



October 15, 2021

Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

RE: 2020-2034 Upper Midwest Integrated Resource Plan,
Docket No. E002/RP-19-368

Dear Public Utilities Commissioners,

We thank you for the opportunity to submit a reply comment on Xcel Energy's Integrated Resource Plan. Saint Paul 350 is a grassroots organization of residents who are committed to ending the fossil fuel pollution that is damaging Saint Paul communities and our climate, to speeding the transition to clean energy, and to creating a just and healthy future for all.

Following is a summary of our recommendations as detailed in the remainder of this document:

- Support Xcel Energy's decision to remove the previously proposed new Sherco combined cycle (CC) gas plant from its alternate plan. Xcel Energy should be commended for responding positively to overwhelming opposition by stakeholder and public input.
- Do not approve the two new combustion turbine (CT) power plants proposed in this resource plan. At the very least, delay any decision until a new IRP is submitted to allow adequate evaluation and public input.
- Direct Xcel Energy to incorporate distributed generation (DG) into their resource plan modeling.
- Let Xcel Energy know that the next time they suggest using hydrogen, they come with much more detail than this plan provided. See in particular the numbered list later in this document.

I. Introduction

Our initial comment referenced the IPCC “Special Report on Global Warming of 1.5° C.” Since then the IPCC has issued a “Code Red for humanity,” warning that we are failing to make the changes necessary to prevent the most severe effects of the climate crisis. Here in Minnesota we felt these effects as a historic drought and air quality alerts due to forest fires, just as the world’s largest tar sands oil pipeline completed construction through our sensitive wetlands and treaty territories.

It is increasingly clear that greenhouse gas emissions are not being reduced fast enough. We have reflected this ratepayer concern to the Commission by gathering statements from City Hall to district councils to our next door neighbors, that people in St. Paul want 100% clean, renewable energy for everyone, and no new fossil fuel infrastructure.

We are grateful that Xcel has responded to comments by withdrawing the planned Sherco gas plant. We recognize that this was likely a difficult decision for the company, and we thank them for their commitment to supporting workers in Becker as the coal plant is shut down and the new solar plus storage facility is built. However, we cannot accept the proposal of two new gas-fired peaker plants, especially in light of the unprecedented alternative modeling done by other intervenors and respondents, which clearly showed that energy needs could be reliably and affordably met with no new fossil fuel power. We also question the talking point about making the new plants “hydrogen ready” due to concerns about cost, safety, and feasibility, as we explain in more depth below.

As a grassroots group of St. Paul neighbors, we are responding to Code Red warnings by working toward deep electrification of transportation and buildings in our city, and we need to count on our Partner in Energy, Xcel, to power our lives with wind, solar, and storage instead of more volatile methane and hydrogen, which are at great risk of becoming stranded assets (especially if the hydrogen is dependent on nuclear power for production).

This reply comment period ends on the last day of a “People vs. Fossil Fuels” week of action in Washington, DC. Our “action” over the course of this docket has been engaging in this regulatory process to the best of our ability by navigating the bureaucracy and technicalities of energy resource planning and engaging our neighbors about why the energy decisions being made right now are so critical to our future health, economy, and climate. We look forward to bold action in the Commission’s response to this resource plan.

II. Response to Xcel Energy's June 25, 2021 Reply Comment

As a regulated monopoly, it is essential that Xcel is responsive to public and stakeholder concerns about the IRP. Thus, we first want to acknowledge Xcel's willingness to consider and reply to the comments of the public and the independent modeling efforts of the intervenors in their Alternate Plan Reply Comment of June 25, 2021. We expect that Xcel and the Minnesota Public Utilities Commission (PUC) will continue to consider feedback from all stakeholders with the same seriousness and attention.

Overall, we believe that there has been insufficient time to properly evaluate all of the implications of Xcel's Alternate Plan, and the claim that the methane CTs will be converted to hydrogen is at best unsubstantiated. Without a more rigorous evaluation of this proposal, including a more robust consideration of other storage alternatives, the claims about hydrogen are little more than "greenwashing." In a very real sense, the Alternate Plan is a new IRP, and stakeholders have had less than four months to consider the proposal without the normal (and essential) initial and reply comment opportunities. There is simply too much at stake to rush through a decision of this magnitude.

In our view, Xcel has not yet done due diligence on evaluating all viable options for accelerating and maximizing a transition to a carbon-free electricity future. The most problematic aspect of the Alternate Plan is the proposal to build two new CT power plants and repower two others, for a total gas capacity addition of 1200 MW. We acknowledge that the much lower capacity factors of the proposed peaking capacity compared to the combined cycle plant originally proposed for the Sherco site in the Supplementary Plan will result in lower carbon emissions. However, the Alternate Plan still proposes new fossil fuel infrastructure that is not consistent with the need to decarbonize the electrical grid as soon as possible.

Xcel's proposal is especially concerning since in our view the Alternate Plan has not sufficiently justified the need for this new capacity with regard to ratepayer costs, system reliability, and the longer term risks of stranded assets. As with the Sherco CC proposal in the Supplementary Plan, it is not evident that Xcel has thoroughly evaluated renewable plus storage alternatives to new fossil fuel infrastructure, as required by Minnesota statute (see below). It appears that in their modeling, the CT capacity additions were not considered a selectable resource, but either incorporated ab initio, or perhaps assumed to be the only way to satisfy firm dispatchable capacity. A more complete evaluation of renewable plus storage alternatives must include modeling scenarios where there are no CT plants included. Note that stakeholders have already proposed three alternate plans to Xcel, none of which included new CTs or other fossil fuel infrastructure.

Based on isolated statements in the Alternate Plan, the likely response from Xcel to these concerns will be the claim that the gas CTs will be converted to hydrogen burning. It is then implied that as long as “green hydrogen” is used, the GHG gas emissions of methane burning CTs will be avoided. We find that these claims are insufficiently justified for the following reasons:

1. Xcel does not explicitly say that hydrogen-ready means 100% hydrogen ready, saying only that they “could be converted to operate on 100 percent hydrogen in the future”. Such turbines, as well as the hydrogen supply infrastructure, would need to be of a different design than a turbine designed to burn mostly methane with small amounts of hydrogen added. Xcel provides no technical details or cost estimates for turbine upgrades to burn 100% hydrogen.
2. There is no discussion of the environmental effects of hydrogen burning. For example, because of the higher flame temperature in hydrogen burning, there is potential for NO_x gas production that would exceed that from methane burning. NO_x can contribute to smog as well as respiratory problems for residents in the vicinity of the power plants.
3. There are unique safety issues with hydrogen, including a lower ignition temperature than methane and a nearly invisible flame. There is no discussion whether or not these issues have been adequately considered.
4. There is no discussion about prototyping green hydrogen production from solar/wind in this IRP, though apparently Xcel is prototyping hydrogen production from nuclear power plants in MN. However, if nuclear plants are to be eventually phased out, this is not a sustainable approach in the long term to a hydrogen-based energy portfolio. The use of blue or grey hydrogen (that is, hydrogen formed from the steam reforming of methane) cannot be reasonably considered, given that recent studies have demonstrated that hydrogen formed in this way actually has higher GHG emissions than methane burning.
5. There is no timetable for the transition to hydrogen-only burning.
6. Although hydrogen can be used as long duration storage, there are other ways at a similar or even more advanced level of technological maturation that can play this role, such as flow batteries. A delay in approval of the CT plants would again allow a more up-to-date and informed consideration of all storage options.

Lacking a robust evaluation of the hydrogen and other renewable plus storage options, the concerns that we and others raised in previous comments on this docket with regard to the Sherco CC proposal are still valid. Xcel is obligated by Minnesota statute to consider renewable alternatives to the proposed CT capacity in the Alternate Plan, and according to state law, the Public Utilities Commission “shall not approve a new or refurbished nonrenewable energy facility in an integrated resource plan or a certificate of need, pursuant to section 216B.243, nor shall the commission allow rate recovery pursuant to section 216B.16 for such a nonrenewable energy facility, unless the utility has demonstrated that a renewable energy facility is not in the public interest” (Minnesota Statutes section 216B.2422 Subdivision 4). All scenarios considered in the Alternate Plan included the proposed CT capacity as a built-in assumption.

In addition, there is a high probability that, if built, the proposed CT plants will become stranded assets with cost recovery provided by ratepayers. There is abundant and compelling evidence that new gas infrastructure has a high probability of becoming a stranded asset. According to the 2020 NREL ATB database, the cost of energy from gas will be twice that from solar and 60% higher than that from wind by 2034. Indeed, Xcel Energy itself says in their 2017 Colorado Energy Plan Fact Sheet that “We are not building any new natural gas generation, reducing the risk of stranded costs.” Stranded assets are an important social justice issue since they disproportionately increase the energy burden of financially disadvantaged communities. Stranded assets were a key consideration in the PUC’s decision to deny the Mankato Energy Center purchase. We urge the Commission to apply the same skepticism on cost recovery that they applied to the MEC to the proposal to build the CT capacity in the Alternate Plan, resources that won’t even be operational until 2027 and will likely have to run at least 30 years for cost recovery. As Commissioner Schuerger stated in his closing remarks in the MEC proceedings:

“I do think the issue around stranded costs is a really important question...there are important questions in there for consumers around those future costs...2054 is a long way out, the world is changing rapidly” (Video, PUC Agenda Meeting on 2019-09-27 9:30 AM, 5:41:30)

Another issue we and other parties raised that has not been rectified in the Alternate Plan is the inadequate consideration of distributed solar. In 2019, Xcel abandoned plans for the first and only community solar garden in St. Paul. Minnesota solar developers have also filed 120 complaints against Xcel for delays that put projects at risk. If 2018-2020 trends in development continue, estimated projections of community solar in Minnesota will go up to 3,075 MW during the plan period. This would leave Xcel’s most ambitious forecast of community solar short by 50%. Some studies, such as one done by the Institute of Local Self Reliance, suggest that Xcel should at least double its projections for rooftop adoption over the plan period.

Distributed solar offers resilience, efficiency, and wealth-building ownership opportunities (for example, cooperative ownership) that utility scale solar does not. Xcel's plan should reflect more support for local rooftop and community solar which can also help offset the need for additional gas resources. Xcel needs to incorporate distributed solar more robustly into their resource modeling, treating it as a selectable resource rather than relying on questionable forecasts. The Alternate Plan does mention that Xcel is working on ways to do this, which is encouraging, but this needs to be done in conjunction with CTs as selectable resources in a more complete modeling scenario.

Finally we wish to emphasize that investments in energy efficiency make our homes and businesses safer, healthier, and more affordable. St. Paul has a goal of reducing the energy burden (the percentage of income spent on energy) for more than 42,000 low-income households by 2030. If this goal is met, we would save 13.5 GWh of electricity and \$2.4 million in energy expenses. We're glad that Xcel's plan includes energy efficiency, but strongly encourage them to increase this commitment. Inclusive financing is a proven way to help residents afford efficiency upgrades. Xcel should begin a full program, or at least start a pilot program, as part of its commitment to equity improvements.

In light of these concerns, we ask the Public Utilities Commission to deny the 1200 MW CT capacity additions requested in this IRP, and instead defer the question to a future IRP. We note that the first new CT addition was proposed for 2027, so at least one additional IRP will be proposed before a decision on these additions needs to be made. This should allow a more fully rigorous evaluation with adequate input from all stakeholders. As mentioned earlier, the renewable and storage landscape (including hydrogen) is undergoing rapid development and maturation, and a delay of at least 2 to 3 years will likely present considerably different and more accurate cost projections for alternatives to methane-burning CTs.

IRP Working Group
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