

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2018 INTEGRATED)
RESOURCE PLAN OF LOUISVILLE GAS AND)
ELECTRIC COMPANY AND KENTUCKY) **CASE NO. 2018-00348**
UTILITIES COMPANY)

POST-INFORMAL CONFERENCE
DATA RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY
AND KENTUCKY UTILITIES COMPANY
TO COMMISSION STAFF

Filed: September 14, 2020

**Post-Informal Conference Data Response of
Louisville Gas and Electric Company
and Kentucky Utilities Company
to Commission Staff**

Case No. 2018-00348

Question No. 1

Witness: Michael Sebour, Manager of Generation Planning

- Q-1. Commission Staff inquired about transmission costs and constraints as well as RTO transaction expenses as part of the market inputs to Prosym. As part of a data request, Commission Staff requested information highlighting RTO transaction expenses and identify transmission costs and constraints that would be used as market inputs into Prosym.
- A-1. The Companies incur transmission and RTO costs both when purchasing power from the RTOs and when selling power into the RTOs. PJM is the primary RTO with which the Companies transact and is therefore modeled in PROSYM as a proxy for all market transactions. When modeling market transactions in PROSYM, the Companies use actual current fixed rates per the Companies' transmission tariff and PJM's published rate schedules where applicable and assumptions based on PJM's average recent actual costs for items that are variable. Using these actual transaction costs as a basis results in a reasonable forecast of future costs. The current assumptions for the components of these transaction costs are shown in the tables below by month, day of week, and time of day.

When PROSYM considers market sales, the applicable transaction costs are subtracted from the market price to reflect the costs that would be required to make the sale. PROSYM compares the production costs of available generating units to the market price less transaction costs in each hour to determine if a sale is profitable.

When PROSYM considers market purchases, the applicable transaction costs are added to the market price to reflect the costs that would be required to make the purchase. PROSYM compares the production costs of available generating units to the market price plus transaction costs in each hour to determine if a purchase is least cost.

| Table 1 - Market Transactions Costs, Weekdays - On-Peak, Hour Ending 8:00 through Hour Ending 23:00 (\$/MWh) | | | | | | | | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Market Sales Costs | | | | | | | | | | | | |
| LG&E-KU Non-Firm Hourly Transmission ¹ | 6.73000 | 6.73000 | 6.73000 | 6.73000 | 6.73000 | 6.73000 | 6.73000 | 6.73000 | 6.73000 | 6.73000 | 6.73000 | 6.73000 |
| PJM Balancing Operating Reserve ² | 0.67972 | 0.17351 | 0.31631 | 0.40395 | 0.48765 | 0.33197 | 0.57709 | 0.45710 | 0.63480 | 0.56696 | 0.34621 | 0.31845 |
| LG&E-KU Transmission Losses ³ | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 |
| Hurdle Rate ⁴ | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 |
| Total Weekday, On-Peak Sales Costs | 9.50812 | 9.00191 | 9.14471 | 9.23235 | 9.31605 | 9.16038 | 9.40550 | 9.28551 | 9.46321 | 9.39537 | 9.17461 | 9.14686 |
| Market Purchases Costs | | | | | | | | | | | | |
| PJM Non-Firm Point-to-Point Transmission Service ⁵ | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 |
| PJM Scheduling, System Control and Dispatch Svcs. ⁵ | | | | | | | | | | | | |
| Control Area Administration | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 |
| Market Support | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 |
| PJM FERC Annual Recovery ⁵ | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 |
| PJM Organization of PJM State, Inc. Funding ⁵ | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 |
| PJM Participant Charge ⁵ | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 |
| PJM Balancing Operating Reserve ² | 0.67972 | 0.17351 | 0.31631 | 0.40395 | 0.48765 | 0.33197 | 0.57709 | 0.45710 | 0.63480 | 0.56696 | 0.34621 | 0.31845 |
| Hurdle Rate ⁴ | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 |
| Total Weekday, On-Peak Purchases Costs | 3.81125 | 3.30504 | 3.44784 | 3.53548 | 3.61918 | 3.46350 | 3.70862 | 3.58863 | 3.76633 | 3.69849 | 3.47774 | 3.44998 |

Notes:

1. LG&E-KU transmission rate is based on the current tariff.
2. Balancing operating reserve is based on the average of PJM's historical daily rates in 2016 through 2019.
3. Transmission losses on LG&E-KU's system reflect the estimated average losses that occur between the Companies' generating units and the delivery point and are calculated as 0.5% of the forecasted average annual generation cost of energy sold off-system.
4. The hurdle rate reflects the uncertainty that energy traders face regarding the potential difference between the expected transaction price and the final settled price. It is only included as a cost when making sale and purchase decisions but is excluded from the calculation of off-system sales margin.
5. These rates are set forth in PJM's current billing schedules.

| Table 2 - Market Transactions Costs, Weekdays - Off-Peak, Hour Ending 24:00 through Hour Ending 7:00 (\$/MWh) | | | | | | | | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Market Sales Costs | | | | | | | | | | | | |
| LG&E-KU Non-Firm Hourly Transmission ¹ | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 |
| PJM Balancing Operating Reserve ² | 0.67972 | 0.17351 | 0.31631 | 0.40395 | 0.48765 | 0.33197 | 0.57709 | 0.45710 | 0.63480 | 0.56696 | 0.34621 | 0.31845 |
| LG&E-KU Transmission Losses ³ | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 |
| Hurdle Rate ⁴ | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 |
| Total Weekday, Off-Peak Sales Costs | 6.04412 | 5.53791 | 5.68071 | 5.76835 | 5.85205 | 5.69638 | 5.94150 | 5.82151 | 5.99921 | 5.93137 | 5.71061 | 5.68286 |
| Market Purchases Costs | | | | | | | | | | | | |
| PJM Non-Firm Point-to-Point Transmission Service ⁵ | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 |
| PJM Scheduling, System Control and Dispatch Svcs. ⁵ | | | | | | | | | | | | |
| Control Area Administration | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 |
| Market Support | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 |
| PJM FERC Annual Recovery ⁵ | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 |
| PJM Organization of PJM State, Inc. Funding ⁵ | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 |
| PJM Participant Charge ⁵ | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 |
| PJM Balancing Operating Reserve ² | 0.67972 | 0.17351 | 0.31631 | 0.40395 | 0.48765 | 0.33197 | 0.57709 | 0.45710 | 0.63480 | 0.56696 | 0.34621 | 0.31845 |
| Hurdle Rate ⁴ | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 |
| Total Weekday, Off-Peak Purchases Costs | 3.81125 | 3.30504 | 3.44784 | 3.53548 | 3.61918 | 3.46350 | 3.70862 | 3.58863 | 3.76633 | 3.69849 | 3.47774 | 3.44998 |

Notes:

1. LG&E-KU transmission rate is based on the current tariff.
2. Balancing operating reserve is based on the average of PJM's historical daily rates in 2016 through 2019.
3. Transmission losses on LG&E-KU's system reflect the estimated average losses that occur between the Companies' generating units and the delivery point and are calculated as 0.5% of the forecasted average annual generation cost of energy sold off-system.
4. The hurdle rate reflects the uncertainty that energy traders face regarding the potential difference between the expected transaction price and the final settled price. It is only included as a cost when making sale and purchase decisions but is excluded from the calculation of off-system sales margin.
5. These rates are set forth in PJM's current billing schedules.

| Table 3 - Market Transactions Costs, Weekends - All Hours (\$/MWh) | | | | | | | | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Market Sales Costs | | | | | | | | | | | | |
| LG&E-KU Non-Firm Hourly Transmission ¹ | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 | 3.26600 |
| PJM Balancing Operating Reserve ² | 0.84932 | 0.29363 | 0.16749 | 0.15150 | 0.17085 | 0.27152 | 0.22075 | 0.36215 | 0.27692 | 0.20546 | 0.16304 | 0.16721 |
| LG&E-KU Transmission Losses ³ | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 | 0.09841 |
| Hurdle Rate ⁴ | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 |
| Total Weekend Sales Costs | 6.21373 | 5.65804 | 5.53190 | 5.51591 | 5.53526 | 5.63593 | 5.58516 | 5.72655 | 5.64133 | 5.56987 | 5.52745 | 5.53162 |
| Market Purchases Costs | | | | | | | | | | | | |
| PJM Non-Firm Point-to-Point Transmission Service ⁵ | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 | 0.67000 |
| PJM Scheduling, System Control and Dispatch Svcs. ⁵ | | | | | | | | | | | | |
| Control Area Administration | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 | 0.22070 |
| Market Support | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 | 0.04870 |
| PJM FERC Annual Recovery ⁵ | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 | 0.07830 |
| PJM Organization of PJM State, Inc. Funding ⁵ | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 | 0.00103 |
| PJM Participant Charge ⁵ | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 | 0.11280 |
| PJM Balancing Operating Reserve ² | 0.84932 | 0.29363 | 0.16749 | 0.15150 | 0.17085 | 0.27152 | 0.22075 | 0.36215 | 0.27692 | 0.20546 | 0.16304 | 0.16721 |
| Hurdle Rate ⁴ | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 | 2.00000 |
| Total Weekend Purchases Costs | 3.98085 | 3.42516 | 3.29902 | 3.28303 | 3.30238 | 3.40305 | 3.35228 | 3.49368 | 3.40845 | 3.33699 | 3.29457 | 3.29874 |

Notes:

1. LG&E-KU transmission rate is based on the current tariff.
2. Balancing operating reserve is based on the average of PJM's historical daily rates in 2016 through 2019.
3. Transmission losses on LG&E-KU's system reflect the estimated average losses that occur between the Companies' generating units and the delivery point and are calculated as 0.5% of the forecasted average annual generation cost of energy sold off-system.
4. The hurdle rate reflects the uncertainty that energy traders face regarding the potential difference between the expected transaction price and the final settled price. It is only included as a cost when making sale and purchase decisions but is excluded from the calculation of off-system sales margin.
5. These rates are set forth in PJM's current billing schedules.