

**State of Minnesota
Before the Public Utilities Commission**

Katie Sieben	Chair
Valerie Means	Commissioner
Matthew Schuerger	Commissioner
Joseph Sullivan	Commissioner
John Tuma	Commissioner

In the Matter of Northern States Power Company's,
d/b/a Xcel Energy, 2020-2034 Upper Midwest
Integrated Resource Plan

Docket No. E002/RP-19-368

Supplemental Comments of the Citizens Utility Board of Minnesota

I. Introduction and Executive Summary

The Citizens Utility Board of Minnesota (CUB) thanks the Public Utilities Commission (PUC or the Commission) for the opportunity to provide these supplemental comments.

Xcel's Alternative Plan as set forth in Xcel's Reply Comments is a significant improvement on its Supplemental Plan. In particular, CUB supports Xcel's proposal in the Alternative Plan not to build the 835 MW combined cycle plant at its Sherburne County site (the Sherco CC). CUB also appreciates that Xcel has also proposed to construct new gen-tie transmission lines to facilitate additional procurements of wind, solar, and battery storage resources. The Alternative Plan is a step in the right direction. However, CUB is concerned that the Alternative Plan's proposal to build four new combustion turbines (CT) exclusively to provide blackstart capabilities creates new risks of stranded assets and overinvestment in fossil fuel resources. CUB believes that the public interest would be best served by denying Xcel's proposal to build four new CTs and examining Xcel's blackstart needs in a separate blackstart proceeding, the results of which can inform Xcel's next IRP.

CUB stands by the Consumers Plan. The modeling provided by Vibrant Clean Energy (VCE) contributed significant value to this proceeding and CUB diligently provided Xcel and the Commission with all non-proprietary data sets for the parties' examination. The Commission should reject Xcel's suggestions to limit parties' ability to participate in future IRPs. Instead, the Commission should adopt CUB's suggestions for improving the transparency and efficiency of the IRP process, such as by requiring the utility to provide all modeling data upfront, rather than putting the onus on parties to submit discovery requests.

Finally, though CUB continues to support the Consumers Plan and the specific recommendations we provided in Reply Comments, CUB believes the Alternative Plan would be in the public interest if modified by the specific recommendations CUB provides in these Supplemental Comments.

II. Xcel's Alternative Plan is a step in the right direction.

Though CUB does not support the Alternative Plan in its entirety, CUB appreciates that Xcel took into account many of the concerns and recommendations of parties to this proceeding, including CUB. CUB shares the goals of decreasing rates, increasing renewable energy, increasing energy efficiency savings and demand response resources, and decreasing carbon emissions and appreciates that the Alternative Plan is an improvement on the Supplemental Plan on each of these metrics.¹

In particular, CUB strongly supports Xcel's proposal in the Alternative Plan not to build the 835 MW the Sherco CC that Xcel had previously proposed in its Supplemental Plan. CUB's modeling in the Consumers Plan demonstrates that the Sherco CC is not needed to meet system load or maintain reliability – a result that is consistent with the modeling results of several other parties, including Sierra Club and the Clean Energy Organizations (CEOs). If built, the Sherco CC would emit substantial greenhouse gas emissions and would be at significant risk of becoming a stranded asset if it became necessary to shutter or reduce the capacity factor of the plant to meet Xcel's carbon reduction goals or future carbon regulations, or if it became uneconomic to run compared to alternative resource options.²

The Alternative Plan also incorporates several other recommendations of CUB's Consumers Plan, including CUB's recommendations to repower and relicense Xcel's nuclear plants, to procure additional solar and wind resources, and to begin procuring new solar and wind resources in the near-term instead of waiting until later in the planning period as Xcel proposed in the Supplemental Plan.³ Xcel's proposal to construct new generation transmission lines to connect additional solar and wind resources to interconnections at the Sherco and King sites is also consistent with CUB's recommendation that Xcel build new in-state transmission to facilitate additional renewable resources.⁴

CUB thanks Xcel for incorporating many of our recommendations and those of several other parties in designing the Alternative Plan.

¹ Xcel Reply Comments, p. 2.

² See CUB's Initial Comments (Corrected), p. 10, for CUB's analysis of these risks.

³ CUB's Initial Comments (Corrected), pp. 4-11.

⁴ CUB's Initial Comments (Corrected), pp. 19-20.

III. The Alternative Plan still creates concerns for over-investment and stranded assets.

While a significant improvement from its Supplemental Plan, Xcel's Alternative Plan is not optimal. CUB's primary concern with the Alternative Plan is Xcel's proposal to add approximately 1,100 MW of new capacity in the form of four CT resources, as well as an additional 1,800 MW of new firm dispatchable capacity that will use an unspecified technology.⁵ CUB is concerned that this aspect of the Alternative Plan is not designed to meet a genuine system need. Further, because Xcel's proposed CTs would run on methane gas and may or may not be able to use hydrogen in the future, they would face the same risk as the Sherco CC of needing to be retired early to meet Xcel's carbon goals and/or comply with future carbon regulations. Xcel has provided no details in its Alternative Plan regarding the future availability or potential cost of hydrogen that might be used to supply the proposed CTs, or explained what proportion of hydrogen the CTs would be able to accommodate in their fuel streams.

As described in Xcel's Reply Comments, the primary purpose of the four CTs is to provide blackstart capabilities and not to meet energy or capacity needs.⁶ The fact that the CTs are modeled to have average capacity factors of 5 percent or lower also demonstrates that they are not needed to meet system needs.⁷ It is CUB's understanding that blackstart resources typically are not built exclusively or primarily to provide blackstart capabilities; rather, resources that provide blackstart resources play other necessary roles such as meeting peak capacity needs. Xcel states that one of the greenfield CTs will support solar and wind additions on the proposed Sherco gen-tie and provide general energy needs but provides very few details on the other roles that the CTs will play and does not assert that the proposed CTs are actually needed to play these roles. Moreover, Xcel does not appear to have considered whether other resources could more effectively meet these purported needs; for example, additional battery storage, standalone synchronous condensers, or other technologies could likely be used to support the proposed wind and solar additions on the Sherco gen-tie.

As a general matter, CUB believes that the Commission should evaluate and (if warranted) approve new major resource additions (especially fossil fuel resources) in the IRP process, which allows for a holistic evaluation of utilities' anticipated needs, existing resources, and proposed resource acquisitions. The IRP process is intended to determine how Xcel should serve its load and is not designed to evaluate resources intended solely or primarily to provide blackstart capabilities. Moreover, parties such as CUB have brought in resource planning experts to assist and advise on this docket, not blackstart experts. However, given that Xcel's proposed CT resources are not needed to meet

⁵ Xcel Reply Comments, p. 9.

⁶ Xcel Reply Comments, pp. 22-23, 25, and 54-82.

⁷ Xcel Reply Comments, p. 123.

energy or capacity needs, there appears to be no need to evaluate or approve them in this resource planning proceeding.

Accordingly, CUB recommends that the Commission not approve Xcel's proposed CT resources in this IRP proceeding. Instead, the Commission should open a separate docket to evaluate Xcel's blackstart needs, as Xcel suggests, and to determine the optimal way to meet those needs.⁸ Critically, the Commission should not predetermine the outcome of that docket by approving the Alternative Plan's proposal for four new CTs. The separate blackstart docket should explore all viable options for meeting Xcel's blackstart needs and not assume that these needs should be met with CTs or other fossil fuel resources. The results of this separate blackstart docket should inform the next IRP.

A separate blackstart docket will allow the Commission and the parties to fully evaluate Xcel's blackstart proposal with the appropriate experts and with an appropriate level of confidentiality that accounts for the sensitive, trade secret nature of blackstart-related details. A separate blackstart docket should consider several alternatives to the proposal that Xcel proposed in its Alternative Plan. Critically, the Commission and parties should evaluate whether Xcel's blackstart needs could be met with zero-carbon resources now, rather than gas-fired CTs that may or may not one day run on hydrogen. In short, a separate blackstart docket could evaluate whether there are alternatives that are more cost effective, less likely to be stranded, and have lower emissions than the proposed CTs. After evaluating all viable alternatives, the Commission could either approve a final blackstart plan or direct Xcel to incorporate the blackstart plan into its next IRP.

IV. CUB stands by the Consumers Plan.

CUB retained Vibrant Clean Energy, a leading expert in power systems planning, optimization, and modeling, to analyze NSP's proposed resource plan and evaluate the most cost-effective and carbon-aligned resource plan to benefit Minnesota's consumers. As discussed above, Xcel's Alternative Plan is a dramatic improvement from the originally proposed Supplement, and is consistent with many elements of the Consumers Plan, including accelerated coal retirements; deployment of increasing wind, solar, and battery storage; and reduced interconnection costs, as presented in more detail below. The Consumers Plan has added significant value to this IRP docket, and CUB stands by the rigor, scientific integrity, and significance of VCE's modeling.

Vibrant Clean Energy is a nationally recognized energy grid modeling and software company. VCE pursues the intelligent transformation of the U.S. electric and energy systems through complex modeling and analysis, while also providing power forecasts for wind and solar performance across the country. VCE's work has been cited in

⁸ Xcel Reply Comments, p. 82.

numerous publications including the LA Times,⁹ Vox,¹⁰ NPR,¹¹ and others, and VCE's tools and expertise have supported numerous environmental organizations, utilities, and RTOs/ISOs across the country, including MISO. VCE software, including the WIS:dom - P tool used in the Consumer's Plan analysis, is protected intellectual property, and VCE is thus the exclusive provider of VCE products.

The Company repeatedly indicated in its reply comments that CUB failed to provide sufficient information to appropriately analyze the Consumer Plan and has consistently misrepresented the function and performance of VCE's WIS:dom model. Initially, the Company suggests that "CUB's preferred plan [the Consumers Plan] did not provide enough information for us to analyze its plan in the same way."¹² To the contrary, CUB diligently provided all model outputs, standard inputs, and assumptions with the exception of WIS:dom's proprietary weather data. As evidenced by CUB's responses to Xcel's Information Requests Nos. 1-26, 53-63, 72-76, and 78, CUB included all the necessary code and information to glean the critical inputs and assumptions utilized in the Consumers Plan. However, Vibrant Clean Energy is a private company with proprietary systems, data, and information. Just as the Company (and other intervenors) must pay private companies for the use of datasets or software tools, VCE retains ownership of certain proprietary datasets. The only information not made available to Xcel was WIS:dom's proprietary weather data, which VCE purchases, collects, and cleans from available datasets and translates into usable formats for WIS:dom modeling. This dataset is available for purchase, just as the Horizon datasets are available for purchase for use with the EnCompass model. Simply, the data was excluded due to the proprietary nature of the information.

The Company made a number of additional inaccurate claims in response to CUB's Consumers Plan. The Company suggests that "CUB's alternative plan ... made a number of assumptions that are not aligned with the FRAP approach, including that it appears to exclude load and generation from NSP-W in its definition of the NSP system." The Company similarly suggests that while CUB's modeling is "correct from a scientific perspective, [it] does not guarantee that a proposed framework automatically complies with MISO Resource Adequacy and Tariff obligations."¹³ To the contrary, WIS:dom is specifically optimized to ensure that the model meets load on a 5-minute basis throughout every hour of the modeled year. Capacity obligations are consistently met not only throughout the NSP system, but throughout the entire MISO footprint. WIS:dom is similarly optimized to meet NERC and MISO Planning Reserve Margin recommendations,

⁹ <https://www.latimes.com/environment/newsletter/2021-01-07/how-rooftop-solar-could-save-americans-473-billion-dollars-boiling-point>.

¹⁰ <https://www.vox.com/energy-and-environment/2019/11/7/20951061/colorado-decarbonization-clean-energy-cheap-coal-electric-vehicles>.

¹¹ <https://www.npr.org/2021/01/25/960450616/the-climate-for-the-fight-against-climate-change>.

¹² Xcel Reply Comments, p. 125.

¹³ Xcel Reply Comments, p. 130.

along with 7% load following reserves.¹⁴ CUB met the same obligations that the Company meets in its modeling in regards to load and generation obligations.

Load-serving entities (LSEs) have multiple options to demonstrate Resource Adequacy, and the specific Fixed Resource Adequacy Plan (FRAP) obligations mentioned by Xcel are just one way in which an LSE can demonstrate that need. While LSEs can specifically meet FRAP obligations, they can similarly demonstrate Resource Adequacy responsibilities through bilateral contracts with other resource owners or through participation in a Planning Resource Auction. WIS:dom meets the appropriate MISO requirements for demonstrating Resource Adequacy and NERC recommendations around appropriate planning reserve margin requirements. In fact, no other parties in this proceeding, including Xcel, appropriately model the entire MISO footprint. By modeling the entire MISO footprint, including the entirety of the NSP system, WIS:dom captures market interactions, resource diversity, and capacity obligations across the entire footprint. Because NSP does not operate on an island – rather, it operates in the context of the broader MISO footprint – it is critical to capture system operations across the entire ISO in order to evaluate NSP’s real-world operations.

The Company goes on to explain that meeting a 7% load following reserve does not necessarily demonstrate appropriate system stability or power transfer ability, suggesting that dynamic stability analyses would be needed to appropriately evaluate the Consumers Plan. No parties, including Xcel, delivered significant dynamic stability analyses or system stability analyses in addition to their resource planning proposals. Such an analysis would require the use of specific system stability planning tools, none of which have been used in this proceeding. As such, it is inconsistent for the Company to claim that the Consumers Plan is inadequate because it does not consider such analyses when the Company itself does not present the analysis in question related to system stability. Importantly, WIS:dom appropriately considers all necessary MISO and NERC planning obligations, which includes modeling capacity obligations, transmission losses, dynamic line rating, and more. The full suite of WIS:dom’s modeling approach is detailed in the technical documentation.¹⁵

The Company states in its reply that CUB “nets” out energy efficiency and demand response resources, rather than considering the resources as generation.¹⁶ The Company is incorrect. WIS:dom-P nets out energy efficiency in its load representation but models demand response as a demand-side management (DSM) resource. The DSM resource is directly tied to WIS:dom’s weather data, and the model is required to “pay

¹⁴ Every ISO/RTO has unique requirements related to spinning reserves, in addition to planning reserves. VCE relies on a conservative standard of 7% load following reserves in order to meet grid requirements of spinning reserves across the country.

¹⁵ Available here: [https://vibrantcleanenergy.com/wp-content/uploads/2020/08/WISdomP-Model_Description\(August2020\).pdf](https://vibrantcleanenergy.com/wp-content/uploads/2020/08/WISdomP-Model_Description(August2020).pdf).

¹⁶ Xcel Reply Comments, p. 131, FN 50.

back” any demand that is “flexed” (i.e. curtailed or shifted) to meet demand obligations. This approach is generally more conservative than traditional demand response modeling, as it considers the physical limitations of demand response on the system. As explained in CUB’s Initial Comments:

the demand flexibility in WIS:dom is constrained by both weather and demand capacity. In 2040, there are 2,134 MW of available non-peak coincident demand flexibility capacity; however, not all of that capacity is able to be dispatched at once due to physical limitations modeled by WIS:dom. WIS:dom models more granularity, detailing the available MW of demand flexibility at every timestep of the analysis (every hour of the year). The combination of coincident peak and weather constraints thus limits how much flexibility is available. In essence, while WIS:dom models more megawatts of flexible capacity available each year, the model more accurately represents how and when that flexibility can be dispatched (based on physical weather constraints and coincident-peaks), which may result in fewer overall megawatt-hours of demand response dispatched. We believe this more targeted approach more appropriately models the physical realities of the electricity system.¹⁷

The approach to modeling energy efficiency, while different from how other parties treat the resource, is a well-documented planning approach that treats increased energy efficiency as equivalent to reducing generation. As further described in CUB’s Initial Comments:

The demand profiles are borrowed directly from Minnesota Smarter Grid, and thus already incorporate significant energy efficiency measures in the form of converted resistive heating and other space and water heating efficiency gains. These cumulative energy reductions amount to approximately 622 GWh of avoided electricity each year, lower than Xcel’s assumed 780 GWh of energy efficiency measures. Because the Consumers Plan did not model the specific energy efficiency programs offered by the utility, it is likely that further efficiency gains could be achieved.¹⁸

Xcel consistently discounts both the usefulness and validity of CUB’s Consumers Plan, suggesting that the plan does “not provide an adequate basis for analysis.”¹⁹ CUB respectfully rejects this notion and believes that the Consumers Plan represents a unique, cost-effective, and, most importantly, accurate resource plan that would benefit Minnesota ratepayers while advancing the State and the Company’s stated carbon reduction goals. While WIS:dom is a unique and relatively new planning tool in

¹⁷ CUB Initial Comments (Corrected), p. 14.

¹⁸ CUB Initial Comments (Corrected), p. 14.

¹⁹ Xcel Reply Comments, p. 130.

comparison to existing utility resource planning practices, it strictly adheres to the same planning requirements that other utility planning models adhere to, while demonstrating enhanced capabilities around distribution system co-optimization, resource siting, and climate change impacts.

The Consumers Plan adds significant value to this IRP proceeding. For example, despite arguments from both CUB and Sierra Club, Xcel has not revised “assumed transmission interconnection cost assumptions for greenfield resources.”²⁰ However, Xcel did choose to update transmission interconnection costs for “brownfield” resources, most notably at the Sherco site.²¹ The WIS:dom model calculated the cost for interconnecting new resources at \$149/kW.²² Xcel updated its modeling to reflect the cost of interconnection of new renewable resources at the Sherco site at \$140/kW, remarkably close to the modeled result that WIS:dom produced.²³ CUB’s modeling is the only model to account for the entire MISO system-wide costs of transmission, and thus CUB is the only party in this proceeding to appropriately consider the transmission costs across the entire MISO footprint. Because transmission planning is done on an ISO-wide basis, this implication is particularly critical to appropriately value the cost of interconnection. Moreover, as CUB pointed out in our Reply Comments, Xcel has options available to it to develop additional transmission capacity, including developing spur line capacity and using its sway within MISO to pursue transmission expansion.²⁴ CUB supports Xcel’s proposal to use its existing interconnection rights at Sherco to reduce the interconnection cost of new renewable resources that would be built on the proposed new gen-tie. CUB believes that this proposal is illustrative of the types of actions that Xcel can take to support more renewable resource development with reasonable interconnection costs in line with WIS:dom’s modeled \$149/kW cost. In other words, this example illustrates that when Xcel takes proactive steps to expand transmission capacity consistent with CUB’s recommendation, Xcel’s interconnection costs are similar to CUB’s modeled interconnection costs.

Finally, the Company explicitly mentions that there “are some improvements we can make to our future analyses,” such as the “inclusion of distributed solar as a selectable resource in our planning.”²⁵ The Company continues by explaining that “modeling economic distributed solar additions requires further coordination between the resource planning and distribution planning processes.” A defining component of CUB’s Consumers Plan is the inclusion of cost-effective demand-side resources, including distributed solar and storage, as well as the co-optimization of distribution system operations with bulk system operations. While the Company routinely discounts the usefulness of the Consumers Plan

²⁰ Xcel Reply Comments, p. 145.

²¹ Xcel Reply Comments, p. 86 and 117.

²² CUB Initial Comments, Appendix A, p. 36.

²³ Xcel Reply Comments, p. 86 and 117.

²⁴ CUB Reply Comments, p. 15.

²⁵ Xcel Reply Comments, p. 154.

in this proceeding, it also acknowledges that a core element of the Consumers Plan is something that the Company needs to improve upon.

CUB has presented a unique approach to bulk system and distribution system planning. This approach demonstrates a number of actions that Xcel can take to advance affordability, clean energy goals, and consumer-sited resources through the integration of more robust modeling tools and distribution system planning. CUB has similarly laid out a series of recommendations that will help the Company further achieve many of the benefits articulated in the Consumers Plan, including a decreased reliance on fossil fuel generators, increased adoption of consumer-sited resources, and reduced consumer electricity costs. While CUB recognizes that the WIS:dom model has never been used in a formal IRP proceeding in Minnesota, its robust, peer-reviewed methodology and software has produced valuable insight into resource planning options on the NSP system. While the Company discounts the value of such an analysis, additional and novel modeling can successfully supplement the technical record in this proceeding by providing viable resource alternatives, cost-effective system planning techniques, and other solutions that could provide the greatest value for Minnesota consumers. All models have limitations, and EnCompass is not capable of appropriately evaluating all resource options, such as co-optimized distributed energy resources. CUB believes that the Consumers Plan has provided valuable supplemental information in this proceeding.

Importantly, while the Consumers Plan presents a novel approach to resource planning, its conclusions and future implications for meeting load and consumer obligations in Minnesota are fundamentally aligned with the conclusions reached by other intervening parties, including the CEOs, Sierra Club, and the Distributed Solar Parties. While these parties diverge on some of the details of each modeling outcome, each of these intervenors has clearly demonstrated that Xcel can reliably and cost-effectively meet its demand obligations with no new fossil fuel resources, while supporting a dramatic expansion of distributed energy resources, energy efficiency and demand response, and renewable resources such as wind, solar, and battery storage.

V. The Commission should not restrict participation in future IRPs.

In its discussion of “lessons learned,” Xcel suggests that it may be necessary for the Commission to impose additional requirements on parties that participate in future IRPs, with the implication that the Commission should restrict the ability of a party to participate in the IRP process or disregard a party’s advocacy if the party does not or cannot meet these requirements.²⁶ Xcel also suggests that such requirements may be helpful to “keep future resource planning processes on track,” implying that intervenors are responsible for the numerous delays in this IRP process.²⁷

²⁶ Xcel Reply Comments, pp. 152-153.

²⁷ Xcel Reply Comments, p. 152.

CUB takes exception to Xcel's suggestion that intervening parties are the source of the delays that have occurred in this proceeding, and to Xcel's suggestions for addressing that problem. While CUB agrees that the resource planning process can and should be improved, CUB strongly disagrees that imposing additional requirements on intervening parties or restricting participation to parties that can meet such requirements is an acceptable solution. On the whole, parties' participation in this proceeding has improved the process in numerous ways, perhaps most notably by encouraging Xcel to propose an Alternative Plan that does not include the Sherco CC.

To ensure that the IRP process is timely, effective, and efficient CUB recommends that the Commission provide guidance to Xcel to improve the process but not restrict parties' ability to participate in future IRPs.

A. Public policy, and Minnesota Law, demands that IRPs be filed on a regular basis and include all interested parties.

Minn. Stat. 216B.2422 Subp. 2 requires utilities to file a resource plan with the Commission "periodically in accordance with rules adopted by the Commission" and authorizes the Commission to approve, reject, or modify the plan "consistent with the public interest." Based on this authority, the Commission promulgated rules codified in Minnesota Rules Chapter 7843 clarifying how often IRPs must be filed and what factors the Commission should consider when deciding whether to approve, deny, or modify an IRP.

Minn. Rule 7843.0300 Subp. 2 states a utility "shall" file an IRP beginning in 1991 or 1992 and "every two years afterward." In a Statement of Need and Reasonableness published in 1990 in support of Minnesota Rules Chapter 7843 (the "Chapter 7843 SONAR"), the Commission described the reasonableness and need for timely, periodic resource planning as follows:

The need for least-cost planning has become more and more apparent over the past decade or two, as load growth has become less predictable, the number and cost of utility resource options have increased, and concern over the potential consequences of pursuing certain options has multiplied. As a result of these changes, the utility and its ratepayers face a greater chance of adverse consequences from improper planning decisions.²⁸

²⁸ Minnesota Public Utilities Commission, In the Matter of the Proposed Adoption of Rules Governing the Resource Planning Process for Electric Utilities, Minn. Rules, Parts 7843.0100 to 7843.066: Statement of Need and Reasonableness, Reviser Number R-01617 (Jan. 19, 1990), available at https://www.leg.state.mn.us/lrl/sonar/sonar_results?searchtype=agency&agencyids=85.

Though Minn. Rule 7843.0300 Subp. 2 and the Chapter 7843 SONAR were written over 30 years ago, the need for least-cost planning on a regular, timely basis is just as important in 2021 as it was in 1990 – if not more so.

The price of renewable energy has declined significantly since Xcel last filed an IRP in 2015. The levelized cost of energy generated by wind declined by around 27 percent between 2015 and 2020, according to a widely cited analysis by the financial service and asset management company, Lazard.²⁹ The cost of utility scale solar energy has declined by almost 43 percent over the same period.³⁰ Both renewable energy options are now considerably less expensive than coal and typically less expensive than natural gas generation, as well.³¹ In addition, consumer demand is changing, driven by increasing energy efficiency, distributed generation, electric vehicles, and changing consumer demands. All of this change has, of course, fueled federal and state legislative changes – and Xcel's own business planning – to shift to utilizing more renewable resources. Echoing the 1990 Commission, it remains true today that, “as a result of these changes, the utility faces a greater chance of adverse consequences from improper planning decisions.”

In order for resource planning to be most effective, IRPs must be filed on a regular basis and continuously adjusted to meet shifting needs of consumers and the constantly evolving economic, environmental, technological, and regulatory factors that influence energy use, production, and transmission. In the period between a utility's IRP filings, the utility alone has visibility into its plans and the full picture of factors impacting resource decisions. In this opaque period, decisions are made regarding procurement of additional generation resources, demand response programs and rate design options that affect the utility's load curve, distribution system investments that affect resource need, and more. The IRP process is crucial so that the public and the Commission can understand the current (or at least updated) context in which these choices are made and the impacts that they have on energy and capacity needs and resources. Delaying such a review increases the likelihood that decisions are made that are inconsistent with the public interest.

B. Intervenors are not primarily responsible for the delays of this proceeding.

On January 2, 2015, Xcel filed (what ultimately became known as) its 2016-2030 Integrated Resource Plan with the Commission. The Commission approved Xcel's 2016-2030 IRP in an order issued on January 11, 2017.³² Consistent with Minn. Rule 7843.0300

²⁹ Lazard, “Levelized Cost of Energy Analysis - Version 14.0” (Oct. 2020), p. 8, available at <https://www.lazard.com/media/451419/lazards-levelized-cost-of-energy-version-140.pdf>.

³⁰ *Id.*

³¹ *Id.*

³² Minnesota Public Utilities Commission, Order Approving Plan with Modifications and Establishing Requirements for Future Resource Plan Filings, Docket No. E-002/RP-15-21 (Jan. 11, 2017).

Subp. 2, the Commission also required Xcel to file its next IRP on February 1, 2019, approximately two years following the Commission's approval of the 2016-2030 IRP. After requesting an extension on that deadline, Xcel ultimately filed its 2020-2034 Upper Midwest Integrated Resource Plan on July 1, 2019. Subsequent to Xcel's initial filing, the Commission rejected Xcel's proposal to purchase the Mankato Energy Center (MEC) and, because Xcel's initial filing assumed that it would own the MEC plant, directed Xcel to file a Supplemental Plan.³³ Since then various subsequent filing and comment deadlines have been extended seven additional times.³⁴ As a result, nearly seven years have now passed since Xcel first filed its 2016-2030 IRP, and nearly five years have passed since the Commission approved that IRP.

Though various factors (including COVID-related disruptions³⁵) underlie these extensions, some recurring problems have emerged as the most significant reasons for the delays. On one hand, Xcel has repeatedly cited the challenges it faces in addressing hundreds of information requests and thousands of comments filed in the docket.³⁶ On the other hand, the Department has repeatedly cited delays or problems with Xcel responding to information requests or providing modeling files the Department needs to complete its own modeling and review of the IRP. In either case, clearly the IRP process is not working in a manner that allows for utility resource plans to be updated, filed, reviewed, and approved on the regular basis that the Minnesota Legislature envisioned when passing Minn. Stat. 216B.2422 Subp. 2, or that the Commission envisioned when implementing Minn. Rule 7843.0300 Subp. 2.

There are strategies that utilities could employ voluntarily, or that the Commission could require, to improve the efficiency of the IRP review and approval process. Most notably, if Xcel were to provide intervening parties with access to all data and models from the outset, then there would be far less need for the intervenors to engage in multiple rounds of discovery to request that information. This would reduce: (i) the demand on Xcel to respond to numerous information requests; (ii) the Department's frustration over not receiving modeling files on a more timely basis; and (iii) intervenors' costs to conduct their own modeling through licensing modeling software and engaging in expert consultations. It would also make it easier for all involved, including Xcel and the Commission, to review various modeling outcomes on a common platform, which, in turn, would keep parties' focus on the merits or deficiencies of the IRP, not the modeling software used to evaluate it.

³³ Minnesota Public Utilities Commission, Order Suspending Procedural Schedule and Requiring Additional Filings, Docket No. E-002/RP-19-368 (Nov. 12, 2019).

³⁴ See various Notices of Extension/Variations the Commission issued in Docket No. E-002/RP-19-368 on the following dates: March 11, 2020; April 16, 2020; September 15, 2020; December 28, 2020; March 30, 2021, July 13, 2021, and July 28, 2021.

³⁵ See, e.g., Xcel Energy, Extension Request 2020-2034 Upper Midwest Integrated Resource Plan, Docket No. EE02/RP-19-368 (Apr. 10, 2020).

³⁶ See, e.g., Xcel Energy, Extension Request 2020-2034 Upper Midwest Integrated Resource Plan, Docket No. EE02/RP-19-368 (Mar. 24, 2021).

Other states' utilities commissions have addressed similar situations by requiring utilities to make more information available to intervenors. For example, in a July 17, 2021 Commission Directive,³⁷ the Public Service Commission of South Carolina (the South Carolina PSC) rejected Duke Energy's latest IRP and required the utility to resubmit it with significant modifications. Among the modifications, the South Carolina PSC directed the utility to include the following with all future IRPs:

- A technical appendix that more fully describes each of the models, presents the statistical results and shows the individual energy and peak load forecast results that were actually developed.
- A more detailed discussion of the specific methodology used to develop the synthetic loads for extreme low temperature periods.
- Further development of the methodology to model the effects of extreme low temperatures on winter peak load.
- Continued engagement with stakeholders to identify additional cost-effective EE/DSM programs to achieve greater levels of energy savings.
- Continued engagement with stakeholders to determine if additional EE/DSM sensitivities could be modeled, including exploration of other approaches for deriving the low EE/DSM forecast.
- A review of their natural gas price forecasting methodology and investigation of alternative approaches.
- Enhanced coal retirement analysis methodology.
- Corrected capital and variable cost assumptions for combustion turbine and battery storage resources and re-evaluate the reasonableness of the assumptions.
- An additional solar generic resource option modeling assumptions that reflects the kind of solar purchase power agreements ("PPA") prices that may be available in the market.
- Further investigation regarding solar capacity values and solar plus battery energy storage capacity values, with stakeholder input, discussed as part of a stakeholder engagement process.

³⁷ Public Service Commission of South Carolina, Commission Directive, Docket No. 2019-224-E/2019-225-E (June 17, 2021), available at <https://dms.psc.sc.gov/Attachments/Matter/f30b83c7-3382-4d64-b0b6-b59712378b3d>.

- Minimax regret analysis and other risk analyses.
- Revised calculation of the average retail rate impact on customers so that the assumptions and methodologies are consistent with the calculations of the Present Value Revenue Requirement (PVRR), except for the levelization of the capital-related costs.
- Details regarding the status of the Southeast Energy Exchange Market (SEEM), details regarding important current and planned activities, and information regarding the monetary benefits that have been or could be achieved by implementation of the SEEM.³⁸

The New Mexico Public Regulation Commission (New Mexico PRC) took a similar action when addressing a Public Service Co. of New Mexico (PNM) petition to retire two generators at a San Juan Generating Station (SGJS). Namely, the New Mexico PRC required PNM “at its cost, [to] afford all parties access by means of a proprietary license to all computer models used by PNM in support of its filing, including, but not limited to, its decisions to abandon its interest in SJGS to sever New Mexico ratepayers and its selection of proposed replacement resources.”³⁹

We are hopeful the actions of the South Carolina PSC and New Mexico PRC will serve as a model for how other state utility regulators – including Minnesota’s Commission – could improve the IRP evaluation process by granting intervenors reasonable access to the models utilities use to conduct and evaluate their resource plans. Doing so would ease logistical burdens on all parties and would allow intervenors to utilize resources more efficiently and effectively to evaluate, and ultimately improve, utilities’ integrated resource plans.

VI. Recommendations for implementing a modified version of the Alternative Plan

As discussed, CUB continues to support the Consumers Plan and recommends that the Commission direct Xcel to implement it.

As also discussed, CUB appreciates that Xcel’s Alternative Plan incorporates several features of the Consumers Plan. In particular, CUB supports Xcel’s proposal to increase its acquisition of wind and solar resources, constructing new gen-ties to facilitate the

³⁸ *Id.*, p. 5.

³⁹ New Mexico Public Regulation Commission, Order Initiating Proceeding on PNM’s December 31, 2018 Verified Compliance Filing Concerning Continued Use of and Abandonment of San Juan Generating Station, Case No. 19-00018-UT (Jan. 30, 2019), available at https://edocket.nmprc.state.nm.us/AspSoft/HandlerDocument.ashx?document_id=1175493.

development of new wind and solar, extending the life of the Monticello nuclear plant, and not building the Sherco CC. Because much of the Alternative Plan is directionally consistent with the Consumers Plan, CUB would not object if the Commission were to approve the Alternative Plan, provided the Commission makes several key modifications to the Alternative Plan.

Specifically, CUB recommends that the Commission:

- Direct Xcel to conduct fair and transparent solicitation processes for both PPAs and utility-owned renewables, as described in our Reply Comments.⁴⁰ To ensure such solicitation processes are competitive, robust, and transparent, the Commission should require future wind and solar procurement RFP processes to meet, at a minimum, the following conditions:
 - The competitive-bidding process should be administered by an independent third-party.
 - The competitive-bidding process should include a request for proposals that is posted publicly and open to any interested developer.
 - The request for proposals should not include geographic limitations.
 - The request for proposals should be open to power purchase agreements, build-transfer proposals, and utility self-build projects.
 - Xcel's proposed bidding process, timeline, evaluation criteria, and request for proposals language should be filed with the Commission at least one month prior to the issuance of the request for proposals. This filing should also include a contingency plan describing the subsequent process should the bidding process fail to elicit a meaningful number of bids.
- Not approve Xcel's proposed CTs and open a separate proceeding to examine blackstart issues that will inform Xcel's next IRP.
- Adopt CUB's recommendations regarding distributed generation, electrification, and advanced rate design.⁴¹ Specifically, the Commission should:
 - Direct Xcel to enable the adoption of approximately 300 MW of new distributed solar – including rooftop, community, and larger-sized, distribution system-tied developments – and 600 MW of new battery storage in the next five years.
 - Direct Xcel to explain, in its next Integrated Distribution Plan (IDP), how its distribution plan will put the Company on track to meet the level of distributed energy resource (DER) deployment in its approved IRP.
 - Direct Xcel to proactively plan investments in hosting capacity and other necessary system capacity to allow distributed generation and

⁴⁰ CUB Reply Comments, pp. 13-14.

⁴¹ CUB Reply Comments, pp. 18-20.

electric vehicle (and, CUB would add, additional beneficial electrification) additions consistent with DER deployment targets.

- Direct Xcel to plan for aggregated DERs to provide system value including energy/capacity during peak hours.
- Direct Xcel to propose programs for beneficial electrification, including programs for efficient fuel switching under the new Energy Conservation and Optimization Act.
- Require Xcel to account for anticipated effects of advanced rate design, demand response, and any other efforts to shift customer demand in its next IRP.
- Reject Xcel's suggestion that additional limitations be placed on parties wishing to intervene in future IRP proceedings.

CUB believes that the Alternative Plan as modified by the above recommendations would be in the public interest.

VII. Conclusion

CUB thanks the Commission for its consideration of these comments and again applauds Xcel for proposing a plan that does not include the Sherco CC. CUB looks forward to continued participation in this docket.

Respectfully submitted,

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