Education and Work Experience Background of Lena M. Mantle, P.E.

FILED AUG 15 2024 Missouri Public Service Commission

In my position as Senior Analyst for the Office of the Public Counsel ("OPC") I provide analytic and engineering support for the OPC in electric, gas, and water cases before the Commission. I have worked for the OPC since August, 2014.

After working on the Public Service Commission Staff for 29 years, I retired on as the Manager of the Energy Unit December 31, 2012. As the Manager of the Energy Unit, I oversaw and coordinated the activities of five sections: Engineering Analysis, Electric and Gas Tariffs, Natural Gas Safety, Economic Analysis, and Energy Analysis sections. These sections were responsible for providing Staff positions before the Commission on all of the electric and gas cases filed at the Commission. This included reviews of fuel adjustment clause filings, resource planning compliance, gas safety reports, customer complaint reviews, territorial agreement reviews, electric safety incidents and the class cost-of-service and rate design for natural gas and electric utilities.

Prior to being the Manager of the Energy Unit, I was the Supervisor of the Engineering Analysis Section of the Energy Department from August, 2001 through June, 2005. In this position, I supervised engineers in a wide variety of engineering analysis including electric utility fuel and purchased power expense estimation for rate cases, generation plant construction audits, review of territorial agreements, and resolution of customer complaints all the while remaining the lead Staff conducting weather normalization in electric cases.

From the beginning of my employment with the Commission in the Research and Planning Department in August, 1983 through August, 2001, I worked in many areas of electric utility regulation. Initially I worked on electric utility class cost-of-service analysis, fuel modeling and what has since become known as demand-side management. As a member of the Research and Planning Department under the direct supervision of Dr. Michael Proctor, I participated in the development of a leading-edge methodology for weather normalizing hourly class energy for rate design cases. I took the lead in developing personal computer programming of this methodology and applying this methodology to weather-normalize electric usage in numerous electric rate cases. I was also a member of the team that assisted in the development of the Missouri Public Service Commission electronic filing and information system ("EFIS").

I received a Bachelor of Science Degree in Industrial Engineering from the University of Missouri, at Columbia, in May, 1983. I am a registered Professional Engineer in the State of Missouri.

Lists of the cases I have filed testimony as an OPC, the Missouri Public Service Commission rules in which I participated in the development of or revision to, and the cases that I provided testimony in follow.

Office of Public Counsel Case Listing

| Case | Filing Type | Issue |
|----------------|--------------------------------|--|
| EF-2024-0021 | Surrebuttal | Compliance Tariff Sheets |
| EO-2023-0277 | Direct, Rebuttal, Surrebuttal | FAC Imprudence |
| ER-2023-0210 | Direct, Surrebuttal | FAC Accumulation Period Costs |
| ER-2023-0011 | Rebuttal | Fuel Adjustment Clause and PISA |
| EA-2022-0328 | Surrebuttal | Certificate of Convenience and Necessity |
| WR-2022-0303 | Direct, Rebuttal | Affiliate Transactions, Revenue Stabilization |
| | 2 11000, 1100000000 | Mechanism |
| EF-2022-0155 | Rebuttal, Surrebuttal | Resource Planning Prudency |
| ER-2022-0129 & | Direct, Rebuttal, Surrebuttal, | Fuel Adjustment Clause, Resource Planning |
| ER-2022-0130 | True-up Direct & Rebuttal | |
| EO-2022-0040 & | Rebuttal, Surrebuttal | Resource Planning Prudency |
| EO-2022-0193 | | |
| ER-2021-0312 | Direct, Rebuttal | Storm costs, Market Price Protection Mechanism, |
| | | FAC |
| GR-2021-0241 | Direct, Rebuttal, Surrebuttal | Revenue Normalization Adjustment, Customer Bills |
| ER-2021-0240 | Direct, Rebuttal | FAC, Customer Bills |
| GR-2021-0108 | Direct, Rebuttal, Surrebuttal | Weather Normalization Adjustment mechanism, |
| | , , | miscellaneous tariff issues |
| WR-2020-0240 | Direct, Rebuttal, Surrebuttal | Normalized customer usage, revenue stabilization |
| | , , | mechanism |
| EO-2020-0262 | Direct | FAC Imprudence |
| ER-2020-0311 | Rebuttal | FAC rate change |
| ER-2019-0374 | Direct, Rebuttal, Surrebuttal | Weather Norm Rider, Fuel Adjustment Clause |
| ER-2019-0355 | Direct, Rebuttal | Fuel Adjustment Clause, Unregulated |
| | | Competition tariff sheet |
| EO-2019-0067 & | Rebuttal | Prudence of GMO steam auxiliary costs and |
| EO-2019-0068 | | GMO and KCPL's wind PPAs |
| EA-2019-0010 | Rebuttal, Surrebuttal | Energy Market Prices, Customer Protections |
| GO-2019-0058 & | Direct, Rebuttal | Weather |
| GO-2019-0059 | | |
| ER-2018-0145 & | Direct, Rebuttal, Surrebuttal | Purchased Power, Customer Bills, Crossroads, |
| ER-2018-0146 | | Resource Planning |
| EO-2018-0092 | Rebuttal, Surrebuttal | OPC Opposition of Request for Approval of |
| | | Changes to Resource Plan |
| WR-2017-0285 | Direct, Rebuttal, Surrebuttal | Normalized base usage |
| GR-2017-0215 & | Direct, Rebuttal, Surrebuttal | Energy Efficiency and Low-Income Programs |
| GR-2017-0216 | | |
| EO-2017-0065 | Direct, Rebuttal, Surrebuttal | Fuel Adjustment Clause Prudence Review |
| ER-2016-0285 | Direct, Rebuttal, Surrebuttal | Fuel Adjustment Clause |
| ER-2016-0179 | Direct, Rebuttal, Surrebuttal | Fuel Adjustment Clause, |
| ER-2016-0156 | Direct, Rebuttal, Surrebuttal | Fuel Adjustment Clause, Resource Planning |
| ER-2016-0023 | Direct, Rebuttal, Surrebuttal | Fuel Adjustment Clause |
| WR-2015-0301 | Direct, Rebuttal, Surrebuttal | Revenues, |
| İ | 1 | Environmental Cost Recovery Mechanism |

Office of Public Counsel Case Listing

| Case | Filing Type | Issue |
|--------------|-------------------------------|------------------------|
| ER-2014-0370 | Direct, Rebuttal, Surrebuttal | Fuel Adjustment Clause |
| ER-2014-0351 | Direct, Rebuttal, Surrebuttal | Fuel Adjustment Clause |
| ER-2014-0258 | Direct, Rebuttal, Surrebuttal | Fuel Adjustment Clause |
| EC-2014-0224 | Surrebuttal | Policy, Rate Design |

Missouri Public Service Commission Rules

| 20 CSR 4240-3 | Filing Requirements for Electric Utilities (various rules) |
|--------------------|--|
| 20 CSR 4240-14 | Utility Promotional Practices |
| 20 CSR 4240-18 | Safety Standards |
| 20 CSR 4240-20.015 | Electric Utility Affiliate Transactions |
| 20 CSR 4240-20.017 | HVAC Services Affiliate Transactions |
| 20 CSR 4240-20.090 | Electric Utility Fuel and Purchased Power Cost Recovery Mechanisms |
| 20 CSR 4240-20.091 | Electric Utility Environmental Cost Recovery Mechanisms |
| 20 CSR 4240-22 | Electric Utility Resource Planning |
| 20 CSR 4240-80.015 | Steam Heating Utility Affiliate Transactions |
| 20 CSR 4240-80.017 | HVAC Services Affiliate Transactions |
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Missouri Public Service Commission Staff Testimony

| Case No. | Filing Type | Issue |
|--------------|-----------------------|---|
| ER-2012-0175 | Rebuttal, Surrebuttal | Resource Planning |
| | | Capacity Allocation |
| ER-2012-0166 | Rebuttal, Surrebuttal | Fuel Adjustment Clause |
| EO-2012-0074 | Direct/Rebuttal | Fuel Adjustment Clause Prudence |
| EO-2011-0390 | Rebuttal | Resource Planning |
| | | Fuel Adjustment Clause |
| ER-2011-0028 | Rebuttal, Surrebuttal | Fuel Adjustment Clause |
| EU-2012-0027 | Rebuttal, Surrebuttal | Fuel Adjustment Clause |
| ER-2010-0356 | Rebuttal, Surrebuttal | Resource Planning |
| | | Allocation of Iatan 2 |
| EO-2010-0255 | Direct/Rebuttal | |
| ER-2010-0036 | Supplemental Direct, | Fuel Adjustment Clause |
| | Surrebuttal | |
| ER-2009-0090 | Surrebuttal | Capacity Requirements |
| ER-2008-0318 | Surrebuttal | Fuel Adjustment Clause |
| ER-2008-0093 | Rebuttal, Surrebuttal | Fuel Adjustment Clause |
| | | Low-Income Program |
| ER-2007-0004 | Direct, Surrebuttal | Resource Planning |
| GR-2007-0003 | Direct | Energy Efficiency Program Cost Recovery |
| ER-2007-0002 | Direct | Demand-Side Program Cost Recovery |
| ER-2006-0315 | Supplemental Direct, | Energy Forecast, Demand-Side Programs |
| | Rebuttal | Low-Income Programs |
| ER-2006-0314 | Rebuttal | Jurisdictional Allocation Factor |

| Case No. | Filing Type | Issue |
|--------------------|-------------------------------|---|
| EA-2006-0309 | Rebuttal, Surrebuttal | Resource Planning |
| ER-2005-0436 | Direct, Rebuttal, Surrebuttal | Low-Income Programs, Energy Efficiency |
| | | Programs, Resource Planning |
| EO-2005-0329 | Spontaneous | Demand-Side Programs, Resource Planning |
| EO-2005-0293 | Spontaneous | Demand-Side Programs, Resource Planning |
| ER-2004-0570 | Direct, Rebuttal, Surrebuttal | Reliability Indices, Energy Efficiency Programs |
| | | Wind Research Program |
| EF-2003-0465 | Rebuttal | Resource Planning |
| ER-2002-424 | Direct | Derivation of Normal Weather |
| EC-2002-1 | Direct, Rebuttal | Weather Normalization of Class Sales |
| | , | Weather Normalization of Net System |
| ER-2001-672 | Direct, Rebuttal | Weather Normalization of Class Sales |
| | | Weather Normalization of Net System |
| ER-2001-299 | Direct | Weather Normalization of Class Sales |
| | | Weather Normalization of Net System |
| EM-2000-369 | Direct | Load Research |
| EM-2000-292 | Direct | Load Research |
| EM-97-515 | Direct | Normalization of Net System |
| ER-97-394, et. al. | Direct, Rebuttal, Surrebuttal | Weather Normalization of Class Sales |
| · | | Weather Normalization of Net System |
| | | Energy Audit Tariff |
| EO-94-174 | Direct | Weather Normalization of Class Sales |
| | | Weather Normalization of Net System |
| ER-97-81 | Direct | Weather Normalization of Class Sales |
| | | Weather Normalization of Net System |
| | | TES Tariff |
| ER-95-279 | Direct | Normalization of Net System |
| ET-95-209 | Rebuttal, Surrebuttal | New Construction Pilot Program |
| EO-94-199 | Direct | Normalization of Net System |
| ER-94-163 | Direct | Normalization of Net System |
| ER-93-37 | Direct | Weather Normalization of Class Sales |
| | | Weather Normalization of Net System |
| EO-91-74, et. al. | Direct | Weather Normalization of Class Sales |
| | | Weather Normalization of Net System |
| EO-90-251 | Rebuttal | Promotional Practices Variance |
| ER-90-138 | Direct | Weather Normalization of Net System |
| ER-90-101 | Direct, Rebuttal, Surrebuttal | Weather Normalization of Class Sales |
| | · | Weather Normalization of Net System |
| ER-85-128, et. al. | Direct | Demand-Side Update |
| ER-84-105 | Direct | Demand-Side Update |