

Exhibit No.:
Issue: Depreciation
Witness: Paul W. Adam
Sponsoring Party: MoPSC Staff
Type of Exhibit: Rebuttal Testimony
Case No.: ER-2001-299
Date Testimony Prepared: May 3, 2001

MISSOURI PUBLIC SERVICE COMMISSION
UTILITY SERVICES DIVISION

REBUTTAL TESTIMONY

OF

PAUL W. ADAM

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2001-299

Jefferson City, Missouri
May 2001

Exhibit No. 34
Date 5/29/01 *Case No.* ER-2001-299
Reporter KRM

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THE EMPIRE DISTRICT ELECTRIC COMPANY

Q. Please state your name and business address.

Q. Are you the same Paul W. Adam that submitted direct testimony in this

Q. Have you ever testified before the Commission?

Q. Do you have any topics to rebut concerning the depreciation testimony already submitted by the Company?

Q. How does the Company's consultant define depreciation?

1 A. On page 2-1 of Schedule LWL-1, associated with his depreciation work
2 for the Company, the consultant states:

3 "Depreciation is the loss in service value² not restored by current
4 maintenance, incurred in connection with the consumption or
5 prospective retirement of electric plant in the course of service
6 from causes which are known to be in current operation and
7 against which the utility is not protected by insurance. Among the
8 causes considered are wear and tear, decay, action of the elements,
9 inadequacy, obsolescence, changes in the art, changes in demand
10 and requirements of public authorities.³"

11 And the footnotes read as follows:

12 2) For the purpose of this report, we use the term "loss in service
13 value" in the accounting sense where value is equated to original
14 cost.

15 3) This definition of depreciation is the same as set forth in the
16 Uniform System of Accountants Prescribed for Public Utilities and
17 Licenses Subject to the Provisions of the Federal Power Act.
18 (18 CFR Part 101 Definitions.)

19 Footnote number two clearly equates "loss in service value" to original cost.
20 Therefore, the Company consultant's definition is, "Depreciation is the loss in original
21 cost not restored by . . ."

22 Q. Does the consultant attempt to modify this definition?

23 A. Yes. On the same page, LWL-1, page 2-1, he states:

24 Depreciation accounting provides a method whereby charges for
25 the loss in service value are made against current income. By
26 properly charging depreciation, the net investment in plant (gross
27 plant investment less salvage plus cost of removal) is distributed
28 over the useful life of the asset in such a way as to equitably
29 allocate the investment to the period during which service is
30 provided through the use and consumption of such facilities.

31 Here he develops his definition for net investment in plant. He adds, in
32 parenthesis, "gross plant investment less salvage plus cost of removal." But salvage and
33 cost of removal occur in the future. Therefore, these cannot be an investment because

1 money has not been spent. "Investment" is defined as "the investing of money or the
2 amount invested" and "invest" is defined as "to put monies into business."¹ Investment
3 does not include the future salvage and cost of removal because there are no monies
4 invested at the time the plant is placed in service.

5 Q. How does the National Association of Regulatory Utility Commissioners
6 (NARUC) text Public Utility Depreciation Practices² define Depreciation Base?

7 A. The definition is given on page 318 as follows:³

8 Depreciation Base: The cost of depreciable plant to which the
9 depreciation rate is applied to compute the amount of depreciation
10 expense. Under a cost basis method the depreciation base is the
11 original cost of the depreciable plant.

12 Q. What is your conclusion about the definition of depreciation?

13 A. It is my conclusion that the Company's consultant and NARUC both
14 found that depreciable plant represents the base plant or only the cost of original plant
15 investment. I further conclude that the Company's consultant has added gross salvage
16 and cost of removal into his definition. By making this addition to the depreciation base
17 the consultant includes unspent monies in his determination of depreciation base and
18 subsequently, the annual depreciation accrual.

19 Q. Do you agree with the consultant's adding gross salvage and cost of
20 removal to depreciation base?

¹ Webster's New World Dictionary, Third College Edition, Copyright 1988 by Simon & Schuster, Inc.,
Published by Webster's New World Dictionaries, A division of Simon & Schuster, Inc., 15 Columbus
Circle, New York, NY 10023.

² Public Utility Depreciation Practices, August 1996, Compiled and Edited by Staff Subcommittee on
Depreciation of The NARUC Finance and Technology Committee of the National Association of
Regulatory Utility Commissioners.

³ Published by National Association of Regulatory Utility Commissioners, 1201 Constitution Avenue,
N.W., Suite 1102, Post Office Box 684, Washington, D.C. 20044

1 A. No. It is Staff's position that depreciation base is original cost of plant as
2 defined by NARUC in their text. Monies that will not be spent for decades (i.e., his cost
3 of removal) are not an investment and an estimate of what these future costs will be,
4 should not be included in current depreciation accruals.

5 Q. Turning to the depreciation consultant's determination of life or Average
6 Service Lives (ASL), do you agree with his values?

7 A. No. I believe that depreciation consultants frequently submit studies with
8 life projections that are unreasonably short. My observation is that this is the situation
9 with the lives proposed by the Company's consultant in this case.

10 Q. Can you explain and give examples of the consultant's unreasonably
11 short ASLs?

12 A. Yes. The most obvious unreasonable retirement dates are given in the
13 consultant's "Projected Retirement Dates" of generation plant. There are reasons to be
14 suspect of nearly all of his "Projected Retirement Dates." I will discuss examples and
15 explain why his retirement dates are unreasonably soon.

16 First, Riverton Power Plant: The consultant's Projected Retirement Date is 2008
17 for the three coal-fired boilers. This is only seven years into the future. These three units
18 represent 105.8 MW of base load capacity. The Company's personnel would not support
19 this retirement date during Staff's meetings. The Company is earning clean air credits
20 from the operation of this plant. The 105.8 MW is among the cheapest cost power to
21 Empire. The Company has no plans to replace the loss of this 105.8 MW of power.

22 Economics and Empire's rapid growth in power demand (Staff were told
23 Empire's growth in power demand is above the State's average) indicate that it is

1 unreasonable to retire these boilers as soon as the Company's consultant projects. Staff
2 find that with current costs and demand for power there is no projected retirement date
3 for the coal-fired boilers at the Riverton Power Plant.

4 Second, Asbury Power Plant: The consultant's retirement date for this plant is
5 2014 or 13 years from now. Asbury is the largest coal fired plant that Empire operates.
6 Its power cost is less than Riverton's and it also generates clean air credits. The
7 Company's personnel would not support the consultant's 2014 retirement date and the
8 Company's personnel clearly stated that they have no plans to replace Asbury's 211 MW
9 of low cost power. Additionally, the Company will spend \$10 million this fall: 1) to
10 install new cyclone burners to replace the cyclone burners that have been in operation
11 since 1970; 2) to install a new computer-based control system; and 3) to inspect the large
12 turbine. This is in direct conflict with the consultant's statement on page 4-2 of his study.
13 There he states, "There will be no major plant additions, life extension cost, or equipment
14 modifications except as discussed in Section 6.0 with regard to the State Line Plant."
15 The \$10 million will definitely extend the life of Asbury and this \$10 million is in the
16 2001 budget. The majority of the work will be performed during the October outage.
17 While the consultant chooses to ignore this major work scheduled for October at Asbury,
18 he forecasts "Maintenance Capital" that will be required at State Line Plant through the
19 year 2028 (his Section 6.0). His table of annual expenditures, on page 6-4 of his study
20 has cost estimated to the accuracy of hundreds of dollars. For example, he predicts that
21 State Line Unit #1, the simple combustion turbine, will require \$3,474,500 in 2024 and
22 that State Line Unit #2, the combined cycle unit, will require \$23,567,900 in 2028. In his
23 projections he forecasts \$212,432,300 will be spent on Capital Maintenance between

1 2005 and 2029. He includes this total amount, over \$212 million, in his current
2 depreciation determination.

3 Staff's position is that the work scheduled for October 2001 at Asbury along with
4 all the other points given earlier in this testimony are sufficient to support the Staff's
5 position that Asbury will not be retired in 2014 nor will it be retired in any foreseeable
6 future year.

7 Staff's position is that the Consultant's estimated future Maintenance Capital
8 expenditures at State Line Plant are not part of current depreciation determination by
9 definition. Also, to present multi-million dollar estimates of future capital spending with
10 accuracy to the \$100 level over the next 27 years while being unaware of currently
11 budgeted life extending work at Asbury, puts the consultant's analysis under suspicion.

12 Q. Are there more life statements by the consultant that you question?

13 A. Yes. I will attempt to present them clearly.

14 Empire owns 12% of the Iatan Power plant that is operated by Kansas City
15 Power & Light (KCP&L). The consultant proposes that this 667 MW (100% of plant) of
16 cheap coal-based power will also be retired in 2014. In other words, at the age of
17 35 years Iatan will be shut down. In the same depreciation study the consultants expects
18 the smaller Asbury plant to be 45 years old when it is retired. The retirement of these
19 three plants Riverton, Asbury, Iatan, in 2008 and 2014 will remove 993.8 MW from
20 Missouri production. Nowhere does the consultant explain why cheap coal production,
21 that generates clean air credits, would be terminated without a plan to replace this nearly
22 1,000 MW at an equal or lower cost.

1 At Ozark Beach, Empire's hydro plant, the consultant projected that the four
2 turbines will be retired in 2022 at the end of the current license. Staff's visit to Osage
3 Beach found that the Company will be replacing the water wheels in all four hydro units
4 over the next two to four years. The Company is considering installing a newer design of
5 water wheel that increases efficiency and will give more electrical output. Also, the
6 Company is considering using three portals in this dam that are designed for horizontal
7 turbines. These portals are currently unused. The Company has located a source of
8 horizontal turbines that will work in these three portals. Contrary to the statements of the
9 consultant, Empire does not have plans to retire this plant at the end of the current
10 license.

11 Finally, Staff believe that the consultant's retirement dates for Energy Center and
12 State Line Plant are simply dates that shorten the plant lives for depreciation purposes as
13 are the other dates presented for retirement of Empire's generating plant.

14 Q. What benefit could be obtained by setting early retirement dates for a
15 generating plant?

16 A. Life (ASL) is critical to the determination of depreciation rates,
17 depreciation accrual and revenue requirement. If a plant were to actually have an ASL of
18 100 years, while being assigned a 50-year ASL to determine depreciation rates, then the
19 full (100%) recovery of plant cost would occur in only 50 years. The result could be one
20 of two events. First, if full recovery was recognized by the 50th year, collection of
21 depreciation accruals could be stopped and the customers using the plant for years 51
22 through 100 would pay nothing into the reserve for depreciation. Second, another result
23 could be that there would be an over recovery in the accrual account. Potentially this

1 could be a double recovery of the original cost of the plant. There could be a mixing of
2 these events but this mix would tend to have the customers using the plant in the early
3 years paying higher depreciation rates than the customers using the plant in the later years
4 of its service life.

5 Q. How does this life shortening affect the depreciation rate difference
6 between Staff and the Company's consultant?

7 A. Staff's proposed depreciation rates recognize that the Company is not
8 considering retiring these generating plants. Rather, it is Staff's observation that power
9 companies, Empire included, are constantly rebuilding and refurbishing their in place
10 plants, especially low cost hydro and coal, to keep them operating safely and efficiently.
11 Power companies are not planning to shut down and demolish generating plants, put
12 hundreds of employees out of work and then purchase high cost power from the power
13 grid, if it is available. It is Staff's position that maintaining current generating plants is
14 sound economics on the part of Missouri power companies and that these life lengthening
15 decisions reduce the annual depreciation accrual and therefore the annual revenue
16 requirement. The Company's consultant's study and statements therein appear to be in
17 conflict with the statements made by employees of the Company that has hired him to
18 conduct his depreciation study. He is also in conflict with Staff because he is proposing
19 the retirement of the low cost generating plants with no discussion about the impact of
20 their loss to the Company's sources of power. He does not explain where replacement
21 electrical power will come from and he does not explain the economic impact that
22 alternative sources of power will have on customers.

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1 The consultant ignores currently budgeted life extending plant work and shortens
2 generating plant life without an explanation of the consequences of retiring low cost
3 sources of power generation. Conversely, Staff acknowledges the work that is planned to
4 keep current low cost power plants safe and efficient. Staff agrees with Company
5 employees that retirement dates for plants such as Asbury, Iatan, Ozark Beach and others
6 cannot be predicted at this time.

7 Q. Does the shortening of plant life have an effect on the theoretical reserve
8 determination?

9 A. Yes it does. But, the shortening of plant life is not the only factor that
10 causes him to calculate a \$24 million reserve deficiency. If there are fewer years
11 remaining to recover his 100% depreciation accrual, then the current (theoretical)
12 depreciation reserve should have more money in it. Therefore, the consultant's short lives
13 calculate a depreciation reserve shortfall. Additionally, he includes the future cost of
14 removal in his depreciation determination. This is the other factor that contributes to the
15 \$24 million reserve deficiency. Using his method he calculates that these future costs of
16 removal should have already been partially collected from utility customers. His
17 shortened lives increase his determination of a depreciation reserve shortfall due to future
18 net salvage cost, above the amount he would calculate with reasonable lives. The
19 consultant's inclusion of future cost of removal along with shortened ASLs are the basis
20 for his proposed \$24 million amortization.

21 Staff disagrees with the Company's consultant's determination of a reserve
22 deficiency. Staff has pointed out in direct testimony and this rebuttal that the
23 depreciation reserve is a recovery of monies invested. Staff considers the reserve accrual,

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1 which is currently 37.48%, a sufficient to high level of recovery of Empire's plant in
2 service. The Company is not under recovered and may be over recovered. After the
3 Company submits historical data files on all accounts, Staff will verify the Company's
4 reserve accrual position.

5 Q. Can you briefly state your two major positions of this rebuttal testimony?

6 A. Yes. First, depreciation accrual is for the accrual of the original
7 investment in plant. Future plant investment and future removal expenses, as proposed
8 by the Company's consultant, are not part of the depreciation accrual determination.

9 Second, Empire is maintaining the operating safety and efficiency of their
10 generating plants and this work eliminates early retirement dates as proposed by the
11 Company's consultant. Also, Company personnel are not searching for low cost
12 alternative sources of power and the consultant offered no explanation of what the
13 Company would do for replacement power when, by his projection, Empire will lose
14 396.8 MW of base load⁴ or 96% of their current base load between 2008 and 2014.
15 Additionally, the consultant makes no comment about KCP&L's net loss of 587 MW of
16 low cost base load in 2014, based on his projection that Iatan will be retired at the age of
17 35 years.

18 Staff believe these projections by the Company's consultant are flawed and Staff
19 do not agree with the consultant's depreciation determinations.

20 Q. Does this conclude your rebuttal testimony?

21 A. Yes.

⁴ Base Load = Hydro + Coal; Hydro = 16 MW Coal = 396.8 MW; all other current operated power production is peaking units

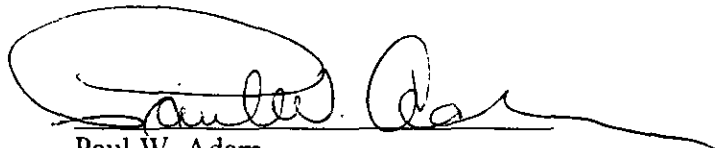
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of the Empire)
District Electric Company for a General Rate)
Increase) Case No. ER-2001-299

AFFIDAVIT OF PAUL W. ADAM

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

Paul W. Adam, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 10 pages to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.


Paul W. Adam

Subscribed and sworn to before me this 2nd day of May 2001.



TONI M. CHARLTON
NOTARY PUBLIC STATE OF MISSOURI
COUNTY OF COLE
My Commission Expires December 28, 2004