

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

121 7th Place East, Suite 350
St. Paul, MN 55101-2147

In the Matter of Xcel Energy's 2020-2034
Upper Midwest Integrated Resource Plan

PUC Docket No. E-002/RP-19-368

SUPPLEMENTAL COMMENT

The Xcel Large Industrials ("XLI")¹ submit this supplemental comment in accordance with the most recent notice of comment period issued by the Minnesota Public Utilities Commission ("Commission") in PUC Docket No. E-002/RP-19-368 related to Xcel Energy's ("Xcel" or the "Company") 2020-2034 Upper Midwest Integrated Resource Plan ("IRP"),² and in response to the reply comment/alternate plan submitted by Xcel (the "Alternate Plan").³ In sum, XLI requests that the Commission reject the Alternate Plan at this time because it does not meet the Commission's criteria for a resource plan due to its lack of detail and uncertainty. XLI therefore urges the Commission to consider the procedural and substantive alternatives outlined herein. As its preferred alternative, XLI recommends that the Commission approve Scenario 15 from Xcel's previous IRP Supplement (minus the Sherco CC unit) in order to preserve flexibility while Xcel proceeds with more thoroughly studying its blackstart proposal. Alternatively, XLI requests that the Commission approve a subset of the resources common to Scenario 15, the Updated Supplement, and the Alternate Plan, allowing the remaining resource needs to be determined in the blackstart proceeding or Xcel's next IRP.

Consistent with its prior efforts in this docket as a party,⁴ XLI again relied on J. Kennedy and Associates, Inc. ("J. Kennedy") to provide expert analysis on the Alternate Plan. For its part, J. Kennedy conducted further analysis, which is attached to this supplemental comment as Exhibit C.⁵ The Supplemental Report, briefly outlined in this comment, reinforces the analyses

¹ XLI is an *ad hoc* consortium of large industrial customers of Northern States Power Company dba Xcel Energy consisting for purposes of this filing of Flint Hills Resources Pine Bend, LLC; Marathon Petroleum Corporation; and USG Interiors, Inc.

² Second Notice of Extended Supplemental Comment Period (July 28, 2021) (eDocket No. 20217-176547-01) (the "Notice").

³ Reply Comment by Xcel (June 25, 2021) (eDocket No. 20216-175386-01) (the "Alternate Plan").

⁴ XLI Petition to Intervene (Aug. 13, 2019) (eDocket No. 20198-155171-02). Consistent with its party status, XLI submitted both an initial and reply comment with supporting expert reports attached. *See* Initial Comment by XLI with Exhibit A (Feb. 11, 2021) (eDocket No. 20212-170891-02) ("XLI Initial Comment"); Reply Comment by XLI with Exhibit B (June 25, 2021) (eDocket No. 20216-175397-02) ("XLI Reply Comment").

⁵ Expert Report by J. Kennedy (Oct. 15, 2021) (the "Supplemental Report").

contained within the XLI Initial Comment and XLI Reply Comment (and corresponding reports attached thereto) while also addressing the entirely new material contained within the Alternate Plan. In addition to expert analysis, XLI submits this supplemental comment to emphasize specific legal and policy considerations the Commission should consider that better balance the carbon reductions sought by Xcel and certain stakeholders with the cost and rate considerations impacting all customers.

I. INTRODUCTION/BACKGROUND

The instant docket has been pending before the Commission for over two years and has undergone various procedural and substantive updates. Xcel submitted its initial IRP to the Commission on July 1, 2019. At or around the same time, Xcel's petition to acquire certain facilities at the Mankato Energy Center ("MEC") was also pending before the Commission,⁶ and on September 27, 2019, the Commission verbally denied Xcel's MEC petition.⁷ Because the MEC acquisition influenced modeling assumptions in the IRP, the Commission also required Xcel file a supplemental IRP to include updated modeling to reflect the denial of its request to acquire the MEC.⁸ After various procedural extensions and the outbreak of the COVID-19 pandemic, Xcel filed its supplemental IRP filing on June 30, 2020, which was the first significant substantive update to Xcel's initial IRP.⁹ Stakeholders spent the next year issuing discovery and submitting initial and reply comments on the IRP Supplement. Despite the lengthy procedural process and robust record developed in response to Xcel's IRP Supplement, Xcel subsequently filed a new Alternate Plan as a reply comment on June 25, 2021, which marked the second significant substantive update to Xcel's initial IRP. The Alternate Plan is a drastic shift from Xcel's prior plans and lacks sufficient detail to justify Commission approval. Furthermore, the timing of the Alternate Plan forces stakeholders and the Commission to analyze an entirely new, unfinished resource plan in roughly three months, and over two years after this docket was initiated.

Consistent with Minn. R. 7843.0500, subp. 3, which contains the factors the Commission must consider when evaluating an IRP, XLI has continually approached each iteration of this IRP

⁶ See *In the Matter of the Petition of Xcel Energy for Approval of the Acquisition of the 375 MW Mankato Energy Center and the 345 MW Mankato Energy Center II*, PUC Docket No. E-002/PA-18-702, Petition (Nov. 28, 2018).

⁷ See Notice of Suspended Comment Period (Oct. 29, 2019) (eDocket No. 201910-156980-01).

⁸ *Id.*

⁹ Supplement (June 30, 2020) (eDocket No. 20206-164371-01) ("IRP Supplement").

with a focus on the following factors: (1) cost and affordability, in light of Xcel's increasing industrial rates; (2) reliability, as the electric generation sector retires traditional dispatchable units; and (3) flexibility, in transitioning to an untested carbon-free future.¹⁰ XLI has also drawn the Commission's attention to Minn. Stat. § 216C.05, subd. 2(4), which is a new energy policy goal added in the year 2017 to have "retail electricity rates for each customer class be at least five percent below the national average."

Based on these legal provisions and analysis from J. Kennedy, XLI has been advocating for Scenario 15 of Xcel's IRP Supplement rather than Xcel's previous Preferred Plan (IRP Supplement Scenario 9 (also herein, the "Updated Supplement Plan")).¹¹ XLI urged the Commission to reject Xcel's Updated Supplement Plan in favor of Scenario 15 because Scenario 15 presents a more reliable and affordable transition to a carbon-free system. All 15 of the baseload scenarios included in the IRP Supplement significantly exceed Minnesota's existing goal of a 30% emissions reduction by 2025 and 80% reduction by 2050,¹² and all 15 plans achieve reductions of at least 70% by 2030.¹³ Xcel nonetheless selected Scenario 9 as its Preferred Plan, which was one of the two plans that met its higher internal corporate goal (80% by 2030) and that also happened to be the most capital-intensive.¹⁴ The characteristics of the previous Updated Supplement Plan were as follows: (1) retire all coal units by 2030 with seasonal operation prior to retirement; (2) extend operation of Monticello to 2040, with no decision on whether to extend operation of Prairie Island; (3) add around 6,000 MW of new renewable energy over the planning period; (4) add 400 MW of demand response by 2023, and average annual energy efficiency savings of over 780 gigawatt hours; (5) construct a new Sherco CC unit;¹⁵ and (6) add firm peaking resources in the latter years of the plan.¹⁶ XLI's comments expressed concerns with this Preferred Plan, because it (1) was more expensive than other scenarios; (2) committed Xcel to extensive new capital investments in the face of declining sales and increasing rates for consumers; and (3) forgoes the extension of existing zero-emissions resources. In other words, XLI expressed concern that Xcel was failing to comply with the cost, reliability, and flexibility considerations required under

¹⁰ See, e.g., XLI Initial Comment at 2-6.

¹¹ See generally XLI Initial Comment; XLI Reply Comment.

¹² See Minn. Stat. § 216H.02.

¹³ XLI Initial Comment at Exhibit A, p. 12 ("J. Kennedy Initial Report").

¹⁴ *Id.*

¹⁵ XLI notes that, though legislatively approved, the Sherco CC was met with considerable stakeholder opposition throughout initial and reply comments.

¹⁶ XLI Initial Comment at Exhibit A, p. 12 (J. Kennedy Initial Report).

Minnesota law. XLI therefore suggested that Scenario 15, which extends operation of both the Prairie Island and Monticello nuclear plants by 10 years and maintains (for now) the current retirement dates for Xcel's two remaining coal units, strikes a better balance of cost, reliability, and flexibility considerations while still surpassing the state's carbon emission reductions goals and integrating a significant amount of renewable generation.¹⁷

In its Alternate Plan, Xcel presents an entirely different approach that was not among the 15 scenarios it modeled previously. As compared to the Updated Supplement Plan, the Alternate Plan: (1) eliminates the Sherco combined cycle unit; (2) adds 40% more battery storage capacity; (3) adds 14% more solar; and (4) adds 11% more dispatchable combustion turbine natural gas unit capacity by 2034.¹⁸ Additionally, the Alternate Plan contemplates implementation of a new zonal blackstart proceeding.¹⁹ The Alternate Plan does not set forth a specific proposal for how Xcel will achieve zonal blackstart or even a firm set of resources. Instead, Xcel, proposes an additional blackstart regulatory proceeding to determine precisely what resources are necessary for zonal blackstart in Minnesota and the Upper Midwest.²⁰ This zonal blackstart proceeding would, according to Xcel, need to involve the other utilities in Minnesota as well.²¹ For the reasons set forth in detail below, the Alternate Plan is not ready for Commission approval. In light of the Alternate Plan's deficiencies, this reply comment outlines two potential paths for proceeding.

II. ANALYSIS

As a threshold matter, XLI recognizes and appreciates the potentially innovative solution Xcel has put forward via the Alternate Plan. The Alternate Plan potentially avoids a large and expensive natural gas unit in favor of a zonal blackstart approach that may (or may not) improve

¹⁷ XLI also noted that selection of Scenario 15 does not preclude Xcel from reaching its internal goal of 80% emissions free by 2030; it simply provides stakeholders and the Commission the opportunity to delay that decision until the next IRP, when XLI fully expects additional technological advancements that may save ratepayers from significant bridge investments in the interim. *See* XLI Reply Comment at Exhibit B, pp. 12-14 ("J. Kennedy Reply Report"). Additionally, maintaining flexibility with respect to the retirement dates for the coal units could allow for additional planning and potential development of battery storage or other resources at those sites to take advantage of existing interconnection and transmission capacity. *See id.* at p. 12.

¹⁸ Exhibit C at p. 5 (Supplemental Report).

¹⁹ Blackstart is the emergency generating capacity that Xcel would use to restart other generating units after a series of outage events. While blackstart traditionally focuses on centralized units, Xcel's Alternate Plan proposes a paradigmatic shift to a zonal approach. Exhibit C at pp. 6-7 (Supplemental Report).

²⁰ Alternate Plan at 67-68. A more fulsome background is provided in Exhibit C (Supplemental Report).

²¹ Xcel Response to XLI Information Request No. 201 at c-d (Oct. 8, 2021) (eDocket No. 202110-178627-01) ("XLI IR 201").

reliability. Unfortunately, the zonal blackstart approach proposed by Xcel is tentative at best and the timing of Xcel's Alternate Plan proposal places stakeholders, like XLI, in the difficult position of attempting to address a fundamental shift in resource planning in a little over 90 days. To put that in perspective, the IRP Supplement was vetted over the course of an entire year. Xcel, by its own admission, cannot yet demonstrably show that key aspects of the Alternate Plan are viable on its system. Further, the zonal blackstart approach necessarily will require the involvement of other utilities in Minnesota and its results are uncertain. XLI is concerned with the possibility that Xcel proceeds with the Alternate Plan and then discovers that zonal blackstart is untenable or cost-prohibitive, but has already wasted resources in proceeding with some aspects of the Alternate Plan.

Therefore, while XLI is intrigued by the concepts put forth in the Alternate Plan, the Alternate Plan cannot be described as a careful, thorough, or certain resource plan and the record upon which it is being proposed is exceedingly thin. XLI therefore urges caution and supports a more thorough vetting of the zonal blackstart approach and other key aspects of the Alternate Plan. Due to the necessity of further analysis of the Alternate Plan, and specifically the zonal blackstart approach, the Commission should withhold approval of the Alternate Plan at this time. Should the Commission feel compelled to approve a plan in some fashion, XLI supports approval of Scenario 15 (minus the Sherco CC unit) or, in the alternative, a partial approval of the resources common to Scenario 15, the Updated Supplement Plan, and the Alternate Plan, for the reasons outlined in its Initial and Reply Comments and herein.

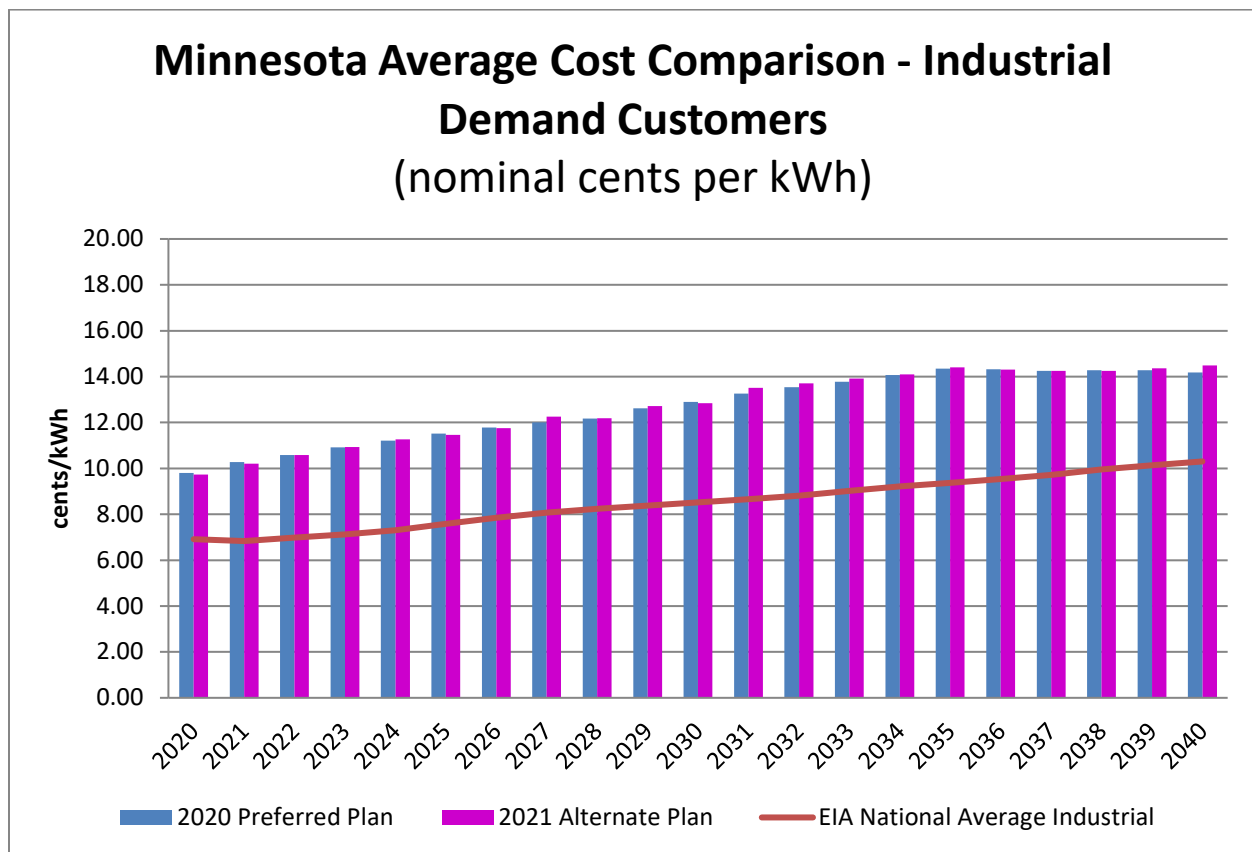
Before turning to those proposals, XLI is compelled to again²² underscore that the Commission's rules for review of resource plans have long contemplated a balancing of a variety of factors, including impacts on ratepayer rates and bills, reliability, and environmental issues.²³ The legislature further emphasized the importance of competitive rates and bills for all customer classes by enacting the state energy policy goal that rates for each customer class be *at least 5% below the national average*.²⁴ XLI is concerned that Xcel and other stakeholders are not sufficiently considering cost and affordability in their respective proposals. Again, the average

²² See XLI Reply Comment at 3.

²³ Minn. R. 7843.0500, subp. 3.

²⁴ Minn. Stat. § 216C.05, subd. 2(4) (emphasis added).

delivered cost of energy for Xcel's industrial customers was \$.0802/kWh in 2019.²⁵ This rate was roughly *17.8% above the national average* in 2019 for industrial customers, which was \$.0681/kWh.²⁶ This severe deviation from the national average is not consistent for all Minnesota investor-owned utilities. For example, Otter Tail Power Company's 2019 average delivered cost of energy for industrial customers was \$.0561/kWh.²⁷ Furthermore, Xcel's own data demonstrates that projected rates for industrial customers will not improve under either the Updated Supplement or Alternate Plan. In response to XLI Information Request No. 154,²⁸ Xcel produced the following data:



As demonstrated by the data provided, Xcel's industrial customers are already paying above the national average, and neither the Updated Supplement Plan nor Alternate Plan improves this position looking out to 2040.

²⁵ XLI Initial Comment at 3-4 (citations omitted).

²⁶ *Id.*

²⁷ *Id.*

²⁸ Xcel Response to XLI Information Request No. 154 (Aug. 13, 2021) (eDocket No. 20218-177133-01) (modified and clarified by Exhibit C at p. 11 (Supplemental Report)).

Given that industrial customers' rates are already demonstrably above the national average, in direct conflict with state energy policy, XLI urges the Commission to pause and critically examine the cost implications of the resource plans put before it. To be sure, this does not require slowing the transition to a carbon-free future. But it does require questioning Xcel's proposals and cost estimates, while allowing the opportunity for stakeholders to fully vet alternatives that involve less capital investment. To afford stakeholders the opportunity to engage in this thoughtful analysis, XLI urges the Commission to reject the Alternate Plan.

A. The Commission Cannot Approve the Alternate Plan as Proposed

1. Xcel Failed to Provide Sufficient Analysis and Evidence to Support the Alternate Plan

XLI appreciates Xcel's willingness to explore potentially innovative approaches to resource planning as our economy transitions away from centralized electricity generation and is interested in the Alternate Plan's proposal to transition away from building a large CC unit at Sherco to instead proposing small combustion turbine resources.²⁹ Unfortunately, the timing and content of the Alternate Plan put stakeholders in the impossible position of attempting to evaluate an incomplete plan over a very limited amount of time.³⁰ As detailed in the attached Supplemental Report from J. Kennedy, Xcel's proposal is not ripe for Commission review as a viable resource plan for three reasons.

First, the zonal blackstart plan is not sufficiently developed and undeniably requires additional analysis in a new proceeding. In the Alternate Plan, Xcel specifically concedes that a "proceeding that looks more broadly at blackstart needs for Minnesota and the Upper Midwest"³¹ is needed. The Company elaborated on that statement in discovery, explaining that it believes "a proceeding dedicated [to the shift to a zonal blackstart] is appropriate **given the important reliability issues involved**, and [Xcel expects] issues related to the location and **type of resources**

²⁹ While XLI appreciates Xcel's creativity, to be clear, XLI does not support approval of specific natural gas resources at this time. The determination of if/what/when natural gas resources are added to Xcel's system should be resolved in the upcoming blackstart proceeding or next IRP.

³⁰ Per the Notice, the Commission alerted stakeholders that it did not expect to grant additional extensions. Additionally, the Commission "expects the utility...to provide timely and accurate information in response to information requests." Unfortunately, continuous delays have further constrained that already short review period. See Letter by the Minnesota Department of Commerce, Division of Energy Resources (Aug. 26, 2021) (eDocket No. 20218-177469-01).

³¹ Alternate Plan at 67-68.

to be added would be addressed.”³² Further, the zonal blackstart proceeding would involve all Minnesota utilities and could be influenced by their resource needs as well. In other words, reliability and resource type are open issues under the Alternate Plan. If the Commission were to approve Xcel’s Alternate Plan, inclusive of the zonal blackstart approach, it would therefore be approving a plan that is based in theory, has not yet been adequately tested, and could result in the need for additional resource investments to become viable. Additionally, Xcel’s discovery responses indicate that the Alternate Plan would include near-term investment that would lock Xcel into the zonal blackstart approach, or at least make reversal costly.³³ The Commission could effectively be writing Xcel a blank check, funded by ratepayers, to pursue whatever resources will ultimately be necessary for the zonal blackstart approach. Though there may ultimately be benefits from transitioning to a zonal blackstart program, at this juncture, there are currently too many unknowns (*e.g.*, cost, location, and timing of future investments).³⁴

Second, XLI is troubled by the transmission planning aspect of the Alternate Plan. While XLI supports Xcel’s plans to use existing interconnection capacity at the King and Sherco sites, Xcel performed only basic cost analyses and made significant assumptions within its modeling.³⁵ Indeed, certain modeling sensitivities add transmission costs significant enough to erode any perceived savings under the Alternate Plan.³⁶ This use of rudimentary cost estimates, coupled with sensitivities that are demonstrably more expensive than suggested by the Alternate Plan, underscores the need for more analysis of the transmission aspects of the Alternate Plan.

Lastly, the Commission should not approve the Alternate Plan until there is a more robust record addressing potential reliability concerns. The transition to higher renewable penetration levels will require innovative approaches to maintain grid reliability. Indeed, the North American Electric Reliability Corporation (“NERC”) projects that MISO could potentially have a capacity shortfall by 2025, attributable to the higher levels of renewable penetration. NERC similarly warns of overreliance on natural gas resources, as they could leave utilities susceptible to gas supply and

³² Xcel Response to XLI Information Request No. 149 (July 29, 2021) (eDocket No. 20217-176599-02) (emphasis added); *see also* Alternate Plan at 73.

³³ *See, e.g.*, XLI IR 201 at a-b, c-d.

³⁴ Exhibit C at pp. 7-9 (Supplemental Report).

³⁵ *Id.* at pp. 8-9; Xcel Response to XLI Information Request No. 158 (July 30, 2021) (eDocket No. 20217-176609-05).

³⁶ Exhibit C at pp. 9-10 (Supplemental Report); *id.* at p. 8 (discussion of the Sherco gen-tie sensitivity and the resulting lost savings).

pricing issues.³⁷ To be sure, NERC’s concerns are applicable to the Alternate Plan put forth by Xcel. The Alternate Plan contemplates the addition of significant renewable resources and increased reliance on natural gas combustion turbines coupled with retirement of existing coal and nuclear facilities.³⁸ Until there is a thorough vetting of the proposals put forth by Xcel, analyzing timing, reliability, and cost of the Alternate Plan, Commission approval is inappropriate.

XLI therefore maintains that the Alternate Plan lacks sufficient evidence to be considered a viable option at this time. While the short time frame to analyze the Alternate Plan contributed to these deficiencies, the larger issue that remains is that the Alternate Plan is simply incomplete because Xcel does not know what resources it will need to achieve a zonal blackstart approach (assuming such an approach is even viable).

2. The Alternate Plan Fails to Satisfy State Law and the Commission’s Regulations

In addition to the evidentiary failures, the Alternate Plan also fails to meet the legal criteria to be considered a viable resource plan. At the most basic level, the Alternate Plan fails to meet the definition of “resource plan” pursuant to Minn. Stat. § 216B.2422, subd. 1(d). There, a “resource plan” is defined as “a set of resource options that a utility could use to meet the service needs of its customers over a forecast period...”³⁹ Of significance is the meaning of “could” within the definition. In this context the term “could” should be interpreted as can or capable, meaning that a resource plan must consist of a set of resource options that are capable and can be used to meet the service needs of customers. As articulated above, Xcel acknowledges that it does not know if the Alternate Plan meets this requirement. Again, until the blackstart proceeding concludes and there is a thorough record to support Xcel’s zonal blackstart approach, Xcel cannot claim that the Alternate Plan can “meet the service needs of its customers.” Therefore, until the Alternate Plan is sufficiently developed to satisfy the definition of “resource plan” pursuant to Minn. Stat. § 216B.2422, subd. 1(d), the Alternate Plan is not properly before the Commission, and the Commission should reject it.

³⁷ *Id.* at pp. 9-11.

³⁸ *Supra* note 18.

³⁹ Emphasis added.

Not surprisingly, such a rejection would be consistent with the factors the Commission must consider in evaluating the Alternate Plan. Under Minn. R. 7843.0500, resource plans must be evaluated based on their ability to maintain or improve reliability, keep customers' rates and bills as low as practicable, minimize socioeconomic and environmental impacts, enhance the utility's ability to respond to change (i.e., flexibility), and limit risk.⁴⁰ In the Alternate Plan, the evidentiary record and analysis demonstrates that reliability and cost are uncertain, flexibility may be limited, and risk is increased. Again, Xcel concedes that "a proceeding dedicated [to the shift to a zonal blackstart] is appropriate **given the important reliability issues involved**, and [Xcel expects] issues related to the location and **type of resources** to be added would be addressed."⁴¹ Ensuring reliability may come at a cost that is much higher than currently assumed, especially when the types of resources to be added are yet to be evaluated. There is thus no basis upon which to find the factors contained within Minn. R. 7843.0500 support approval of the Alternate Plan.

XLI therefore respectfully requests that the Commission adopt the following decision option related to Xcel's Alternate Plan.

- The Commission rejects the Alternate Plan because it fails to comply with the evidentiary and legal requirements applicable to resource plans.

XLI understands that the Commission may not be satisfied with an outcome that merely rejects Xcel's Alternate Plan without taking other substantive steps. As such, in the forthcoming sections, XLI endeavors to provide the Commission with additional alternatives for consideration.

B. Should the Commission Seek to Approve a Plan in Its Entirety, Scenario 15 Balances Cost, Reliability, and Flexibility

XLI maintains the positions articulated in its Initial and Reply comments with respect to Scenario 15. In the event that the Commission determines that selection of a complete resource plan is appropriate, XLI urges adoption of Scenario 15 (minus the Sherco CC), because it presents a more certain, more reliable, and less expensive transition to a carbon-free future. Scenario 15 maintains many of the core tenants of Xcel's preferred scenarios in this IRP. The energy landscape is undeniably in the midst of transitioning from carbon-emitting generation to carbon-free energy,

⁴⁰ Minn. R. 7843.0500, subp. 3.

⁴¹ Xcel Response to XLI Information Request No. 149 (July 29, 2021) (eDocket No. 20217-176599-02) (emphasis added); *see also* Alternate Plan at 73.

and Scenario 15 does not depart from this goal. As depicted in XLI's Reply Comment, Scenario 15 contemplates 9,000 MWs of total renewable generation, which is 82% of the amount contemplated by Xcel's previous Preferred Plan.⁴² Unlike the Alternate Plan, however, Scenario 15 is the least-cost plan and provides increased flexibility to mitigate potential reliability concerns associated with the transition to carbon-free generation. However, given the uncertainty of the zonal blackstart approach, XLI would recommend that the Commission withhold approval⁴³ of the Sherco CC unit, which may not be necessary if Xcel proceeds with a zonal blackstart approach.

Increased flexibility is achieved in Scenario 15 through the extension of operations at both the Prairie Island and Monticello nuclear plants by 10 years and maintaining (for now) the current retirement dates for Xcel's two remaining coal units, which strikes a better balance of cost, reliability, and flexibility considerations while still surpassing the state's carbon emission reduction goals and integrating a significant amount of renewable generation.⁴⁴ XLI maintains that the combination of Xcel's higher-than-average industrial electricity rates and potential reliability concerns associated with rapid decarbonization further underscore the need for cost sensitivity and flexibility. Furthermore, by forgoing early retirement decisions, the Commission leaves the potential for these resources to be considered in the blackstart proceeding. XLI, therefore, supports the following decision alternative should the Commission elect to approve a scenario from the IRP Supplement:

- In recognition of the importance of affordability, reliability, and flexibility as Xcel explores how to best transition to a carbon-free future, the Commission approves IRP Supplement Scenario 15, with the caveat that the Commission is not approving the Sherco CC unit at this time in light of Xcel's stated desire to explore a zonal blackstart approach.

⁴² XLI Reply Comment at Exhibit B at pp. 3-5 (Reply Report).

⁴³ XLI appreciates that Xcel may not require the Commission's approval to proceed with the Sherco CC unit given the statutory directive in Minnesota Session Laws 2017, Ch. 5, H.F. No. 113. However, XLI would urge the Commission not to provide another layer of approval to the Sherco CC unit given the potential for it to be unnecessary in a zonal blackstart approach.

⁴⁴ XLI also notes that selection of Scenario 15 does not preclude Xcel from reaching its internal goal of 80% emissions free by 2030; it simply provides stakeholders and the Commission the opportunity to delay that decision until the next IRP, when XLI fully expects additional technological advancements that may save ratepayers from significant bridge investments in the interim. *See* Exhibit B at pp. 12-14 (Reply Report). Additionally, maintaining flexibility with respect to the retirement dates for the coal units could allow for additional planning and potential development of battery storage or other resources at those sites to take advantage of existing interconnection and transmission capacity. *See id.* at p. 12.

To be clear, such an approval does not foreclose other options in the future. Xcel could, after thoroughly studying its options in the zonal blackstart proceeding, propose the Sherco CC unit or different retirement dates in its next IRP.⁴⁵ The important aspect of Scenario 15 is that it does not close the door on existing resources that may be helpful to consider in the zonal blackstart proceeding. It approves the necessary carbon-free resources that Xcel will need regardless and gives Xcel flexibility to explore all of its options in the zonal blackstart proceeding and its next IRP.

C. Should the Commission Wish to Find a Middle Ground, an Alternate Procedural Path Is Also Workable

For the reasons discussed above, the Commission cannot approve the Alternate Plan currently before it. If, however, the Commission is reticent to approve Scenario 15, it could adopt a hybrid approach to leverage some of the potential benefits from the blackstart proceeding while maintaining some of the protections offered by more rigorously tested alternatives such as Scenario 15 and pursuing generation additions that are common to the various proposals.

With respect to the latter, the plans supported by the parties in this proceeding share common features. Scenario 15, the Updated Supplement Plan, and the Alternate Plan all include, at a minimum: (1) 0.6 GW of Distributed Solar; (2) 2.0 GW of Energy Efficiency; (3) 0.5 GW of Demand Reduction; (4) 0.8 GW of Wind; and (5) 2.7 GW of Solar.⁴⁶ Additionally, though XLI's preferred Scenario 15 does not include the addition of battery storage resources, XLI is not opposed to inclusion of batteries in the event a demonstration of cost-effectiveness can be made. As a hybrid approach, the Commission could issue a partial approval of Xcel's additions of these resources, to minimize any delay of decarbonization associated with the requisite analysis in a blackstart proceeding.

⁴⁵ If a zonal blackstart plan proves viable, Xcel could also propose a change to its resource plan through the mechanism provided in Minn. R. 7843.0500, subp. 5, which contemplates the utility filing a notice of changed circumstances that may significantly impact the selection of an IRP. Upon receipt of such a notice, the Commission will consider whether additional administrative proceedings are necessary prior to Xcel's next resource plan. If, on the other hand, zonal blackstart proves cost-prohibitive or requires a different mix of resources, the Commission will not have locked Xcel into such an approach, will have maintained options with respect to retirement dates, and will have flexibility to move forward.

⁴⁶ Exhibit C at pp. 5-6 (Supplemental Report).

With respect to the former, XLI acknowledges that the blackstart proceeding holds promise. Unfortunately, there is significant risk regarding the specific resources that will be needed. In particular, transmission expenses, reliability, and the specific resources needed are in question. At present, Xcel's zonal plan relies on hypothetical gas-fired CT units. But it is not clear those are the only, or best, resource options. For example, and as a means to preserve reliability and avoid (or further minimize) investment in bridge natural gas-fueled generating resources, it could be cost-effective to continue economic dispatch of certain coal-fired units while carbon-free alternatives are developed. To assess the viability of these various options (and potentially others), the Commission could institute the zonal blackstart proceeding proposed by Xcel, with specific direction to explore alternatives beyond those in the Alternate Plan.

Specifically, XLI suggests the following alternative decision option as a hybrid approach:

- The Commission rejects Xcel's Alternate Plan due to a lack of record support. In recognition of the need for certain resources common in various plans submitted by Xcel and supported by intervenors in this proceeding, the Commission approves Xcel's proposed additions of: (1) 0.6 GW of Distributed Solar; (2) 2.0 GW of Energy Efficiency; (3) 0.5 GW of Demand Reduction; (4) 0.8 GW of Wind; and (5) 2.7 GW of Solar. The Commission further orders an investigatory docket to include all Minnesota utilities to address a zonal blackstart approach in Minnesota and the resources that would support such an approach. The proceeding should address:
 - Whether a zonal blackstart approach can provide a cost-effective (from both a rate and bill impact perspective) and reliable alternative to centralized blackstart;
 - The resources that would best support zonal blackstart to provide reliable and cost-effective capacity and energy to consumers; and
 - Whether prolonged economic dispatch of existing resources can avoid significant capital investments in interim natural gas resources, thereby ultimately accelerating the transition to a carbon-free future.

III. CONCLUSION

XLI appreciates the parties' contributions to this proceeding and Xcel's efforts to update its resource plans and anticipate issues such as zonal blackstart. However, Xcel's submission of three different preferred plans and sets of modeling over the course of two years has led to a significant amount of wasted analysis by the parties in this proceeding. Despite the size of the record, the Commission has before it a proposed plan that has not been thoroughly analyzed and cannot be approved without further analysis of the zonal blackstart approach. For this reason, XLI suggests that the Commission reject the Alternate Plan and take one of two paths forward.

First, the Commission could approve Scenario 15 (minus the Sherco CC), which includes many of the resources common to Xcel's preferred plans and supported by other parties in this proceeding, but preserves flexibility by not locking in accelerated retirement dates for existing resources. The Commission could simultaneously commence a proceeding to explore zonal blackstart and leave the door open for Xcel to propose changed circumstances to its IRP (or changes in its next IRP) if the zonal blackstart approach proves viable. Alternatively, the Commission could issue a partial approval of the resources common to many of the favored plans in this proceeding, which would include distributed solar, demand reduction, energy efficiency, and solar. The Commission could then commence a proceeding to consider zonal blackstart and the attendant resources necessary to support such an approach. Either of these approaches would result in Commission approval of a thoroughly vetted set of resources and maintain flexibility to thoroughly analyze all options in the blackstart proceeding.

Dated: October 15, 2021

Respectfully submitted,

STOEL RIVES LLP

/s/ Andrew P. Moratzka

Andrew P. Moratzka

Riley A. Conlin

33 South Sixth Street, Suite 4200

Minneapolis, MN 55402

Tele: 612-373-8800

Fax: 612-373-8881

Jessica L. Bayles

1150 18th Street NW, Suite 325

Washington, DC 20036

Tele: 202-398-1795

Fax: 202-621-6394

ATTORNEYS FOR THE XCEL LARGE
INDUSTRIALS

112568014.10 0064590-00012

EXHIBIT C

**Supplemental Comments to Xcel Energy's
2020-2034 Alternate Integrated Resource Plan
Docket No. E002/RP-19-368**

Xcel Large Industrials

October 15, 2021

TABLE OF CONTENTS

Executive Summary	3
Prior Reports	4
Xcel’s Alternate Plan	5
Analysis	6
Blackstart Plan	6
Transmission Plan.....	8
Resource Adequacy and Diversity.....	9
Rate Concerns and Modeling Issues	10
Timing Considerations	12
Recommendation.....	12
Conclusion	13

Executive Summary

J. Kennedy and Associates, Inc., in its role as retained expert for the Xcel Large Industrials ("XLI"),¹ submits this Supplemental Report in response to the most recent Notice of Extended Reply Comment Period issued by the Minnesota Public Utilities Commission ("Commission") in PUC Docket No. E-002/RP-19-368 related to Xcel's 2020-2034 Upper Midwest Integrated Resource Plan ("IRP") and Xcel's Reply Comments and Alternate Plan. While Xcel's Alternate Plan presents potentially innovative ideas, it rests on a number of simplistic analyses that leave ratepayers exposed to significant risks relating to its blackstart plan, transmission upgrades, MISO resource adequacy, and others. The Company presents the Alternate Plan as \$142 million more economic than the Updated Supplement Plan in PVRR benefits,² but its own transmission upgrade price sensitivity would add \$132 million, nearly wiping out the projected savings on a PVRR basis and eliminating about 40% of the \$372 million PVSC savings.³ The high-level analyses presented by Xcel have the effect of masking ratepayer risk, rather than illuminating it.

Further, we continue to have concerns regarding reliability. As will be discussed further below, the North America Electric Reliability Corporation's ("NERC") 2020 Long-Term Reliability Assessment reinforces the notion that there are reliability challenges that must be dealt with sooner, rather than later, in transitioning to a highly renewable grid.

The Company's Alternate Plan, or any other plan that does not extend the Company's nuclear units and/or commits to early retirement of the Company's Sherco 3 and AS King coal units at this time raises unnecessary risks in light of the proposed blackstart proceeding. There are simply too many uncertainties to move forward with those retirements in this IRP. A more certain, reliable, and cost-effective approach would be Scenario 15 (minus the Sherco CC unit), which does not commit to early retirement of the Sherco 3 and AS King coal units, results in Xcel owning a significant amount of renewable resources (almost 10,000 MW by 2034), commits to extending the operating lives of the Monticello and Prairie Island Nuclear Plants, and still complies with the state's 30% CO₂ reduction target by 2025, and 80% CO₂ reduction target by 2050. A significant benefit to selecting Scenario 15 at this time is the flexibility it offers because there is time before significant investment decisions have to be made while additional analyses can be conducted. With the flexibility afforded by Scenario 15, final investment decisions could be made by the time the Company files its next IRP. This path forward best balances the affordability, reliability, and flexibility considerations important to the Commission's consideration of this IRP.

Notwithstanding this recommendation, should the Commission elect to move forward with substantive aspects of the Alternate Plan, approval of a subset of the resources common to Scenario 15, the Updated Supplement Plan and the Alternate Plan, while allowing the remaining resource

¹ XLI is an *ad hoc* consortium of large industrial customers of Northern States Power Company dba Xcel Energy ("Xcel" or the "Company") consisting for purposes of this filing of Flint Hills Resources Pine Bend, LLC; Marathon Petroleum Corporation; and USG Interiors, Inc.

² Reply Comments by Xcel at 12 (June 25, 2021) (eDocket No. 20216-175386-01) ("Alternate Plan").

³ *Id.* at pp. 2, 151; *see also* XLI Information Request No. ("IR #") 175, Attachment A (transmission sensitivity costs); Alternate Plan at p. 2 (expected PVRR and PVSC savings over the Supplement Plan).

needs and retirement dates to be determined in the blackstart proceeding or Xcel's next IRP, would provide the most flexibility for the blackstart proceeding while avoiding uncertain costs.

Prior Reports

In our prior reports, we recommended that Xcel adopt Scenario 15 as opposed to the Company's preferred Scenario 9 because of the greater flexibility, adaptability, and affordability that Scenario 15 offers. In addition, Scenario 15 still expediently transitions Xcel's generating portfolio away from carbon emitting resources and adds significant amounts of renewable generation.

We continue to believe there is no reason for the Company to commit to its proposed early AS King and Sherco 3 coal retirement dates or assume retirements of its remaining nuclear assets, and we recommend that the Commission defer setting retirement dates until the next IRP. We provide this recommendation not because we want to ensure that coal units operate longer, but simply because there is a great deal of uncertainty regarding grid stability and reliability that could arise in the coming years, and there is still time before a final retirement decision has to be made for those units. Given the pace at which renewables are being added throughout MISO, there is a chance that these coal plants could serve as valuable reliability and stability backstops during this transition to a highly renewable grid, and we see no benefit to making a commitment to retire them at this time. These coal units are expected to operate at reduced capacity factors and would not be a significant drag on the Company's realized carbon emissions. In our view, by committing to retire these coal units in this IRP, the Company would be forfeiting the opportunity to evaluate the units further as potential valuable firm dispatchable resources that may be needed to operate, especially during periods of low or intermittent renewable output. As utilities navigate the complexities and uncertainties of the transition to more renewable resources, the most prudent decision would be to preserve flexibility rather than commit to retiring the Company's existing resources before knowing the extent to which they will be necessary for maintaining reliability on a grid dominated by renewable resources, which has never existed before.

This is even more important when considering the urgent need for upgrades to the transmission system, and especially considering the difficulties the industry has experienced at times in completing transmission projects in a timely and economic manner. These transmission investments will be necessary to be able to move power from where the sun shines and the wind blows to where the load is located. It is imprudent to commit to arbitrary retirement dates now, before determining how these upcoming challenges play out. If everything goes well, there is still plenty of time left to plan, schedule, and execute the retirement of the AS King and the Sherco 3 coal units on the Company's preferred schedule. However, if transmission upgrades do not go as smoothly as hoped, it may be fortunate that the Commission chose to preserve flexibility at this juncture rather than committing to early retirement dates.

Xcel's Alternate Plan

In its most recent filing, the Company unveiled its Alternate Plan, which, like previous plans (previously approved or proposed), includes the retirement of Sherco 1 in 2026, Sherco 2 in 2023, AS King in 2028, and Sherco 3 in 2030.⁴ Under the Alternate Plan, these resources would be replaced primarily by solar and CT resources. Compared to the Updated Supplement Plan, the Alternate Plan would eliminate the Sherco CC unit, and add 40% more battery storage, 30% more wind, 14% more solar, and 11% more dispatchable peaking CT capacity by 2034.⁵ The table below shows the differences between the Company's resource expansion plans, including Scenario 15 from its Supplemental IRP, the Updated Supplement Plan, and the Alternate Plan from the Reply Comments.

Xcel Expansion Plans, 2020 – 2034

	Scenario 15	Updated Supplement Plan	Alternate Plan
Monticello Nuclear	Extend for 10 years	Extend for 10 years	Extend for 10 years
Distributed Solar	Add 0.6 GW	Add 0.6 GW	Add 0.6 GW
Energy Efficiency	Add 2.0 GW	Add 2.0 GW	Add 2.0 GW
Demand Reduction	Add 0.6 GW	Add 0.5 GW	Add 0.5 GW
Prairie Island Nuclear	Extend for 10 years	Retire 2033-2034	Retire 2033-2034
Coal Units	Retire by 2036	Retire by 2030	Retire by 2030
Combined Cycle⁶	Add 0.8 GW	Add 0.8 GW	No Addition
Wind	Add 0.8 GW	Add 1.9 GW	Add 2.7 GW
Solar	Add 3.0 GW	Add 2.7 GW	Add 3.1 GW
Firm Peaking	Add 0.7 GW	Add 2.6 GW	Add 2.9 GW
Battery Storage	No Addition	Add 0.1 GW	Add 0.2 GW
Sherco and King			
Gen-ties	No Addition	No Addition	Included in Plan

As noted above, the Company's Alternate Plan no longer includes the addition of the Sherco CC unit, and given that the Company will need to add more renewable resources, the Company's Alternate Plan calls for the addition of two new transmission lines, one that is a 140-mile 345 kV line beginning at the Sherco plant and ending in Lyon County in southern Minnesota, and the other that is a 15-mile 345 kV line beginning at the AS King plant and ending in Wisconsin. The Company believes those transmission lines would allow it to add a substantial amount of incremental wind and solar resources to take advantage of interconnection rights that would

⁴ See XLI IR # 157.

⁵ Alternate Plan at pp. 100, 113 (*compare* Table 4-6 to Table 4-10).

⁶ As filed, both Scenario 15 and the Updated Supplement included the Sherco CC. As outlined in this report and in XLI's supplemental comment, approval of either scenario does not require inclusion of the Sherco CC.

become available upon the retirement of the AS King and Sherco plants.⁷ Xcel refers to those transmission lines as “gen-ties,” reflecting the fact that they will tie in with new wind and solar generation facilities.

Furthermore, with the early retirement of the AS King and Sherco coal units, and given the decision to no longer add the Sherco CC unit, the Company determined additional dispatchable capacity would be necessary and it would now require significant upgrades to its blackstart capability, which is the emergency generating capacity that the Company would use to restart other generating units after a serious outage event occurs. Significantly, because of the removal of the Sherco CC in the Alternate Plan, the Company proposes transitioning its blackstart plan away from a traditional centralized blackstart plan, where fewer, larger units are relied on for restart capabilities, to a decentralized blackstart plan with a greater number of smaller, geographically dispersed units available to assist with restarting the grid in the event of a blackout.

Analysis

The Alternate Plan is expected to require less generation plant capital investment than the previous Updated Supplement Plan and includes necessary transmission investments; however, the analyses used to justify the Alternate Plan are too simplistic and the degree of uncertainty involved is far too great to support it until it is more thoroughly analyzed.

As it stands now, the blackstart plan is not a fully-fledged plan, and the Company admits that it will need a dedicated proceeding to fully understand the costs and benefits, including consideration of critical details like the location of resources, type of resources, and inclusion of renewable generation.⁸ Furthermore, it appears that the dedicated proceeding will require a statewide analysis of zonal blackstart capabilities necessarily implicating participation by the other utilities in Minnesota.⁹ Likewise, the Company's transmission analysis for the AS King and Sherco gen-tie upgrades has only been investigated at a high level and will need to be significantly expanded and scrutinized before being considered for Commission approval. These shortcomings do nothing to abate our existing concerns about upcoming resource adequacy challenges in MISO, the timing of elements included in the plan, and the lack of apples-to-apples comparisons with other resource plans that the Company previously evaluated, including XLI's preferred Scenario 15. We discuss each of these concerns in more detail in the sections below.

Blackstart Plan

A utility's blackstart plan is vital and is relied on to restart the utility's generating units and restore power to customers following a major outage of those units. Due to the critical importance of the blackstart plan, any relevant changes to the system merit careful consideration. The Company's

⁷ Alternate Plan at p. 15 (Alternate Plan includes approximately 2,000 MW of interconnection rights at Sherco and 600 MW at AS King).

⁸ See XLI IR #149.

⁹ XLI IR #201.

Alternate Plan envisions a switch from a centralized blackstart plan to a zonal blackstart plan, which the Company describes as a plan “to fundamentally change our approach to system restoration.”¹⁰ Xcel explains that the zonal plan would make use of a greater number of geographically decentralized blackstart units rather than fewer centralized blackstart units. As the Company presents it, this will lead to faster, more flexible restoration of power in the event of a future outage. However, the Company has more work to do to develop its plans, as it notes in its IRP Reply Comments it is “proposing an early conceptual idea with initial cost estimates.”¹¹ Until ratepayers can be reasonably sure of the costs, benefits, and risks, the Commission should not approve the zonal blackstart plan.

The Company has only presented high-level analyses of its blackstart plan, which includes many simplifying assumptions. The simplifying assumptions were made regarding restoration percentages (which rely on Xcel's “engineering judgement”), the time required to energize transmission lines (longer lines take longer to balance loading on generating units), time of year of the blackout (which units are idled and their capacity depend on time of year and ambient temperature), any damage to critical equipment (the analysis assumes none), and impacts during extreme cold weather.¹² The Company notes that it is “able to apply a more refined level of engineering judgement” in the case of the prior centralized plan than the new zonal blackstart plan because of its lack of experience operating a zonal blackstart system and the increased uncertainty of the proposed blackstart plan.¹³

Additionally, the Company's zonal blackstart plan intends to partially rely on renewable resources as blackstart units in the event of a blackout. The Company used MISO accreditation percentages to calculate contributions from their renewable resources available for blackstart assistance.¹⁴ However, these resources may not be able to provide much, if any, blackstart capability depending on the weather conditions at the time of a blackout. How the Company would handle a blackout that occurs at night, for example, and what the restoration times would be in that scenario remains unclear. These critical details must be studied and resolved before any commitment is made to proceed with the Company's proposed Alternate Plan.

The Company's stated intention is to push further discussion and deeper analysis of the blackstart plan to a separate proceeding.¹⁵ As it stands now though, important details including the potential range in cost, location, timing, and characteristics of the new blackstart resources are unknown. Additionally, the extent to which inherently intermittent resources like solar and wind can or cannot be relied upon as blackstart units needs to be determined, and how quickly customers will

¹⁰ See XLI IR #149

¹¹ Alternate Plan at p. 151.

¹² See XLI IR #152

¹³ *Id.*

¹⁴ *Id.*

¹⁵ See XLI IR #149; see also XLI IR #201 (confirming that the blackstart proceeding will require statewide participation).

have their power restored after a blackout under the zonal restoration plan remains unanswered. Other questions include what CTs will have to be added, and whether other resources already exist or could be acquired as PPAs that could satisfy the blackstart requirements. These issues deserve full consideration by stakeholders before such a plan is approved.

The most prudent course of action would be to wait before making certain long-term decisions. As such, the Commission should not approve a transition to the zonal blackstart plan until ratepayers have reasonable certainty that the Company's plan will be cost effective and reliable, and, as mentioned previously, not yet commit to the early retirement or shut down of the Company's remaining nuclear or coal units. At this juncture, there are simply too many unknowns in the Company's plan to fully commit to it. Therefore, we recommend refraining from making any determinations regarding retirement dates or the near-term resource additions that conflict with the Company's Scenario 15, Updated Supplement Plan, and the current Alternate Plan prior to the conclusion of the blackstart proceeding (e.g., the Sherco CC unit in Scenario 15 and the Updated Supplement Plan versus the CT units in the Alternate Plan). Doing so will maximize the Company's flexibility to consider all resource options in the blackstart proceeding.

Transmission Plan

Like the blackstart plan, the Company's transmission upgrade plan needs to be significantly evaluated before the Alternate Plan is approved. As we mentioned in our reply report, transmission projects are often subject to delays and cost overruns.

While the King and Sherco gen-ties hold promise, the cost of those transmission lines, and the possibility of delays that could occur, are a concern. As it stands now, the Company has only performed a simplistic cost analysis that uses an assumed transmission length and cost-per-mile (with an adder for synchronous condensers) estimate to derive gen-tie upgrade costs.¹⁶ Likewise, the Company's current \$/kW interconnection cost estimate was determined by taking the project cost derived above and dividing by the expected interconnection capacity.

Further, the results of the Company's transmission sensitivity analysis are concerning. The Company explored the impact of adding an additional 35 miles to the length of the Sherco gen-tie, at an addition of \$135 million to the total project cost.¹⁷ With just this one sensitivity to the transmission upgrade cost, the Company's expected \$142 million PVRR savings over the Updated Supplement Plan would be nearly eliminated, and about 40% of the \$372 million expected PVSC savings would vanish (PVRR and PVSC benefits would be reduced by \$132 million). Considering the historical cost overruns and construction delays, and the fact that the Company does not know what the length of the lines will ultimately need to be, we do not think the Company's sensitivity is at all inconceivable. Given that the Alternate Plan's relative savings could be eliminated by a not unlikely sensitivity, we are skeptical of the potential savings Xcel associates with the Alternate

¹⁶ See XLI IR #158.

¹⁷ Alternate Plan at p. 151.

Plan. We believe the transmission assumptions warrant more thorough analyses to confirm the reasonableness of the Alternate Plan. In the absence of such reasonable assurance, we recommend the Commission maintain flexibility by waiting to make certain decisions such as committing to the early retirement of AS King and Sherco 3 units or not extending the nuclear units at this time.

Resource Adequacy and Diversity

The Alternate Plan raises concerns about the adequacy of resources in the MISO system in the coming years given the level of intermittent renewable resources expected to be added to MISO. Like the Company, other utilities in MISO are preparing to retire firm capacity early. This firm capacity is being replaced, to a large extent, by intermittent renewable resources. We pointed out in our previous reports that MISO's Renewable Integration Impact Assessment states that MISO will need to undergo "transformative thinking" as more renewables are added to the system. The report also states that 30% penetration of renewables, which could occur as soon as 2026, poses "significant challenges" for the system, not just the local area where renewable resources may be clustered.¹⁸ While there is a clear need to rapidly cut carbon emissions, the significant additions of renewable resources and concurrent retirement of firm capacity might lead to reliability and operating issues. Though this report finds that these challenges are not insurmountable, it would be prudent for MISO members to develop and implement plans to address these "challenges" prior to making final decisions on accelerated retirement of centralized, dispatchable assets.

NERC's 2020 Long-Term Reliability Assessment reinforces that there are challenges that must be dealt with. MISO has historically had sufficient reserves, but the findings of the NERC assessment point to the possibility that this may be changing. Noting that MISO's reserve margins are tightening, the report states, "MISO and participating stakeholder action is needed to ensure future resource adequacy by achieving certainty of prospective resources beginning in 2025 when their [Anticipated Reserve Margin] falls below the [Reference Reserve Margin Level]."¹⁹ The report also notes that with system-wide penetrations of renewable resources growing quickly, reliability risk is becoming less concentrated at traditional peak hours, and more distributed throughout the year. The Company's Alternate Plan, with its previously mentioned high-level analyses and simplifying assumptions, does not come close to providing certainty that appropriate actions will be taken.

The NERC report projects that the MISO system could have a shortfall of 1,161 MWs in 2025 in meeting its target reserve margin, making it one of three areas in the country not to earn an

¹⁸ Midcontinent Independent System Operator, Inc., MISO's Renewable Integration Impact Assessment (RIIA) Summary Report, p. 4 (Feb. 2021), <https://cdn.misoenergy.org/RIIA%20Summary%20Report520051.pdf>; see also Alternate Plan at pp. 6-9 (for more in-depth discussion of the reliability considerations of added renewable penetration).

¹⁹ NERC, 2020 Long-Term Reliability Assessment, p. 9 (Dec. 2020), <https://www.nerc.com/pa/RAPA/ra/Pages/default.aspx>.

“adequate” rating from NERC.²⁰ It notes the challenges of filling this capacity shortfall with renewable resources, and the risks associated with overreliance on gas related to natural gas delivery systems, as the report states:

The capacity that variable resources contribute to serving peak electricity demand differs from thermal generation because output depends on the environment, climate, and local weather conditions.

. . . .

As more solar and wind generation is added, additional flexible resources are needed to offset these resources' variability. . . .

Natural-gas-fired generation provides 40% of the aggregate on-peak electricity supply capacity in North America, and 41 GW of that capacity is in late-stage planning for addition over the next 10 years. As natural-gas-fired generation continues to increase, vulnerabilities associated with natural gas delivery to generators can potentially result in generator outages due to both insufficient natural gas infrastructure or alternate fuel delivery and/or disruption to natural gas or alternate fuel deliveries.^[21]

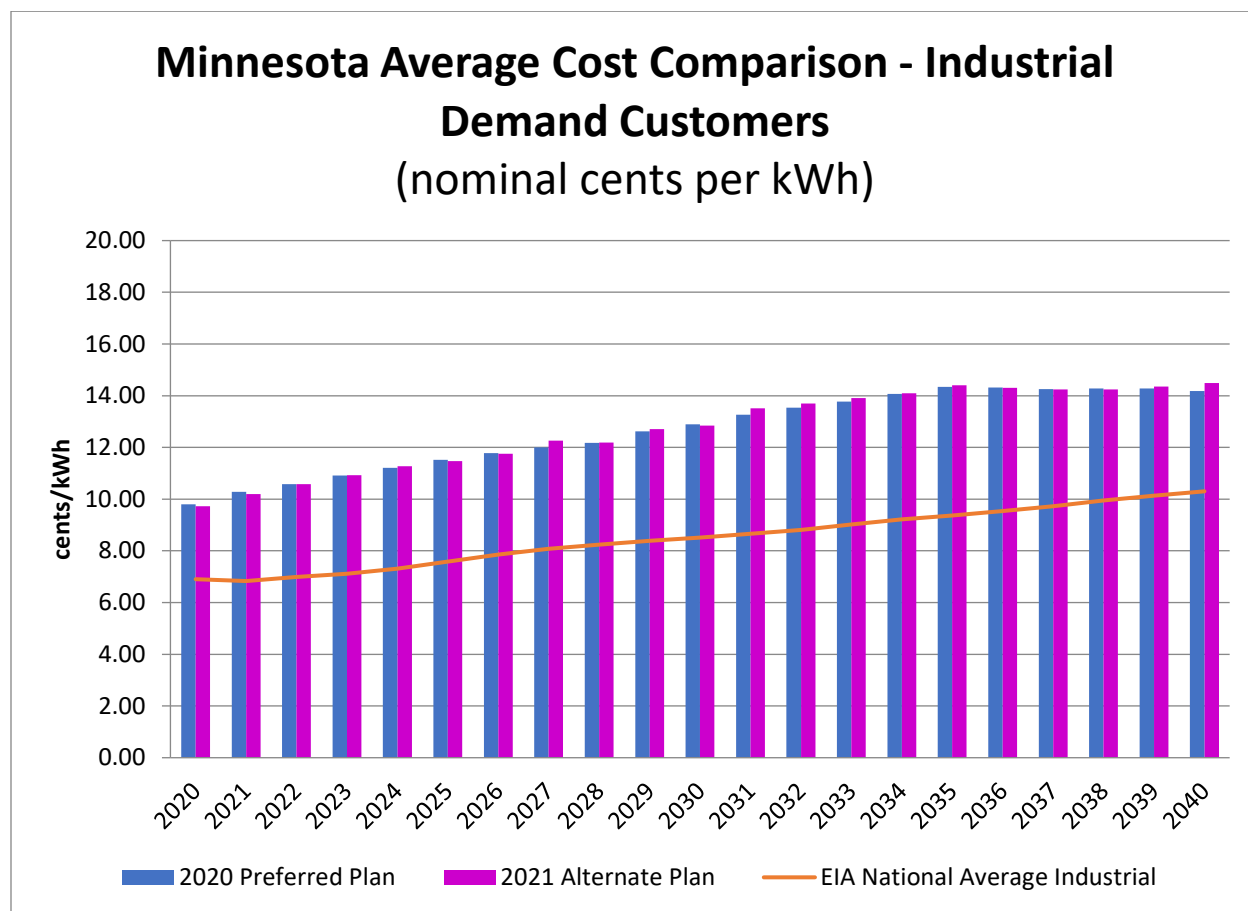
The Company's Alternate Plan suffers from the exact problems identified above. By retiring firm coal capacity and replacing it with renewables and gas units, the Company reduces both its own and the MISO system's firm capacity and fuel diversity. With the early retirement of the Company's coal units, the majority of its firm dispatchable power would be based on natural gas. MISO is aware of the challenges and is working to address the “vulnerabilities” with MISO members, however, Xcel's Alternate Plan is inconsistent with the steps that will need to be taken. There is no compelling reason for the Commission to advance the retirement dates of the AS King and Sherco units at this time or assume the nuclear units would not be extended. Those decisions could be made in the next IRP, assuming all vulnerabilities are addressed, and the Company would still be able to retire the coal units on the schedule it has proposed in this IRP.

Rate Concerns and Modeling Issues

Rate impacts have been an ongoing source of concern with regard to the Company's service, particularly to industrial customers. The Company provided the following data in response to XLI IR #154, which provides a useful visualization of the degree to which industrial customers are currently paying more than the national average for their electricity.

²⁰ *Id.* at p. 14, Table 1.

²¹ *Id.* at p. 7.



According to the Company's own analysis, not only do industrial ratepayers already pay about 40% more than the national average rate for electricity, but also there does not appear to be any relief in sight over the planning period. And the Company's Alternate Plan is full of potential pitfalls that could raise prices above what is projected here due to higher capital costs associated with the blackstart plan, transmission upgrades, and MISO resource adequacy related costs, among other things. We recognize that the Company must balance numerous considerations besides industrial affordability, including reliability, emissions reductions, and resiliency, as a few examples. However, affordability, especially for industrial customers, is an area that seems to have been completely ignored. Because all of the proposed plans meet the state's clean energy goals, the Commission should prioritize affordability and flexibility at this time and avoid placing additional burdens on already overcharged industrial customers.

The Alternate Plan's lack of comparisons to other plans that the Company evaluated in earlier phases of the IRP proceeding is also concerning. The changes from the Updated Supplement Plan to the Alternate Plan are quite significant, and include cancelation of the Sherco CC, addition of more CTs, solar, and blackstart units, as well as transmission line upgrades. It is disappointing that the Company did not model the other potential expansion plan options that were modeled most previously in the IRP Supplement.

Without modeling runs testing or comparing the updated assumptions, it is impossible to know whether the Alternate Plan represents an optimal solution, or whether a modified version of a different plan might have performed better from reliability, affordability, and emissions standpoints. For example, an "Alternate Scenario 15" that extends the life of existing nuclear units, maintains the current coal retirement schedule, and otherwise adds CT and renewable resources like the Company's Alternate Plan could result in lower carbon emissions than the original Scenario 15, potentially meeting the Company's internal 80% reductions by 2030 goal. As we have continually argued, committing to a plan without the full picture is not prudent. By not modeling variations of the Alternate Plan, the Company withholds potentially viable alternatives to its preferred Alternate Plan and makes true apples-to-apples comparisons impossible.

Timing Considerations

In addition to the above issues, we have concerns about the speed and abruptness with which the Company has proposed its new plan and the timing it is seeking for approval of this plan. Throughout this proceeding, XLI has advocated for making sure all parties can reasonably understand the implications of any proposed plan before committing to it. Unfortunately, the Company's abrupt departure from the Updated Supplement Plan to a significantly different Alternate Plan with approximately three months' notice puts stakeholders like XLI as well as the Commission in a difficult position. As described herein, the Alternate Plan rests on overly simplistic assumptions and analyses subject to a large degree of uncertainty and error, and Xcel is now seeking approval of this Alternate Plan on a rushed timeline and absent complete analysis. Despite pressures to move forward, the Commission should be thoughtful in its approach, selecting a scenario that provides stakeholders time to fully review the Alternate Plan, including the necessary blackstart proceeding.

Recommendation

The Company's Alternate Plan contains too many uncertainties to warrant approval at this time. There are still many unanswered questions associated with the Company's Alternate Plan related to its zonal blackstart plan, the transmission upgrade plan, MISO-wide resource adequacy, potential cost issues, and the procedural timeline in this docket. Rather than conducting additional analyses in this proceeding, the Company has proposed doing so in future proceedings. While further study is needed, the flaws we have pointed out are significant enough that we recommend that the Commission refrain from making retirement decisions or approving resources that should be vetted in the blackstart proceeding. This will allow for a better transition to a more renewable future and provide for the flexibility to potentially adopt some of the features in the Company's Alternate Plan in the future if further investigations prove to be economic and viable. The Commission could do so through one of two paths. It could approve the Company's Scenario 15 (minus the Sherco CC unit) rather than the Alternate Plan. Alternatively, the Commission could issue a partial approval of the subset of resources needed under either Scenario 15, the Updated

Supplement Plan, or the Alternate Plan, and push other issues such as coal unit retirements and extension of nuclear facilities to the blackstart proceeding or the Company's next IRP.

Even if the Company conducts additional analyses and makes important investment decisions, like building the Sherco CC unit, in the next IRP, there is still time to reach a decision, construct the unit, and have it come online by 2027, as the Company had planned in its 2020 IRP Supplement. If the Company finds it would need to push off the Commercial Operation Date by a year, it could always enter into short term bilateral purchases while completing the units or consider delaying retirement dates for some of its coal units. This plan would allow the Company to gather more information to derive a more thorough understanding of Xcel's resource options, while ensuring reliability.

Regardless of the path the Commission chooses, we recommend that the Commission also require the Company to, among other things:

- Significantly expand its zonal blackstart analysis in the upcoming blackstart proceeding (which will be defined by the Commission), including defining cost overrun and resource adequacy risks.
- Refine the AS King and Sherco gen-tie upgrade analysis. After further development of the transmission upgrade costs and schedules, including delay and cost overrun sensitivities, the Commission should ensure it is satisfied that delays or cost overruns in the gen-tie upgrades will not leave ratepayers exposed to higher costs.
- Consider whether prolonged economic dispatch of coal and nuclear units could eliminate the need for certain natural gas bridge resources on the transition to a renewable future.

Conclusion

In order for the Company to flexibly navigate the coming energy transition to more renewable resources and provide clean, affordable, and reliable electricity to ratepayers, the Commission should emphasize flexibility and affordability. The simplest way to do this, in our opinion, is to not assume the nuclear units would be retired, not commit to early retirement dates for coal units, and not prejudge the resources that should be considered in the blackstart proceeding.

Although the Company's Alternate Plan promises cost savings on the surface, these savings are based on simplistic analyses that are exposed to cost overruns and operational risks. Further, because the Company did not consider the costs of other Alternate Scenarios, it withheld an apples-to-apples comparison of the costs and benefits of this new directional approach.

We believe it is necessary and do not object to the Company's proposal to conduct further analyses of the Company's blackstart plan and new transmission lines in a blackstart proceeding. However, we urge the Commission to refrain from finalizing retirement of the potentially reliability-saving coal units until further certainty can be secured that the Company's Alternate Plan will not harm

reliability or customer rates. We also believe this will give the Company additional opportunity to further investigate the reasonableness of not adding an additional dispatchable and highly efficient hydrogen capable CC unit in its expansion plan going out to 2034. The Company's decision not to add the CC unit may be reasonable, however, it needs further justification. For these reasons, the Commission should adopt Scenario 15 (minus the Sherco CC) or, in the alternative, issue only a partial approval of the resources common to Scenario 15, the Updated Supplement Plan, and the Alternate Plan, so that the remaining issues can be studied in the blackstart proceeding or Xcel's next IRP.