

**Education and Work Experience Background of**

**Lena M. Mantle, P.E.**

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 on behalf of ratepayers. I have worked for the OPC since August 2014.

Prior to working for the OPC, I worked on the Public Service Commission Staff for 29 years retiring as the Manager of the Energy Unit on 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**

<b>Case</b>	<b>Filing Type</b>	<b>Issue</b>
ER-2024-0319	Direct	Customer Experience
GR-2024-0106	Direct, Surrebuttal	Weather Normalization Adjustment Rider
ER-2024-0189	Direct	FAC, resource planning prudence
EF-2024-0021	Surrebuttal	Compliance Tariff Sheets
EO-2023-0369 & EO-2023-0370	Rebuttal	FAC and calculation of MEEIA benefits
EO-2023-0277	Direct, Rebuttal, Surrebuttal	FAC Imprudence
ER-2023-0210	Direct, Surrebuttal	FAC Accumulation Period Costs
EO-2023-0136	Rebuttal	FAC and calculation of MEEIA benefits
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 Mechanism
EF-2022-0155	Rebuttal, Surrebuttal	Resource Planning Prudence
ER-2022-0129 & ER-2022-0130	Direct, Rebuttal, Surrebuttal, True-up Direct & Rebuttal	Fuel Adjustment Clause, Resource Planning
EO-2022-0040 & EO-2022-0193	Rebuttal, Surrebuttal	Resource Planning Prudence
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 & EO-2019-0068	Rebuttal	Prudence of GMO steam auxiliary costs and GMO and KCPL's wind PPAs
EA-2019-0010	Rebuttal, Surrebuttal	Energy Market Prices, Customer Protections
GO-2019-0058 & GO-2019-0059	Direct, Rebuttal	Weather
ER-2018-0145 & ER-2018-0146	Direct, Rebuttal, Surrebuttal	Purchased Power, Customer Bills, Crossroads, 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 & GR-2017-0216	Direct, Rebuttal, Surrebuttal	Energy Efficiency and Low-Income Programs
EO-2017-0065	Direct, Rebuttal, Surrebuttal	Fuel Adjustment Clause Prudence Review

**Office of Public Counsel Case Listing**

<b>Case</b>	<b>Filing Type</b>	<b>Issue</b>
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, Environmental Cost Recovery Mechanism
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

**Missouri Public Service Commission Staff Testimony**

<b>Case No.</b>	<b>Filing Type</b>	<b>Issue</b>
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, Surrebuttal	Fuel Adjustment Clause
ER-2009-0090	Surrebuttal	Capacity Requirements
ER-2008-0318	Surrebuttal	Fuel Adjustment Clause
ER-2008-0093	Rebuttal, Surrebuttal	Fuel Adjustment Clause Low-Income Program

<b>Case No.</b>	<b>Filing Type</b>	<b>Issue</b>
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, Rebuttal	Energy Forecast, Demand-Side Programs Low-Income Programs
ER-2006-0314	Rebuttal	Jurisdictional Allocation Factor
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