In the Matter of a Working Case to Explore Emerging Issues in Utility Regulation))) **File No. EW-2017-0245**

Comments to the Missouri Public Service Commission Regarding Development of Utility Distribution System Plans Natural Resources Defense Council June 3, 2019

INTRODUCTION

NRDC is requesting the Commission to provide an opportunity, such as through a new rulemaking, to develop requirements for the submission of a distribution system plan for each utility.

Background

On April 5, 2018, the Commission Staff issued a Staff Report on Distributed Energy Resources in File No. EW-2017-0245.[1] The Staff Report described several workshops organized by Staff related to distributed energy resources (DER) and provided a series of recommendations on next steps for the Commission and utilities. Included in that report were conclusions related to the need for better data and better planning by the utilities related to aging infrastructure and growth of DER. As Staff noted, "It is not clear how the information regarding customer-sited DER is included in the utility planning processes (distribution, integrated resource planning, and transmission planning). … Regardless of the current level of DER adoption, scenario analysis is necessary for long-term planning, particularly due to the rate of DER technological advancement."[2] Furthermore, in the context of utility Integrated Resource Planning, the Staff Report stated that "Planning is key to properly deploying DER,"[3] and recommended that an initiative to develop a new rule under Chapter 22 to discuss "the needs,

[1] "Staff Report on Distributed Energy Resources,' Missouri Public Service Commission, File No. EW-2017-0245 (April 13, 2018) (Staff Report).
[2] Staff Report at 9.
[3] Staff Report at 25.

costs, and benefits associated with DER."[4] Indeed, the Staff Report highlighted many of the considerations for planning for the future and noted that "The Commission could also open a docket and order electric utilities to analyze their grids and identify areas where distributed generation and storage could be used to help alleviate congestion, as well as identify improvements to their distribution system that would be necessary to integrate distributed generation and storage."[5]

SB 564 and utility capital investment plans

In 2018 the Missouri legislature passed and the Governor signed SB 564, the relevant part of which was codified as §393.1400.5 RSMo. That bill allowed utilities to file with the Commission a capital investment plan identifying necessary investments "in furtherance of replacing, modernizing, and securing its infrastructure."[6] The bill also stated that "The plan shall also include a specific capital investment plan for the first year of the five-year plan consistent with the level of specificity used for annual capital budgeting purposes."[7] The bill set out specifics on percentages of capital investments related to smart meters, no more than six percent of the total investments, and identified that at least 25% of the investments must be related to grid modernization projects, including:

(1) Increased use of digital information and controls technology to improve reliability, security, and efficiency of the electric grid;

(2) Dynamic optimization of grid operations and resources, with full cybersecurity;

(3) Deployment and integration of distributed resources and generation, including renewable resources;

(4) Development and incorporation of demand response, demand-side resources, and energy-efficiency resources;

[4] Staff Report at 25.
[5] Staff Report at 18.
[6] §393.1400.4 RSMo.
[7] *Id.*

(5) Deployment of smart technologies (real-time, automated, interactive technologies that optimize the physical operation of appliances and consumer devices) for metering, communications, concerning grid operations and status, and distribution automation;

(6) Integration of smart appliances and devices;

(7) Deployment and integration of advanced electricity storage and peak-shaving technologies, including plug-in electric and hybrid electric vehicles, and thermal storage air conditioning;

(8) Provision of timely information and control options to consumers;

(9) Development of standards for communication and interoperability of appliances and equipment connected to the electric grid, including the infrastructure serving the grid; and

(10) Identification and lowering of unreasonable or unnecessary barriers to adoption of smart grid technologies, practices, and services.[8]

Additionally, the bill provides that "The submission of a capital investment plan under this section shall not affect in any way the commission's authority with respect to the grant or denial of a certificate of convenience and necessity under section 393.170."

On February 14, 2019, Ameren Missouri submitted its capital investment plan.[9] On February 28, 2019, KCP&L submitted its capital investment plan.[10] Each plan included specific infrastructure investments and associated costs through the next five years. Ameren included in its submission a summary of its strategy, including a listing of principles and explanation of goals from its plan. The chart below shows the utilities' anticipated investments per year, in millions.

[8] *Id.*

[9] *In the Matter of the Compliance of Union Electric Company d/b/a Ameren Missouri with Certain Requirements related to SB 564 and Related Matters*, Ameren Missouri's Five-Year Capital Investment Plan, File EO-2019-0044 (February 13, 2019).

[10] *In the Matter of the Compliance of KCP&L Greater Missouri Operations Company with Certain Requirements Related to SB 564 and Related Matters*, KCP&L Greater Missouri Operation Company's Five-Year Capital Investment Plan, File No. EO-2019-0045 (February 28, 2019); *In the Matter of the Compliance of Kansas City Power & Light Company with Certain Requirements Related to SB 564 and Related Matters*, Kansas City Power & Light Company's Five-Year Capital Investment Plan, File No. EO-2019-0047 (February 28, 2019).

Utility	2019	2020	2021	2022	2023	Total
Ameren[11]	971,302	1,135,184	1,073,485	1,073,697	1,048,810	5,302,478[12]
KCP&L[13]	169,900	178,500	157,100	163,700	162,400	831,600
KCP&L-GMO	166,400	166,400	129,100	114,400	124,700	700,900

In total, Ameren projects spending over $6 billion over five years on capital investments, and KCP&L anticipates spending over $1.5 billion over five years. Ameren held its public meeting on March 6, 2019. KCP&L held its public meeting on March 27, 2019.

Comments: Creating a distribution planning process

I. NRDC submits these comments to the Commission seeking a procedure to develop a coordinated and transparent distribution system planning process in order to allow for a more organized planning process for Missouri's utilities. The capital investment plans submitted by the utilities identify the investments each utility is planning to make over the next five years, but provides few details regarding how those investments were chosen, how the locations for those investments were chosen, or how these investments align or do not align with existing distribution planning efforts and other activities that are done by the utilities, such as demand forecasting or IRPs. The filings do not provide the Commission or stakeholders with any sense of organization, transparency, repeatability, or clarity on the decision-making process at the utility. Absent the Commission opening a proceeding to create a process on distribution system planning, the only avenue remaining for questioning the details and process embedded in these filings is to litigate it in a rate case. NRDC does not believe that a rate case is the appropriate venue for developing policies on distribution system planning requirements or to submit testimony, discovery, and briefings on questions related to distribution system planning

[11] Ameren Missouri's Five-Year Capital Investment Plan, Exhibit 1.
[12] Not included is the acquisition of two wind projects totaling $1,000,000.
[13] KCP&L Stakeholder Presentation, "Overview of Annual and 5-Year Capital Plans: KCP&L and GMO" (March 27, 2019).

practices of the utilities. Rather, NRDC believes that the Commission should consider initiating a process to discuss creating a distribution system planning process, including goals and principles for such a process. This may take the form of a new proceeding focused on distribution system planning or expanding the existing DER proceeding to consider development of distribution system planning requirements. NRDC points to the Minnesota Public Utilities Commission as an example of a process that this Commission may consider, including the adoption of a set of required information to be submitted by each utility in its distribution system plan.

II. The Minnesota Commission opened a proceeding in 2015 to investigate what actions may be necessary related to grid modernization with a focus on replacing aging infrastructure. The Minnesota Commission noted that significant parts of the utility distribution systems were nearing the end of their expected life and recognized a need to ensure that utility investments in the distribution system were not following the same replacement process as before. Rather, the Minnesota Commission identified three principles as it applies to grid modernization and the distribution system:

> 1. Are we planning for and investing in the distribution system we will need in the future?
>
> 2. Are the planning processes aligned to ensure future reliability, efficient use of resources, maximize customer benefits, and successful implementation of public policy?
>
> 3. What commission actions would support improved alignment of planning and investment in the distribution system?[14]

This led the Minnesota Commission to take a deeper look into utility distribution system planning activities to get a sense of how detailed and organized those plans were, and whether the utilities and the plans were sufficiently forward looking and integrated with other utility practices.

[14] Minnesota Public Utilities Commission Staff Report on Grid Modernization (March 2016).

Last year, the Minnesota Commission approved the requirements for utility distribution system planning submissions and identified a set of information that the utilities are to submit to the Commission every two years.[15] The result of that decision was the submission by Xcel Energy of its distribution system planning document which covers the role of the distribution utility, its planning process, how it is becoming better integrated with other parts of the utility, and lays out a timeline of investments in the distribution system over the next 20 years. The plan provides the Minnesota Commission and stakeholders an idea of how these investments are plotted out over time, how each investment builds upon each other, and requires the utility to think more strategically regarding its investments in the distribution system. Finally, the submission provides transparency into Xcel's distribution planning process that informs the Commission and stakeholders about the distribution system, its needs and expectations, and how the role of the distribution system will evolve over the coming years.

Minnesota is not the only state considering more transparent distribution system planning processes. States such as California, Connecticut, New Hampshire, Ohio, Oregon, Colorado, Arkansas, and Michigan have all either opened investigations into developing distribution system planning requirements or have identified distribution system planning as an important topic for better understanding the evolving role of the distribution utility. Furthermore, NARUC recently created a new initiative in conjunction with the National Association of State Energy Officials called the Task Force on Comprehensive Electricity Planning (Task Force).[16] The purpose of this Task Force is to "develop new approaches to better align distribution system planning and resource planning processes."[17] According to NARUC, there are five benefits of comprehensive electricity planning:

- Improve grid reliability and resilience;
- Optimize use of distributed and existing energy resources;
- Avoid unnecessary costs to ratepayers;

[15] *In the Matter of Distribution System Planning for Xcel Energy*, "Order Approving Integrated Distribution Planning Filing Requirements for Xcel Energy," Docket No. E-002/CI-18-251 (August 30, 2018)
[16] "NARUC and NASEO Establish New Joint Task Force on Comprehensive Electricity Planning," NARUC (November 13, 2018). Available at: https://www.naruc.org/about-naruc/press-releases/naruc-and-naseo-establish-new-joint-task-force-on-comprehensive-electricity-planning/.
[17] *Id.*

- Support state policy priorities; and,
- Increase the transparency of grid-related investment decisions.[18]

Lastly, NARUC notes that "ensuring distribution system investments are right-sized and consider approaches such as non-wires alternatives can lower costs and offset supply-side needs."[19]

Like many Midwest states, Missouri has a relatively low amount of DER penetration across the state. As such, like the other Midwest states, Missouri has the time and opportunity to start now to set the stage for what the distribution system of the future will look like, what technologies will be necessary to support that system, and to educate stakeholders and the Commission on utility processes and plans for the future. Starting now will ensure that Missouri's distribution system will be organized and planned for using the necessary data to justify the investment decisions, and will be ready to efficiently integrate increasing amounts of customer-sited resources, such as solar+storage and electric vehicles, and identify opportunities for non-wires alternatives. This planning can help ensure that utility costs remain reasonable and do not result in excess costs borne by ratepayers for investments that prove unnecessary or unneeded.

III. **Complementing utility SB 564 investment plans.** The capital investment plans submitted by Ameren and KCP&L provide a listing of capital investments to be made by the utilities. Ameren submitted additional information regarding its strategy and principles that purport to support the investments. However, there is no vehicle for stakeholders to ask additional questions of the utilities regarding their existing planning processes, what is the current health of the existing distribution system, did the utilities consider alternative solutions such as non-wires alternatives, are the assumptions used by the distribution planners consistent with assumptions used by demand forecasts and IRP models, how did the utility identify these technologies as the ones to do now, how will the utility use these technologies as the foundation for the next round of distribution investments, and how are the utilities assuring

[18] "Task Force on Comprehensive Electricity Planning," NARUC (2018). Available at: https://pubs.naruc.org/pub/83CECF9B-91AB-2791-CD6D-FFBD459AFCC9.
[19] *Id.*

interoperability is maintained across utility operations. In regards to direct customer benefits, there are no cost-effectiveness tests or analysis provided by the utilities. Furthermore, there is no discussion of how these investments will integrate customer-sited resources, or provide customers and developers information about the utility system through a hosting capacity analysis, or how the existing interconnection process is used to inform the planning process or whether the interconnection process itself needs to be updated.

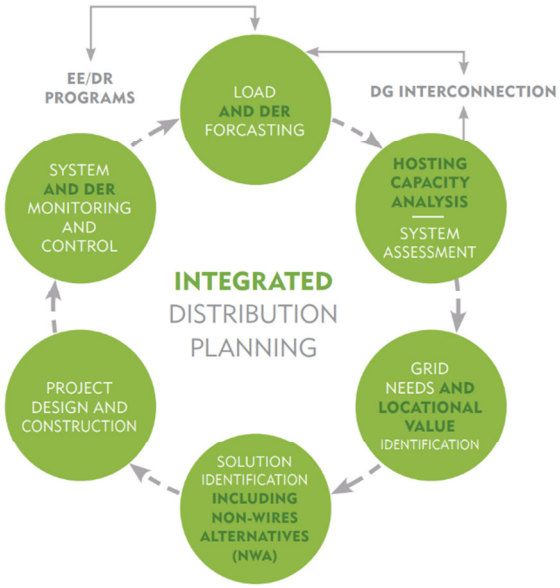
In short, the Commission has no process, framework, or guidance regarding a utility's distribution system planning process that can be used to inform these capital investment plans. NRDC requests that the Commission allow stakeholders greater opportunity to gather more information about utility distribution planning processes and bring more transparency to the process. This may include opening a proceeding to gather information about existing distribution planning processes of the utilities, and consider the development of a set of distribution system planning requirements that a utility is to provide on a regular basis to the Commission, or the expansion of an open proceeding. It is clear that the utilities expect to use these capital investment plans to guide future investment in the distribution system, but stakeholders and the public have no opportunity to learn more about the utilities' plans, their rationale for these investments, and whether these investments put the utilities on a path consistent with the goals of the state. These plans will help inform the Commission and stakeholders, but there is a clear need for a separate stakeholder process to engage with utility planners and allow for more detailed discussions to take place outside of a utility's rate case.

Ameren and KCP&L's capital investment plans have proposed over $6.5 billion in new capital investments over the next 5 years. At this point in time, the Commission and stakeholders have no assurances that these investments are prudent, aligned with the goals of the Commission and the state, are in fact the most cost-effective solution, how these projects were chosen, and how these projects help create a distribution system under evolution in response to declining costs of DER and increasing adoption of these resources by customers.

Moving forward - building on Staff's Report. As noted by Commission Staff in its Staff Report, "A holistic integrated distribution system planning process which incorporates forecasting and the effects of policy will indicate the specific engineering and technology changes to the grid."[20] The Staff held additional workshops to develop a new rule within Chapter 22 of the Commission's rules, and proposed several drafts, but the process remains uncertain as the Staff has not released a final rule. In any event, the proposed Rule was limited to analyzing the value and use of DER in utility IRP submissions. NRDC agrees (and agreed with Staff during the workshop process) that IRPs must start accounting for DER in its forecasts and models, but NRDC is requesting something different here. Specifically, NRDC is requesting the Commission to provide an opportunity, such as through a new rulemaking, to develop requirements for the submission of a distribution system plan for each utility. This plan would provide greater transparency into utility planning processes and ensure that investments in the distribution system are in alignment with other processes at the utility, that they are built upon sufficient data to support the need for the investment, and that these investments are not merely attempts to invest in new technologies for the sake of new technologies. NRDC agrees with the utilities that the distribution system is in need of upgrade, but we should be certain that these investments meet the real needs of the system, are sufficiently organized and integrated across the utility, and realize customer benefits.

To conceptualize an integrated distribution planning, GridLab issued a paper in 2018 that describes how functions such as forecasting, hosting capacity, enhanced interconnection processes, greater availability of data, more informed stakeholder engagement, and visibility into the distribution system are necessary to ensure that the grid is being planned and operated more efficiently.[21] This includes utilization of DER and an understanding of customer behavior with infrastructure investments so that the utility is not just investing in the next iteration of a product but is more proactively planning for the changes to the system.

[20] Staff Report at 39.
[21] "Integrated Distribution Planning: A Path Forward," GridLab at 8 (2018). Available at: http://gridlab.org/wp-content/uploads/2019/04/IDPWhitepaper_GridLab-1.pdf



This image represents the process for an integrated distribution planning effort, and notes that previously disparate planning processes must become integrated with the distribution planning process.[22] Notably, this identifies the need for energy efficiency and demand response to be, first, better included with load and DER forecasting, and then, second, for the forecasting process to include information from the interconnection process. From there, the process continues to ensure that the distribution planning effort makes use of all available data across the utility so that utility investments in the distribution system are meeting actual needs, based on actual data, and are not, instead, just investing in capital without regard to what is truly happening across the system.

To reach this point, stakeholders and the Commission have a need to first better understand existing utility distribution system planning. By understanding what utilities are currently doing and their current capabilities, the Commission and stakeholders will have a better sense of whether the identified investments in their capital plans are reasonable uses of ratepayer funds, and whether those investments put Missouri on a path towards a more efficient and optimized electricity system that minimizes customer costs but enhances customer value.

[22] *Id.*

In its Staff Report, Staff noted that "The Commission could also open a docket and order electric utilities to analyze their grids and identify areas where distributed generation and storage could be used to help alleviate congestion, as well as identify improvements to their distribution system that would be necessary to integrate distributed generation and storage."[23] With their capital investment plans it seems inescapable that the Commission will need to provide greater clarity on the organization of distribution system planning activities going on at the utilities. The request for over $6 billion over the next five years requires the Commission, and stakeholders, to have a better understanding of the utility decision-making process regarding those investments to ensure customers will receive the benefits from new investments and not be left holding the bag for poorly designed or misinformed utility forecasting which then leads to poor planning and investing in the distribution system.

Conclusion

The electricity grid is at the beginning stage of evolution, and the Commission has an opportune time to ensure that this evolution is better organized, transparent, built upon solid information, and appropriately lays the necessary foundation for the distribution system of the future, without sacrificing reliability. This calls for the Commission to consider existing utility planning processes and provide appropriate guidance for the future, with a focus on updating the grid of the future in a transparent, organized, and cost-effective manner.

[23] Staff Report at 18.