STATE OF MAINE
PUBLIC UTILITIES COMMISSION

MAINE PUBLIC UTILITIES COMMISSION Proceeding to Identify Priorities for Grid Plan Filings Docket No. 2022-00322	**JOINT COMMENTS OF ACADIA CENTER, CONSERVATION LAW FOUNDATION, MAINE CONSERVATION VOTERS, NATURAL RESOURCES COUNCIL OF MAINE, AND THE UNION OF CONCERNED SCIENTISTS** August 1, 2023

On November 1, 2022, the Public Utilities Commission ("Commission") initiated a Proceeding to Identify Priorities for Grid Planning Filings pursuant to LD 1959, An Act Regarding Utility Accountability and Grid Planning for Maine's Clean Energy Future, Public Law 2022, Chapter 702.[1] On January 6, 2023, the Commission issued a procedural order in that case, Docket No. 2022-00322, to establish the initial process for the proceeding and invited individuals or entities to submit written comments on the issues in the proceeding "at any time during the proceeding." Acadia Center, Conservation Law Foundation, Maine Conservation Voters, the Natural Resources Council of Maine, and the Union of Concerned Scientists share a strong interest in utility planning as a vehicle for ensuring that investments in the grid serve Maine state obligations to reduce greenhouse gas (GHG) emissions and achieve the climate change and clean energy requirements of Title 38, section 576-A and section 577, subsection 1 and of Title 35-A, section 3210, as cost effectively, quickly, and equitably as possible. To that effect, we appreciate this opportunity to provide input and jointly offer the following comments for the consideration of the Commission and interested parties.

[1] Available at http://www.mainelegislature.org/legis/bills/display_ps.asp?ld=1959&PID=1456&snum=130.

As discussed in greater detail in our comments below, we urge the Commission in developing its integrated grid planning directive to:

- Engage technical experts with experience in grid planning to support Commission staff in developing the procedural and substantive requirements for the grid plans.
- Develop a framework to ensure achievable, short-term planning priorities serve longer-term policy goals.
- Use memos and straw proposals to help forge consensus and move the stakeholder proceedings forward.
- Include clear process requirements in the planning directive to enable continued independent review and stakeholder input.
- Use the substantive filing requirements from other states as a starting point for developing the integrated grid planning directives to utilities.
- Develop and distribute for stakeholder feedback a decision-making framework for CMP's July 17, 2023, straw proposal and hold a workshop to discuss the proposal.

These steps will help ensure that the Commission acts quickly to reform Maine's grid planning practices to address the climate crisis.[2]

I. Engage technical experts with experience in grid planning.

We urge the Commission to not delay further in engaging qualified technical expertise with demonstrated experience in grid planning to support staff in developing both the process and the substantive requirements of integrated grid planning for Maine's utilities. The enabling legislation, LD 1959, provided allocations for one staff attorney and two utility analysts. It also

[2] We also reiterate our comments in the *Commission Inquiry into the Process to Identify Priorities for Grid Plan Filings*, Docket No. 2022-00290, which are incorporated by reference: Joint Comments, October 3, 2022, available at: https://mpuc-cms.maine.gov/CQM.Public.WebUI/Common/ViewDoc.aspx?DocRefId={FDF033ED-0E4A-408A-95A5-E1955002AD21}&DocExt=pdf&DocName={FDF033ED-0E4A-408A-95A5-E1955002AD21}.pdf; Joint Reply Comments, October 17, 2022, available at: https://mpuc-cms.maine.gov/CQM.Public.WebUI/Common/ViewDoc.aspx?DocRefId={6F69E670-6092-466C-AFDA-154EF357F515}&DocExt=pdf&DocName={6F69E670-6092-466C-AFDA-154EF357F515}.pdf.

required an assessment of the additional staff and resources that the Commission would need to comply with the integrated planning provisions. That assessment, reported to the Legislature on December 1, 2022, identified needs for: consulting assistance to provide technical assistance, consulting assistance to assist in stakeholder facilitation, and a new full-time staff position with a background in electrical engineering.[3] The Commission should act promptly on its own recommendation to hire and engage the technical expertise it needs to ensure timely success in this work. Related contracting decision criteria should be vetted transparently with stakeholders.

II. Develop a framework to ensure achievable, short-term planning priorities serve longer-term policy goals.

After hosting three introductory conferences in which parties provided background information on current policy and planning practices in Maine and other states, the Commission issued a procedural order on May 18, 2023. In that order, the Commission communicated its decision to set aside the broader stakeholder conversation in order to move ahead with technical working groups focused on three specific topics: Forecasting, Solutions Evaluation Criteria, and Data Availability/Collection. We recognize there was broad agreement among participants that these topics, among others, involve pertinent questions that will need to be clarified prior to the Commission's planning directive, and therefore it made sense to move forward with these technical discussions.[4] However, we are concerned that there remain important issues for discussion at a general level to facilitate the specific working group assignments and identify priorities on short-, medium- and longer-term timelines.

[3] https://legislature.maine.gov/doc/9352.

[4] Though each of these working groups has met at least once, subsequent meetings have been canceled and not rescheduled. To ensure an accessible and transparent process, in which non-utility stakeholders can meaningfully participate, the Commission should reschedule these meetings.

For example, there is a clear tension in the working group conversations between the minimum filing obligations needed to satisfy the statutory requirements for this first iteration of grid planning and the ambitious longer-term statutory goals to collaboratively develop grid plans designed to achieve "a cost-effective transition to a clean, affordable, and reliable electric grid." To help resolve this tension, we recommend that the Commission, facilitators (Electric Power Engineers or EPE), and/or additional expert contractors work from that top-line goal to unbundle the multiple interrelated policy, pricing, and technology advancements that need to be implemented and phased in over varying timeframes and by different sets of actors to arrive at our longer-term goal of a participatory, resilient, affordable, flexible, and decarbonized grid of the future. This could take the form of a Gantt chart, for example, as used in grid planning proceedings in Oregon and Minnesota and shared previously in this proceeding (see example below), or another type of illustrative table, or it could be described in text. Whatever the form, this framework would be modified over time, updated to reflect market dynamics, new information and learning, policy developments, implementation realities, etc. Importantly, it would provide a time-integrated roadmap over three to four planning iterations to help us sequence and phase in interventions to pragmatically address known obstacles in a systemic way and identify the priorities that are both incremental and achievable today, but which also put us on a path toward our long-term objectives.

An example of what this could look like is included in the graphic below from Xcel's 2021 Integrated Distribution Plan in Minnesota that focuses on grid modernization investments (Figure 1) (Minnesota utilities are vertically integrated).[5] For our purposes, a similar chart could

[5] Xcel Energy 2021 Integrated Distribution Plan, Docket No. E002/M-21-694, November 1, 2021, Appendix B1, Pg 6, available at https://www.edockets.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={2018DC7C-0000-C41B-992F-7ED95D99A9EE}&documentTitle=202111-179347-01.

be oriented more holistically and more granularly as needed, for example to include existing obligations and workstreams related to: advanced rate design, time-series modeling, public and private sector distributed energy resource management system or DERMS load management applications, EV policy and infrastructure, etc. It could also incorporate targets for implementing the recommendations in the Distribution System Roadmaps developed for Versant Power (Versant) and Central Maine Power Company (CMP) by consultant EPE in the grid modernization proceeding (Docket #2021-00039).[6]

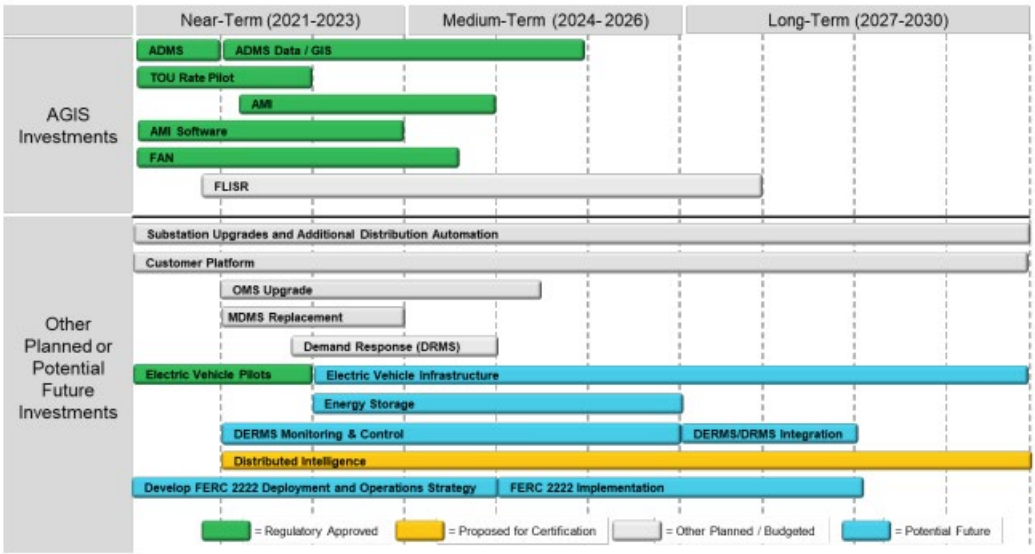

Figure 1. Illustrative Long-Term Grid Modernization Plan from Xcel Energy's 2021 Integrated Distribution Plan in Minnesota.

[6] Regarding EPE's distribution system roadmaps, while utilities filed a status update in this proceeding as requested by the Commission (Docket #2022-00322, items #50 and #51), that information was never presented to nor discussed by stakeholders. Given that numerous parties supported the idea that EPE's recommendations should provide an entry point for integrated grid planning, we urge the Commission consider organizing a related discussion to allow for vetting by stakeholders, EPE and/or an additional technical consultant to help evaluate the implementation progress, persistent gaps, and opportunities to expand, synchronize and clarify grid modernization recommendations. Moving forward, it may make sense for utilities to file the grid modernization reports in the integrated grid planning docket, as is done in Minnesota among other states.

III. Use memos and straw proposals to help forge consensus and move the stakeholder proceedings forward.

In its January 6, 2023, procedural order, the Commission stated that it "intends to issue memos at various points in the process identifying areas of apparent consensus on the priorities and allow stakeholders to file written comments on them." We strongly encourage the Commission to utilize this approach as a way to solicit practical, focused, and timely input to move us toward the proposed deadline of winter 2023-2024 for issuing a final planning directive to the utilities. We also encourage the Commission and/or facilitators to post and distribute meeting agendas and materials in advance of each meeting so that participants have time to review and prepare.

IV. Include clear process requirements in the planning directive.

The Commission's planning directive to the utilities should include both substantive issues as well as process requirements to enable continued independent review and stakeholder input throughout the planning process. These requirements should include regular and clearly specified procedures for input and review by the Commission staff, the public, independent experts, and other stakeholders both within the 18-month period within which the utilities must develop the plans and within the 5-year interim between planning cycles during which the plans must be implemented. Independent and ongoing reporting and vetting by stakeholders will be crucial to establishing an inclusive and effective integrated grid planning process and should be included as one of the "methods… that will assist the covered utility in developing a grid plan" to comply with the statutory requirements of Title 35-A, section 3147.

Staff can look to other states for lessons on the categories that should be included in a planning directive to the utilities. For example, Hawaii's Integrated Grid Planning (IGP) process

consisted of several sequenced efforts: 1) identifying forecasting and input assumptions (planning requirements like reliability, hosting capacity, fuel costs, retirements, customer needs, and policy goals); 2) identifying resource, transmission, and distribution needs (Hawaii is vertically integrated); 3) identifying solutions (including procurements, pricing solutions, and specific programs); 4) and evaluating and optimizing solutions.[7]

In addition to substantive requirements, the Hawaii Public Utilities Commission (PUC) established explicit stakeholder engagement and review requirements throughout the planning process.[8] In other words, once the planning directives were issued, the independent review and input process did not end; rather, it continued to be a central component throughout the entire planning process. This helps to ensure greater buy-in and collaboration among stakeholders. Like the Hawaii PUC, staff should establish clear requirements for regular stakeholder input and review, as well as independent evaluation by third-party expertise, during the 18-month utility planning process in this proceeding. The Hawaii PUC required regular stakeholder review and feedback throughout the planning process from the general public, a permanent stakeholder council, working groups, and a Technical Advisory Panel of independent experts. Separate working groups were established for a range of topics, including forecast assumptions, resilience, distribution planning, standardized contracts, grid services, solution evaluation and optimization, and competitive procurement. These working groups were essential for identifying gaps, developing consensus, and enabling greater transparency and independent vetting. Importantly,

[7] Hawaii Electric, Integrated Grid Planning Stakeholder and Community Engagement landing page, on September 1, 2022, at https://www.hawaiianelectric.com/clean-energy-hawaii/integrated-grid-planning/stakeholder-and-community-engagement.
[8] Hawaii Public Utilities Commission, Docket No. 2018-01265, Order No. 35569 Instituting a Proceeding to Investigate Integrated Grid Planning.

the utilities were required to explicitly show at regular intervals how stakeholder feedback informed the planning work as it was in development.

The standing bodies in the Hawaii IGP could serve as a model for Maine. Hawaii's 20-member Stakeholder Council met quarterly to provide a forum for updates and feedback throughout the planning process and to identify priority issues for ad hoc working groups to explore in more detail. Stakeholder Council participants included city and county representatives; community delegates; consumer advocates; representatives for demand response, electric vehicles, energy storage, and energy efficiency industries; solar developers; generators; industrial customers; state planning agencies; and environmental organizations, among others. The Stakeholder Council was facilitated by the utility, but the Commission set strong guidance and protocols for participation. The Technical Advisory Panel was comprised of industry expert volunteers who provided independent peer review of the grid planning process, methodologies, tools, and the results of modeling and other technical analyses. In response to input from the Technical Advisory Panel, for example, the Commission required the utility to change its assumptions related to Distributed Energy Resource (DER) forecasts, load and peak forecasts, energy efficiency resource costs, and its reliability planning criteria, and the utility made significant changes to its Grid Needs Assessments.

The importance of independent review on a regular timeframe is reflected in the Hawaii PUC's guidance on forecasting: "Hawaiian Electric's forecast should be integrated into the overall IGP planning process through a series of feedback loops so that the forecast is not simply conducted once per cycle but is used as a tool to iteratively inform needs identification and solution evaluation."[9]

[9] Hawaii Public Utilities Commission, Docket No. 2018-0165, November 5, 2020, Instituting a Proceeding To Investigate Integrated Grid Planning. Order No. 37419, *Providing Guidance*, at 9.

In addition to Hawaii, staff can also look to examples of process specifications from the 19 other states and Washington DC, that have grid planning requirements as presented to stakeholders in this proceeding by the Department of Energy Lawrence Berkeley National Lab on April 25, 2023 (item #45). In Minnesota, for instance, Xcel Energy's integrated distributed system planning process is guided by the following principles and planning objectives:

- Maintain and enhance the safety, security, reliability, and resilience of the electricity grid, at fair and reasonable costs, consistent with the state's energy policies.
- Enable greater customer engagement, empowerment, and options for energy services.
- Move toward the creation of efficient, cost-effective, accessible grid platforms for new products and services, with opportunities for adoption of new distributed technologies.
- Ensure optimized use of electricity grid assets and resources to minimize total system costs.
- Provide the Commission with the information necessary to understand Xcel's short-term and long-term distribution system plans, the costs and benefits of specific investments, and a comprehensive analysis of ratepayer cost and value.

Xcel is required to file a 10-year integrated distribution plan annually on November 1, and the PUC accepts or rejects that plan by June 1 of the following year. Xcel is required to hold at least one stakeholder meeting prior to filing and seek input on load and DER forecasts, proposed five-year distribution investments, and anticipated capabilities and consumer benefits resulting from those investments. The PUC has a comment period after the filing and holds an additional stakeholder meeting, if needed.

V. Use the substantive filing requirements from other states as a starting point.

Looking at the substantive requirements of planning directives in other states with experience in grid planning can offer staff with a useful starting point for developing a straw proposal of the filing requirements for Maine's utilities. For instance, Minnesota PUC's Order Approving Integrated Distribution Planning Filing Requirements for Xcel Energy (Docket No. E-002/CI-18-251),[10] a copy of which was noted in the June 30, 2023, Procedural Order in the instant proceeding (item #57), provides a straightforward list of filing requirements organized into five categories:

A. Baseline Distribution System and Financial Data
B. Hosting Capacity and Interconnection Requirements
C. Distributed Energy Resource Scenario Analysis
D. Long-Term Distribution System Modernization and Infrastructure Investment Plan
E. Non-Wires (Non-Traditional) Alternative Analysis

These categories of data, and the specific substantive requirements within them, are designed to help build a case connecting forecasting to grid needs assessment to capital planning.

In terms of the specific substantive requirements, Xcel is required to file detailed distribution system, financial, and DER data that should be considered by the Data Availability and Collection working group. Distribution system data includes 25 specific items, such as physical elements (# of systems, miles of distribution wires, substation and transfer capacity), costs, and energy savings and peak demand reductions resulting from DER deployment. Financial data includes historical spending in at least seven different categories for the past five

[10] MINNESOTA INTEGRATED DISTRIBUTION PLANNING REQUIREMENTS FOR EXCEL ENERGY, Docket E002/CI-18-251, August 30, 2018, available online at: https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId=%7bF05A8C65-0000-CA19-880C-C130791904B2%7d&documentTitle=20188-146119-01.

years, projected spending in these categories for the next five years, non-Xcel distribution system upgrades and locations, planned distribution capital projects, and a cost-benefit analysis of those projects. In addition, Xcel is required to provide data on current DER deployment by type, size and geographic dispersion, areas of existing or high-forecasted DER penetration, and areas with existing or forecasted abnormal voltage or frequency issues that may benefit from using advanced invertor technology.

Xcel is also required to file:

- An annual hosting capacity analysis that identifies interconnection points and necessary distribution upgrades to support continued DER deployment.
- A DER analysis that includes a base case, medium, and high scenarios for DER penetration that reflect a mix of individual and aggregated/bundled DERs, dispersed geographically across their service territory. They are also required to provide information on the methodologies, processes and tools needed to integrate higher levels of DERs, system impacts and benefits, potential barriers to adoption, the types of system upgrades needed, and the anticipated impacts of FERC Order 841 and FERC Docket RM-18-9-00.
- A long-term distribution system modernization and infrastructure investment plan that includes a 5-year action plan that includes 12 specific elements and a long-term plan that includes a discussion of Xcel's vision for planning, development, and use of the distribution system over the next 10 years based on internal business plans and DER futures scenarios and the anticipated impacts of the 5-year action plan.

- A non-wires alternatives analysis that identifies all projects in the next five years with a total cost of greater than $2 million and to provide an analysis of how NWAs compare on viability, price, and long-term value.

VI. Preliminary Comments on CMP's July 17, 2023, Filing Entitled "Needs Categorization and Solutions Evaluation Scorecard"

The planning context for the various components discussed in CMP's July 17, 2023, filing (i.e., scenario analysis, grid needs, scorecard, evaluation criteria, etc.) needs definition. The Commission should develop and distribute for stakeholder feedback a decision-making framework to explain these components, what they are and how they work together, in advance of a workshop to discuss CMP's straw proposal. Questions such as the following need clarity before CMP's proposal can be evaluated: What modeling and modeling tools will the scenario analyses employ? How will the modeling exercises move us toward dynamic time-series analysis (which many parties agree is needed to identify tailored, cost-effective solutions)? How will the scenario analysis results be used to inform an assessment of grid needs? What "solutions library" or what categories of solutions will be considered to address grid needs? How are non-wires solutions accounted for? How would the proposed "scorecard" be used to prioritize projects for capital planning? How would this work in practice using an illustrative example? How will the output of this planning exercise feed into current capital planning policies and practices and into future rate cases? What are the implications of this decision-making framework for customer and third-party participation, ownership models, and innovation generally?

In its filing, CMP proposed three grid plan scenarios: Baseline, High-Penetration, and High-Certainty. It is unclear what the difference is between the "Baseline" and "High-Certainty" scenarios, nor what additional insights a "High-Certainty" scenario would provide. For

comparison, the Hawaii Integrated Grid Plan included 10 scenarios to help identify grid needs (see Table 1 below), which may serve as a model for consideration, even though not all may not be relevant to Maine as a restructured state.[11] As the table suggests, it may be more useful for scenario analyses to consider specific conditions, such as fuel costs, technology price declines, consumer costs, rate designs, supporting policies, etc., that would potentially affect adoption rates, locations, and technologies, and in turn affect grid needs. Ideally this work would build on existing modeling efforts, align with related assumptions, whether as part of the Maine Climate Council update to the Climate Action Plan or the so-called deep decarbonization study underway at the Governor's Energy Office, which was discussed in Stakeholder Workshop 2 on March 23, 2023. In contrast, CMP's slides #5-8 seem to suggest that high priority should be assigned to no regrets or high-certainty futures in which DER is adopted more slowly than current state goals would necessitate.

[11] Hawaii Powered Integrated Grid Plan, Hawaiian Electric, May 2023, p. 86, https://hawaiipowered.com/igpreport/IGP-Report_Final.pdf.

Modeling Scenario	Purpose
Base Electricity Demand	Reference scenario.
Land-Constrained	Understand the impact of limited availability of land for future solar, onshore wind, and biomass development.
High Electricity Demand	Understand the impact of customer adoption of technologies for DER, EVs, EE, and TOU rates that lead to higher loads.
Low Electricity Demand	Understand the impact of customer adoption of technologies for DER, EVs, EE, and TOU rates that leads to lower loads.
Faster Technology Adoption	Understand the impact of faster customer adoption of DER, EV, and EE.
Unmanaged Electric Vehicles	Understand the value of managed EV charging relative to unmanaged.
DER Freeze	Understand the value of the distributed PV and BESS uptake in the Base forecast. Informative for program design and solution sourcing.
Electric Vehicle Freeze	Understand the value of the electric vehicle's uptake in the Base forecast. Informative for program design and solution sourcing.
High Fuel Retirement Optimization	Understand the impact of higher fuel prices on the resource plan while allowing existing firm unit to be retired by the model.
Energy Efficiency Resource	Understand the value of energy efficiency as a resource. Informative for program design and solution sourcing.

Table 1. List of Modeling Scenarios from Hawaiian Electric's 2023 Integrated Grid Plan.

We appreciate the opportunity to provide our input at this juncture and look forward to continuing to support the Commission in taking urgent action to reform Maine's grid planning practices to address the climate crisis.

Respectfully submitted,

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