Missouri Office of the Public Counsel ("OPC").

22 **Q. What is the subject of your testimony?**

23 A. This testimony addresses depreciation.

1 **Q. Do you have any specific experience in the field of public utility**
2 **depreciation?**

3 A. Yes. I and other members of my firm specialize in the field of public utility
4 depreciation. We have appeared as expert witnesses on this subject before the
5 regulatory commissions of almost every state in the country. I have testified in
6 over one hundred proceedings on the subject of public utility depreciation and
7 represented various clients in several other proceedings in which depreciation
8 was an issue but was settled. I have also negotiated on behalf of clients in
9 fifteen of the Federal Communications Commissions' ("FCC") Triennial
10 Depreciation Represcription conferences.

11 **Q. Does your experience specifically include electric company depreciation?**

12 A. Yes. I have testified in thirty-one proceedings on the subject of electric company
13 depreciation, and I have prepared testimony in seven electric proceedings in
14 which depreciation was ultimately settled.

15 **Purpose of Testimony**

16 **Q. What is the purpose of your testimony?**

17 A. I have been asked to review the depreciation-related testimony and schedules of
18 The Empire District Electric Company ("Empire" or "the Company"). I was asked
19 to express an opinion regarding the reasonableness of the Company's
20 depreciation expense proposal and, if warranted, make alternative
21 recommendations.

22 **Empire's Depreciation-Related Proposal**

23 **Q. Will you please summarize the Company's depreciation proposal?**

1 A. Yes. It is important to review Company's depreciation proposals in order to fully
2 understand how my recommendation differs. Mr. Donald S. Roff, Director at the
3 accounting firm of Deloitte & Touche LLP, sponsors Empire's depreciation study
4 and the resulting depreciation claim. Mr. Roff's study results in revised
5 depreciation rates which produce a \$25.6 million increase in annual depreciation
6 expense, based on plant and accumulated depreciation balances as of
7 December 31, 2003.¹

8 **Summary and Conclusions**

9 **Q. What do you recommend?**

10 A. I recommend a \$29.1 million depreciation expense which results in a \$0.4 million
11 decrease rather than Empire's \$25.6 million proposed increase.²

12 **Q. What is your opinion regarding the Company's depreciation proposal?**

13 A. It is important to understand how Empire's proposed depreciation rates differ
14 from my proposed depreciation rates. In my opinion, the Company's
15 depreciation proposal is unreasonable because it will produce excessive
16 depreciation expense which will, in turn, be charged to ratepayers. The effect of
17 this excessive depreciation would be tantamount to charging ratepayers for
18 capital or equity contributions. Empire's filing, through Mr. Roff's testimony, is
19 proposing not only depreciation rate changes, but major reversals of several of
20 this Commission's decisions just three years ago. In my opinion Empire has
21 failed to make a persuasive case for such reversals. There is nothing new in

¹ Roff Direct Testimony, page 4.

² Schedule MJM-2, Statement 2.

1 Empire's filing that should cause this Commission to change its rulings. Indeed,
2 new accounting principles tend to support and corroborate those rulings.

3 **Q. Why do you disagree with the Company's depreciation proposal?**

4 **A.** I have the following disagreements.

- 5 • Mr. Roff is proposing an unnecessary change from the whole-life
6 technique that Empire requested and the Commission approved three
7 years ago, to the remaining life depreciation technique.
- 8 • Mr. Roff is also proposing an unjustified initiation of the life span method
9 for Production plant even though that method was found to be
10 inappropriate, and was specifically rejected by this Commission for this
11 Company just three years ago.
- 12 • Mr. Roff has also bundled future decommissioning and future net salvage
13 values in his proposed depreciation rates, even though the Commission
14 specifically rejected this practice in Case No. ER-2001-299, and even
15 though Empire does not have any obligation or liability to incur these
16 costs. Mr. Roff's net salvage proposal is beyond unreasonable; it is
17 outlandish.
- 18 • In addition to these failings, Mr. Roff's proposals are, at a minimum,
19 inconsistent with the transparency provided by a "separation principle"
20 reflected in current GAAP and regulatory accounting rules.
- 21 • Current GAAP accounting rules require that Mr. Roff's proposed
22 decommissioning and future negative salvage amounts be identified as
23 Regulatory Liabilities ("amounts owed") to ratepayers.

- Current regulatory accounting rules require that Mr. Roff's proposed decommissioning and future negative net salvage amounts, which have been identified as "non-legal asset retirement obligations," be specifically identified in separate sub-accounts within depreciation expense and accumulated depreciation. Mr. Roff did not identify these amounts, even though these new accounting rules were promulgated well before he filed testimony in this case.

Q. Have you accepted any of Mr. Roff's proposed depreciation parameters?

A. Yes, I have accepted all of Mr. Roff's proposed mass property lives.

Q. Was your decision to accept these parameters passive or did you conduct analysis to arrive at your decision?

A. My decision to accept these parameters was not passive; I conducted substantial analysis as will be discussed in several later sections of my testimony. Where I have accepted Mr. Roff's proposals it was based on my own independent analysis. I note that in certain instances, I did have some disagreement with Mr. Roff's proposed lives, but the other depreciation issues in this proceeding overwhelm those disagreements. Therefore, I have not raised them as issues here.

Q. Does your testimony and the related schedules constitute a depreciation study?

A. Yes. Schedule MJM-2 incorporates all of my analyses and calculations and recommendations. It includes several explanatory schedules.

1 **Current Rates**

2 **Q. When were the Company's present depreciation rates approved?**

3 A. Empire's present depreciation rates were approved almost exactly three years
4 ago in the Report and Order issued September 20, 2001, in Case No. ER-2001-
5 299.

6 **Q. How are the present rates calculated?**

7 A. The Company's present rates are straight-line whole-life depreciation rates, and
8 notably they do not include a net salvage factor in the calculations.³ Instead, the
9 Commission ruled that "net salvage cost considered in setting [service] rates
10 should be based on historical net salvage cost that Empire has actually incurred
11 in the recent past and that it should be treated as an expense."⁴

12 **Q. What did the Company propose in Case No. ER-2001-299?**

13 A. In Case No. ER-2001-299, Empire's witness, Mr. L. W. Loos proposed whole-life
14 rates that included a provision for net salvage combined with a separate
15 amortization of the depreciation reserve imbalance. Mr. Loos also proposed the
16 life span method to calculate the lives for Production plant and the actuarial
17 retirement rate method to estimate lives for mass property plant.

18 **Q. What was the Commission Staff's position concerning net salvage in that**
19 **case?**

20 A. The Staff disagreed with the inclusion of net salvage in depreciation rates. Staff
21 witness Mr. Paul W. Adam argued against the inclusion of net salvage in
22 depreciation rates, stating:

³ Response to Public Counsel Data Request No. 817.

1 The "traditional" calculation of net salvage as a pre-
2 collection and its inclusion in the depreciation rate
3 determination exposes risk that Cost of Removal
4 funds will be collected from customers for retirement
5 and removal of plant decades in the future but will not
6 be used for or available for the removal of specific
7 plant. The future is unknown and it cannot be
8 determined what plant will retire, at what time it will
9 retire, if it will be sold, be removed or left standing at
10 retirement and what cost, if any, will be incurred at
11 retirement. It is Staff's position that net salvage cost
12 should be determined on current expense levels.⁵
13

14 I note that Mr. Adam exhibited formidable prescience in his belief that early
15 collections from ratepayers might not be used for removal of plant. I will discuss
16 this later. Mr. Adam recommended the following:

17 Staff Auditors will determine the current level of net
18 salvage cost. This will be normalized over several
19 years and net salvage cost will be presented as an
20 expense item included with other audit expense
21 items. Finally, if there is a major retirement and
22 removal, such as a power plant, Staff depreciation
23 engineers will evaluate the Company's cost
24 presentation and will propose an amortization that will
25 allow the Company to recover the appropriate amount
26 from customers for the major plant retirement at the
27 time the plant's removal is underway.⁶
28

29 **Q. What was the Staff's position concerning the life span method in Case No.**
30 **ER-2001-299?**

31 **A.** Mr. Adam also disagreed with the life span method. Instead he used an average
32 service life approach based on service life studies conducted at the Uniform
33 System of Accounts level rather than at plant specific levels. For example, Mr.

⁴ Report and Order, Case No. ER-2001-299, September 20, 2001, page 12.

⁵ Direct Testimony of Paul W. Adam, Case No. ER-2001-299, pages 16-17.

⁶ Case No. ER-2001-299, Direct Testimony of Paul W. Adam, pages 18-19.

1 Adam studied Account 312 Boiler Plant Equipment at the overall account level
2 rather than at an individual plant level. Mr. Adam had intended to conduct
3 actuarial retirement rate studies, but the Company was unable to provide aged
4 data for the Production plant due to a computer system conversion. Therefore,
5 Mr. Adam was unable to conduct actuarial analyses on this plant.⁷ Mr. Adam
6 relied upon information learned from plant tours, along with the results of the
7 study used in Case No. ER-94-174 to determine his recommended average
8 service lives for Production plant accounts.⁸ For new Production plant, he relied
9 upon life estimates developed by the design engineers and those for similar type
10 equipment.⁹ Based on his analyses, Mr. Adam recommended whole-life rates
11 and did not include a reserve amortization.

12 **Q. What was the Commission's decision in that case?**

13 A. The Commission adopted Staff's recommendation, and specifically ruled against
14 the inclusion of net salvage in the depreciation rates, and ruled against the
15 terminal retirement dates used by the Company in its life span analysis of
16 Production plant.¹⁰

17 **Q. What was the Commission's logic regarding the inclusion of net salvage**
18 **factors in the Company's depreciation rates?**

19 A. The Commission agreed with Staff's recommendation, stating:

20 Inclusion of net salvage value creates the need to
21 project the date that plant will be removed, the cost of
22 removal at the time it is removed and the gross

⁷ Id., page 19.

⁸ Id., page 20.

⁹ Id., pages 21-22.

¹⁰ Report and Order, Case No. ER-2001-299, September 20, 2001, page 30.

1 salvage value, for plant that may never be removed or
2 at least not be removed for some considerable time
3 after it is retired.... This uncertainty provides sufficient
4 grounds to reject Empire's determination of net
5 salvage cost. The Staff's approach of treating net
6 salvage cost as an expense based on Empire's recent
7 historical data reduces this uncertainty. Additionally,
8 separately stating net salvage cost, rather than
9 incorporating it in depreciation rates, appropriately
10 identifies the significance of net salvage cost on rates.
11 The Commission finds that net salvage cost
12 considered in setting rates should be based on
13 historical net salvage cost that Empire has actually
14 incurred in the recent past and that it should be
15 treated as an expense.¹¹
16

17 I agree with this Commission's logic and, as I will demonstrate later, this
18 Commission's requirement for separate identification of net salvage cost has
19 been corroborated by both recent GAAP pronouncements and regulatory
20 accounting rules.

21 **Q. What was the Commission's opinion about the Company's use of the life**
22 **span method?**

23 **A. The Commission stated:**

24 The generation unit retirement dates sponsored by
25 Empire's consultant are not credible.¹²
26

27 Having found that the fixed retirement dates in the
28 testimony of Empire's consultant are based on his
29 experience with generating units owned by other
30 utilities, but not based on prior experience with
31 Empire or even Empire's planned retirement dates,
32 with the exception of plant at the State Line Combined
33 Cycle unit, the Commission rejects the average
34 service lives proposed by Empire and finds that the
35 average service lives that the Staff determined are the

¹¹ Id., pages 11-12 (emphasis added).

¹² Id., page 10.

1 appropriate service lives to be used in this case for
2 establishing depreciation.¹³
3

4 **Q. Why is the Commission's decision in Case No. ER-2001-299 so important in**
5 **this case?**

6 A. Mr. Roff is proposing a complete reversal of the Commission's decision, a
7 rejection of the Commission's and its Staff's logic, and an unreasonable and
8 unsubstantiated increase to depreciation expense which will, if approved, come
9 straight out of Empire's customers' pockets. Given the severity and magnitude of
10 Mr. Roff's proposal, it is important to understand the Commission's decision and
11 logic in that case. I agree with the Commission's decision and logic, and I will
12 attempt to put the issues in context with a discussion of fundamental depreciation
13 concepts. But before that, I will discuss excessive depreciation.

14 **Excessive Depreciation**

15 **Q. What is an excessive depreciation rate?**

16 A. An excessive depreciation rate is one that produces depreciation expense which
17 is more than necessary to return a company's capital investment over the life of
18 the asset.

19 **Q. Have any courts addressed the concept of excessive depreciation?**

20 A. Yes, the concept of excessive depreciation was explained by the U.S. Supreme
21 Court in a landmark 1934 decision, Lindheimer v. Illinois Bell Telephone
22 Company, as follows:

23 If the predictions of service life were
24 entirely accurate and retirements were made

¹³ Id., page 11.

1 when and as these predictions were precisely
2 fulfilled, the depreciation reserve would
3 represent the consumption of capital, on a cost
4 basis, according to the method which spreads
5 that loss over the respective service periods.
6 But if the amounts charged to operating
7 expenses and credited to the account for
8 depreciation reserve are excessive, to that
9 extent subscribers for the telephone service
10 are required to provide, in effect, capital
11 contributions, not to make good losses incurred
12 by the utility in the service rendered and thus to
13 keep its investment unimpaired, but to secure
14 additional plant and equipment upon which the
15 utility expects a return.

16
17 Confiscation being the issue, the
18 company has the burden of making a
19 convincing showing that the amounts it has
20 charged to operating expenses for depreciation
21 have not been excessive. That burden is not
22 sustained by proof that its general accounting
23 system has been correct. The calculations are
24 mathematical, but the predictions underlying
25 them are essentially matters of opinion. They
26 proceed from studies of the "behavior of large
27 groups" of items. These studies are beset with
28 a host of perplexing problems. Their
29 determination involves the examination of
30 many variable elements and opportunities for
31 excessive allowances, even under a correct
32 system of accounting, are always present. The
33 necessity of checking the results is not
34 questioned. The predictions must meet the
35 controlling test of experience.¹⁴

36
37 **Q. Are you providing this as a legal opinion?**

38 **A.** No. I am not a lawyer, but I provide this to illustrate that the concept of an
39 excessive depreciation rate is not new, and perhaps more importantly to draw a
40 direct parallel between that 1934 case and Empire's depreciation filing in 2004.

¹⁴ Lindheimer v. Illinois Bell Telephone Company, 292 U.S. 151, 168-170, 54 S.Ct. 658, 665-666 (1934).
(Emphasis added; footnote deleted.)

1 **Q. What is the effect of an excessive depreciation rate?**

2 A. Excessive depreciation rates produce excessive depreciation expense. In other
3 words, if an excessive depreciation rate is applied to the plant balance, it results
4 in excessive depreciation expense. Since depreciation expense flows dollar-for-
5 dollar into the revenue requirement, excessive depreciation expense results in an
6 excessive revenue requirement.

7 **Q. Who pays for excessive depreciation rates?**

8 A. Ratepayers pay for excessive depreciation rates.

9 **Q. What is the result?**

10 A. As the U.S. Supreme Court said, the result was the extraction of capital
11 contributions from ratepayers, which the Court decided was inappropriate.

12 **Q. Why are Empire's proposed depreciation rates excessive?**

13 A. As explained above, they are excessive for two fundamental reasons. First they
14 are based on lives that are too short; and second, they have been increased to
15 provide for an unsupportable allowance for future negative net salvage.

16 **Depreciation Concepts**

17 **Q. Will you please provide a brief fundamental discussion of depreciation?**

18 A. Yes. I will start with a discussion of plant additions, retirements and balances.

19 **Q. What are plant additions, retirements and balances?**

20 A. Public utilities record their plant investment activity in the individual plant
21 accounts set-forth in the Federal Energy Regulatory Commission's ("FERC")
22 Uniform System of Accounts ("USOA"). Additions, retirements and balances
23 refer to individual accounts: 311-Structures and Improvements, for example. An

1 annual addition is the original cost of plant added to the account during the year.

2 An annual retirement is the original cost of a prior addition which is now removed
3 from service. The plant balance is what is left.

4 **Q. What is depreciation expense?**

5 A. In summary, depreciation expense is a charge to operating expense to reflect the
6 recovery of a company's previously expended capital. Public utility depreciation
7 expense is typically straight-line over service life which results in an equal share
8 of the cost of assets being assigned or allocated to expense each year over the
9 service life of the assets. A service life is the period of time during which
10 depreciable plant [and equipment] is in service.¹⁵ Annual depreciation expense
11 is a cost included in a public utility's revenue requirement.

12 **Q. How is the annual depreciation expense calculated?**

13 A. Annual depreciation expense is calculated by applying a depreciation rate to
14 plant balances. The resulting expense (also called accrual) is charged, just as
15 any other expense, to the revenue requirement and from there it is charged to
16 the utility's customers.

17 **Q. Is it true that depreciation is a non-cash expense?**

18 A. Yes. Depreciation is a non-cash expense in contrast to payroll expense, for
19 example, which involves the current outlay of cash. That is, depreciation
20 expense does not involve a specific payment during the test-year. Both
21 depreciation and payroll are included as expenses in the income statement and
22 revenue requirement, but no cash flows out of the company for depreciation

¹⁵ Public Utility Depreciation Practices, August, 1996. National Association of Regulatory Utility Commissioners ("NARUC Manual"), p. 321.

1 expense. Instead of reducing the cash account, depreciation expense is
2 recorded on the income statement as an expense and simultaneously recorded
3 on the balance sheet in the accumulated depreciation account; which is shown
4 as an offset to plant in service.

5 **Q. What is the accumulated depreciation account?**

6 A. Accumulated depreciation (hereinafter called reserve or accumulated
7 depreciation) is, in essence, a record of the previously recorded depreciation
8 expense. At any point in time, the accumulated depreciation account represents
9 the net accumulated amount of the original cost of assets and net salvage that
10 has been recovered to date. It can be considered a measure of the depreciation
11 recovered from ratepayers.

12 **Q. Does the fact that depreciation is a non-cash expense render it any less**
13 **legitimate than any other expense?**

14 A. Depreciation is a legitimate expense, but it is a major expense based on a
15 substantial amount of judgment and complex analytical procedures, and it drives
16 utility prices. Therefore, the measurement of depreciation and the calculation of
17 the expense warrant careful regulatory consideration and scrutiny.

18 **Q. What is the objective of depreciation expense?**

19 A. From a regulator's perspective, the objective of public utility depreciation is
20 straight-line capital recovery. As stated above, this is accomplished by allocating
21 the original cost of assets to expense over the lives of those assets through the
22 application of depreciation rates to plant balances. From many public utilities'
23 perspective, the objective of depreciation is to maximize cash flow.

1 Q. Do Empire's proposed depreciation rates differ significantly from existing rates
2 and from your proposed depreciation rates?

3 A. Yes.

4 Q. **What are the fundamental parameters underlying Empire's proposed**
5 **depreciation rates?**

6 A. Empire's proposed depreciation rates are founded upon three fundamental
7 parameters: a service life, a dispersion pattern and a net salvage ratio. As
8 mentioned above, Mr. Roff has used the remaining life technique to compute his
9 proposed rates.

10 Q. **Would you please explain how Empire's proposed rates were calculated?**

11 A. Yes. In order to understand remaining life depreciation, it is useful to first
12 address whole-life depreciation, particularly since Empire's existing rates are
13 whole-life depreciation rates.

14 Q. **Please explain the whole-life technique.**

15 A. The following calculation shows a straight-line whole-life depreciation rate
16 assuming a 10-year average service life.

17 **Table 1**

18
19 **Straight-Line Whole-Life Depreciation Rate**
20 **Assuming 10-Year Life**

21
22
$$\frac{100\%}{10 \text{ yrs.}} = 10.0\%$$

23

24
25 Each year the 10.0 percent depreciation rate would be applied to plant in service
26 to produce an annual depreciation expense. The equation above demonstrates

1 how Empire's current depreciation rates were calculated. They are straight-line
2 whole-life rates and do not include a provision for net salvage.

3 **Q. What happens at the end of an asset's life under this scenario?**

4 A. All things equal, at the end of 10 years, the plant balance will be 100%, and the
5 depreciation reserve balance will be 100%. This equality is important to an
6 understanding of certain issues in this case.

7 **Q. What happens if you include net salvage in the calculation?**

8 A. A central issue in this case is negative net salvage. I will, therefore, use negative
9 net salvage as an example. Negative net salvage is the net cost of removal of
10 the asset after completion of its service life. For the remainder of the testimony I
11 use the terms negative net salvage, decommissioning and cost of removal
12 interchangeably. Assume a negative 5 percent (-5%) net salvage ratio. The
13 equation above with a value for negative net salvage is as follows:

14 **Table 2**

15 **Straight-Line Whole-Life Depreciation Rate**
16 **Assuming 10-Year Life and -5% Net Salvage**

17
18
$$\frac{100\% - (-5\%)}{10 \text{ yrs.}} = 10.5\%$$

19
20

21 Negative net salvage increases the resulting whole-life depreciation rate from
22 10.0% to 10.5%.

23 **Q. Why does negative net salvage increase the depreciation rate?**

24 A. It increases the depreciation rate because negative salvage is, in effect, added to
25 the original cost of the plant. Instead of 100% (which represents the original cost

1 of assets), the numerator becomes 105%. This is equivalent to capitalizing or
2 adding the estimated cost of removal to the original cost of the asset.

3 **Q. What happens at the end of life under this scenario?**

4 A. The plant balance will be 100% but the reserve will be 105%. In other words,
5 unlike the "zero net salvage scenario" in Table 1; when negative net salvage is
6 included in a depreciation rate there will not be an equality of plant and reserve at
7 the end of an asset's life because the Company will have charged more
8 depreciation than it paid for the original cost of the asset. Under these
9 circumstances, equality will only be achieved if the Company actually spends
10 additional money at the end of the asset's life. This is a speculative assumption
11 as recognized by both the Staff and this Commission in Case No. ER-2001-299.

12 **Q. Is the Company required to spend the money at the end of life?**

13 A. No, Empire is not required to spend the money unless it has a legal liability to
14 spend the money.

15 **Q. Will the money be available to spend, i.e., can the Company merely take the**
16 **money out of accumulated depreciation if it is required to spend the**
17 **money?**

18 A. No. Accumulated depreciation is an "unfunded account." Even though the
19 Company collected an excess amount in the past, it will have already spent that
20 money on whatever it chose in the past: salaries, dividends, etc.

21 **Q. Please explain the remaining life technique.**

22 A. The remaining life technique is similar to the whole-life technique, but it
23 incorporates accumulated depreciation into the numerator of the equation, and

the denominator becomes the remaining life rather than the whole life of the asset.

Q. What happens when accumulated depreciation is incorporated into the numerator of the basic depreciation calculation?

A. If the hypothetical 10-year asset is 3 years old, its remaining life would be 7 years ($10 - 3 = 7$). The accumulated depreciation account would be 31.5 percent of the original cost because the 10.5 percent depreciation rate from Table 2 would have been applied for three years ($3 \times 10.5\% = 31.5\%$). The remaining life depreciation rate would then be calculated as follows:

Table 3

**Straight-Line Remaining Depreciation Life Rate
Assuming 10-year Life, 7-year Remaining Life
And -5% Net Salvage**

$$\frac{100\% - (-5\%) - 31.5\%}{7 \text{ years}} = 10.5\%$$

Q. Please explain why the whole-life depreciation rate in the Table 2 example and the remaining life depreciation rate in the Table 3 example are both 10.5 percent?

A. In these examples, the remaining life depreciation rate and the whole-life depreciation rates are the same (10.5 percent), because I have assumed that the accumulated depreciation account is in balance. In other words, based on a continuation of the fundamental parameters, i.e., the 10-year service life and the negative 5 percent net salvage ratio, exactly the right amount of depreciation (31.5 percent) has been charged and collected in the past,

1 **Q. What would happen if either of these fundamental parameters were to**
2 **change?**

3 A. If either the service life or net salvage parameter changes during the life of the
4 plant, the accumulated depreciation account will be out of balance, and the
5 remaining life rate will be either higher or lower than whole-life rate depending on
6 the direction of the imbalance. That is because the Company will have collected
7 either too much depreciation or not enough depreciation in the past, given the
8 current estimates of lives or future net salvage.

9 The difference between the actual amount recovered, as included in the
10 book depreciation reserve, and a theoretical estimate of what should be in the
11 book reserve, is called a "reserve imbalance." The remaining life technique is
12 often used to deal with such reserve imbalances. However, as I will discuss in
13 more detail later, another approach is a combined use of whole-life depreciation
14 and perhaps a separate amortization of the reserve imbalance.

15 **Q. Is there anything unique about public utility depreciation?**

16 A. Yes. There are several unique factors driving public utility depreciation rates.
17 First, public utility depreciation is based on a "group life" as opposed to the lives
18 of individual assets. Second, the cost of removing or disposing of an asset that
19 is retired from service is charged to the accumulated depreciation reserve, as
20 opposed to being recognized as an operating expense in the year incurred.
21 Third, the original cost of a retired asset is also recorded in the accumulated
22 depreciation reserve, as opposed to being written off in the year of the asset's
23 retirement/disposal. Fourth, in certain jurisdictions public utility depreciation

1 rates incorporate net salvage factors as discussed above. This is not the case
2 for unregulated entities. Each of these factors affects the depreciation rates that
3 are ultimately determined for the group of assets that are recorded in plant
4 accounts designated by the FERC Uniform System of Accounts ("USOA").

5 **Q. Please explain the concept of group life depreciation.**

6 A. Depreciation expense is one of the primary cost drivers of public utility revenue
7 requirement calculations because these companies are capital intensive. An
8 excessive depreciation rate can unreasonably increase the utility's revenue
9 requirement and resulting service rates; thereby unnecessarily charging millions
10 of dollars to a utility's customers.

11 Given the capital intensity of the industry, it is impossible to track and
12 depreciate every single asset that a utility owns. Utilities own thousands of
13 assets, represented by millions of dollars of investment. Public utility
14 depreciation is, therefore, based on a group concept, which relies on averages of
15 the service lives and remaining lives of the assets within a specific group.

16 These factors are necessarily estimates of the average service lives and
17 average remaining lives of groups of assets. These estimates are in turn based
18 on complex analytical procedures which involve not only the age of existing and
19 retired assets, but also retirement dispersion patterns called "Iowa curves."

20 I will discuss all of these in more detail later in my testimony. The
21 important point to remember is that service life, average age and Iowa curves are
22 all used in the estimation of an average service life and average remaining life of

1 a group of assets and are ultimately used to calculate the depreciation rate for
2 that group of assets.

3 **Q. Would you please relate these fundamentals to the issues in this**
4 **proceeding?**

5 A. Yes. In depreciation analysis it is axiomatic that the shorter the life, the higher
6 the resulting depreciation rate. Some of Empire's proposed depreciation rates
7 are too high because they are based on life spans in the case of Production
8 plant, which are too short. The following table shows the impact of a shorter life.

9 **Table 4**

10 **Impact of Lives on Depreciation Rates**

11 30 year life = $100\%/30 = 3.3\%$

12 10 year life = $100\%/10 = 10.0\%$

13
14 A thirty year life results in a 3.3% depreciation rate. A shorter ten year life results
15 in a 10% rate. The shorter the life, the higher the rate. If the life is too short, the
16 resulting rate is obviously excessive.

17 **Q. Is there any other reason that Empire's proposed depreciation rates are**
18 **excessive?**

19 A. Yes, most of Empire's proposed depreciation rates contain negative net salvage
20 factors which would charge far too much for future cost of removal because they
21 are far too negative. They result in excessive depreciation rates. The next table
22 shows the impact on depreciation rates of increasing the cost of removal ratio.
23 My earlier example used a relatively modest 5 percent cost of removal ratio. But
24 here I would like to point out that Mr. Roff is actually proposing cost of removal

ratios which, even if his methodological change were to be approved, are so astronomical as to defy reason. For example, Mr. Roff proposes a negative 250 percent for account 365 – Overhead Conductors and Devices. This is the single biggest non-production account on Empire's books. The following table shows the impact.

Table 5

Impact of Increasing Cost of Removal Ratio

$$\text{-5\% ratio} = 100 \% - (-5)/10 = 10.5 \%$$

$$\text{-250\% ratio} = 100 \% - (-250)/10 = 35.0 \%$$

Increasing a cost of removal ratio from -5% to -250% with a 10-year life increases the depreciation rate from 10.5% to 35.0%. If the estimated -250% cost of removal ratio is not supportable, the resulting 35.0% depreciation rate is excessive. The combination of these two factors, i.e., understated lives and overstated cost of removal ratios, compounds the excessive depreciation rate problem.

Q. How will you address these issues?

A. Ordinarily, I would discuss lives and life study approaches first. However, due to the magnitude of the negative net salvage difference between the Company and my analysis, I will discuss negative net salvage first.

1 **Net Salvage**

2 **Q. Did Mr. Roff include net salvage ratios in all of his proposed depreciation**
3 **rate calculations?**

4 **A. Most of them.**

5 **Q. Is net salvage a significant issue in this proceeding?**

6 **A. Yes, it is.**

7 **Q. Please explain why net salvage is a significant issue in this proceeding.**

8 **A. As discussed above, the Company's existing depreciation rates do not include a**
9 **provision for net salvage.¹⁶ Mr. Roff is proposing a net salvage methodology that**
10 **was specifically disallowed by this Commission just three years ago, when the**
11 **Company's current depreciation rates were established. Mr. Roff's proposal to**
12 **include net salvage in depreciation rates causes the majority of his proposed**
13 **increase in depreciation expense. Mr. Roff's net salvage proposals will result in**
14 **cost of removal charges to ratepayers of at least \$20.8 million per year versus**
15 **Empire's actual average net cost of removal experience of only \$1.8 million per**
16 **year. Setting aside any debates concerning appropriate depreciation accounting,**
17 **this is an unreasonable and unjustified request.**

18 **Q. Does Mr. Roff discuss his proposed reversal of this Commission's prior**
19 **decision concerning this practice?**

¹⁶ Report and Order, Case No. ER-2001-299, September 20, 2001.

1 A. Yes. Mr. Roff states that "the existing depreciation rates are understated
2 because of how net salvage has been treated by this Commission in prior
3 proceedings."¹⁷

4 **Q. Do you agree with Mr. Roff's inclusion of net salvage ratios in the**
5 **depreciation rates?**

6 A. No, I do not. This Commission has required the expensing of net salvage which
7 is perfectly acceptable and keeps the Company whole. It also results in a
8 depreciation system which will, at least in theory, result in a plant balance and
9 book reserve which are equal at the end of plant life, rather than an anomalous
10 situation in which plant balance is 100% but the book reserve is 350% for
11 account 365 and similar results for other accounts..

12 **Q. How would that happen?**

13 A. As I explained earlier, Mr. Roff has bundled inappropriate cost of removal factors
14 in his proposed depreciation rates. If those rates are approved, the result will be
15 that current ratepayers will pay for future inflation to costs that have not been
16 incurred.

17 **Q. What is your opinion of the Staff's position and the Commission's decision**
18 **in the prior case?**

19 A. Staff was correct in recommending that net salvage be based on actual historical
20 experience and the Commission was correct in accepting that recommendation.
21 Furthermore, in my opinion, the implementation and consequences of the
22 Financial Accounting Standards Board's ("FASB") Statement of Financial

¹⁷ Roff Direct Testimony, page 12.

1 Accounting Standard No. 143 ("SFAS No. 143") and the Federal Energy
2 Regulatory Commission's ("FERC") Order No. 631 both corroborate this practice.
3 These pronouncements provide an exception to the general rules for utilities.
4 Those general rules, however, are consistent with this Commission's decision in
5 Empire's last case. At a minimum, these new accounting requirements will
6 highlight, as addressed in this Commission's prior Order, any excess cost of
7 removal charges to ratepayers both in rate cases as well as in financial
8 statements to stockholders.

9 In order to fully address the net salvage issue, I will approach it in the
10 following manner. First I will address SFAS No. 143 and asset retirement
11 obligations. This will be followed by a discussion of FERC Order No. 631. Next,
12 I will discuss Production plant dismantlement costs. Finally, I will discuss the net
13 salvage ratios included in Mr. Roff's Transmission, Distribution and General plant
14 depreciation rates.

15 **Financial Accounting Standards Board's Statement of Financial Accounting**
16 **Standard No. 143**
17

18 **Q. What is the Financial Accounting Standards Board?**

19 A. The Financial Accounting Standards Board ("FASB") is a standards-setting body
20 for the public accounting profession.

21 **Q. What is SFAS No. 143?**

22 A. SFAS No. 143 is a recent FASB pronouncement concerning the appropriate
23 accounting for long-lived assets. Pursuant to SFAS No. 143 all companies, both
24 unregulated (e.g. General Motors) and regulated (e.g. Empire) must review all of
25 their long-lived assets to determine whether or not they have actual legal

1 obligations to remove retired assets. For some plant and equipment, companies
2 have a legal obligation to remove the asset at the end of the service life. These
3 legal obligations for future removal are called asset retirement obligations
4 ("AROs"). For other assets, no such obligation exists.

5 If a company does have an ARO, the fair value of the future retirement
6 cost, which is determined using net present value techniques, is considered to be
7 part of the original cost of the asset. It is, therefore, capitalized (included in the
8 original cost) and depreciated over the life of the asset. Hence, for assets with
9 AROs, the accumulated depreciation account would equal the plant balance at
10 the end of the asset's life, because total depreciation would equal the total
11 recorded cost (initial cost plus capitalized ARO) at the end of the asset's life.

12 If, however, a company does not have such legal obligations, the future
13 cost of removal will not be capitalized and will not be included in depreciation
14 expense. Therefore, for assets without AROs, at the end of the asset's life, the
15 accumulated depreciation account will equal the plant balance because only the
16 initial cost of the asset will have been depreciated. In other words, there is
17 symmetry between assets with and without AROs. In both cases, the
18 accumulated depreciation will equal the original cost of the asset at the end of its
19 life.

20 **Q. Is there a label that we can apply to this approach to make it more**
21 **understandable?**

22 **A.** Yes. We can call this the "liability approach." Under the liability approach, if you
23 incur a liability (amount owed) you have also incurred a cost. If you have not

1 incurred a liability, you have not incurred a cost. Therefore, if a Company incurs
2 a legal liability to spend money to remove an asset at the end of its life, that
3 liability is part of the cost of the asset. If a Company does not have a legal
4 liability to spend money to remove an asset at the end of its life, then it has not
5 incurred a cost and may not add any additional amount to the initial asset cost.

6 **Q. How are AROs measured?**

7 A. AROs are measured at their net present value, not their inflated future value.

8 **Q How are AROs recorded on the books?**

9 A. As stated above, AROs are capitalized as a cost of the related asset and
10 concomitantly recorded as a liability for those companies with a legal obligation
11 to remove a retired asset. Each year, as the liability increases due to inflation,
12 the increase is charged to accretion expense and credited to the liability, but the
13 asset value remains the same. In other words, just as the original cost of the
14 asset does not increase, neither does the capitalized asset retirement cost.

15 **Q. What happens if a company does not have an asset retirement obligation**
16 **pursuant to SFAS No. 143?**

17 A. As explained above, if a company does not have such obligations, the future cost
18 of removal is not considered as a cost of the asset, and therefore it will not be
19 included in the company's depreciation expense on its general purpose financial
20 statements. SFAS No. 143, therefore, unbundles net salvage from depreciation
21 rates. It does this in two ways. Either by incorporating the net present value of
22 an ARO in the cost of the asset, or by excluding non-AROs from the depreciation
23 rate calculations.

1 **Q. What is the accounting impact of SFAS No. 143 for electric utilities?**

2 A. Under Generally Accepted Accounting Principles ("GAAP"), electric utilities will
3 be required to review all of their assets to determine if they have any AROs. If
4 yes, they will be capitalized accordingly. Paragraph B73 of SFAS No. 143
5 provides an exception for regulated utilities, which allows them to continue to
6 incorporate net salvage factors in depreciation rates even if they do not have
7 AROs. The quid pro quo is that the utilities are also required to determine the
8 amount of any prior cost of removal collections relating to non-AROs that is now
9 included in their accumulated depreciation accounts, and record these and any
10 such future charges as a regulatory liability to ratepayers. In other words, even
11 with the paragraph B73 exception, SFAS No. 143 provides transparency through
12 reporting disclosure requirements.

13 **Q. Has Empire implemented SFAS No. 143?**

14 A. Yes. The Company implemented SFAS No. 143 on January 1, 2003.¹⁸

15 **Q. Does the Company have any asset retirement obligations (AROs) pursuant**
16 **to SFAS No. 143?**

17 A. Yes. Upon review, the Company "identified future asset retirement obligations
18 associated with the removal of certain river water intake structures and
19 equipment at the Iatan Power Plant in which we have a 12% ownership." Empire
20 also has "a liability for future containment of an ash landfill at the Riverton Power
21 Plant."¹⁹

22 **Q. Has Empire recorded any impacts related to SFAS No. 143 on its books?**

¹⁸ Response to Public Counsel Data Request No. 858.

1 A. Yes. The Company's December 31, 2003 Form 10K Report states:

2 Upon adoption of this statement in the first quarter of 2003,
3 we recorded a non-recurring discounted liability and a
4 regulatory asset of approximately \$630,000 because we
5 expect to recover these costs of removal in electric rates.
6 This liability will be accreted over the period up to the
7 estimated settlement date. The balance at the end of 2003
8 was approximately \$656,000. **Also, we reclassified the**
9 **accrued cost of dismantling and removing plant from**
10 **service upon retirement, which is not considered an**
11 **asset retirement obligation under FAS 143, from**
12 **accumulated depreciation to a regulatory liability. This**
13 **balance sheet reclassification had no impact on results**
14 **of operations. As of December 31, 2003 and 2002, this**
15 **reclassification was \$3.8 million and \$4.9 million,**
16 **respectively.** This estimated liability may be subject to
17 further refinement pending further analysis, including the
18 results of our depreciation study expected to be completed in
19 the first quarter of 2004.²⁰
20

21 Q. Do you have any concerns about Empire's implementation of SFAS No.
22 143?

23 A. Yes, I do. I have some concerns about the \$630,000 and \$656,000 regulatory
24 asset that Empire expects to recover in electric rates. I am not yet satisfied that
25 such recovery should be allowed.

26 **FERC Order No. 631**

27 Q. What is the impact of SFAS No. 143 on electric regulatory accounting?

28 A. The impact on regulatory accounting for electric utilities is that SFAS No. 143
29 evolved into FERC Order No. 631 in Docket RM02-7-000. FERC Order No. 631
30 resulted in changes to the USOA to incorporate the principles of SFAS No. 143.

31 Q. How did SFAS No. 143 evolve into FERC Order No. 631?

¹⁹ The Empire District Electric Company, December 31, 2003 Form 10K Report, page 31.

1 A. SFAS No. 143 was initiated in 1994 as a result of a request by the Edison
2 Electric Institute. Subsequent to that initiation, the accounting community went
3 through several iterations of proposals and comments to finally arrive at SFAS
4 No. 143. FERC established Docket No. RM02-7-000 as a result of SFAS No.
5 143. The FERC proceeding included a Technical Conference, Comments, a
6 Notice of Proposed Rulemaking ("NOPR"), Additional Comments and ultimately,
7 Order No. 631, on April 9, 2003. Schedule MJM-3 is a document I wrote to track
8 the progress of SFAS No. 143 into FERC Order No. 631. It addresses net
9 salvage as it relates to non-ARO assets, since that is the subject in dispute.

10 **Q. What is the thrust of Order No. 631?**

11 A. Order No. 631 essentially adopts SFAS No. 143 and then integrates it into the
12 Uniform System of Accounts.

13 **Q. Does Order No. 631 require electric utilities to review their long-lived assets**
14 **to determine whether they have any AROs?**

15 A. Yes. Order No. 631 adopts SFAS No. 143, which already obligates electric
16 utilities, among others, to review their long-lived assets to determine if they have
17 any AROs.

18 **Q. Is the review required by Order No. 631 the same as the review Empire**
19 **already conducted under SFAS No. 143 in which it determined that it has**
20 **AROs for some of its Production plant?**

21 A. Yes, it is.

²⁰ The Empire District Electric Company, December 31, 2003 Form 10K Report, page 31 (emphasis added).

1 Q. What does Order No. 631 require in situations where electric utilities do not
2 have AROs?

3 A. Any charges for such amounts must be separately identified. FERC Order No.
4 631 defines cost of removal allowances for which there is no legal asset
5 retirement obligation, as "non-legal retirement obligations." Past and future "non-
6 legal AROs" must be specifically identified and accounted for separately in the
7 depreciation studies, depreciation expense and the accumulated depreciation
8 account.

9 In Order No. 631, FERC maintains the transparency resulting from the
10 "separation principle" for non-legal AROs that was established in paragraph B73
11 of SFAS No. 143. FERC explains its new requirements for non-legal AROs, as
12 follows:

13 Instead, we will require jurisdictional entities to
14 maintain separate subsidiary records for cost of
15 removal for non-legal retirement obligations that
16 are included as specific identifiable allowances
17 recorded in accumulated depreciation in order to
18 separately identify such information to facilitate
19 external reporting and for regulatory analysis,
20 and rate setting purposes. Therefore, the
21 Commission is amending the instructions of
22 accounts 108 and 110 in Parts 101, 201 and
23 account 31, Accrued depreciation - Carrier
24 property, in Part 352 to require jurisdictional
25 entities to maintain separate subsidiary records
26 for the purpose of identifying the amount of
27 specific allowances collected in rates for non-
28 legal retirement obligations included in the
29 depreciation accruals.²¹
30

²¹ FERC Docket No. RM02-7-000, Order No. 631, Issued April 9, 2003, Paragraph 38. (Emphasis added.)

1 **Q. Does FERC provide any additional insight as to the interpretation of these**
2 **new rules?**

3 A. Yes, FERC also states:

4
5 Jurisdictional entities must identify and quantify
6 in separate subsidiary records the amounts, if
7 any, of previous and current accumulated
8 removal costs for other than legal retirement
9 obligations recorded as part of the depreciation
10 accrual in accounts 108 and 110 for public
11 utilities and licensees, account 108 for natural
12 gas companies, and account 31 for oil pipeline
13 companies. If jurisdictional entities do not have
14 the required records to separately identify such
15 prior accruals for specific identifiable allowances
16 collected in rates for non-legal asset retirement
17 obligations recorded in accumulated
18 depreciation, the Commission will require that
19 the jurisdictional entities separately identify and
20 quantify prospectively the amount of current
21 accruals for specific allowances collected in rates
22 for non-legal retirement obligations."²²
23

24 **Q. Does FERC make any policy calls concerning the appropriate treatment of**
25 **the disposition of prior and future collections contained in these separate**
26 **allowances?**

27 A. No. FERC declines to make such calls on a policy basis. FERC will resolve the
28 appropriate treatment of the dispositions of prior and future collections on a case-
29 by-case basis. Specifically, FERC states:

30
31 "The Commission will decline to make policy
32 calls concerning regulatory certainty for
33 disposition of transition costs, external funds for
34 amounts collected in rates for asset retirement

²² Id., Paragraph 39. (Emphasis added.)

1 obligations, adjustments to book depreciation
2 rates, and the exclusion of accumulated
3 depreciation and accretion for asset retirement
4 obligations from rate base; these are matters that
5 are not subject to a one size fits all approach and
6 are better resolved on a case-by-case basis in
7 rate proceedings. The Commission is of the
8 view that utilities will have the opportunity to seek
9 recovery of qualified costs for asset retirement
10 obligations in individual rate proceedings. This
11 rule should not be construed as pregranted
12 authority for rate recovery in a rate
13 proceeding.²³
14

15 **Q. Does FERC's Order require anything new or more with respect to its**
16 **requirement for detailed depreciation studies?**

17 **A. No. FERC states:**

18 "Finally this rule requires nothing new and
19 nothing more with respect to the requirement for
20 a detailed study. Complex depreciation and
21 negative salvage studies are routinely filed or
22 otherwise made available for review in rate
23 proceedings. When utilities perform depreciation
24 studies, a certain amount of detail is expected. It
25 is incumbent upon the utility to provide sufficient
26 detail to support depreciation rates, cost of
27 removal, and salvage estimates in rates.^{45, 24}
28

29
30 And footnote 45 states:

31
32 "When an electric utility files for a change in its
33 jurisdictional rates, the Commission requires
34 detailed studies in support of changes in annual
35 depreciation rates if they are different from
36 those supporting the utility's prior approved
37 jurisdictional rate."²⁵
38

39 Thus, FERC recognizes distinctions between legal and non-legal AROs just as

²³ Id., Paragraph 64. (Emphasis added.)

²⁴ Id., paragraph 65. (Emphasis added.)

1 SFAS No. 143 recognizes those distinctions. In fact, the amount resulting from
2 Order No. 631's requirement to identify previous amounts collected for non-legal
3 AROs should result in the same amounts as the SFAS No. 143 paragraph B73
4 requirement to establish a regulatory liability to ratepayers. It is also clear, that
5 on a going-forward basis, jurisdictional entities must be prepared to specifically
6 identify and justify any non-legal AROs that they propose to include in rates.

7 **Q. What is the most important aspect of Order No. 631?**

8 A. The most important aspect of Order No. 631 is its requirement to separate or
9 unbundle non-legal cost of removal allowances from depreciation rates, i.e., the
10 separation principle. This is entirely consistent with the concerns expressed by
11 this Commission in Case No. ER-2001-299.

12 **Q. How much prior collections are included in Empire's accumulated**
13 **depreciation account?**

14 A. As of December 2003, Empire had collected \$3.8 million in excess net salvage.
15 Empire calculates that from 1980 through 2003 it has collected \$25.9 million in
16 net salvage through depreciation rates. Its actual experienced net salvage
17 during that same period was \$22.1 million, thus a \$3.8 million excess collection is
18 included in accumulated depreciation.

19 **Q. Do you draw any inferences from this?**

20 A. Yes. Prior to Case No. ER-2001-299 in which this Commission went to an
21 expensing approach, it apparently allowed some net salvage in depreciation. But
22 those amounts appear to have been held very close to actual annual experience,

²⁵ Id., footnote 45.

1 otherwise the Regulatory Liability to ratepayers would be much greater than the
2 \$3.8 million identified in Empire's 2003 SEC Form 10-K.

3 **Q. Is Empire proposing to include any additional future removal costs in its**
4 **depreciation rates?**

5 A. Yes. Mr. Roff's proposed depreciation rates are designed to charge ratepayers
6 about \$20.8 million per year for future removal costs.²⁶ He would do this by
7 bundling net salvage ratios in depreciation rates. This charge would continue to
8 increase with plant balances. The net increase to the Regulatory Liability to
9 ratepayers would increase from \$3.8 million to about \$23 million immediately,
10 and grow by at least \$20 million each year thereafter. Mr. Roff's proposal is
11 unreasonable.

12 **Q. Can you demonstrate that Mr. Roff's proposal is unreasonable?**

13 A. Yes. The unreasonableness of Mr. Roff's proposal can be demonstrated in many
14 ways. For example, Mr. Roff proposes to collect approximately \$20.8 million in
15 net salvage costs annually, but the Company has only experienced \$22.1 million
16 in total cost of removal over the past 24 years. In other words, Mr. Roff proposes
17 to charge ratepayers an annual amount comparable to the total amount the
18 Company has spent since 1980.

19 **Q. Does Mr. Roff's proposal comply with FERC Order No. 631?**

20 A. Mr. Roff's proposal does not comply with FERC Order No. 631. The removal
21 costs he proposes to recover through depreciation rates are "non-legal AROs".
22 Order No. 631 requires that these be accounted for separately as specifically

²⁶ Difference between Empire's proposed depreciation expense with and without Mr. Roff's net salvage proposals.

1 identifiable allowances within depreciation. Although I have estimated these
2 amounts at the \$20.8 million level, Mr. Roff has not specifically identified his
3 proposed annual allowances. He bundled them into remaining life depreciation
4 rates which further obfuscates their true identity and level.

5 **Q. What is your reaction to Empire's filing?**

6 A. My reaction is that even though Empire has implemented SFAS No. 143 and
7 apparently Order No. 631, it is proposing to charge much more to its ratepayers
8 for "non-legal" AROs than it would if it actually had legal obligations to remove
9 these assets. Mr. Roff has not disclosed that these excess charges represent
10 liabilities to ratepayers and he has not explained that these amounts are to be
11 specifically identified in separate subaccounts of depreciation expense and
12 accumulated depreciation. Although Mr. Roff is a "Director" with the public
13 accounting firm of Deloitte & Touche LLP, he has not discussed or even
14 addressed any of these significant accounting pronouncements.

15 **Q. Do you have any familiarity with these issues?**

16 A. Yes. I have been tracking the SFAS No. 143 and FERC Order No. 631 issues
17 for several years, in fact almost from their inception. I have collected and
18 reviewed the initial comments in the FASB's SFAS No. 143 deliberations, I also
19 attended the FERC public meeting in its initial deliberations and I and my
20 associate Mr. King assisted the National Association of State Utility Consumer
21 Advocates ("NASUCA") in the preparation of its Comments filed in FERC Docket
22 No. RM-02-7 which lead to its Order No. 631. I have also addressed these
23 pronouncements in testimony and in public presentations. Most recently I

1 addressed these pronouncements before the Society of Depreciation
2 Professionals. I have attached a copy of my slide presentation on that panel as
3 Schedule MJM-4.

4 **Q. What is Mr. Roff's nomenclature for these non-legal AROs?**

5 A. Mr. Roff defines two types of removal costs for the Production plant functions.
6 The first is terminal net salvage, or alternatively dismantlement or
7 decommissioning costs. The second is a provision for interim net salvage, based
8 on analysis of historical retirement, salvage and cost of removal activity.²⁷ Mr.
9 Roff defines estimated removal costs for the Transmission, Distribution and
10 General functions as net salvage factors or net salvage ratios.

11 **Production Net Salvage Estimates**

12 **Q. Did Mr. Roff incorporate decommissioning costs into his proposed**
13 **production plant depreciation rates?**

14 A. Yes. Mr. Roff included decommissioning costs in the form of negative net
15 salvage ratios in his Steam, Hydraulic and Other Production plant depreciation
16 rates. A portion of these negative net salvage ratios is related to terminal net
17 salvage, or Mr. Roff's estimates of the cost of removal necessary when the plant
18 is retired. These decommissioning cost estimates, in the form of negative net
19 salvage ratios, increased Mr. Roff's Production plant depreciation rates.

20 **Q. Did Mr. Roff have any Company-specific plans to base his terminal net**
21 **salvage estimates on?**

²⁷ Roff Testimony, page 20.

1 A. No. According to his testimony, "the Company has limited experience with the
2 dismantlement of power plants." Mr. Roff relied on "the dismantlement estimates
3 of other utilities."²⁸

4 **Q. Do you agree with Mr. Roff's inclusion of these decommissioning cost**
5 **estimates in Empire's depreciation rates?**

6 A. I disagree with Mr. Roff's production plant decommissioning proposals. The
7 Company has already implemented SFAS No. 143 and recorded the impacts on
8 its books. Any remaining decommissioning costs are related to non-legal AROs,
9 in other words, Empire has no obligation to spend this money. At a minimum,
10 they should not be hidden in depreciation rates.

11 **Q. Did Mr. Roff include any other net salvage estimates in his Production plant**
12 **depreciation rates?**

13 A. Yes. Mr. Roff also included a provision for interim net salvage in his depreciation
14 rates. Again, these are non-legal AROs. He calculates his interim net salvage
15 ratios for Production plant the same way he calculates his net salvage ratios for
16 Transmission, Distribution and General plant. That methodology, and the
17 problems with its use, are discussed at length below.

18 **Non-Production Plant Net Salvage Estimates**

19 **Q. Does Empire propose to charge net salvage to ratepayers for its non-**
20 **production plant accounts?**

21 A. Yes. Mr. Roff has included negative net salvage ratios in most of his proposed
22 transmission and distribution plant depreciation rates, as well as the depreciation

²⁸ Id.

1 rate for one of its general plant accounts.²⁹ As explained in the depreciation
2 concepts sections of this testimony, negative future net salvage ratios increase
3 depreciation rates.

4 **Q. How did Mr. Roff estimate his proposed future net salvage ratios for**
5 **Transmission, Distribution and General plant accounts?**

6 **A.** Mr. Roff prepared summaries of annual retirements and net salvage, which he
7 used as a basis for his future net salvage proposals. The following table is a
8 hypothetical example of Mr. Roff's net salvage studies.
9

²⁹ Mr. Roff has estimated positive net salvage for four of the General plant accounts.

Table 6

Hypothetical Net Salvage Study

<u>Year</u>	<u>Original Cost Retired Asset</u>	<u>Cost of Removal</u>	
		<u>(\$)</u>	<u>(%)</u>
(a)	(b)	(c)	(d)=(c)/(b)
1997	1,000	(500)	(50)%
1998	2,000	(1,500)	(75)
1999	2,500	(1,000)	(40)
2000	3,000	(2,500)	(83)
2001	<u>4,000</u>	<u>(5,000)</u>	<u>(125)</u>
Total	12,500	(10,500)	(84)%
3-year Avg.	3,167	(2,833)	(89)%
5-year Avg.	2,500	(2,100)	(84)%

Q. Please explain this table.

A. The years in column (a) are the years in which the assets in column (b) were retired. These assets had originally been placed in service several years before they were retired. In other words they were added to plant in service several years ago, they lived their service life, and then they were retired or withdrawn from service. The cost of removal amounts in column (c) are the costs incurred in connection with the retirement from service and the disposition of the assets. In other words, an asset that originally cost \$4,000 several years earlier was retired from service in 2001. It cost \$5,000 to retire and dispose of that asset in 2001. The ratios in column (d) are the cost of removal amount expressed as a percentage of the original cost of the assets.

Q. How did Mr. Roff use these figures to estimate his future net salvage ratios?

1 A. Mr. Roff considered rolling 3-year averages, shrinking bands and the overall
2 average in making his decision.³⁰

3 **Q. Does Mr. Roff's net salvage approach result in an increase to depreciation**
4 **rates?**

5 A. Yes, it does. First, as demonstrated in the concepts section, any negative net
6 salvage ratio will increase a depreciation rate. Net salvage ratios as developed
7 by Mr. Roff will increase the rates even further. Net salvage ratios as developed
8 by Mr. Roff depend on the relationship of the cost of removal as a percentage of
9 the original cost of the assets retired, as shown above. The timing mismatch
10 within this relationship results in an inflated negative net salvage ratio which is
11 then bundled into the depreciation rate calculation.

12 **Q. Would you please explain how this happens?**

13 A. Yes. The hypothetical retirements shown above are in very old original cost
14 dollars. This approach is problematic due to the mismatch in the value of dollars
15 between the years the assets were installed and the years they are retired. For
16 example, assume that the \$4,000 of assets retired in 2001 were actually placed
17 in service in 1951 or 50 years ago. The cost of removal in 2001 dollars is
18 \$5,000, or 125 percent, of the 1951 addition.

19 **Q. Please explain what caused the result to be negative 125 percent.**

20 A. The result is negative 125 percent because the \$5,000 cost of removal has
21 experienced 50 years of inflation. If we assume the inflation rate has been 5
22 percent annually, the cost of removal in 50-year old dollars is only \$436 or 11

³⁰ See net salvage analyses provided in Mr. Roff's workpapers.

1 percent of the original \$4,000 installation. Mr. Roff's approach, however, shows
2 125 percent as a result of this mismatch. The same disparity would be true for all
3 other years in the example. There is a fundamental mismatch between the
4 dollars associated with the installation dates of the assets and the dates they are
5 removed from service.

6 **Q. How would Mr. Roff use this ratio?**

7 A. Mr. Roff would use a negative 125 percent ratio in the depreciation rate
8 calculation. As I explained in the concepts section, this approach is equivalent to
9 capitalizing 125 percent of the existing plant in service, in fact Mr. Roff has used
10 negative net salvage ratios that far exceed 125 percent. The example above
11 addresses only retirements. But at the same time, as explained in the concepts
12 section, the actual plant balance has been growing for many reasons. The
13 hypothetical company has been making additions every year due to growth, and
14 these additions have also experienced inflation. Assume the current total plant
15 balance in this account is \$100,000,000. Mr. Roff would calculate depreciation
16 rates designed to collect \$225,000,000 from ratepayers, i.e. \$125,000,000 more
17 than the company spent on the plant, and this would be based on a \$4,000
18 retirement.

19 **Q. Do Mr. Roff's net salvage studies suffer from this mismatch?**

20 A. Yes, Mr. Roff's net salvage studies suffer from a mismatch in the value of dollars
21 between the installation and removal dates of their retired assets. This mismatch
22 would lead to exorbitant current charges to current ratepayers for an inflated

1 future cost of removal. These amounts far exceed the amounts that would be
2 allowed even if Empire had legal AROs to spend the money, which it does not.

3 **Q. Is there a simple explanation for the exorbitant current charges?**

4 A. Yes, Mr. Roff's future net salvage ratios are inflated, but not reduced to their fair
5 value. They result in excessive cost of removal charges because these inflated
6 net salvage ratios are applied to current plant balances. Thus, current
7 ratepayers would pay for inflated removal costs that are not expected to occur.

8 **Q. Is there a way to visualize this?**

9 A. Yes, consider the examples in the depreciation concepts section of this
10 testimony. If you recall, I showed the difference in depreciation rates resulting
11 from a negative 5 percent net salvage ratio versus a negative 250 percent net
12 salvage ratio. It increased the resulting rate substantially. If the actual cost of
13 removal in today's dollars is only 5 percent, then the increased depreciation rate
14 resulting from the inclusion of future inflation results in today's ratepayers being
15 charged for inflation that has not even occurred. If the Company actually has
16 liabilities to spend the money, the proper approach is to use the negative 5
17 percent present value, not the negative 250 percent inflated value, of the cost of
18 removal.

19 **Q. How much future net salvage is incorporated in the Company's**
20 **depreciation request?**

21 A. Because the amount varies with changes in plant balances, it is difficult to
22 determine the precise amount of net salvage. I estimate however, that there is a
23 minimum of \$20.8 million of annual **negative** net salvage charges included in

1 Empire's overall depreciation request. This amount includes the terminal net
2 salvage discussed above.

3 **Q. How much actual net salvage has the Company been experiencing?**

4 A. Over the five years ending 2003 the Company has experienced \$1.8 million in
5 positive net salvage on average. However, in 2001 Empire experienced a large
6 amount of salvage in the Other Production plant function, which represented the
7 sale of a portion of Unit 2 of the State Line Power Plant to Westar Generating
8 Inc.³¹ Due to the unique nature of this salvage experience, I have also calculated
9 the Company's five-year average net salvage experience leaving the 2001 Other
10 Production salvage out of the equation. Disregarding the 2001 salvage for Other
11 Production, the Company has experienced an average of \$1.8 million in
12 **negative** net salvage over the past five years. This calculation is shown in the
13 net salvage section of Schedule MJM-2.

14 **Q. What do you make of the level of cost of removal in Mr. Roff's proposal?**

15 A. As I explained earlier, the unreasonableness of Mr. Roff's proposal can be
16 demonstrated in many ways. Mr. Roff is proposing to charge ratepayers
17 approximately \$20.8 million per year for a cost that averages only \$1.8 million per
18 year. That is a substantial mismatch. It seems to me that common sense
19 supports continuation of this Commission's current practices and that Mr. Roff
20 and Empire have a special burden to attempt to support a \$19 million differential
21 (\$20.8 million less \$1.8 million) annually, based on a speculative future
22 expenditure that Empire has no legal obligation to incur. If this Commission were

³¹ Response to Public Counsel Data Request No. 884.

1 to accept such an excess charge, GAAP and the SEC will require that it be
2 reported as a regulatory liability and if recent activity is indicative of any utility's
3 intent with respect to this money, they will try everything in their power to take it
4 into income and never return it to ratepayers. See Schedule MJM-4, pages 21
5 and 24.

6 **Q. Are you familiar with Empire's approach?**

7 A. Yes. In certain other jurisdictions, utilities have used this approach. It is
8 addressed in the NARUC's 1996 Public Utilities Depreciation Practices Manual.
9 On the other hand, the same NARUC Manual also states:

10 "Some commissions have abandoned the
11 above procedure [gross salvage and cost of
12 removal reflected in depreciation rates] and
13 moved to current-period accounting for gross
14 salvage and/or cost of removal. In some
15 jurisdictions gross salvage and cost of removal
16 are accounted for as income and expense,
17 respectively, when they are realized. Other
18 jurisdictions consider only gross salvage in
19 depreciation rates, with the cost of removal
20 being expensed in the year incurred."³²

21
22 The NARUC depreciation manual further opines on the underlying rationale for
23 treating removal cost as a current-period expense, instead of incorporating it in
24 depreciation rates:

25 "It is frequently the case that net salvage for a
26 class of property is negative, that is, cost of
27 removal exceeds gross salvage. This
28 circumstance has increasingly become
29 dominant over the past 20 to 30 years; in some
30 cases negative net salvage even exceeds the
31 original cost of plant. Today few utility plant
32 categories experience positive net salvage; this

³² NARUC Manual, page 157.

1 means that most depreciation rates must be
2 designed to recover more than the original cost
3 of plant. The predominance of this
4 circumstance is another reason why some
5 utility commissions have switched to current-
6 period accounting for gross salvage and,
7 particularly, cost of removal."³³
8

9 Setting aside ratemaking, one of the mechanical problems with this approach is
10 that it can result in a depreciation reserve actually exceeding the gross plant
11 balance. That is because, as I explained in the depreciation concepts section,
12 the depreciation rate is excessive, that is it is more than necessary to fully
13 depreciate the plant. Therefore, at the end of its life, the accumulated
14 depreciation account exceeds the plant account balance. This is one of the
15 reasons I believe that Mr. Roff's approach is inconsistent with fundamentals and
16 principles of current practices regarding cost, capital recovery, and cost of
17 removal. The accumulated depreciation and depreciation expense should be
18 designed to recover the original costs, not something more.

19 **Recommended Net Salvage Allowance**

20 **Q. What do you recommend?**

21 A. I recommend a continuation of the current practice. These are "non-legal" AROs,
22 and must be accounted for separately as specifically identified allowances within
23 depreciation expense and accumulated depreciation. In other words, they must
24 be separated from other depreciation expenses.

25 **Q. How should these allowances be calculated?**

³³ Id., page 158.

1 A. Again, I recommend a continuation of the current practice. This is also
2 consistent with the Pennsylvania Public Utility Commission's normalized net
3 salvage allowance approach. It is based on the average of the most recent 5
4 years worth of actual net salvage activity shown in Empire's depreciation study.
5 Net salvage is treated just as any other normalized expense, except that it is
6 charged to accumulated depreciation. The Company is ensured full recovery of
7 its annual costs, and its ratepayers are not required to pay for estimated future
8 inflation to expenditures that probably will not be made. I believe this does
9 represent a continuation of this Commission's current practice.

10 This approach has the added benefit that it is simple, straightforward and
11 easy to implement. It conforms to FERC Order No. 631 in that the net salvage
12 allowance is a specifically identifiable amount that can be separately accounted
13 for in depreciation expense and the accumulated depreciation account. Using
14 the Company's data and disregarding the unique salvage experience in the Other
15 Production function in 2001, the normalized annual net salvage allowance
16 amount would be \$1.8 million.³⁴ The calculation of the \$1.8 million is shown in
17 the Net Salvage Section of Schedule MJM-2.

18 **Q. Please summarize your net salvage recommendations.**

19 A. I recommend rejecting Empire's request to include \$20.8 million of cost of
20 removal in determining the depreciation rates for its plant accounts. Empire's
21 annual net salvage request is 10 times its actual annual experience and almost
22 equal to its total experience for the past 24 years. Empire's proposal is not

³⁴ Response to Public Counsel Data Request No. 801.

1 consistent with current GAAP regardless of the exception provided by paragraph
2 B73 of SFAS No. 143, and it is not consistent with current regulatory accounting
3 principles. The amount is not specifically identifiable; it can only be estimated,
4 since it is bundled into Mr. Roff's proposed depreciation rates, and it will change
5 each year as plant balances change. It has not been identified as a Regulatory
6 Liability in the Company's filing. At a minimum, Mr. Roff has been disingenuous
7 in not highlighting these amounts and the new accounting rules. Considering
8 these numbers in light of SFAS No. 143 and FERC's Order No. 631, it is
9 impossible to even rationalize Empire's \$20.8 million request.

10 As an alternative, I am recommending an unbundled specific identifiable
11 net salvage allowance that can be included as a component of depreciation
12 expense and recorded in accumulated depreciation. Based on the Company's
13 actual average experience for the years 1999 through 2003, this amount is \$1.8
14 million. This approach will separately identify such information to facilitate
15 external reporting, regulatory analysis, and for rate setting purposes. My
16 recommendation is consistent with paragraphs 36 and 38 of the FERC's Order
17 No. 631 in its Docket No. RM02-7-000, issued April 9, 2003, and it is consistent
18 with this Commission's Decision in Case No. ER-2001-299.

19 **Q. What significant numbers are involved in the net salvage issue?**

20 A. There are three significant numbers. The first is the \$3.8 million of net salvage
21 that Empire has already charged to customers. The second is the amount of
22 inflated estimated future cost of removal bundled in Mr. Roff's depreciation rates
23 for all functions, i.e., including production. The third is its actual recent net

1 salvage experience. These amounts are listed below:

2
3 Table 7

4	<u>Net Salvage Amounts</u>	<u>Annual Amount</u>
5	Regulatory Liability Included in Depreciation Reserve	\$ 3.8 million
6	Bundled in Roff Rates	\$ 20.8 million
7	Actual Recent Experience	\$ 1.8 million

8
9
10 The Commission can use these three numbers to judge the
11 reasonableness of any specific identifiable annual allowance it grants to the
12 Company. In my opinion, the allowance should be \$1.8. To grant the \$20.8
13 million would be tantamount to providing Empire with \$20.8 million of additional
14 before-tax income each year.

15 **Q. Do you have any empirical evidence that would suggest that amounts such**
16 **as these are tantamount to providing additional pre-tax income?**

17 A. Yes. While it was still regulated, the telephone industry collected substantial
18 amounts of future cost of removal through depreciation, just as Mr. Roff is
19 proposing here. Upon deregulation and the adoption of SFAS No. 143, the major
20 telephone companies took \$11.5 billion from accumulated depreciation into net
21 income. This is a monumental intergenerational inequity.³⁵

22 **Q. How about the electric industry?**

23 A. I do not yet have all the details, but I do know that at least one major electric
24 utility, American Electric Power, which had several of its Production plants
25 deregulated, immediately took \$473 million from accumulated depreciation and

³⁵ See Schedule MJM-4, page 21.

1 transferred it into income relating to those deregulated plants, another
2 monumental intergenerational inequity.³⁶

3 **Q. Does the 5-year average allowance approach you are recommending result**
4 **in the abandonment of accrual accounting?**

5 A. No. Accrual accounting is the recognition of revenue when earned and expenses
6 when incurred. SFAS No. 143 and Order No. 631 preclude recording AROs for
7 non-legal retirements because there is no legal obligation to incur such costs.
8 Mr. Roff is attempting to accrue an expense for which Empire has no liability.
9 Consider that GAAP is founded upon accrual accounting, and SFAS No. 143 is
10 GAAP.

11 **Q. Have you made any similar recommendations in other proceedings?**

12 A. Yes, in two recent cases the New Jersey Board of Public Utilities actually
13 endorsed my testimony regarding SFAS No. 143. For example, in a recent case
14 involving Rockland Electric Company the Administrative Law Judge accepted my
15 position:

16 RECO calculates its test year depreciation
17 expense to be \$5.194 million. RECO ib 128.
18 RECO 30, Page 28-29. RECO 11A, Exhibit P-
19 2, Page-11. The Ratepayer Advocate disputes
20 the Company's figure and proposes a
21 depreciation expense level of \$3,864,000. Rib-
22 74. Ratepayer Advocate witness Majoros also
23 recommended that the amortization of the
24 Theoretical Reserve Difference should be
25 \$1.103 million rather than the company's
26 proposed amortization amount of \$588,000.
27 Ratepayer Advocate would exclude
28 depreciation of the enhanced service reliability

³⁶ Id., page 24.

1 program and depreciation of post-test year
2 plant. R-51. RJH-17.

3
4 Staff determined the depreciation
5 expense to be \$3,971,000. Sib Exhibit P-2,
6 Schedule 13-14. Staff added a 10-year
7 average net salvage of \$150,000 to the total of
8 \$3,821,100. Sib 74.
9

10 The main controversy in the depreciation
11 issue concerns net salvage and cost of removal
12 and the interpretation of Statement of Financial
13 Accounting Standards No. [143]. SFAS 143,
14 paragraph B73. RECO rb Appendix 15.
15

16 Ratepayer Advocate witness Michael J.
17 Majoros expressed his opinion that the
18 company's depreciation proposal was
19 unreasonable. In his pre-filed testimony
20 Witness Majoros claims the Company's
21 proposal will produce excessive depreciation
22 and increase the revenue requirement. He
23 also states the company's proposal is
24 inconsistent with current thinking regarding
25 cost, capital recovery and net salvage,
26 particularly the cost of removal component of
27 net salvage. R-36, Page 3. He traces the
28 alleged excessive depreciation to a request for
29 negative net salvage, which he claims, is
30 unreasonable. R36-4. This results in an
31 excessive revenue requirement. R-36-4.
32 Witness Majoros recommends a depreciation
33 expense of \$3,863,900. R-36-20.
34

35 RECO witness Hutcheson disagrees
36 with Mr. Majoros proposal and alleges that
37 Majoros approach is a results driven exercise
38 designed to under state depreciation rates, that
39 he has pushed the recovery of net salvage far
40 out into the future thereby relieving rate payers
41 who benefit from the plant serving them today
42 from any cost responsibility for retirement and
43 removal of such plant. It imposes a cost on
44 customers who never benefited from the plant
45 to pay for its removal.
46

1 Staff concurs in part with the Ratepayer
2 Advocate, supporting the intellectual
3 foundation of FAS143, which supports
4 "unbundled" depreciation rates, rates that
5 exclude embedded cost of removal provisions.
6 Staff would favor a cost of removal expense
7 based upon a 10-year window of actual
8 experience rather than the 5-year average
9 used by the Ratepayer Advocate. Sib-74.
10 Staff supports a \$150,000 annual negative net
11 salvage provision. Staff recommends a test
12 year depreciation expense of \$3,971,000.

13
14 I **FIND** that the Staff's test-year depreciation
15 expense of \$3,971,000 to be reasonable.³⁷
16

17 The Board of Public Utilities further endorsed the position, modifying only the
18 amortization period for the reserve excess:

19
20 Based on our review of the extensive
21 record in this consolidated proceeding, the
22 Board has determined that the Initial Decision,
23 subject to certain modifications, which will be
24 set forth herein, represents an appropriate
25 resolution of this proceeding. Accordingly,
26 except as specifically noted below, and as will
27 be further explained in a detailed Final
28 Decision and Order which shall be issued, the
29 Board HEREBY ADOPTS and incorporates by
30 reference as if completely set forth herein, as a
31 fair resolution of the issues in this consolidated
32 proceeding, the Initial Decision.³⁸
33

34 All the parties in the base rate case
35 agree that there is a significant excess
36 depreciation reserve. The Company proposed
37 a 20-year amortization of its calculated reserve
38 excess of \$11.8 million. The RPA claimed the
39 proper reserve excess was \$22.1 million,

³⁷ I/M/O Rockland Electric Company, OAL Docket Nos. PUC 07892-02 and PUC 09366-02, BPU Docket Nos. ER02080614 and ER02100724, (Initial Decision, June 10, 2003), p. 47-49.

³⁸ I/M/O Rockland Electric Company, BPU Docket Nos. ER02080614 and ER02100724, Summary Order, July 31, 2003, p. 2.

1 based upon the Company's asset lives, but
2 excluding the Company's future net salvage
3 assumptions from the depreciation rates. The
4 RPA accepted the Company's proposal of a
5 20-year amortization. Both Staff and the ALJ
6 adopted the RPA's recommendation. The
7 Board HEREBY MODIFIES the Initial Decision
8 so that the RPA's recommended level of
9 excess reserve is amortized back to ratepayers
10 over 10 years. The Board finds this to be an
11 appropriate action in order to offset the
12 increase associated with the deferred balances
13 that were incurred over the 4-year transition
14 period, as well as the increase in BGS charges
15 for current service.³⁹
16

17 In a separate proceeding involving Jersey Central Power & Light Company, the

18 Board agreed with my position:

19 Depreciation Expense. The Company is
20 requesting a net depreciation expense
21 annualization adjustment of \$1,515,000 and
22 total annualized depreciation expenses of
23 \$114,547,000. The Company maintains that it
24 is complying with the terms of a June 27, 1996
25 stipulation ("Final Stipulation") approved by the
26 Board, by updating the book depreciation rate
27 computations annually for plant additions,
28 retirement, transfers and adjustments and
29 keeping the negative net salvage rate
30 percentages and depreciation service lives
31 consistent with the separate Stipulation of
32 Settlement of Depreciation Rates, also dated
33 June 27, 1996, which was also approved by
34 the Board as part of the Final Stipulation.
35 *I/M/O the Petitions of Jersey Central Power &*
36 *Light Company for Approval of an Increase in*
37 *its Levelized Energy Adjustment Charge,*
38 *Demand Side Factor, Implementation of a*
39 *Remediation Adjustment Clause (RAC) Other*
40 *Tariff Changes, Recovery of Crown/Vista and*
41 *Freehold Buyout Costs, Changes in*
42 *Depreciation Rates, Settlement of Phase 1 of*

³⁹ Id., page 3, item 3.

1 the Board's Generic Proceeding on the
2 Recovery of NUG Capacity Payments, Docket
3 Nos. ER95120633, ER95120634,
4 EM95110532, EX93060255 and EO95030398,
5 (March 24, 1997). The Board HEREBY
6 FINDS, consistent with the recommendations
7 of the RPA and Staff, that the Company's
8 inclusion of net negative salvage value in
9 depreciation rates is inappropriate and instead,
10 HEREBY ADOPTS utilization of a net salvage
11 allowance of \$4.8 million which is the cost of
12 removal reflected in the Company's test-year
13 budget for transmission, distribution and
14 general plant. Accordingly, the Board
15 HEREBY ADOPTS a depreciation expense
16 in the amount of \$77,146,000.⁴⁰
17

18 **Q. Have any other states adopted a 5-year net salvage allowance approach?**

19 A. Yes. As I stated earlier, the 5-year rolling net salvage allowance approach is
20 used by the Pennsylvania Public Utility Commission.⁴¹ The net salvage
21 allowance approach ensures that the Company recovers the net present value of
22 its actual cost, but eliminates the inclusion of future inflation in depreciation rates.

23 **Q. Does this conclude your discussion of net salvage?**

24 A. Yes, I will now discuss life studies.

25 **Life Study Methods**

26 **Q. Please describe life analysis and life estimation.**

27 A. Life analysis is the process of estimating how long plant has lived in the past.
28 Life estimation is the process of estimating how long the existing plant will live in
29 the future. Mr. Roff used two basic methods: the life span method and the
30 retirement-rate actuarial method. Mr. Roff used the life span method for the

⁴⁰ I/M/O Jersey Central Power & Light Company, BPU Docket Nos. ER0208056, ER0208057, EO02070417 and ER02030173, Summary Order, August 1, 2003, p. 6.

1 Production Plant functions and the retirement-rate method for the Transmission,
2 Distribution and General functions. In addition to these methods, I have also
3 used the Geometric Mean Turnover Method ("GMT") for my study.

4 **Q. What is the life span method?**

5 A. The life span method is based on the premise that all plant within a property
6 group will retire concurrently a specific number of years after the initial
7 placement. There may be interim additions and retirements; however, all plant is
8 assumed to be subject to a "final retirement."

9 **Q. What is the retirement rate method?**

10 A. The retirement rate method is an actuarial technique used to study plant lives,
11 much like the actuarial techniques used in the insurance industry to study human
12 lives. It requires a record of the dates of placement (birth) and retirement (death)
13 for each asset unit studied. It is the most sophisticated of the statistical life
14 analysis methods in that it relies on the most refined level of data. Aged
15 retirements and exposures data from a company's records are used to construct
16 observed life tables ("OLT"). These are then smoothed and extended by fitting,
17 using least-squares analysis, to a family of 31 predefined survivor curves ("Iowa
18 Curves") using varying life assumptions. The process continues until a best fit
19 life is found for each curve. Numerous interactive calculations are required for a
20 retirement rate analysis.

21 **Q. What is an Iowa curve?**

22 A. An Iowa curve is a surrogate or standardized OLT based on a specific pattern of

⁴¹ See Penn Sheraton et. al. v. Pennsylvania Public Utility Commission, 198 Pa. Super. 618, 184 A. 2d. 234 (1962).

1 retirements around an average service life. The Iowa curves were devised over
2 60 years ago at what is now Iowa State University. They provide a set of
3 standard patterns of retirement dispersion. Retirement dispersion merely
4 recognizes that accounts are comprised of individual assets or units having
5 different lives. Retirement dispersion is the scattering of retirements by age for
6 the individual assets around the average service life for the entire group assets.
7 If one thinks in terms of a "bell shaped" curve, dispersion represents the
8 scattering of events around the average.

9 There are left-skewed, symmetrical and right-skewed curves known,
10 respectively, as the "L curves," "S curves" and "R curves."⁴² A number identifies
11 the range of dispersion. A low number represents a wide pattern and high
12 number a narrow pattern. The combination of one letter and one number defines
13 a dispersion pattern. The combination of an average service life with an Iowa
14 curve provides a survivor curve depicting how a group of assets will survive, or
15 conversely be retired, over the average service life.

16 **Q. Can you provide an example of an Iowa curve?**

17 A. Yes. The following table contains a 5 S0 and 10 S0 life and curve. I have
18 included two combinations to demonstrate that these curves can be calculated
19 with various alternative life assumptions. The percent surviving represents the
20 amount surviving at each age interval shown in the first column. Notice that the 5
21 S0 life and curve sums to the 5 year average service life which would be used in

⁴² There is also a set of Origin Modal ("O") curves which are essentially negative exponential curves.

1 the depreciation calculations and the 10 S0 life and curve sums to a 10 year
2 average service life.

3

1

Table 8

<u>Age</u>	<u>Survivor Curves</u>	
	5 S0	10 S0
	<u>Percent</u>	<u>Percent</u>
	<u>Surviving</u>	<u>Surviving</u>
0.5	0.99	1.00
1.5	0.92	0.98
2.5	0.83	0.94
3.5	0.70	0.90
4.5	0.57	0.85
5.5	0.43	0.80
6.5	0.30	0.74
7.5	0.17	0.67
8.5	0.08	0.60
9.5	0.01	0.53
10.5		0.47
11.5		0.40
12.5		0.33
13.5		0.26
14.5		0.20
15.5		0.15
16.5		0.10
17.5		0.06
18.5		0.02
19.5		<u>0.00</u>
Total	5.00	10.00

2

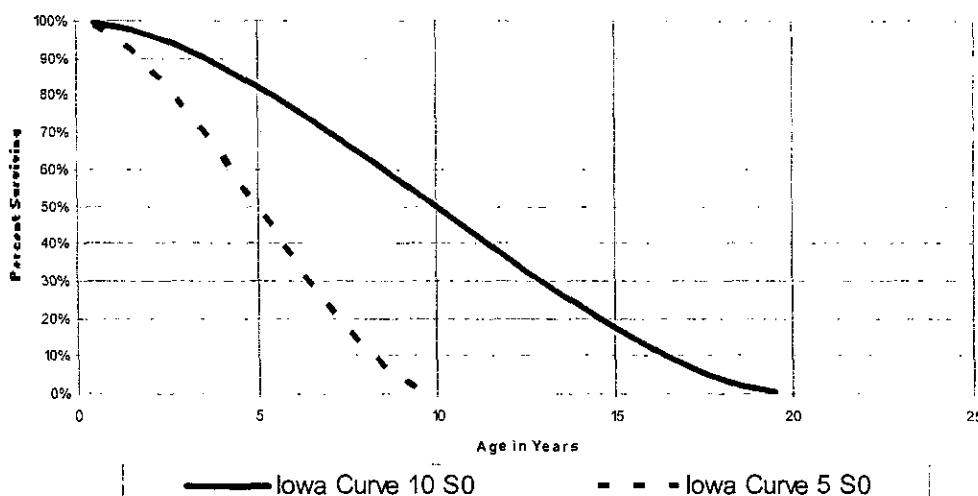
3 **Q. Why do you call tables of numbers, such as the ones above, curves?**

4 A. Because when they are plotted on charts with the x-axis representing "age" and
 5 the y-axis representing "percent surviving" they appear as curves as shown
 6 below:

7

Table 9

Example of Same Curve With Different Lives



Q. What is the Geometric Mean Turnover method?

A. The Geometric Mean Turnover Method ("GMT") is one of the turnover methods of life analysis. Turnover methods provide an indication of the average life of the property.⁴³ Turnover methods may be used to study retirements in relation to plant balances irrespective of the age of the property retired.⁴⁴ Turnover methods use annual additions, retirements and plant balances. The GMT method is based on ratios of annual additions and retirements to plant balances and is useful in detecting trends. The life estimate is the reciprocal of the geometric mean of the additions and retirements ratios averaged over a period of years.⁴⁵ Because turnover methods assume uniform retirement dispersions, the

⁴³ National Association of Regulatory Utility Commissioners, Public Utility Depreciation Practices, August 1996 ("NARUC Depreciation Manual"), p. 81.

⁴⁴ *Id.*

⁴⁵ *Id.*, p. 91.

1 results of turnover analyses focus on the fundamental life statistic,
2 unencumbered by 31 possible Iowa curve retirement dispersion estimates.
3 Given sufficient data, this makes the GMT method particularly useful in detecting
4 trends. I used GMT studies to test and corroborate where possible the results of
5 my actuarial studies. I also used the GMT studies to detect trends in the data.

6 **Mr. Roff's Production Plant Life Span Depreciation Rate Calculations**

7 **Q. Please explain the life span method in more detail.**

8 A. The life span method is actually a procedure to estimate an average service life
9 and average remaining life for a property group. It is based on the assumption
10 that a property group is comprised of a small number of large units subject to
11 concurrent terminal (final) retirement. The period between the original installation
12 and the terminal retirement date is the life span. The period between the study
13 date and the terminal retirement date is the remaining life span. The life span
14 method also recognizes "interim" additions and retirements prior to the terminal
15 date. Importantly, however, future interim additions are not considered in the
16 depreciation base or depreciation rate until they occur.⁴⁶ Given the ease of
17 visualizing a concurrent final retirement of major structures, the life span method
18 has obvious intuitive appeal. The method also has limitations and strenuous
19 rules for its application.

20 **Q. Is the fundamental life span assumption of a concurrent terminal retirement**
21 **always valid?**

22 A. Not necessarily. I have discovered problems with the life span method within the

⁴⁶ Id., p. 142.

1 last several years. For example, in the early 1990's I visited a major water
2 treatment plant where the structures and treatment process were being
3 upgraded. A few years later I revisited the same plant and discovered that a
4 majority of the original structures were still in service. They had merely been
5 modernized and expanded. A final retirement assumption was inappropriate
6 because the treatment plant is fundamental and critical to the operation of that
7 Company. The most reasonable depreciation assumption was that the plant will
8 be well maintained and upgraded as long as the water it treats continues to flow.

9 I have also visited electric plants that have had partial final retirements of
10 structures only to find that the space would be reused as offices or training
11 centers. A specific terminal retirement year estimate was specious in those
12 circumstances. A supportable average service life assumption based on the flow
13 of dollars in and out of the accounts was much more reasonable.

14 **Q. What terminal retirement years is Mr. Roff proposing for his production**
15 **plant investment?**

16 A. Mr. Roff's proposed life spans range from 28 to 58 years for Steam Production
17 units, 91 years for Hydraulic Production units and 26 to 44 years for Other
18 Production units.

19 **Q. Are these terminal retirement years and remaining life spans realistic?**

20 A. In my opinion, several of them are much too short.

21 **Q. Can the Company support these retirement years?**

22 A. No. As will be discussed below, with the possible exception of Riverton Units 7
23 and 8, the Company can not support its proposed terminal retirement years.

1 **Q. Are these terminal retirement years important?**

2 A. Yes. The terminal (final) retirement year is the most important factor in the
3 determination of a life span depreciation rate.

4 **Q. What is the effect of these life spans and the life span method?**

5 A. The adoption of the life span method using these life spans, to which neither Mr.
6 Roff nor the Company planners will commit, appears to account for a majority of
7 Mr. Roff's remaining increase after the \$20.8 million of negative net salvage.

8 **Q. What is the viewpoint of NARUC on the subject of terminal retirement**
9 **years?**

10 A. Chapter X of the NARUC Manual addresses the life span method. It stresses
11 that the final retirement date is the most important factor in the determination of a
12 depreciation rate using the life span method.⁴⁷ The NARUC Manual requires
13 consideration of several specific factors in order to develop an informed estimate
14 of the final retirement date.⁴⁸ The NARUC Manual elaborates on the need for the
15 consideration of these factors as follows:

16
17 **Economic Studies and Retirement Plans**
18

19 Retirement plans for utility properties are supported
20 by various kinds of studies, including economic
21 analyses. It is critical that this vital information be
22 considered; otherwise the [life span] study is
23 analogous to a building which is structurally well built
24 from the ground up but lacking a sound and proper
25 foundation. Retirement decisions should be based on
26 sound engineering and economic principles and
27 practices so that management may be confident that

⁴⁷ NARUC Manual, p. 146.

⁴⁸ Id.

1 the planned retirement of existing plant and approval
2 of new investment are the most economical actions.⁴⁹
3

4 The final retirement date is the most important factor in the determination
5 of depreciation rate using the life span method. The NARUC Manual sets-forth
6 limitations and strenuous rules for the application of the life span method. The
7 NARUC Manual elaborates on the need for the consideration of these factors as
8 follows:

9 **Selecting Retirement Dates**

10 As indicated in the above discussion, the final retirement
11 date is the most important factor in the determination of a
12 depreciation rate for life span properties. Therefore, an
13 informed estimate of the final retirement date is essential to
14 ensure adequate recognition of depreciation over the life of
15 the property. Several factors are considered in selecting
16 retirement dates, e.g. economic studies, retirement plans,
17 forecasts, technological obsolescence, adequacy of
18 capacity and competitive pressure.⁵⁰
19
20

21 **Q. What does Mr. Roff have to say about the life spans he is proposing?**

22 **A. Mr. Roff's study states:**

23 "...the service life span of each generating unit was
24 estimated based on unit retirement dates provided by
25 Company planning personnel. The dates were used
26 solely to establish a reasonable accounting period
27 over which to allocate costs as required by
28 depreciation accounting principles.
29

30 ...the units may continue to operate beyond the dates
31 shown, depending on their condition and the
32 economics of continuing to operate..."⁵¹
33

⁴⁹ Id. (Emphasis added).

⁵⁰ Id. (Emphasis added.)

⁵¹ Schedule DSR-3, pages 2-3.

1 **Q. Does the Company have any of the studies, plans, or forecasts specified in**
2 **the NARUC depreciation practices manual to support any of its terminal**
3 **retirement year and life span estimates?**

4 A. No. Data Request No. 812, attached as Schedule MJM-5 addressed this issue.
5 According to the Company, "Each of these factors was given implicit
6 consideration when determining the retirement dates in the depreciation study."⁵²
7 It appears that the Company does not have any studies, plans or forecasts to
8 support its terminal retirement year estimates. In fact, Mr. Roff states in his
9 depreciation study that "At this point in time, there is no commitment on the part
10 of Empire to retire units on the dates indicated."⁵³ Additionally, the **Highly**
11 **Confidential** "Strategic Planning Assistance to Develop a Generation Expansion
12 Plan" referenced in the response to Data Request No. 854, generally does not
13 correspond to these retirement dates.⁵⁴

14 **Q. Are there any other indications in the Company's responses to data**
15 **requests that at least some of Mr. Roff's proposed retirement dates are**
16 **suspect?**

17 A. Yes. Attached as Schedule MJM-5 are selected pages from the Company's
18 response to Data Request No. 804, which asked for all information provided to
19 Mr. Roff from Company management. Page 2 of the Schedule shows notes
20 indicating that the retirement date for Asbury could be 2030, instead of 2014 as
21 Mr. Roff proposes. Also, the response to Data Request No. 881, attached as

⁵² Response to Public Counsel Data Request No. 812.

⁵³ Depreciation Study, page 7.

⁵⁴ Strategic Planning Assistance to Develop a Generation Expansion Plan, Black & Veatch, September 2003, Table 2-3. **Document is marked Highly Confidential.**

1 Schedule MJM-6 shows some very large capital improvements budgeted for
2 Asbury, Iatan and Energy Center in 2005 through 2007.

3 Furthermore, in the prior case, both the Company and Staff agreed that
4 the appropriate life span for the State Line Combined Cycle plant should be 35
5 years. In this case, Mr. Roff has reduced this to 30 years.

6 **Q. Did the Company propose the use of the life span method in the last**
7 **proceeding?**

8 A. Yes, they did. Empire calculated Production plant depreciation rates in Case No.
9 ER-2001-299 using the same estimated retirement dates they are proposing to
10 use in this case.

11 **Q. Did the Commission accept those retirement dates in Case No. ER-2001-**
12 **299?**

13 A. No. In fact, as discussed earlier, the Commission stated that the Company's
14 proposed retirement dates in that case, which for the most part are the same as
15 those proposed in this case, were not "credible".⁵⁵

16 **Q. Has Mr. Roff added anything in his testimony or study or responses to data**
17 **requests which enhances the credibility of the retirement dates?**

18 A. No.

19 **Q. Do you agree with Mr. Roff's proposed use of the life span method in this**
20 **proceeding?**

21 A. I do not agree with Mr. Roff's life span proposal in this proceeding. Not only has
22 he not met the NARUC's stringent requirements for the use of the life span

⁵⁵ Report and Order, Case No. ER-2001-299, September 20, 2001, page 10.

method, he has not even attempted to enhance the credibility of the retirement dates and method that the Commission rejected just three years ago.

Q. What do you recommend?

A. I recommend the continued use of the average service life method that this Commission approved in the last study. This is the method recommended by Staff in the prior case, and accepted by the Commission in that case.

Q. Have you estimated average service lives for the Production Plant?

A. Yes. Using Company-specific data I have conducted two types of statistical analyses at the USOA plant account level. I have conducted Geometric Mean Turnover Studies ("GMTs") to detect trends and actuarial retirement rate analyses to determine current life indications. Staff witness Adam was precluded from conducting these preferred actuarial retirement rate studies in Case No. ER-2001-299 due to computer data problems. The problems seem to have been resolved. Empire provided sufficient Company-specific data to enable me to conduct these studies as of December 31, 2003.

Q. How do your recommended average service lives compare with those the Commission Staff recommended in the prior case?

A. The following table provides that comparison:

	ASL	
	Current	Majoros
<u>Steam Production Plant</u>		
311.0 Structures & Improvements	95	93
312.0 Boiler Plant Equipt.	54	52
312.7 Unit Train	15	15
314.0 Turbogenerator Units	63	56
315.0 Accessory Electric Equipt.	56	58

316.0 Misc. Power Plant Equipt.	51	56
---------------------------------	----	----

Hydraulic Production Plant

331.0 Structures & Improvements	61	64
332.0 Reservoirs, Dams & Waterways	60	82
333.0 Waterwheels, Turbines & Generators	68	88
334.0 Accessory Electric Equipt.	70	70
335.0 Misc. Power Plant Equipt.	41	43

Other Production Plant

341.0 Structures & Improvements	55	55
342.0 Fuel Holders, Producers & Accessories	26	26
343.0 Prime Movers	52	52
344.0 Generators	55	55
345.0 Accessory Electric Equipt.	28	28
346.0 Miscellaneous Power Plant Equipt.	25	25

1

2 **Transmission, Distribution and General Functions**

3 **Q. How did Mr. Roff determine his estimated service lives for these functions?**

4 A. Mr. Roff used the actuarial retirement rate approach to study plant history in the
5 Transmission, Distribution and General ("T, D & G") functions.

6 **Snaveley King Life Analysis Approach for T, D & G Functions**

7 **Q. What was your approach to analyzing Mr. Roff's proposed lives and curves**
8 **in the T, D & G functions?**

9 A. I began by reviewing Mr. Roff's studies. I also reviewed the Company's
10 responses to data requests to see if I could glean any additional information that
11 would impact my analysis. I then analyzed each account using the retirement
12 rate method. In my retirement rate analyses, I used industry life data to set the
13 upper and lower fitting parameters in my analyses. In other words, I obtained
14 industry statistics to determine the shortest and longest life reported by the
15 industry for each account. I set the parameters in my software to determine the

1 best life fit for each Iowa curve within those upper and lower life boundaries.

2 Therefore, even if the data would support a much longer life, the curve fitting

3 process ends at the upper limit of the industry range.

4 **Q. Why did you conduct these analyses if Mr. Roff had already done so?**

5 A. I conducted the retirement rate analyses to corroborate Mr. Roff's analysis and
6 life selections.

7 **Q. In addition to using the retirement rate method, did you perform any other
8 analyses?**

9 A. Yes. I also performed Geometric Mean Turnover studies ("GMTs") for each
10 account.

11 **Q. Did your analyses result in any changes to the service lives and curves
12 proposed by Mr. Roff?**

13 A. No. I am accepting all of Mr. Roff's proposals in these functions. While I did
14 have some disagreement, other issues in this case overwhelm the importance of
15 those disagreements.

16 **Whole-Life Depreciation Rate Calculations**

17 **Q. How did Mr. Roff calculate his proposed depreciation rates?**

18 A. As discussed earlier in my testimony, Mr. Roff has calculated remaining life
19 depreciation rates.

20 **Q. Does the Company currently use remaining life depreciation rates?**

21 A. No. The Company's existing rates are whole-life rates.

22 **Q. Do you object to Mr. Roff's use of remaining life depreciation rates?**

23 A. Yes, I do. There is no necessity to switch to the remaining life method. I

1 explained in the concepts section that remaining life depreciation is often used to
2 account for depreciation reserve imbalances. The resulting rates are correct and
3 accurate for existing plant.

4 **Q. What do you recommend?**

5 A. I recommend the continued use of whole-life rates. In my opinion, there is no
6 need for Empire to switch to remaining life rates.

7 **Q. Do you also recommend an amortization of the reserve imbalance?**

8 A. No, even though the imbalance is positive, and would reduce depreciation rates
9 overall, I do not recommend an amortization. The Commission did not approve
10 such an amortization in the last case, even though Empire requested it.

11 **Q. Have you calculated recommended depreciation rates for Empire?**

12 A. Yes. My depreciation rate calculations are shown on Statement 1 of Schedule
13 MJM-2.

14 **SUMMARY**

15 **Q. Please summarize your recommendations.**

16 A. My recommendations are individually discussed in my testimony above and in
17 my schedules. In general:

- 18 • I have removed net salvage as a component of the Company's proposed
19 depreciation rates. This is consistent with the current Commission Order
20 regarding net salvage.
- 21 • I have identified and recommended a specific net salvage allowance in
22 conformance with FERC Order No. 631, based on a five-year average of
23 actual experience. I have eliminated an abnormal positive amount from

1 that experience. The result is a \$1.8 million annual net cost of removal
2 allowance.

3 • I have calculated depreciation rates for Production plant using the average
4 service life method instead of the life span method.

5 • I have calculated whole life depreciation rates based on my findings.

6 My recommendations result in a \$29.1 million depreciation and net salvage
7 expense accrual.

8 **Q. Does this conclude your testimony?**

9 A. Yes, it does.