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Comments of the American Council for an Energy-Efficient Economy (ACEEE) on Minnesota Public Utilities Commission's "In the Matter of a Commission Inquiry into a Framework for Proactive Distribution Grid Upgrades and Cost Allocation for Xcel Energy"

(PUC Docket Number: E002/CI-24-318)

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The American Council for an Energy-Efficient Economy (ACEEE) welcomes the opportunity to provide comments on Minnesota Public Utilities Commission (MNPUC) Docket Number E002/CI-24-318, In the Matter of a Commission Inquiry into a Framework for Proactive Distribution Grid Upgrades and Cost Allocation for Xcel Energy.

ACEEE is an independent non-profit organization dedicated to advancing energy efficiency policies, programs, technologies, investments, and behaviors. ACEEE's transportation program provides data-backed research and technical support to bolster utility programs and policies that expand access to electric vehicle (EV) charging infrastructure, particularly in underserved communities. ACEEE has extensively engaged with utilities and commissions, including through our utility EV Working Group and fleet electrification support work for utilities and public utility commissions. ACEEE has also been participating in the Proactive Grid Upgrade Working group for this docket (E002/CI-24-318) as an observer since November 2024. Our comments provide feedback on Topics 1-4 as requested in the Notice of Comment Period document.

Topic 1: Should the Commission establish a framework for Proactive Distribution Grid Upgrades for Xcel Energy?

ACEEE supports MNPUC's proposal to set up a framework on Proactive Distribution Grid Upgrades for Xcel Energy. Proactive upgrades to the distribution system can help utilities plan for expected loads in the future from high energy use cases such as medium- and heavy-duty electric vehicles (MDHD EVs) and data centers. Loads from MDHD EVs will need to be planned for well in advance, since they can range widely, from a few megawatts (for a school bus) to 20-40 MW for electric truck depots.[1] A 2024 ACEEE analysis, Electric Loads by State in 2030 from Medium- and Heavy-Duty Electric Vehicles, estimated that in Minnesota, the expected daily electricity needed to charge MDHD EVs could be almost 3,000 MWh.[2] Electricity demand such as this, likely to come from concentrated fleet hubs across the state, will need grid upgrades such as new distribution circuits as well as new and/or expanded substations.[3] Proactive planning can ensure that the necessary infrastructure will be present when the power demand is actualized in Minnesota in the future. This can help prevent delays and let the utility

[1] https://www.aceee.org/toolkit/2024/08/utility-planning-electric-truck-and-bus-fleets-overview

[2] https://www.aceee.org/topic-brief/2024/08/electric-loads-state-2030-medium-and-heavy-duty-electric-vehicles

[3] https://www.aceee.org/toolkit/2024/08/utility-planning-electric-truck-and-bus-fleets-overview

take charge on planning for upgrades (which can take a long time depending on the complexity of the upgrades or the infrastructure required) instead of taking a case-by-case approach.

Another recent analysis on the long-term impact of proactively upgrading distribution substations found that proactive grid upgrades can be cost-effective in the long-run when planning for applications such as EVs.[4] Monetary savings, as a result of proactive upgrades, for the case studies analyzed in the study ranged from $10-13 million (for CenterPoint Energy Houston, Texas) to $20 million (for Con Edison, New York). Establishing a framework now will also provide time for the utility to learn from the initial rounds of upgrade proposals and improve upon the process.

Topic 2: Which requirements from the Draft Proactive Distribution Upgrade Framework, as outlined in Attachment A, should the Commission adopt?

ACEEE supports the commission adopting the following specific requirements from the Draft Proactive Distribution Upgrade Framework -

Section C: Process

C3: ACEEE supports that the utility's proposal aligns with the proposed framework and that the Commission complete their review in no less than 12 months of the utility's initial filing. The 12-month deadline would give the utility planning certainty regarding whether they can move forward or not with their proposed upgrades. The 12-month time limit will help minimize cost changes in the budget due to the passage of time between the initial filing and project implementation due to external factors (such as inflation and tariffs).

C9: ACEEE supports the commission convening a Phase 2 for the proactive grid upgrade working group to continue refining the proactive planning process. Since the proactive planning process will be new for both the utility and the Commission, Phase 2 can help the utility and commission staff improve upon the processes developed under Phase 1 by incorporating lessons learned and addressing any challenges identified.

C10: ACEEE supports all listed requirements (C.10.a-C.10.e) for the stakeholder engagement and outreach process as part of the proactive upgrade proposal. The involvement of stakeholders is critical so that they can understand how the upgrades might impact them, especially around rate changes and disruptions (if any) due to upgrades, and also provide feedback on the initial forecast and proposed locations. Large commercial stakeholders can help identify and confirm anticipated demand in geographic areas that a utility may overlook. Stakeholders should be engaged as equitably as possible through strategies such as providing information in multiple languages and conducting outreach events in different formats (such as in-person and virtual meetings).

Section E Forecast

ACEEE supports all the forecast requirements currently in the proposed framework (E.1-E.6). The forecast requirements cover the necessary information required to start building a well-informed forecast. The inclusion of DER components in the forecast model will be particularly critical due to the grid resiliency and load management (through reducing peak demand) benefits DER can provide if implemented correctly. When developing the forecast, the utility should consider further differentiating

[4] https://www.edf.org/media/new-study-suggests-preparing-grid-now-electric-trucks-buses-can-save-ratepayers-money

EV use cases such as light-, medium- and heavy-duty EVs because the type of upgrade needed may differ significantly. Depending on the MDHD use cases EVs, the DER technology that could potentially be used for load management might differ. For example, the utility could also consider vehicle-to-grid (V2G) as a DER component in their forecast for school buses, to the extent possible. Virtual power plants and battery energy storage are also emerging load management solutions that are being explored for MDHD EVs.

Section F Potential Sites for Proactive Upgrades

ACEEE supports the proposed requirements for this section that have been detailed in subpoints F1-F8. The details specified in the framework will help the Commission make an informed decision on the need for proactive upgrades at each proposed location while also helping the utilities establish a procedure for selecting sites for future upgrades as described in section G. Given that proactive grid planning is new, the process can be iterative and improved upon in Phase 2 - if the Commission finds that details currently covered under this section are not sufficient or could be modified.

Including details for F.6.h in this section on quantitative or qualitative level of confidence of the forecasted need will be an important part of ensuring that any upgrades for projects selected will not be at risk of becoming stranded assets and that the utility will be able to recover associated costs.

Section G Proactive Upgrade Proposal Evaluation Criteria

ACEEE supports the proposed criteria G1-16 and would like to emphasize the following criteria:

G5 Risk of deferring upgrade: Details on what will happen if upgrades are delayed will help justify the need for the proposed upgrade at any location. The Commission will be able to assess how many customers will be negatively impacted. This description could also include a qualitative discussion on the type of impact anticipated whether it be for residential customers or commercial customers (depending on the location of the proposed upgrade project). If the risk of deferring the upgrade will be large, the utility could also consider connecting the impact on any relevant state electrification goals.

G7 Degree of certainty: Assessing a proposed evaluation criteria based on the confidence levels regarding the need for an upgrade will ensure that Commission does not approve projects that risk creating stranded assets and wasting resources. Working with stakeholders as outlined under the stakeholder engagement will be a key part of this.

G10 Impact on communities: Providing details on the impact of proposed upgrades, including on environmental justice (EJ) communities will be important in assessing whether the project will have negative or positive benefits. Impacts described as part of this could include impacts on quality of life. If the proposed upgrade will be a part of electrification efforts that switch out fossil fuel technology, qualitative and/or quantitative descriptions on the benefits related to emissions reductions and health could be discussed. Emphasizing relevant benefits in EJ communities will be critical due to general trends of historic disinvestment in these areas. In some cases, the utility may find that even if proposed upgrades are not located in EJ communities, these communities may still benefit from the proposed upgrades such as by benefitting from reduced truck emissions from electric trucks that charge elsewhere but drive through the community.

Section J. Cost Recovery Mechanism

ACEEE supports option J1 which would allow the utility to place the grid upgrade investments as regulatory assets. Doing so will help the utility recover costs from ratepayers through rates in the future for the investments made. Ratepayers will also benefit from this approach since placing the investments

as regulatory assets can help prevent short-term price increases for customers by allowing the cost to be recovered over a longer period.

Section K: Cost Allocation

ACEEE takes no position on the different cost allocation options in this section in K1-K20, deferring to the utility with their experience in setting rates. ACEEE does however support that the standalone options K24, K25, and K26 be adopted in conjunction with whichever options are selected between K1-K20. K24 and K25 will help the utility track costs based on the primary intended users of the grid upgrades. Given that upgrades from residential customers versus larger commercial customer may vary in scale, this would ensure that costs upgrades brought about by larger loads from industrial and commercial customers are not misattributed to residential customers. K26 will help alleviate the cost burden for customers that cannot manage the resulting cost increases thereby ensuring that all customers, regardless of their economic status, are able to benefit from proactive grid upgrades.

Section L: Capacity Reservation

ACEEE generally supports the need to reserve a portion of capacity for certain classes of customer given that this need can be sufficiently demonstrated by the utility. Given sufficient confidence in the forecasting model and as determined from stakeholder engagement, reserving capacity would ensure the anticipated load from large commercial customers or multiple customers within the same area will be met in the future. Although not specified in the framework, the Commission could also consider reserving capacity within the same geography for anticipated demand from different customers (based on load forecasts and engagement). Reserving capacity for multiple customers within the same geography could help ensure that no one customer would be deprioritized in favor of another, especially if multiple customers attempt to officially request energy upgrades when they are ready to do so in the future.

Topic 3: Does the Draft Framework address the following topics from the Commission's September 16, 2024, Order in Docket E002/M-23-452?

b. How to ensure any proactive upgrades are distributed in an equitable manner throughout a utility's service territory?

While the draft framework does attempt to include environmental justice considerations in the criteria for selecting proactive upgrade projects and sites, the framework does not propose any minimum standards, scoring thresholds, or qualitative rubric by which the equitable distribution of proactive grid upgrades will be assessed. Future iterations of the proactive upgrade framework (through Phase 2) can consider a minimum percentage of projects or proportion of benefits realized from the upgrades that will occur in EJ communities based on Minnesota's goals and/or relevant policies. These could also account for projects that would most positively impact EJ communities through proactive upgrades.

f. How to determine where and when there is a need for proactive upgrades using forecasted DER and load adoption?

The proposed framework provides sufficient details on what the utility should include when forecasting for load adoption. The stakeholder engagement process outlined in the process, in particular, will be

critical in informing the need for these proactive upgrades, their locations, and importantly, provide some confidence in need for the upgrades.

While the framework provided a general guidance on combining forecasts DER with load adoption, the following are some specific examples that the utility could consider: For electric buses use cases, the utility may integrate the load management benefits of DER technology such as vehicle-to-grid in their adoption model for school buses when forecasting the power demand. In the case of forecasts for electric truck fleets, the utility may consider how battery storage or on- or off-site solar generation DER solutions may mitigate instantaneous load demand from multiple vehicles charging at once.

Topic 4: Should the Commission establish Phase 2 of the Proactive Distribution Grid Upgrade Proceeding as proposed in Attachment B, and if so, what should the scope and timeline be?

As mentioned in earlier sections, ACEEE supports the commission establishing Phase 2 for the Proactive Distribution Grid Upgrade Proceeding. Phase 2 should also re-convene the working group for interested parties in order to continue refining the process. ACEEE takes no position on the timing for the commission's decision by either Q2 or Q3 of 2027.

The following topics listed in Attachment B of the framework will be of particular importance in Phase 2: 1) Advanced cost allocation and cost recovery methodologies, including export tariffs, and 2) Additional discussion on system wide capacity reservations. Implementation of the framework developed in Phase 1 will help identify any challenges when allocating costs and reserving capacity. Specific issues to be resolved in Phase 2 will depend on the final options for the framework selected in this round. At the very least, the utility will have insights into the processes for capacity reservation. Any additional considerations for EJ and disadvantaged communities should also be explored in Phase 2.

ACEEE also encourages the commission to take a peer-learning approach in Phase 2, to the extent possible, by inviting presentations from utility and commission experts who have worked on or are currently working on proactive grid upgrade and other similar grid modernization plans in other states. Eversource Massachusetts's 2024 Electric Sector Modernization Plan is one example of a plan that details future investments in distribution upgrades including the considerations of DERs.[5] New York state is currently also pursuing its own proactive grid proceedings (Docket 24-01242).[6]

[5] https://www.eversource.com/content/docs/default-source/default-document-library/eversource-esmp%20.pdf

[6] https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=24-E-0364