BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's 2016 Triennial Compliance Filing Pursuant to 4 CSR 240-22.	)))	File No. EO-2016-0223

EMPIRE'S COMMENTS CONCERNING UNRESOLVED ISSUES IN THE JOINT FILING

COMES NOW The Empire District Electric Company (Empire), and, in response to the Joint Filing submitted on October 25, 2016, states as follows to the Missouri Public Service Commission (Commission) in regard to the Unresolved Alleged Deficiencies and Concerns found in the Joint Filing:

BACKGROUND

1. The participants in this matter made a Joint Filing on October 25, 2016, in order to comply with Commission Rule 4 CSR 240-22.080(9), relating to Empire's 2016 Integrated Resource Plan (IRP) filed on April 1, 2016, in File No. EO-2016-0223. The Joint Filing set out joint agreements as to a plan to remedy certain alleged deficiencies and concerns and described those areas on which agreement could not be reached (Unresolved Issues).

UNRESOLVED ISSUES

2. Earth Island Institute d/b/a Renew Missouri (Renew Missouri) asserted the following alleged deficiencies, which remain unresolved:

> **Renew Missouri-Alleged Deficiency 1:** Renew Missouri agrees with DE's Alleged Deficiency 2 that Empire's preferred plan, which lacks a DSM portfolio, is inconsistent with state policies to equally value DSM and supply-side resources, per §393.1075.3, RSMo., and to reduce energy consumption in order to avoid or defer generation capacity additions, per §393.1040, RSMo.

Empire Comments: First, it should be noted while a demand-side management (DSM) portfolio was not part of the 2016 IRP preferred plan; Empire continues to offer a DSM portfolio to its eligible Missouri retail customers and regularly meets with the DSM Advisory Group to report on the programs and their performance. In addition, a revised DSM portfolio is planned to be implemented in early 2017, per an agreement reached in Empire's most recent Missouri general rate case.

Moreover, Empire believes demand-resources *were* analyzed on an equivalent basis as other resources in the 2016 IRP, but were not selected by the least cost capacity expansion modeling process. Special treatment of demand-resources would have been necessary in order for their selection to occur during the analysis. In this IRP, Empire's first resource need did not occur until the fourteenth year of the 20-year planning study, based on the base load forecast. Therefore, there was not a near-term resource need that a DSM portfolio could offset. Thus, DSM was considered, but not selected as a cost-effective resource based on the assumptions in this IRP. This may or may not change in future IRP studies as the capacity need draws closer and planning assumptions are re-evaluated.

> **Renew Missouri-Alleged Deficiency 2:** Base plans 2–5 provide too narrow a range of alternatives to test the possibilities of low-cost energy plans.

Empire Comments: Empire used an appropriate combination of resources in the IRP analysis, and these candidate resources were reviewed by stakeholders prior to the integration phase of the study. In addition, the goal of having alternate plans with substantially different mixes of resources was accomplished by the special alternate plans required by the IRP Rule, such as the all renewable and aggressive DSM plans, which Empire did perform. The candidate supply-side resources consisted of a diverse list of both traditional and renewable resources as listed below:

- Super-Critical Coal (Joint-ownership with carbon capture & sequestration (CCS))
- Combustion Turbines (CT)
- Aero-derivative CT, E-Class Frame CT and F-Class Frame CT
- Combined Cycle (CC) (Unfired and Duct Fired)

- Integrated Gasification Combined Cycle (IGCC) with CCS
- Reciprocating Internal Combustion Engine (RICE)
- Distributed Generation (DG)
- Microturbine and Turbine Combined Heat and Power (CHP)
- Small Modular Nuclear (SMN)
- Traditional Nuclear
- Wind (ownership and purchased power agreement (PPA))
- Biomass
- Landfill Gas
- Utility Scale Solar Photovoltaic (PV)
- Battery Storage

The IRP analysis also screened numerous demand-side measures and the candidate demand-side management (DSM) portfolios used in the development of the various plans are listed below:

- RAP- - Alternative demand-side portfolio designed to represent one-half of the Realistic Achievable Potential (RAP) Program Design portfolio participation.
- RAP Program Design - The Realistic Achievable Potential (RAP) candidates from the DSM Potential Study that Empire proposes passing to the integration phase.
- RAP+ - Alternative demand-side portfolio designed to represent one-half of the difference between the Realistic Achievable Potential (RAP) Program Design and Maximum Achievable Potential (MAP) Program Design portfolios.
- MAP Program Design - The Maximum Achievable Potential (MAP) candidates from the DSM Potential Study that Empire proposes passing into the integration phase.
- Aggressive Capacity Portfolio - Alternative demand-side portfolio designed to utilize demand-side resources to meet additional future capacity.
- High CO2 Portfolio - The RAP Program Design scenario screened with the high environmental avoided costs.
- Low CO2 Portfolio - The RAP Program Design scenario screened with the low environmental avoided costs.
- No CO2 Portfolio - The RAP Program Design scenario screened with the no carbon costs in the planning horizon.
- No Additional DSM

Empire generated a low, base and high load forecast as required; and in an effort to broaden the range of uncertainty regarding the potential load forecast, and increase the alternate plan diversity and timing, Empire generated a high-high load growth case based on feedback from the stakeholder group.

Empire even considered other "what-if" plans to further broaden the range of outcomes such as an aggressive electric vehicle alternate plan and an early retirement of a base load generator alternate plan.

> **<u>Renew Missouri-Alleged Deficiency 3:</u>** 4 CSR 240-22.010 – Empire has not treated renewable resources on an equivalent basis with supply-side resources.

<u>Empire Comments:</u> Empire does not believe this to be true. All supply-side candidates, including renewables, were considered in the capacity expansion modeling of this IRP. Renewables were analyzed on an equivalent basis as other supply-side resources.

The preferred plan did include 250 MW of wind resources, which is a significant amount of wind for a system the size of Empire's. This is not to say Empire could not have more renewables, but there are limitations on the amount of renewable resources a system can effectively manage without operating and reliability impacts.

> **<u>Renew Missouri-Alleged Deficiency 4:</u>** Probable Environmental Costs – Empire has modeled only one future environmental cost, CO_2 under the Clean Power Plan. Empire did not model other environmental costs, such as the coal combustion residuals rule and the effluent limitation guidelines, both of which have deadlines within the planning horizon of this IRP.

<u>Empire Comments:</u> Renew Missouri states Empire has modeled only one future environmental cost, CO_2 under the Clean Power Plan. *This is not the case*. Empire modeled the probable cost of CO_2, SO_2 and NO_x.

Additionally, environmental cost was a critical uncertain factor in the IRP, and many other environmental issues were addressed in the IRP technical volumes. At a broad level, this includes: Air Emission Impacts, SO_2 Emissions, Title IV Acid Rain Program, Clean Air Interstate Rule, Cross-State Air Pollution Rule - Formerly the Clean Air Transport Rule, Mercury Air Toxics Standard, SO_2 National Ambient Air Quality Standard, NO_x Emissions, Ozone National Ambient

Air Quality Standard, Particulate Matter Emissions, Mercury and Air Toxics Emissions, Clean Air Mercury Rule, Greenhouse Gases, Water Related Impacts (e.g., Clean Water Act Section 316(b)), Surface Impoundments and Coal Combustion Residuals and others.

> **Renew Missouri-Alleged Deficiency 5:** IBR as a Demand-Side Rate – Empire has not treated renewable resources on an equivalent basis with supply-side resources. Empire has not estimated the incremental and cumulative energy savings for each year of the planning horizon as required by 22.050(4)(D)4. It has not estimated the costs of IBR for each year of the planning horizon as required by 22.050(4)(D)5, a. And it has not documented its sources and quality of information as required by 22.050(4)(G). Renew Missouri requests that Empire address these requirements in this case, rather than in its next triennial IRP in 2019. This analysis should be part of the analysis of block rates Empire has undertaken pursuant to ¶20 of the Stipulation and Agreement in File No. ER-2016-0023.

Empire Comments: Empire fully considered the inclining block rate (IBR) in its analysis. Empire ultimately decided not to include inclining block rates in the IRP due to several concerns. Firstly, there is a significant risk associated with the appropriateness of rate-based savings estimates developed from secondary sources of data for the analysis. In regard to secondary data, significant changes in savings estimates are observed in the literature and depend on variables difficult to transfer from one context to another: such as how the rates are designed, what the delta is between various tier prices, what the starting conditions/baseline rate designs are, etc. A planning assumption was made for the purposes of this analysis, but a more detailed rate-making and customer-impact analysis would need to be conducted to better understand the implications. There are also additional concerns relating to how an IBR rate in particular would impact low income and electric heating customers who cannot readily change their usage patterns. Potential demand-side rates have significant complexities and interactions with all areas of Empire's business beyond only resource planning. This includes billing, revenue stability, information technology (IT) considerations, customer satisfaction and more. Furthermore, IBRs are not as tractable as an energy efficient piece of equipment that can be purchased, installed, and understood statically over a well-defined lifetime.

IBR was also a point of discussion with Staff (Staff – Alleged Deficiency 5). However, agreement between Staff and Empire was reached in which Empire will provide more description and documentation surrounding IBR in the 2019 triennial IRP filing.

3. The Department of Economic Development – Division of Energy (DE) asserted the following alleged deficiencies and concern, which remain unresolved:

> **<u>DE-Alleged Deficiency 1:</u>** 4 CSR 240-22.010 (2)(B) and (C) – Empire considered only the criterion of cost in its preferred plan selection and did not fully consider additional factors per the requirements at 4 CSR 240-22.010(2)(B) and (C).

<u>Empire Comments:</u> Empire did select its preferred plan based on the IRP Rule and documented this process in the Executive Summary. Preferred resource plan means the resource plan contained in the resource acquisition strategy most recently adopted by the utility decision-maker(s) for implementation by the electric utility. As listed in the DE comments filed on August 29th, 2016, the Commission's Rule 4 CSR 240-22.10(2)(B) requires the utility to "use minimization of the present worth of long-run utility costs as the primary selection criterion in choosing the preferred plan, subject to the constraints in subsection (2)(C)." Empire based its preferred plan decision on the primary criterion of minimizing the present worth of long-run utility costs as set forth by the Commission's IRP Rule. It is Empire's belief the least cost plan was the appropriate balance, while considering other factors such as risk and rate impacts.

> **<u>DE-Alleged Deficiency 2:</u>** 4 CSR 240-22.010 (2)(B) and (C) – Empire's preferred plan, which lacks a DSM portfolio, is inconsistent with state policies to equally value DSM and supply-side resources, per §393.1075.3, RSMo., and to reduce energy consumption in order to avoid or defer generation capacity additions, per §393.1040, RSMo.

<u>Empire Comments:</u> Empire believes the lack of a demand-side management (DSM) portfolio in the preferred plan is not a deficiency, especially when supported by reasonable assumptions and the IRP analysis. Demand-resources were analyzed on an equivalent basis as other resources, but were not selected by the analysis. Special treatment of demand-resources would have been necessary in order for selection to occur during the analysis.

Although Empire does not believe the lack of DSM in the preferred plan is a deficiency, Empire notes that agreements made in other cases will result in the continuation of the offering of a demand-side portfolio to its eligible Missouri retail customers.

> **DE-Alleged Deficiency 3:** Probable Environmental Costs – Empire's analysis insufficiently addressed the specific point of the Commission's ordered Special Contemporary Issue, and Empire could have made reasonable assumptions about Clean Power Plan (CPP) implementation for the purposes of the analysis.

Empire Comments: Empire believes it modeled a reasonably broad range of environmental assumptions and appropriately addressed this special contemporary issue based on what is known about the Clean Power Plan (CPP) at this time.

While there is much uncertainty surrounding the CPP timing and potential compliance, Empire did address environmental costs in its 2016 IRP filing. Based upon industry knowledge and where it seems likely states may be headed with respect to each state compliance plan from preliminary meetings, Empire modeled various carbon scenarios with some sensitivity around certain key aspects of the CPP. Empire modeled four future carbon cases and one alternate plan related to environmental compliance. Empire will continue to monitor the status of the CPP and will provide updates in subsequent IRP filings to the extent any material changes have occurred.

> **DE-Alleged Concern 3:** Analysis of Combined Heat and Power (CHP); Treatment of Distributed Generation – Empire analyzed CHP as a supply-side resource (under its "distributed generation" resource option), but Empire should have also analyzed CHP as a DSM resource in light of recent agreements which include CHP as an eligible resource under MEEIA. Additionally, Empire should have included resources beyond CHP in its supply-side analysis of distributed generation.

Empire Comments: Empire is unsure of the "recent agreements which include Combined

Heat and Power (CHP) as an eligible resource under MEEIA." However, Empire notes that it does not currently have a MEEIA DSM portfolio. Empire also notes that Solar PV was evaluated as a demand-side and supply-side resource candidate in Empire's 2016 IRP.

4. Empire does not believe these unresolved alleged "deficiencies and concerns" rise to the level of actual "deficiencies," nor require any action at this time, as the many agreements with other parties have sufficiently addressed the Unresolved Issues.

WHEREFORE, Empire respectfully requests that the Commission consider this response, issue its order finding that Empire has substantially complied with the triennial filing requirements of Chapter 22, and, thereafter, close this file.

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that a true and correct copy of the foregoing document was sent by electronic mail, on October 28, 2016, to the following:

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