

Exhibit No.:
Issue: Fuel Model
Witness: Charles T. Poston
Sponsoring Party: MoPSC Staff
Type of Exhibit: True-Up Direct Testimony
Case No.: ER-2016-0285
Date Testimony Prepared: March 1, 2017

MISSOURI PUBLIC SERVICE COMMISSION

COMMISSION STAFF DIVISION

ENGINEERING ANALYSIS UNIT

TRUE-UP DIRECT TESTIMONY

OF

CHARLES T. POSTON

KANSAS CITY POWER & LIGHT COMPANY

CASE NO. ER-2016-0285

*Jefferson City, Missouri
March 2016*

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TRUE-UP DIRECT TESTIMONY
OF
CHARLES T. POSTON
KANSAS CITY POWER & LIGHT COMPANY
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1 Q. What is the value of Staff's fuel and purchased power expense?

2 A. For known and measurable changes through December 31, 2016, Staff
3 estimates the fuel and purchased power expense for Kansas City Power and Light Company
4 ("KCPL") to be \$222,724,170.

5 **Impact of Changes to Hourly Load Shape**

6 Q. What do you mean when you refer to "changes to hourly load shape" for true-
7 up?

8 A. In this testimony, the term "changes to hourly load shape" refers to the changes
9 in shapes of hourly energy demand that are associated with MEEIA Cycle 2 energy efficiency
10 programs.

11 Q. Has the hourly load shape used in Staff's production cost model changed due
12 to energy efficiency programs?

13 A. No. KCPL does not have hourly load shapes for MEEIA Cycle 2 programs.

14 Q. Does the hourly energy demand from the net system input analysis used in
15 Staff's production cost model include any savings from energy efficiency programs?

16 A. Yes. The total kWh values used by Staff witness Michael Stahlman were
17 adjusted for the energy savings from MEEIA Cycle 2. Staff witness Seoung Joun Won used
18 Mr. Stahlman's results for the net system input analysis that was one of the inputs to the total
19 hourly energy demand used in Staff's production cost model.

20 Q. Will a change to hourly load shape impact the costs of coal, natural gas, oil, or
21 nuclear fuel that are calculated by Staff's production cost model?

22 A. No. Power plant fuel costs are calculated based upon the amount of energy
23 generated at each power plant and each power plant's efficiency. Power plants are dispatched

1 against the price of energy within the integrated marketplace and not against hourly energy
2 demand. A change to the hourly load shape would not result in a change in how the power
3 plants were dispatched into the market or to the resulting fuel costs.

4 Q. Will a change to hourly load shape impact the cost of energy purchased
5 through renewable energy contracts?

6 A. No. The total amount of generation and the energy generation shape calculated
7 for renewable energy facilities is based upon historical data. That generation is included as an
8 input file to Staff's production cost model and is treated as a "must take" energy resource. A
9 change to the hourly load shape will not change the contents of the input files that define the
10 hourly generation at renewable energy facilities. The costs of renewable energy are governed
11 by the price that was agreed to within each contract and will not be impacted by a change to
12 hourly load shape.

13 Q. Will a change to hourly load shape impact the revenues or expenses related to
14 energy sales and purchases within the integrated marketplace?

15 A. Yes. In each hour that is simulated in Staff's production cost model the sum
16 total of all energy sources is compared against the energy demand. If the sum of available
17 energy from conventional power plants and renewable energy facilities is greater than the
18 energy demand in that hour, the excess energy is treated as a sale into the integrated
19 marketplace. If the sum of available energy is less than the energy demand, energy is
20 purchased from the integrated marketplace to ensure that demand is met. A change in hourly
21 load shape would change the amount of energy being used at specific times of the day. The
22 timing of any such changes would determine if total energy sales or purchases were increased
23 or decreased.

1 Q. How would changing hourly load shape impact the results of Staff's
2 production cost model?

3 A. Without specific information about how the hourly load shape would be
4 changed during every hour being modeled, it is not possible for Staff to accurately determine
5 if any such changes would result in an increase or decrease in the costs necessary to meet load
6 or to determine the magnitude of any changes in total costs. Since market prices vary on an
7 hourly basis, the additional revenue or costs from changes in hourly energy demand due to
8 energy efficiency programs would likewise vary on an hourly basis. The value of a megawatt-
9 hour during an afternoon in July is much different than the value of a megawatt-hour during
10 the early hours of the morning in March.

11 Q. Does this conclude your testimony?

12 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)
Implement A General Rate Increase for)
Electric Service)


Case No. ER-2016-0285

AFFIDAVIT OF CHARLES T. POSTON, P.E.

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

COMES NOW Charles T. Poston and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing True-Up Direct Testimony; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

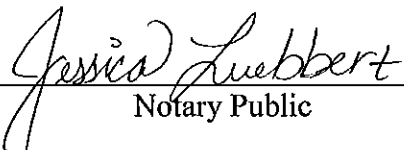


Charles T. Poston, P.E.

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 28th day of February, 2017.

JESSICA LUEBBERT
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: February 19, 2019
Commission Number: 15633434



Notary Public