STATE OF MAINE
PUBLIC UTILITIES COMMISSION

Docket No. 2022-00322

January 31, 2024

MAINE PUBLIC UTILITIES COMMISSION
Proceeding To Identify Priorities for Grid Plan Filings

VERSANT POWER WRITTEN COMMENTS TO THE DECEMBER 21, 2023 PROCEDURAL ORDER

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1 EXECUTIVE SUMMARY

1.1 INTEGRATED GRID PLANNING IN MAINE

Maine law states that Integrated Grid Plans ("IGP") should be designed to improve system reliability and resiliency and enable the cost-effective achievement of the greenhouse gas ("GHG") reduction obligations and climate policies of the State. Versant Power ("Versant" or the "Company") is committed to working with the Maine Public Utilities Commission (the "Commission") and our stakeholders to ensure that our IGP helps deliver these outcomes for the communities we serve and our customers. At the start of the stakeholder process nearly a year ago, Versant presented six key considerations[1] that are still important today.

1. **Create Alignment:** Define the scope of the IGPs and the process for analyses and outcomes.
2. **Establish Assumptions:** Identify key inputs to the model (assumptions for electric load, supply, energy efficiency, etc.).
3. **Build an Evaluation Framework:** Determine how to compare solutions and measure the value and costs to our customers and the State, among other considerations.
4. **Hold Outreach and Educational Sessions:** Educate interested people so that they can effectively and efficiently participate.
5. **Invite People in Thoughtfully to Provide Input:** Help make it easy and convenient for people to get involved and provide meaningful input**.**
6. **Define the IGP and Related Work Products:** Start with the end goals in mind to help ensure that the process produces clear and actionable plans**.**

To ensure the success of the utility IGPs, Versant believes it to be crucial that stakeholders agree on the scope, inputs, process, and outcomes of the IGP before our engineers begin the utility-led IGP process. Thus far, the stakeholder process has facilitated helpful discussion on important topics. We are hopeful that Versant's comments presented here will inform and clarify the scope and assumptions for the IGP as described in the Commission's forthcoming order.

1.2 VERSANT'S APPROACH TO INTEGRATED GRID PLANNING

Versant is experienced in conducting transmission and distribution ("T&D") planning to ensure the grid can always provide safe and reliable service to our customers. We anticipate reviewing and adapting our planning processes to undertake Integrated Grid Planning. Versant is actively participating in the Commission-led stakeholder engagement process and will transition to a utility-led process for developing the IGP upon receiving an order from the Commission. Versant

[1] Docket 2022-00322, *Current and Proposed Integrated Grid Planning Practices*, Versant Power, February 3, 2023, p. 14.

looks forward to clear direction from the Commission before the utility-led process begins. Figure 1[2] illustrates the basic utility-led IGP process we envision.

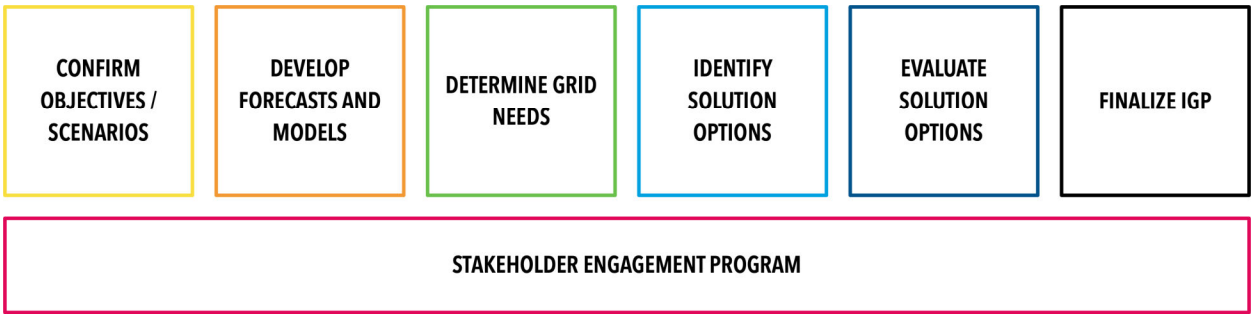

Figure 1. Utility-led IGP process overview.

The following summarizes our current planning approach, and highlights adaptations for the IGP.

Confirm Objectives / Scenarios

- Ensure the scope and assumptions of the IGP have been discussed and agreed upon by stakeholders.

Stakeholder Engagement Program

- Consultations and stakeholder meetings on relevant technical IGP topics and information including technical workshops.
- Ongoing Commission proceedings.
- IGP information, progress reports, and opportunities for comment available via Versant's website
- Community meetings and broad-based outreach to facilitate two-way communication with the public and customers.
- Technical solutions reviews.
- Preliminary IGP reviews.
- Ongoing public communications and engagement during IGP implementation.

Develop Forecasts and Models

Current Approach

- Models are digital representations of the electric grid (current and future).
- Load and supply forecasts are applied to grid models.
- ApsSubstation meter data are applied to crosscheck local T&D flows.
- Focus on the worst-case conditions—PEAK load and LIGHT load.

[2] This approach is based on the Comprehensive Electricity Planning Process developed by the National Association of Regulatory Utility Commissioners ("NARUC") and the National Association of State Energy Officials ("NASEO") (together "NARUC-NASEO").

- Versant uses the ISO New England ("ISO-NE") Capacity, Energy, Loads, & Transmission ("CELT") Report for regional Transmission forecasts.

IGP Adaptations

- Develop multiple load and supply forecasts including "baseline" and "high Distributed Energy Resource ("DER")/electrification."
- Test sensitivities for adoption of electrification and DERs from state and local assumptions (scenarios).
- Additional load and DER profiles (e.g., seasonal, weather, time-of-day).
- Increase resolution of load and DERs in the Distribution models.

Determine Grid Needs

Current Approach

- Long-term planning studies for T&D are done independently.
- Focus on Versant's Planning Criteria and NERC[3] Standards for Bulk Transmission.
- Bulk Electric System coordination with ISO-NE, Northern Maine Independent System Administrator ("NMISA"), and New Brunswick Power ("NB Power").
- Asset Management Plans (ongoing).
- In recent years, low-load growth led to most grid needs coming from Asset Management Programs.

IGP Adaptations

- Tighter coordination of T&D analysis to reveal grid needs.
- More comprehensive analysis of distribution circuits.
- Probabilistic analysis in addition to worst-case analysis.
- Electrification load growth and high-penetration DERs will likely require more distribution system upgrades.

Identify Solution Options

Current Approach

- Develop T&D solutions that prevent planning criteria violations (e.g., overloads, low voltages, loss-of-load).
- Model each solution and test its performance under worst-case conditions (i.e., PEAK load and LIGHT load).

IGP Adaptations

- Discuss grid needs with communities and third parties earlier in the process to explore potential solutions.
- Consider combinations of traditional and non-wires solutions ("hybrid" solutions).

[3] North American Electric Reliability Corporation ("NERC").

- Maintain greater communication with stakeholders throughout the planning process to optimize solutions and timing.

Evaluate Solution Options

Current Approach

- All solutions must meet existing planning criteria and standards.
- Select the best value option ("least-cost, best-fit").
- Recommend the best value project for inclusion in an upcoming capital plan.

IGP Adaptations

- Consider additional criteria including facilitation of electrification and DERs, equity, environmental justice, and flexibility.
- Compare all options using a standard evaluation framework established by the Commission. Versant plans to share the results with stakeholders.
- Elicit feedback and ideas to improve the long-term value of a portfolio of solutions.

1.3 RECOMMENDATIONS

The following are Versant's specific requests or recommendations for the ongoing IGP and stakeholder processes.

- The Commission needs to identify and prioritize goals for the utilities to use in preparing the IGPs.
- The Commission needs to set assumptions, including the necessary electricity supply assumptions.
- The Commission needs to explain how it intends for the IGP to be used, including a standard evaluation framework, so the IGP can present the information and analysis that is useful for the Commission and stakeholders.
- IGP drafting should begin only after the goals, priorities, assumptions and intended use(s) are clearly established by the Commission.

2 ALIGNMENT WITH THE COMMISSION'S IGP OUTLINE

Versant has closely reviewed the Commission Staff ("Staff") Outline presented in Attachment A and believes that it captures topics and information appropriate for an IGP. Overall, Versant supports the outline and its contents. The following provides Versant's thoughts on the information that could be presented in each section of the Staff Outline.

Table 1. Summary of alignment with the Commission's IGP Outline.[4]

MPUC Outline Section		Alignment	Remarks
1	Vision for the Evolving Grid	Support	See Section 2.1 for clarifications and recommendations
2	System Overview	Support	See Section 2.2 for clarifications and recommendations
3	Forecasting and Scenario Development	Support	See Section 2.3 for clarifications and recommendations
4	System Modeling and Needs Identification	Support	See Section 2.4 for clarifications and recommendations
5	Solutions Identification and Evaluation	Support	See Section 2.5 for clarifications and recommendations
6	Technology, Integration, and Systems Investments	Support	See Section 2.6 for clarifications and recommendations
7	Environmental, Equity, and Environmental Justice	Support	See Section 2.7 for clarifications and recommendations
8	Pilot Projects and Technology Development	Support	See Section 2.8 for clarifications and recommendations
9	Assessment	Support	See Section 2.9 for clarifications and recommendations

2.1 VISION FOR THE EVOLVING GRID

Versant envisions a future electric grid that operates reliably, enables a fully decarbonized energy supply and the deployment of significant beneficial electrification technologies, leverages cost-effective solutions, and does all this while maintaining affordability for our customers. Maine is not yet at this point; however, we have taken the first few steps along the path toward getting there via the legislative and Commission processes that will result in our state's first IGPs being developed and approved. Versant firmly believes it is only by engaging stakeholders and the public in thoughtful, data-driven, and long-term planning that Maine can achieve our state's reliability, cost-effectiveness, and clean energy goals—goals that the Company fully supports. Versant understands that the Company has a critical role to play in facilitating the accomplishment of these goals and is intent on doing so as efficiently and cost-effectively as possible.

In the following comments, Versant, having participated in and received valuable input from the Commission-led stakeholder engagement process, will discuss how the Company envisions

[4] Docket 2022-00322, Attachment A to Procedural Order (Staff Outline and Schedule), November 13, 2023.

developing and implementing the first IGP once authorized and ordered to do so, including a high-level description of the technical and public processes we expect to follow. These comments will also identify areas where the Company looks to the Commission for further clarity or guidance to help synthesize the extensive and thoughtful stakeholder feedback collected as part of the initial Commission process to date (e.g., regarding specific assumptions about generation, load, etc., that the utilities should model in their IGPs).

Versant has many years of experience planning, building, and operating an electric grid to meet our customers' needs. As those needs—and state policy goals—evolve, the Company will continue to gather information, and respond and adapt to new demands and expectations.

Incorporating Policy Goals in Integrated Grid Planning

The design and operation of the electric grid is an exercise in continuously seeking the appropriate balance among distinct and sometimes conflicting priorities. Similarly, the first IGPs produced by Maine's utilities should strive to balance various needs, requirements, and affordability, also sometimes conflicting, to best serve our customers and the state. Maine has largely answered the questions of whether and how quickly it intends to decarbonize. The work ahead will grapple with the difficult question of accomplishing these goals as efficiently and cost-effectively as possible, as required by law.

Versant stands ready to take guidance from the Commission on priorities, assumptions, goals, methods, and tools to assist with the development of its IGP, as well as direction from the Commission on how this IGP is intended to be used, useful for which purposes, and can be implemented to the benefit of customers and stakeholders.

2.2 SYSTEM OVERVIEW

Section 2.2 sets forth Versant's grid overview to help the Commission and stakeholders understand the system context in which Versant will develop its IGP. We share this information to explain Versant's assumptions, analysis, and recommendations.

Versant believes that system, financial, and DER data should be presented as consistently as possible with the information already provided as part of regulatory filings. We plan to rely on stakeholders such as the Office of the Public Advocate (the "OPA") for information related to non-wires alternatives ("NWAs"), and the Efficiency Maine Trust ("EMT") for information on energy efficiency, demand response, and electrification.

T&D System Data

Versant maintains systems and databases for our T&D infrastructure as part of our asset management programs. We envision the IGP including summary information on infrastructure by category, as summarized in Table 2.

Table 2. T&D system information types by infrastructure category.

Infrastructure Category	Information Types
Substations	Number of substations Total capacity Equipment counts and health by asset class Monitoring and control capability
Transmission	Number of transmission lines Total line miles Number of structures Monitoring and control capability
Distribution	Number of distribution lines Total line miles Number of poles Equipment counts and health by asset class Monitoring and control capability
Metering	Number of customers by class Metering capability by class

Asset Health Reports

Versant maintains health reports for major equipment and categories of assets and infrastructure such as poles, reclosers, and line transformers. This asset health information can provide insight into long-range maintenance and replacement plans representing a significant portion of Versant's capital budget. Table 3 provides a list of asset classes for which Versant maintains health information. We propose to include summary reports of asset health by class in the IGP.

Table 3. Example asset classes for T&D infrastructure.

Example Asset Classes	
Overhead switch	Underground transformer
Overhead transformer	Underground cable
Overhead recloser	Power transformer (station)
Overhead conductor	Circuit breaker
Pole	Station recloser
Capacitor	Station voltage regulator
	Station relay

Financial Data

Versant presents historical capital, operations, and maintenance ("O&M") spending information in rate cases. We plan to summarize historical spending by infrastructure category in the IGP and forecast former "business-as-usual" ("BAU") spending without the additional investments needed to support IGP investments. Costs related to IGP projects will be estimated based on the best-value solutions identified through solutions evaluation.

Versant proposes establishing a cost threshold for T&D capital projects. Projects below the cost threshold could be summarized by category.

DER Deployment

Versant can provide data for the number and capacity (e.g., kW) of DERs by type (e.g., solar photovoltaic ("PV"), energy storage, PV/storage) connected to our system for which we have interconnection agreements. We will be able to provide similar information for DERs in the interconnection queue.

We anticipate some challenges in tracking electric vehicle ("EV") chargers or charging stations in the near term, mainly if they are located behind the meter ("BTM"). As such, Versant will not have direct information on numbers or charging capacities. Over time, we expect that customers will participate in EV charging rate programs and Versant will have a better view of the number of EVs being charged by our customers. To develop the most accurate estimate of the number and capacity of EV chargers of various types (e.g., residential, public, fleet, direct current fast charger ("DCFC")), Versant will incorporate EV charging data from the EMT, to the extent the EMT can share this information.

2.3 FORECASTING AND SCENARIO DEVELOPMENT

Versant supports using ISO-NE's CELT report as a starting point for developing the load forecasts we will use for the IGP. The load forecast will include distributed generation ("DG"), transportation electrification, and heating electrification.

Versant's current T&D system models include load, generation, and DG/PV data. We update our transmission planning models each year based on the CELT report and will use a similar approach to incorporate the 2022 and 2023 CELT report data in our IGP forecast.

As we discussed in our response to the Commission's June 15, 2023 information request, Versant plans to use a "top-down/bottom-up" approach to develop forecasts for power system analysis.[5] The top-down approach will allocate the CELT report forecast to our Bangor Hydro District ("BHD"). For the Maine Public District ("MPD"), Versant will rely on internal information and forecasts from NMISA and compare the assumptions for electrification, energy efficiency, and other DERs with Maine forecasts, such as the Maine Won't Wait plan.

Forecasts and related modeling assumptions will drive grid needs and solution options. Versant intends to review our load, electrification, and PV forecasts with the Commission and stakeholders to help create transparency and consensus. In developing our forecasts, we will focus on how electrification load and PV increases stress on the T&D system. We intend to identify critical trigger points to adjust the IGP in future cycles in response to technology adoption and current information.

[5] Docket No. 2022-00322, Versant Power Response to June 15, 2023 Procedural Order – Information Requests, June 29, 2023, p.3.

Additional information for the PV forecast

Versant supports using the PV forecast from the CELT report as a starting point for our PV forecast, supplemented by the suggestions as described below. Versant might be able to incorporate more detailed PV information from our interconnection queue based on Commission direction on that approach.

Scenario planning

While the CELT report helps provide a system-level forecast for load and DG, it offers no insight into the underlying adoption of electrification and DG technologies. During the IGP stakeholder process, Versant discussed a bottom-up approach for evaluating the potential stress on the distribution system related to new growth of local electrification load and DERs. We anticipate that some portions of the distribution system in our service territories could be significantly affected by electrification and PV adoption. Scenario planning could be helpful given the uncertainty in the growth of electrification and DERs and the variation in potential system impacts. Moreover, Versant believes that high-electrification and high-DER scenarios with seasonal and hourly differential for low-load high-solar, high-load low-solar, etc. could account for temporal and spatial variability and will help us identify impacts that could affect our consumers and communities over time.

Supply forecast

The CELT forecast does not explicitly account for changes in large-scale generation (supply) that might be needed to achieve Maine's decarbonization goals. Since Maine's utilities are not responsible for generation planning and associated electricity supply, they cannot develop a supply forecast.[6] This is important because Versant cannot ensure the best price and value for our customers without considering all cost inputs and variations in the IGP. Versant requests that the Commission provide guidance on the necessary assumptions to account for supply in the IGP, including expectations for modeling impacts of varied generation and load curves by season. Versant is willing to work with the Commission and stakeholders to develop modeling approaches to assess the local transmission system in response to changes in in generation-related supply.

2.4 SYSTEM MODELING AND NEEDS IDENTIFICATION

System modeling

Preliminary analysis indicates that EV charging can significantly increase demand on portions of the distribution system. The impacts of heating electrification could be smaller compared to EV charging impacts, but it is still necessary to plan for it as part of the IGP.

Versant will continue to use the Siemens Power System Simulation for Engineering ("PSS®E") software for transmission planning modeling and analysis. We will develop power flow cases designed to match the CELT forecast at the substation level. Local transmission models and study cases will be designed to align demand at the distribution level (communities and customers) with the substation level.

[6] Versant Power relies on NB Power and NMISA for the supply forecast for Versant's MPD.

Versant uses CYME International Inc. power engineering models to provide a solid starting point for the distribution analysis we envision for the IGP. Versant will align our CYME models with our PSS®E models to evaluate grid needs under coincident peak and light-load conditions. We anticipate testing non-coincident conditions (i.e., at the distribution circuit level) for distribution circuits that may experience substantial increases in electrification load or PV installations.

The CELT forecast and transmission models used by ISO-NE do not include Versant's subtransmission system. To address this shortcoming in the CELT forecast and transmission models, Versant's planning engineers intend to ensure that the lower voltage subtransmission system aligns with the higher voltage transmission system. Versant plans to identify the periods of most elevated system stress and review Supervisory Control and Data Acquisition ("SCADA") data and other system information to refine system models.

Identifying grid needs

Versant will continue to apply our T&D planning criteria based on requirements from ISO-NE, NERC, and Maine's service quality rules, including Chapter 320 of the Commission's rules. As we do today, Versant's planning engineers will use contingency analyses to identify planning criteria violations such as overloads and low or high voltages. Such violations indicate when conditions would affect our customers' service reliability and power quality.

We anticipate increasing our emphasis on communities and their priorities for Integrated Grid Planning. Traditional performance metrics, such as System Average Interruption Frequency Index ("SAIFI"), can help track system-level performance improvements over time. However, decarbonization, climate change resilience, and other energy-related priorities can vary planning needs locally. Versant plans to engage communities to better understand their priorities and how electricity service supports local plans.

Time-Series Analysis

As stated in Versant's earlier comments[7], we believe that incorporating a time series analysis may be important for long-term Integrated Grid Planning, allowing us to look more closely at grid needs and potential solutions. Leveraging more granular energy data for load and DERs will help us ensure the long-term value of service to our customers. We anticipate proposing a combination of granular (e.g., hourly) data for load, renewables, and distributed generation to evaluate grid needs on our T&D systems. Versant looks forward to working with the Commission and stakeholders to determine the requirement for time series data, analysis, and planning.

Summarizing grid needs

Versant anticipates that beneficial electrification and PV penetration will add new stresses to the T&D system, creating the projected overloads and voltage violations. Power system analysis will reveal grid needs of various scope, severity, and timing. Versant plans to summarize these grid needs before proceeding with solutions identification.

[7] Docket 2022-00322, Versant Power Response to August 4, 2023 and August 18, 2023 Procedural Orders, September 1, 2023, p. 6.

During the stakeholder process, Central Maine Power Company ("CMP") proposed classifying grid needs using three categories: (1) high-probability and/or time-sensitive needs; (2) needs which are unlikely to require mitigation action in the near-term and can be later re-evaluated; and (3) longer-term and/or low probability needs which are uncertain and sensitive to long-term forecast assumptions.[8] Versant supports the idea of grid need categories to differentiate among types of upgrades and priorities.

2.5 SOLUTIONS IDENTIFICATION AND EVALUATION

Today, Versant's planning engineers ensure that T&D solutions meet our planning criteria and ensure system reliability. We also work with the OPA to consider NWAs where NWA criteria apply. We follow a "least-cost, best-fit" approach to ensure technically effective solutions that address grid needs in a way that minimizes overall cost to our customers. Our IGP approach will emphasize reliability, resilience, and customer value as primary evaluation criteria.

However, the IGP will also consider additional factors to help Maine achieve its policy objectives. These include (GHG reductions, equity, and environmental justice. Given the uncertainty in how Maine's energy transition will unfold, we also plan to consider factors such as community alignment, flexibility, "right-sizing," and reducing risk. While such factors can be challenging to quantify, they can provide insight into the spectrum of benefits that various solution options may support. Versant plans to use a standard evaluation framework or balance scorecard approach that includes project performance metrics and qualitative scores for alignment with policy objectives. Table 4 summarizes potential metrics and indicators for a standard evaluation framework. We look forward to working with the Commission and other stakeholders to explore metrics and benefits for evaluating solutions.

Table 4. Standard Evaluation Framework example.

Solution Performance Metrics	Policy Alignment Indicators
Reliability and Resilience	Facilitate electrification and DERs
Cost	Equity
Time to impact	Environmental Justice
Scope of impact	Risk
Flexibility	

To simplify analysis and encourage innovative thinking, Versant plans to create a solution catalog for addressing grid needs. The solution catalog could help engineers test solution options more quickly using preset projects. For example, an engineer might try a new substation, a distribution circuit upgrade, or a load management project to increase distribution capacity to support electrification. Increasing PV penetration might consider flexible interconnection, upgrading a distribution circuit, or adding energy storage.

The solutions evaluation framework will work together with scenario planning to identify solutions representing the best value for stakeholders.

[8] Docket 2022-00322, *Needs Categorization and Solutions Evaluation Scorecard*, Central Maine Power, July 17, 2023, p. 8.

2.6 TECHNOLOGY, INTEGRATION, AND SYSTEM INVESTMENTS

Modernizing the electric grid is crucial to enabling grid operator visibility, resource coordination, and optimization of Versant's T&D system with numerous DERs and existing and emerging customer energy technologies. Versant's vision is to leverage specific platform technologies to enable Integrated Grid Planning, grid operations, and active participation of communities and customers in distribution-level energy markets as they evolve. Table 5 summarizes platform technologies that Versant can cover in the IGP. We anticipate that this information will be aligned with the Distribution System Roadmap.[9]

Table 5. Summary of platform technologies.

Platform Technology Category	Purpose
Advanced Metering Infrastructure ("AMI")	• More detailed measurements of electricity consumption and production to provide better information to customers for managing their energy. • Operational information such as outage notifications, delivered voltage quality, and meter tampering to help the utility provide enhanced customer service. • Faster reconnection services for customers.
Grid Automation and Management	• Monitor, control, and manage the distribution network to achieve reliability, efficiency, and cost-effective integration of DERs (e.g., Advanced Distribution Management System ("ADMS") and Distributed Energy Management System ("DERMS")). • A decision support system will assist the control room and field operating personnel. • Remote/automatic control of switching and voltage control equipment.
Integrated Grid Planning Tools	• Improve electricity consumption forecasting and DER production and advanced distribution system planning. • Increase the precision and speed of hosting capacity and DER integration studies. • Facilitate coordination between local (utility) and regional (ISO-NE) system planning.
Data Integration and Analytics	• Turn raw data into actionable information. • Help create valuable energy information for customers. • Better visualize, optimize, and operate the grid.
DER and Electrification Integration	• Support integration and optimization of energy storage, distributed PV, and EVs. • Streamline and automate DER interconnection activities. • Improve management and visibility of DERs on the system.

Pilots and Demonstrations

Testing technologies, customer programs, and innovative rate designs in pilot programs and demonstrations is expected in the utility industry. Gaining experience in a pilot program before committing to a complete system deployment is often beneficial because of the deployment scale and cost. Pilots and demonstrations are included in our Technology Roadmap, and Versant will report on these projects and lessons learned from other utilities as part of the IGP where costs of a

[9] Docket 2021-00039 (Grid Modernization Case), *Roadmap for Versant Power's Distribution System* (Attachment C), Electric Power Engineers for the Maine Public Utilities Commission, March 15, 2022.

Maine-specific pilot may not be necessary. Pilots and demonstration projects may also be recommended as part of the IGP.

2.7 ENVIRONMENTAL, EQUITY, AND ENVIRONMENTAL JUSTICE

Versant is committed to environmental stewardship and respectful, open, collaborative engagement with all landowners and communities throughout our service territories. Fifty-six percent of our customers are within Small Disadvantaged Communities ("DAC"), as defined by the U.S. Environmental Protection Agency (the "EPA"). We serve customers located on the lands of the Mi'kmaq, Penobscot, Passamaquoddy, and Maliseet tribes. Versant supports the communities that have been chosen to participate in the U.S. Department of Energy's (the "DOE") Energy Transitions Initiative Partnership Project ("ETIPP"), which "offers technical assistance to competitively selected remote and island communities seeking to transform their energy systems and increase their energy resilience."[10]

Versant plans to continue our ongoing engagement with the communities we serve as part of the IGP process and to incorporate environmental, equity, and environmental justice impacts into solution evaluation as part of a comparison framework. We anticipate interaction with stakeholders in this docket as directed by the Commission while taking additional steps to inform more diverse groups of this work and climate resilience planning.

As set forth in other areas of these comments, Versant is very much looking to the Commission to synthesize the feedback received through this process to accomplish two preliminary tasks: (1) create a common definitional understanding of what this term is intended to capture and (2) create directional strategies regarding how best to weight environmental, equity, and environmental justice considerations with other priorities in the planning process. Being able to outline those baseline assumptions/definitions in the IGP would bring much more meaning, context, and concreteness to the IGP's ultimate description of how the Company engages with those concepts and strategies in the development of the IGP. Versant looks forward to working with the Commission and stakeholders to determine how best to align the IGP with the concepts of procedural, distributional, structural, and transgenerational equity.[11] The Company notes that equity and environmental justice considerations in Maine's IGPs will likely look somewhat different than in other jurisdictions, e.g., those with vertically integrated utilities responsible for both energy generation and delivery (and, often, conservation/efficiency measures delivered directly to customers). As such, Maine's IGPs may be less likely to focus on distributional equity issues such as the negative impacts of siting fossil fuel powered generation in disadvantaged communities. Versant would expect Maine's IGPs to be more focused on ensuring disadvantaged communities are treated equitably in (and receive benefits from) the grid investment and modernization projects which will result from the IGPs.

[10] U.S. Department of Energy, *Energy Transitions Initiative Partnership Project Fact Sheet*, 1 (Feb. 2023) available at: https://www.energy.gov/eere/articles/energy-transitions-initiative-partnership-project-fact-sheet,

[11] U.S. Environmental Protection Agency, *Environmental Justice Primer for Ports: Defining Environmental Justice* (last updated June 7, 2023), available at https://www.epa.gov/community-port-collaboration/environmental-justice-primer-ports-defining-environmental-justice

2.8 PILOT PROJECTS AND TECHNOLOGY DEVELOPMENT

Versant recommends combining Section 2.88 with Section 2.6 above (see the Pilots and Demonstrations discussion under Section 2.6).

2.9 ASSESSMENT

This section addresses how to measure the impact and beneficial outcomes of the IGP. Versant believes that the Commission should develop a set of strategic objectives and outcomes for the IGPs, establish clear priorities to ensure each IGP balances those objectives in an agreed upon manner, and then determine how best to measure progress. It would be preferable to create a preliminary set of high-level measures for the first IGP and revisit them in subsequent updates to assess if those are the right measures, if the measures should be adjusted to capture more meaningful or actionable information, and if the measures should be further refined or detailed with experience.

3 RESPONSES TO STAKEHOLDER WORKSHOP QUESTIONS

The following section responds to the questions posed by the Commission in Attachments B, C, D, and E of the November 13, 2023, Procedural Order.[12]

3.1 ENVIRONMENTAL, EQUITY, AND ENVIRONMENTAL JUSTICE IMPACTS

3.1.1 Scorecard Clarification and Weighting

Question: What option(s) should be used and considered for tracking the negative and positive impacts of the integrated grid plans on environmental, equity, and environmental justice ("EEEJ")? How prescriptive in terms of exact methodology, definitions, and tools should the commission be relative to how the utility chooses to meet these?

As defined by the EPA, more than half of Versant's customers are in Small DACs . Therefore, it is likely that the IGP will have beneficial EEEJ impacts, based on the communities we serve. These benefits will include supporting electricity service reliability and resilience, facilitating access to electrification and clean distributed energy, and supporting community energy priorities. Screening tools for identifying DACs and EEEJ impacts are becoming available but are still in development.[13]

Versant supports identifying potential EEEJ impacts associated with projects identified in the first IGP. It may be appropriate to revisit impact tracking once the scope and scale of EEEJ impacts are determined. We believe it would be premature for the Commission to impose a prescriptive EEEJ tracking methodology without first adopting one specific screening tool to identify EEEJ communities and impacts.[14] Versant suggests that identifying a common definition, common goals, and concepts for identifying and evaluating EEEJ impacts would provide a foundation for future approaches and refinement by the Commission and stakeholders.

Question: How to ensure equitable siting and hosting of energy infrastructure?

Versant carefully considers the multiple factors when designing a solution to a grid need. These include the technical efficacy of the solution for addressing the grid need and maintaining system reliability, total cost, environmental/land-use impacts, and impacts on the local community where the project is located. As part of the IGP process and as part of each solution option to compare

[12] Docket 2022-00322, *Procedural Order (Staff Outline and Schedule)*, Maine Public Utilities Commission, November 13, 2023.

[13] At the time of this writing, the DOE's "Energy Justice Dashboard" is in BETA, and SEPA's Layered Energy Equity Definition Tool is available for North Carolina but no other states.

[14] Lawrence Berkley National Energy Laboratory's Natalie Mims Frick noted in the April 25, 2023i IGP meeting that the Minnesota Commission required Xcel Energy to "to map reliability and service quality metrics and demographic data to reveal any equity issues, and then they also approved the Resilient Minneapolis pilot project in their most recent distribution plan which is an equity initiative." 22:11–16. The Union of Concerned Scientists' Steve Clemmer suggests that metrics can be set based on the Justice40 initiative, guidance from other states, and the Maine Climate Council Equity Subcommittee's work in his January 31, 2024 comments. 11/21/23 Transcript at 7:10–13; 7:21–9; 9:7–9 (screening tool to identify these populations); 9:17–21; and 13:10–15 (resiliency should be a metric tracked); 26:24–27:6 (tracking energy burden). With the OPA and GEO expressing other preferences for tracking EEEJ generally, Versants suggests further attention is necessary to determine which and what EEEJ tracking method can be ordered in Maine based on known or reasonably developed data sets.

these factors during solution evaluation, Versant anticipates identifying and documenting EEEJ issues as those issues are defined and articulated in this docket.

Question: How to balance potentially conflicting EEEJ issues, like equitable costs (affordability) against other environmental or equity concerns? For instance, what to do when an EEEJ community will be disproportionately impacted by infrastructure siting, but that siting option is still the most affordable and environmentally friendly overall?

Balancing conflicting issues is best done by first establishing the prioritized objectives of the IGP and then incorporating those objectives into a standard solution evaluation framework. Throughout the Commission's stakeholder process, Versant heard participants identify objectives, including reliability, affordability, support for customer electrification, and simplified interconnection of DERs. IGP stakeholders should examine a set of evaluation factors along with relative priorities, as those priorities are established by the Commission in this docket.

Question: Follow up, enforcement, and remediation including stakeholder input and feedback response; utility performance and tracking; equitable access to clean energy.

As stated above, Versant supports identifying potential EEEJ impacts associated with projects identified in the first IGP, and then using what we learn to revisit tracking and targets for positive impacts in subsequent IGPs.

3.2 FORECASTING AND SCENARIO PLANNING

Question: Issue #1 – How many load forecast scenarios?

Versant supports using two primary forecasts based on ISO-NE's 2022 and 2023 CELT reports, as indicated in the Staff Outline. As discussed in Section 2.3, Versant plans to use scenario planning to take a closer look at electrification and PV impacts on our distribution systems to identify impacts that could affect the communities we serve in the near and long term. These scenarios will be informed by the potential grid needs revealed by the two primary forecasts.

Question: Issue #2 – Where should load forecast data be sourced?

Versant recommends using the CELT report as a source for the load forecast. The CELT includes electrification load and energy efficiency, and the forecast for Maine includes assumptions from Maine Won't Wait and EMT. We would review SCADA data to help fine-tune distribution system forecasts and align the forecasts at our systems' transmission/distribution interface.

Question: Issue #2a – What should the relationship be between transmission and distribution system forecast and planning assumptions?

The CELT reports should be the primary driver of Versant's transmission system forecast and power system model for the BHD. For the MPD, we expect to coordinate our forecast assumptions with NMISA. We will compare the MPD forecast to the BHD forecast over the planning horizon (ten years) to identify potential differences in trends. Transmission system forecasts capture "coincident" peak load, light load, or other conditions across the region at a common point in time. These points in time typically represent the periods of highest system stress and help planners identify potential grid needs.

Peaks throughout our distribution systems may occur on days and at times of day different from the date and time of the regional transmission peak/light load periods. Versant models these "non-coincident" peak/light load conditions at the substation and distribution circuit level to evaluate the local conditions that may indicate a grid need. Our distribution models and associated substation load forecasts have a planning horizon of five years or less.

As a starting point for the IGP, Versant plans to align the T&D load forecasts so that they are aligned at the transmission-distribution interface (i.e., substations). Versant expects to transfer the CELT data onto the distribution level, by using various disaggregation methodologies.

Question: Issue #3 – How should legislated generation procurements be incorporated into the forecast, if at all?

Versant relies on the CELT report for the supply forecast in our transmission modeling and analysis. Maine's legislated generation procurements lack the specificity needed for inclusion in a forecast for analyzing T&D grid needs (points of interconnection and capacity levels for one or multiple projects are not known under the procurements are completed). As discussed in Section 2.3 (Supply forecast), Versant requests that the Commission provide guidance on how to treat supply assumptions that may differ from the CELT report. Versant is happy to work with the Commission to develop modeling approaches to evaluate the impact of changes to the supply forecast.

3.3 GENERATION AND LOAD HOSTING CAPACITY MAPS

3.3.1 Generation Hosting Capacity Maps

Question: What additional data points would be beneficial for CMP to include in their generation hosting capacity map?

Versant defers to CMP and the anticipated users of its generating hosting capacity map on this question.

Question: Are there any data points currently included in CMP's generation hosting capacity map that are not beneficial?

Versant defers to CMP and the anticipated users of its generating hosting capacity map on this question.

Question: Should Versant include in its generation hosting capacity map all the data points CMP includes in their generation hosting capacity map?

Versant supports providing the information that is most beneficial for the intended users. During stakeholder workshops it was noted that the circuit level detail and conductor sizing data Versant currently provides is beneficial. The Commission should clearly define the intended users, related-use cases intended, and required data points, keeping in mind the cost-benefit of providing that data.

Question: Are monthly updates to generation hosting capacity maps appropriate for both CMP and Versant? If more frequent updates are necessary, what frequency of updates is feasible for CMP and Versant to achieve?

Monthly updates to Versant's hosting capacity maps are not feasible currently. Versant recently heard from utilities in California that they update their hosting capacity maps quarterly, but that took a significant investment in technology and support resources. Versant currently plans to update its generation hosting capacity maps annually and will revisit increasing the update frequency in the future, based in part upon the priority setting that occurs in this docket.

3.3.2 Load Hosting Capacity Maps

Question: What additional data points would be beneficial for CMP to include in their load hosting capacity map?

Versant defers to CMP and the anticipated users of its generating hosting capacity map on this question.

Question: Should Versant release their load hosting capacity map before their target date of 2024-2025?

Versant is on track to release the load hosting capacity map in 2024-2025, as mentioned in the Distribution Roadmap based on prior recommendations from Electric Power Engineers ("EPE").

Question: Should T&D Utilities account for load growth forecasts (e.g., EMT, GEO, etc.) in load hosting capacity maps?

Hosting capacity maps provide a view of the current system using existing data. Applying a load growth forecast necessarily means that a map would show a *potential* future system and would require a separate hosting capacity analysis. Given the variability that would result from even slightly different baseline assumptions, Versant does not recommend accounting for a load growth forecast in a load hosting capacity map.

Question: What's a reasonable update frequency for load hosting capacity maps?

Based on our experience developing our generation hosting capacity maps, Versant plans to update load hosting capacity maps annually.

Question: Should load hosting capacity maps and generation hosting capacity maps account for one another to some extent?

Generation hosting capacity maps already account for load and generation on the distribution systems they represent. To some extent, load and generation hosting capacity maps can benefit from using similar data and assumptions. However, there are distinct differences between the two types of maps, so Versant does not expect that the maps will be able to be fully integrated.

3.4 SOLUTIONS EVALUATION

3.4.1 Issue #1 – Which framework(s) should be applied to solutions evaluation?

Question: Which of these frameworks[15] (scorecards, benefit-cost analysis, and planning engineering analysis) should be adopted for solutions evaluation in the grid plans?

Versant's existing planning approach helps ensure that solutions to grid needs provide safe and reliable electricity service for our customers at the lowest cost. This is often referred to as a "least-cost, best-fit" approach and is recognized as a best practice for utilities when working with benefits that are hard to quantify or monetize or when there are interactions between investments.[16]

Versant recommends taking an evaluative approach that applies the least-cost, best-fit approach to the additional planning criteria established by the Commission in this process, including support for clean energy, beneficial electrification, and increased grid resilience. These additional factors should be included as specified by the Commission along with other planning criteria to ensure the long-term best value for stakeholders. See Section 2.5, Table 4 for a Standard Evaluation Framework example.

This approach could be memorialized in a scorecard to assist in communication with the Commission and stakeholders. A scorecard could, for example, depict the extent to which a potential solution supports one or several objectives, and at what cost. However, any scorecard should result from meaningful analysis of each solution – a scorecard alone would be an oversimplified depiction of a series of complex and interwoven considerations and evaluation criteria.

Versant further recommends that IGP solutions be meaningfully evaluated based on how well they align with Maine policy—the policy has already been established by the Legislature and the Commission as a commitment to achieve something specific. Once those policies are prioritized by the Commission, the IGP should be developed to find the least cost path to achieve those goals in the order set forth by the Commission. The goal of solutions evaluation in the IGP is to identify the solution option(s) that provide the best value for customers and take into consideration stakeholder input.

Versant prefers such an approach over a traditional benefit-cost analysis ("BCA") for the IGP. A BCA typically seeks to quantify, in dollars, the benefits of an investment to compare them to the cost. A BCA would require specific guidance and likely Commission rules on how to apply quantitative analysis to specified values such as reliability, resilience, equity, and environmental justice values. The complex set of benefits envisioned for the solution evaluation process may be difficult, if not impossible, to accurately quantify in order to engage in a BCA within the IGP process.

[15] The Commission provided scorecards, benefit-cost analysis, and planning engineering analysis as examples of potential frameworks.

[16] Woolf, T, et al, *Benefit-Cost Analysis for Utility-Facing Grid Modernization Investments: Trends, Challenges, and Considerations*, Grid Modernization Laboratory Consortium, U.S. Department of Energy, February 2021.

Question: Are there additional frameworks for solutions evaluation that should be considered?

Versant believes planning engineering analysis supported by scorecards will provide a robust evaluation of solution options.

Question: Should multiple frameworks be linked together, e.g., a scorecard for the initial screen, benefit-cost analysis for final selection, benefit-cost analysis for the initial screen, and planning engineering analysis for final selection?

Versant does not believe that multiple frameworks should be linked together because it will likely result in iterative and duplicative work being performed with mis-aligned evaluation criteria. Trying to link multiple frameworks together for this first IGP will overcomplicate solution evaluation and risk, focusing on precision rather than accuracy. An IGP can be an effective tool to achieve focused, clear objectives—the more diffuse and complex those objectives become, the more diffuse and less effective the IGP will become. Versant strongly believes in excellence over perfection – if all stakeholders get caught up in the mechanics of competing evaluation criteria, we risk effective implementation. Versant expects to make meaningful forward progress, which requires discipline, focus and commitment from all stakeholders to make choices, and to embrace clarity and achievability.

Question: Should identification of system needs occur within the solutions evaluation framework, or in a separate framework (e.g., utilizing a Solutions Library)?

Identification of system needs will occur before the evaluation of solutions. There can be no solutions identified or proposed for evaluation if there is not prior clarity on what system needs must be addressed in order to achieve the goals and priorities established by the Commission. For example, the load forecast might increase electrical demand in a planning area, exceeding the nameplate rating of the substation transformer(s) that serves the area. Only when that system needs are identified (scenario for load(s), ability to manage reverse power flows, need to reroute power through the area under different system configurations, etc.), can the Company consider potential solutions to alleviate the transformer overload. Such solutions might be selected from a Solutions Library or tailored to the system need(s).

3.4.2 Issue #2: How to implement solutions evaluation framework(s)?

For the selected solutions evaluation process (e.g., scorecard, benefit-cost analysis, engineering analysis):

Question: Which elements should be included?

Engineering (planning) analysis and a scorecard are most valuable for solutions evaluation for the reasons Versant has provided in our response to Issue #1 above.

Question: How much quantification should be required?

Versant provides examples of meaningful, quantifiable metrics in Table 4 of Section 2.5. These include cost, time to impact, and scope of impact. Ranges of reliability, resilience, and flexibility improvement could also be estimated. Policy alignment indicators such as facilitation of electrification and DERs, and equity may be challenging to quantify meaningfully for the IGP, so Versant looks forward to additional discussion about how those objectives can and should be prioritized and balanced against simpler metrics such as cost and reliability improvements.

Versant understands that addressing such issues will require patience and creativity in working with the Commission and stakeholders – as we all evolve our understanding of how to measure and evaluate goals that are less susceptible to classic quantification.

Question: How should different elements be weighted?

It should be clear that no proposed solution will be viable if it violates the fundamental principles of providing safe and reliable service at reasonable rates, which is the legal obligation of the Company. The weight assigned to each element should reflect the priorities established for the IGP. Higher-priority elements following Commission guidance should have higher weights.

Question: How to include environmental, equity, and environmental justice impacts?

Potential solution options might directly or indirectly impact Commission-defined EEEJ factors. Given the difficulty in quantifying these impacts, Versant supports initially indicating whether solution options have positive, negative, or neutral alignment with EEEJ impacts following any criteria initially established by the Commission (and other IGP-related concerns that are difficult to quantify).

For a benefit-cost analysis framework:

Question: Should the Commission issue a standardized BCA guide for the integrated grid plans?

No. As described in more detail above, Versant recommends using a "least-cost best-fit" approach and not using a BCA for the IGP.

Question: How should the BCA for the integrated grid plans interact with the non-wires alternative BCA?

If an NWA is proposed to address a specific grid need, Versant would consider using the NWA BCA that is currently required to evaluate that solution.

For a planning engineering analysis framework:

Question: What is the expected length and level of detail?

Versant is open to discussion regarding the reasonable level of detail expected in Versant's IGP.

Question: How should the engineering analysis incorporate utilities' existing distribution planning guides, NERC/FERC/MPUC standards, and reliability criteria?

Versant will include our existing T&D planning criteria and standards, including NERC/FERC/Maine Commission criteria in evaluating grid needs and crafting potential solutions.

Question: How to ensure the engineering analysis is transparent and accessible to stakeholders?

Versant intends to provide information about our engineering and planning analysis process as part of the stakeholder engagement process. This could include additional posting of information on an IGP website, presentations to stakeholders and communities. We also anticipate preparing simplified (non-engineering) explanations of our grid needs analysis and solutions evaluation as part of the IGP documentation filed with the Commission and shared with stakeholders.

Question: Should the solutions evaluation process be standardized: across the two utilities; across different types of projects for the same utility?

The solutions evaluation process should fit the overall IGP process of Versant and CMP. However, the two utilities will find different issues with how their grid must be modified to achieve the goals of the IGP, so certain solutions may be quite distinct. Versant would anticipate a discussion about how to maximize efficiency of the planning process by synthesized appropriate components of the CMP and Versant IGPs that we anticipate will be meaningfully similar, and also how to maximize efficiency of the implementation process by appropriately reflecting the differences in grid needs or potential solutions in their planning processes or differences due to their service territories. For example, Versant's MPD in our northern area is electrically separate and distinct, and we would want to account for differences.

3.5 CONCLUSION

Versant appreciates the work of the Commission, the Commission Staff, EPE, and the IGP stakeholders to date. Versant looks forward to working with the Commission and the parties to develop IGPs incorporating the assumptions, forecasts, scenarios, evaluation criteria, and solutions sets specified by the Commission as we continue this important work.

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Respectfully submitted,

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