

**FILED<sup>2</sup>**

FEB 21 2017

Missouri Public  
Service Commission

**MISSOURI PUBLIC SERVICE COMMISSION**

**COMMISSION STAFF DIVISION**

**OPERATIONAL ANALYSIS DEPARTMENT**

**ENGINEERING ANALYSIS UNIT**

**SURREBUTTAL TESTIMONY**

**OF**

**KEENAN B. PATTERSON**

**KANSAS CITY POWER & LIGHT COMPANY**

**CASE NO. ER-2016-0285**

*Exhibit No.:*

*Issue(s):* Depreciation

*Witness:* Keenan B. Patterson

*Sponsoring Party:* MoPSC Staff

*Type of Exhibit:* Surrebuttal Testimony

*Case No.:* ER-2016-0285

*Date Testimony Prepared:* January 27, 2017

**SURREBUTTAL TESTIMONY**

**OF**

**KEENAN B. PATTERSON**

**KANSAS CITY POWER & LIGHT COMPANY**

**CASE NO. ER-2016-0285**

Staff Ex.  
223

*Jefferson City, Missouri  
Month 2017*

Psc Staff Exhibit No. 223

Date 2.8.17 Reporter LB

File No. ER-2016-0285

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11

TABLE OF CONTENTS OF  
SURREBUTTAL TESTIMONY  
OF  
KEENAN B. PATTERSON  
KANSAS CITY POWER & LIGHT COMPANY  
CASE NO. ER-2016-0285

NET SALVAGE FOR PRODUCTION PLANT ..... 1  
RETIREMENT OF MONTROSE GENERATING UNIT 1 ..... 5  
GREENWOOD SOLAR FACILITY ..... 5  
ELECTRIC VEHICLE CHARGING STATIONS ..... 6



Surrebuttal Testimony of  
Keenan B. Patterson

1 The following equation shows how net salvage is used in the calculation of depreciation when  
2 the remaining life method is used.

$$3 \quad D = (B - R - NS) / L$$

4 where D is the annual depreciation expense

5 B is the book cost,

6 R is the accumulated depreciation reserve,

7 NS is the net salvage, and

8 L is the average expected remaining life.<sup>1</sup>

9 Net salvage is the difference between gross salvage and cost of removal.<sup>2</sup>

10 Q. What is gross salvage?

11 A. Gross salvage is the "amount recorded for the property retired due to the sale,  
12 reimbursement, or reuse of the property."<sup>3</sup>

13 Q. What is cost of removal?

14 A. Cost of removal is the "costs incurred in connection with the retirement from  
15 service and the disposition of depreciable plant."<sup>4</sup> Cost of removal can be greater than the  
16 gross salvage, resulting in a negative net salvage. Negative net salvage increases the annual  
17 depreciation expense.

18 Q. What is terminal net salvage?

19 A. Terminal net salvage is the ultimate retirement of plant facilities, including  
20 associated gross salvage and cost of removal. In this case, an additional distinction has been  
21 made within terminal net salvage between retirement and dismantlement. Retirement, in this  
22 context, is associated with the removal of a unit from service. It includes the costs associated

---

<sup>1</sup> National Association of Regulatory Utility Commissioners ("NARUC"), Public Utility Depreciation Practices (Washington, DC: NARUC, 1996), p. 64. The variable names were modified from the source material for the purpose of clarity.

<sup>2</sup> NARUC, p. 18.

<sup>3</sup> NARUC, p. 320.

<sup>4</sup> NARUC, p. 317.

Surrebuttal Testimony of  
Keenan B. Patterson

1 with shutting a unit down, rendering it safe, and complying with regulatory requirements for  
2 the closure of the unit. Dismantlement refers to the demolition of a unit. The current  
3 depreciation rates that the Commission approved for KCPL in Case No. ER-2014-0307 do not  
4 include terminal net salvage.

5 Terminal net salvage is distinguished from interim net salvage. Interim net salvage is  
6 associated with the removal from service of units of property from a works or system during  
7 the life of the overall unit. The current depreciation rates include interim net salvage.

8 Q. Did KCPL submit information related to the terminal net salvage?

9 A. Yes. As an attachment to his direct testimony, KCPL's witness  
10 Christopher Rogers submitted a report titled *The Cost of Retirement and Dismantlement:  
11 Decommissioning KCP&L's Generating Units* by Sega, Inc. ("Sega"). The report presents  
12 estimated terminal net salvage for KCPL's steam, solar, wind, and other non-nuclear  
13 production plant. The estimates distinguish between retirement and dismantlement.

14 Q. How were these results of the Sega report used in the depreciation study?

15 A. As described in his direct testimony, Mr. Spanos presented what he described  
16 as an update to the depreciation report submitted by KCPL in Case No. ER-2014-0370. The  
17 majority of the report relates to suggested changes to depreciation rates for steam, solar, wind,  
18 and other non-nuclear production plant accounts.

19 These changes result primarily from the addition of the retirement portion of terminal  
20 net salvage. It appears that Mr. Spanos adjusted depreciation reserve, probably to address the  
21 retirement of Montrose Generating Station Unit 1, but did not address other changes that may  
22 have affected these accounts since the previous report.

Surrebuttal Testimony of  
Keenan B. Patterson

1           The retirement terminal net salvage costs that appear in the depreciation report update  
2 are not the same as those that appear in the Segra report. The depreciation report update  
3 applied an escalation factor to scale up the Segra cost estimates to a future cost estimate  
4 correlating to the projected retirement date.

5           Q.     Has the Commission ruled on the use of terminal net salvage for the  
6 calculation of depreciation in other cases?

7           A.     Yes. In the *Report and Order* for The Empire District Electric Company  
8 (“Empire”), Case No. ER-2004-0570, the Commission determined that it would “not allow  
9 the accrual of any amount for Terminal Net Salvage of Production Plants.”<sup>5</sup>

10           KCPL’s witness John J. Spanos suggests in rebuttal testimony that the Commission’s  
11 decision relating to Empire was based primarily on the objections to the use of the lifespan  
12 method and to the fact that electric generating plants rarely retire. Staff notes that the  
13 Commission suggested that Empire’s use of terminal net salvage was “unduly speculative.”<sup>6</sup>

14           The use of the life span method and the estimated retirement dates of production plant  
15 are not an issue in this case. However, terminal net salvage is a future cost that is not known  
16 and measureable.

17           In the previous KCPL rate case, Case No. ER-2014-0370, the Commission approved a  
18 stipulation that included depreciation rates that do not include terminal net salvage.<sup>7</sup> Staff  
19 recommends the continued use of these rates for production plant except as noted below to  
20 address the retirement of Montrose Generating Station Unit 1. The Commission also

---

<sup>5</sup> *In the Matter of the Tariff Filings of The Empire District Electric Company to Implement General Rate Increase for Retail Electric Service Provided to Customers in its Missouri Service Area*, Case No. ER-2004-0570 (*Report and Order*, issued March 10, 2005), p. 53.

<sup>6</sup> *Id.*

<sup>7</sup> *In the Matter of Kansas City Power & Light Company's Request for Authority to Implement a General Rate Increase for Electric Service*, Case No. ER-2014-0370 (*Order Approving Stipulation and Agreement Regarding True-Up, Depreciation, and Other Issues*, issued July 17, 2015)

1 approved stipulations that included depreciation rates that did not include terminal salvage for  
2 GMO in Case No. ER-2016-0156 and for Ameren Missouri in Case No. ER-2010-0036, in  
3 which Ameren Missouri chose not to include terminal net salvage in its depreciation rate  
4 calculations.<sup>8</sup>

5 **RETIREMENT OF MONTROSE GENERATING UNIT 1**

6 Q. Are there differences between the parties on how to handle the retirement of  
7 Montrose Generating Unit 1 in the depreciation schedule?

8 A. Yes. In the depreciation schedule recommended by Staff in its Revenue  
9 Requirement Cost of Service Report (“COS Report”), filed November 30, 2016, it removed  
10 accounts related to the retired Montrose Generating Unit 1. The Office of Public Council’s  
11 (“OPC”) witness John A. Robinett has requested in his direct and rebuttal testimony that the  
12 Commission continue the depreciation rates it approved in Case No. ER-2014-0370 without  
13 modification.

14 In either case, the annual depreciation expense associated with the accounts would be  
15 zero. The plant in service for these accounts is zero and will have no depreciation expense  
16 even if the depreciation rates remain in the schedule.

17 **GREENWOOD SOLAR FACILITY**

18 Q. Are there differences between the parties on the treatment of depreciation rates  
19 of the Greenwood solar facility?

---

<sup>8</sup> *In the Matter of KCP&L Greater Missouri Operations Company's Request for Authority to Implement a General Rate Increase for Electric Service, Case No. ER-2016-0156 (Order Approving Stipulations And Agreements, Rejecting Tariffs, Cancelling True-Up Hearing, And Ordering Filing Of Compliance Tariffs, issued September 28, 2016). In the Matter of Union Electric Company d/b/a AmerenUE's Tariffs to Increase its Annual Revenues for Electric Service, Case No. ER-2010-0036 (Report and Order, issued May 28, 2010)*

1           A.     Yes. Staff has recommended that the depreciation rate for KCPL's allocation  
2 of the Greenwood solar facility be the same as the rate approved by the Commission for the  
3 Kansas City Power & Light Greater Missouri Operation Company ("GMO") allocation of the  
4 facility in Case. No. ER-2016-0156.

5           OPC's witness Robinett notes in his rebuttal testimony that there is a rate for solar  
6 facilities in the current rates approved for KCPL solar facilities in Case No. ER-2014-0370  
7 that could be applied to the KCPL allocation of Greenwood. Staff notes that the KCPL and  
8 GMO allocations of Greenwood would depreciate at different rates in this case.

9           It is unclear to Staff which rates in the current KCPL schedule OPC would apply to  
10 the Greenwood solar facility. The Staff recommendation includes four accounts drawn from  
11 the GMO depreciation schedule with depreciation rates from 5.19 to 5.52 percent. The  
12 current KCPL schedule includes a rate for solar generators of 4.82 percent, which OPC may  
13 or may not be proposing to apply to all solar-related accounts. One might apply other  
14 accounts that have depreciation rates from 1.84 to 2.56 percent. Staff has not evaluated the  
15 effect of this difference on depreciation expense, but it seems plain that the GMO allocation  
16 would accumulate depreciation reserve more quickly than the KCPL allocation if OPC's  
17 request were implemented, which could result in higher depreciation rates in a future KCPL  
18 rate case to even out the difference.

19 **ELECTRIC VEHICLE CHARGING STATIONS**

20           Q.     Has Staff's recommendation regarding electric vehicle ("EV") charging  
21 stations changed from Staff's Direct filing?

22           A.     Yes. In the Rebuttal testimony of Staff witness Byron M. Murray, the Staff  
23 recommendation changed so that all cost and revenue associated with the installation,



Surrebuttal Testimony of  
Keenan B. Patterson

1 operation and maintenance of the EV charging stations should be accounted for above-the-  
2 line.

3 Q. Does this affect Staff's recommendations related to depreciation rates?

4 A. Yes. In light of this change, Staff recommends the addition of Account 371.1  
5 for Electric Vehicle Charging Stations to its depreciation schedule with a depreciation rate of  
6 10 percent and a net salvage rate of 0 percent. This is the rate recommended by KCPL's  
7 witness Mr. Spanos. As stated in the COS Report, Depreciation Staff currently has no reason  
8 to dispute KCPL's requested depreciation rate for this account.

9 Q. Does this complete your surrebuttal testimony?

10 A. Yes.

**BEFORE THE PUBLIC SERVICE COMMISSION**

**OF THE STATE OF MISSOURI**

In the Matter of Kansas City Power & Light )  
Company's Request for Authority to ) Case No. ER-2016-0285  
Implement A General Rate Increase for )  
Electric Service )

**AFFIDAVIT OF KEENAN B. PATTERSON, P.E.**

STATE OF MISSOURI )  
 ) ss.  
COUNTY OF COLE )

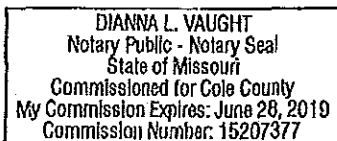
COMES NOW KEENAN B. PATTERSON, P.E., and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Surrebuttal Testimony; and that the same is true and correct according to his best knowledge and belief.

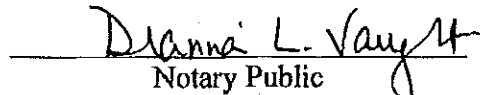
Further the Affiant sayeth not.

  
KEENAN B. PATTERSON, P.E.

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 26th day of January, 2017.



  
Notary Public