APPENDIX A – SUMMARY OF COMMENTS ON SEA

Appendix A
Revised Supplemental Environmental Assessment for the Nemadji Trail Energy Center Project
Rural Utilities Service
Summary of Comments on the Supplemental Environmental Assessment

The following appendix presents the comments the Rural Utilities Service (RUS) has received on the Supplemental Environmental Assessment (SEA) for the Nemadji Trail Energy Center (NTEC) Project. The SEA was published in June 2022 in response to comments from groups after the FONSI was published in June 2021.

The following attachments contain comments received after the SEA was published and responses to each comment or comment theme. In light of comments from Environmental Protection Agency (EPA) and others, as well as the January 2023 publication of the Council on Environmental Quality (CEQ) interim National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, RUS has issued a Revised SEA. Changes or additions to the SEA in response to the comment are indicated herein (with new section references).

RUS received comments from the following groups:

- EPA – Attachment 1 (one letter attached to an email response)
- Minnesota Center for Environmental Advocacy (MCEA) – Attachment 2 (one letter attached to an email response)
- Midcontinent Independent System Operator (MISO) – Attachment 3 (one letter attached to an email)
- Public Comments – Attachment 4
    - Over 500 form emails of near exact content
    - An email from the League of Women Voters of Ashland and Bayfield Counties

ATTACHMENT 1: EPA COMMENTS

Supplemental Environmental Assessment for the Nemadji Trail Energy Center Project Rural Utilities Service Response to EPA Comments on the Supplemental Environmental Assessment

The following text presents the Environmental Protection Agency (EPA) comments the Rural Utilities Service (RUS) has received on the Supplemental Environmental Assessment (SEA) for the Nemadji Trail Energy Center (NTEC) Project. A summary of the comment received, and the RUS response, are provided.

The SEA was published in June 2022 in response to comments from groups after the FONSI was published in June 2021. In a letter to Peter Steinour at the USDA-RUS dated July 26, 2022, the EPA provided recommendations for "consistent disclosure and consideration of upstream and downstream emissions, analyzing GHG emissions in the context of national GHG reduction policies and state reduction targets, disclosing the climate impacts by using the estimated social cost of GHGs, consideration of non-gas alternatives, improving the application of mitigation measures, considering longer term impacts including carbon-lock-in and stranded assets, incorporating climate adaptation, and considering climate-related environmental justice."

The following text details responses to EPA comments received in July 2022. In light of comments from EPA and others, as well as the January 2023 publication of the Council on Environmental Quality (CEQ) interim National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, RUS has issued a Revised SEA. Each entry below contains a statement of the EPA comment, a summary of EPA recommendations and an RUS response to the EPA comment. Changes or additions to the SEA in response to the comment are indicated herein (with new section references).

EPA Comment 1: Consider regulatory, policy, and energy transition trends that will affect new plants, as well as appropriate mitigations.

EPA Recommendations

a) Consider site characteristics that could promote or impede responses to regulatory and technology developments.
b) RUS should disclose why carbon mitigation options were not included or should otherwise analyze those options.

RUS Response:

RUS recognizes the impact of greenhouse gas (GHG) emissions is having with respect to climate change and that the President has established goals to eliminate GHG emissions in the US, which includes carbon dioxide (CO_2) that is released by fossil fuel-burning power plants. The goals include having: i) a zero-carbon electricity grid by 2035, and ii) a net-zero carbon economy by 2050. RUS also recognizes how the Inflation Reduction Act (IRA) and other bills have been signed into law to promote, or provide additional RUS funding to finance, renewable energy resources as well as technologies such as Carbon Capture Utilization and Storage (CCUS) to reduce GHG emissions from fossil fuels. Additionally, RUS recognizes Governor Evers' Executive Order 38 that Wisconsin achieve a goal of ensuring all electricity consumed with the State of Wisconsin be 100 percent carbon-free by 2050. [1]

As a Wisconsin cooperative and due to the location of the Project in the state, efforts by Dairyland to reduce GHGs and incorporate more renewable generation into its portfolio will assist the State of Wisconsin in achieving its GHG reduction goals. As discussed in Section 1.5.2 of the Revised SEA, flexible and reliable dispatchable power sources like NTEC are necessary to close the gaps that exist in the ability to rely upon 100 percent renewable power. High efficiency combined cycle natural gas-fired power plants meet this need better than any other dispatchable resource, while supporting the retirement of coal and reducing reliance on lower efficiency natural gas facilities to further drive GHG reductions in the near-term. The Project will be designed to be highly flexible and capable of operating in intermediate load modes to fulfill energy and capacity requirements alongside renewable additions until sufficient facilities and resources are developed to continue to provide reliable electric power throughout the Dairyland system.

The Project will contribute to efforts to reduce emissions 50 percent from 2005 levels economy wide by 2030. The Production Cost Modeling (Appendix D of the RSEA) demonstrates that the Project will facilitate the increased use of renewable energy and will displace the use of coal and less efficient gas plants, thereby having a net effect of reducing emissions. The MISO 2021 Future 1 model, which is incorporated into the production cost modeling, indicates a 63 percent reduction in carbon emissions compared to 2005 levels, so long as sufficient dispatchable resources are available to support increased renewable development. MISO Futures 2 and 3, (developed after the Production Cost Modeling was conducted) indicate that additional reductions are possible, but importantly, those models continue to show a significant need for dispatchable generation such as the Project. With respect to the 2050 Administration goals, it is likely that additional technical developments would be required for the Project to contribute to net-zero emissions.

Additionally, NTEC is vital for regional reliability. In comments received from MISO on the SEA, MISO stated that "…the electric grid is undergoing significant fleet changes that creates an immediate need for stakeholders." MISO noted changes to the generating fleet and potential shortfalls in generating capacity, and stated it was imperative that projects like NTEC be recognized for the "regional reliability value provided to the region's customers." MISO stated:

[1] https://climatechange.wi.gov/Documents/Final%20Report/GovernorsTaskForceonClimateChangeReport-LowRes.pdf

> "In particular, as older baseload generation resources retire and are replaced by renewables and other resources, infrastructure investments (e.g., transmission, fuel delivery, and other related systems) will be needed to deliver energy to where it is needed, when it is needed. A certain level of dispatchable and flexible resources are required for MISO to reliably manage the transition to a decarbonized energy future within its region."

The Federal Energy Regulatory Commission (FERC) has also recently expressed concern about the reliability of the electric power system.[2] Commissioner Mark Christie of FERC stated in testimony to the Senate Committee on Energy and Natural Resources in May 2023 that the United States is "heading for a reliability crisis" due to too many dispatchable resources retiring too quickly. The addition of intermittent sources is not the problem (such as wind and solar) but rather the "too rapid subtraction" of dispatchable resources (such as coal and gas). Christie also noted that MISO has been warning of a reliability crisis regularly as well. FERC's comments and MISO's comment on the SEA serve to illustrate the importance of the Project to facilitating renewable energy resources and reliably managing the energy transition.

While RUS recognizes the importance of its borrowers being adaptable to potential regulatory and technological developments, RUS does not require borrowers to design projects to meet unknown changes to technology or regulations. RUS is not aware of any other legal requirement to do so, whether through NEPA or otherwise. Because future regulatory or technology developments are unknown at this time, there are no current plans for expansion or modification of the Project.

As to site characteristics and capabilities, the 2020 EA and June 2022 SEA discuss both (see Chapter 2 of the NTEC EA, pages 2-24 through 2-26, for detailed site selection characteristics). The Project site was selected for its proximity to existing energy infrastructure such as high voltage transmission lines and major natural gas pipelines. If existing infrastructure is modified for a different use or technology, the Project will have the benefit of proximity to that infrastructure. The proximity to existing infrastructure has the benefit of reducing further environmental impacts from constructing new infrastructure that would be required at other sites. Further, Project turbines will be capable of processing up to 30 percent hydrogen fuel mix (although, as discussed further herein, no such fuel is currently available to the Project). As such, the proposed site is appropriately sized for the Project, and the Project was appropriately sited and designed to minimize environmental impacts.

There has been extensive research and advancements made with respect to installing and operating CCUS systems and to producing and using hydrogen as a fuel in lieu of natural gas. However, the 2023 EPA's Clean Air Act Section 111 Regulation of Greenhouse Gas Emissions from Fossil Fuel-Fired Electric Generating Units has proposed Best System of Reduction (BSER) levels for 111B – New Stationary Combustion Turbines. EPA identifies CCUS systems as a Phase 2 BSER technology that can be used with highly efficient combined cycle generation resulting in a minimum 90% capture rate. This Phase 2 BSER is based on CCUS availability

[2] https://www.energy.senate.gov/hearings/2023/5/full-committee-hearing-to-conduct-oversight-of-ferc

beginning in 2035. The RUS Electric Program will review any CCUS proposal prior to 2035 on a case-by-case basis in order to determine its commercial and technical readiness at utility-scale. The RUS Electric Program's assessment will evaluate the technical risks and economic challenges. Mitigation strategies will need to be identified and put into place. Factors such as capital cost, predictable operating and maintenance costs as well as reliability, performance and effectiveness must all be taken into account. As for using hydrogen at utility-scale, EPA emission guidelines include the Low-GHG Hydrogen Pathway Phase 2 BSER using 30% co-firing (by volume) of hydrogen in highly efficient combined cycle generation that would be available beginning in 2032 and the Low-GHG Hydrogen Phase 3 BSER using 96% co-firing (by volume) that would be available beginning in 2038.

That being said, carbon mitigation options were reviewed and determined to be infeasible as part of the Best Available Control Technology (BACT) analysis for greenhouse gases GHGs as required by the Federal[3] and State[4] air permitting regulations (and the results of that analysis were included in the SEA Appendix A). BACT is an emission limitation based on the maximum degree of reduction which the Wisconsin Department of Natural Resources determines is achievable, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs. A GHG BACT analysis was performed for all new equipment proposed for the Project.

The Project followed the EPA's recommended process for determining BACT. The BACT analysis utilized the Reasonably Available Control Technology/BACT/Lowest Available Emission Rate Clearinghouse (RBLC) managed and published by the EPA.[5] The Clearinghouse contains BACT limits that were recently approved without objection by the EPA or that were directly approved by EPA. Once an air permit application (with a BACT analysis) is submitted to the Wisconsin Department of Natural resources (WDNR), the WDNR thoroughly reviews the analysis, performs their own research and ultimately approves or denies the BACT analysis for a pollutant/emission unit. In this case, the WDNR, the agency that issues air permits in the State of Wisconsin, has concurred with the results of the BACT analysis, as described in the Preliminary Determination (Analysis and Preliminary Determination For the Nemadji Trail Energy Center[6]) that was prepared by the WDNR to accompany their review/analysis of the application, Project and BACT Analysis. The Preliminary Determination is written by the WDNR and contains all of its analyses of the air permit application and supports the permit that it drafted. The Preliminary Determination documents WDNR's basis for the conditions in the permit. It also includes WDNR's own BACT analysis that WDNR performed for the Project emission sources, which supports the BACT that was finally selected for the Project.

The GHG reduction strategies evaluated in the BACT analysis were fuel selection, energy efficiency measures, post-combustion control, carbon capture, and carbon sequestration.

The BACT analysis determined the control technologies technically feasible include low-carbon fuel (natural gas), monitoring and control of excess air during combustion, efficient turbine

[3] 40 CFR § 52.21
[4] WAC Chapter NR 405
[5] RACT/BACT/LAER Clearinghouse: https://cfpub.epa.gov/rblc/index.cfm?action=Search.BasicSearch&lang=en
[6] Found on WDNR website here: https://apps.dnr.wi.gov/warp_ext/am_permittracking2.aspx?id=28121. Document titled 18-MMC-168_Preliminary_Determination.pdf

design, and catalytic oxidation. The use of low-carbon fuels and aggressive energy-efficient design to reduce CO_2 emissions is inherent in the design of the proposed combustion turbine and is considered the baseline condition. BACT for GHG emissions from the combustion turbine was determined to be the use of natural gas as a fuel, monitoring and control of excess air, efficient turbine design, and an oxidation catalyst. The NTEC Project proposes to do low-carbon fuel (natural gas), monitoring and control of excess air during combustion, efficient turbine design, and catalytic oxidation.

Table 3-5 of the SEA provided an overview of the findings in the Prevention of Significant Deterioration (PSD) air permit application. The Owners were required to submit a PSD air permit application to comply with the Clean Air Act. The purpose of a PSD air permit is to ensure that air emissions from a proposed facility will not cause or contribute to an exceedance of the NAAQS set by the Clean Air Act in an area that is currently meeting the NAAQS. In Wisconsin, the WDNR issues air permits. The PSD application was provided as Appendix A of the SEA. A 45-day public comment period was held for both the BACT analysis and PSD air permit in Spring 2022, during which the EPA did not comment on either document. Approval/issuance of the air permit is anticipated in mid-2023.[7]

EPA Comment 2: Consider project modifications to address all practicable mitigation measures.

EPA Recommendations

- Use of zero or carbon neutral fuel.
- Carbon capture.
- Switchgears that are SF_6-free.
- Adoption of recommendations in EPA Methane Challenge Program.

RUS Response:

The EPA mentioned, in their comments, the draft whitepaper prepared by EPA and their consultant regarding greenhouse gas emissions control.[8] The white paper identifies controls including change of fuel (to hydrogen or ammonia) as well as changing the project (oxy-fuel combustion, adding solar, wind and batteries to a site along with the turbines). The Clean Air Act regulations and specifically, PSD BACT guidance, does not require a project to change technology or fuels when evaluating BACT. RUS's response to EPA's request to consider alternative fuels and carbon capture is addressed in this section. Alternative fuels and carbon capture were addressed in the PSD air permit application which is included as Appendix A to the SEA.

[7] Southshore Energy (SSE) and Dairyland Electric Power Cooperative (DPC) submitted a PSD air permit application in 2018 and WDNR issued the final Air Pollution Control Construction Permits for the preferred and alternate sites in September 2020 (18-MMC-168 and 18-MMC-169, respectively). Both permits expire 42-months from the date of issuance. To confirm that construction of the Project is complete prior to the expiration of the issued permits, the Owners submitted a new PSD air permit application (Appendix A of the SEA) for the Project (preferred site only) to acquire a permit with an expiration date that better aligns to the Project's construction schedule and other necessary environmental permits.

[8] https://www.epa.gov/stationary-sources-air-pollution/white-paper-available-and-emerging-technologies-reducing

The EPA indicates in its comments that "Investing in long-lived combustion turbines due to inaccurate expectations about the costs of alternatives may lead to higher overall costs and that long-lived fossil assets may become uneconomic faster than expected if alternatives and mitigation are not fully considered." EPA further indicated that the "Multi-decade time horizons associated with new or refurbished natural gas electric generating units (EGUs) present financial risks to owners and ratepayers."

RUS agrees with EPA that the financial risks to owners and ratepayers must be considered. This includes consideration of the financial risks to owners and ratepayers by investing in technologies to control GHG emissions that are not fully mature nor commercially available. The RUS Electric Program does not finance projects or systems that would be a risk or would include what is considered a risky technology. This includes the various technologies and processes discussed below that could potentially be implemented to remove or reduce GHG emissions. It is the policy or long-standing practice of the RUS Electric Program to finance only commercially proven technologies that have been previously constructed, have a track record of operating and performing reliably, and can be expected to be maintained in a cost-effective manner. This supports RUS's core requirement of loan security whereby there is a reasonable assurance that the loan will be repaid in full as scheduled. The project's technology must perform during the term of the loan at a level necessary to produce with a reasonable amount of certainty the revenues required to repay the RUS loan. This approach protects not only the taxpayer but also ensures that rural communities are receiving the benefits of the project with electric rates that are both reasonable and affordable.

The above does not relieve Dairyland or the NTEC Project from reviewing technologies to control GHG emissions such as CCUS or processes to produce and deliver hydrogen to blend with or replace natural gas. It should be noted that RUS remains optimistic that in the coming years, further testing and development of these technologies will allow them to become viable options to reducing GHG emissions from fossil power generation facilities and that such projects could in fact be financed by RUS. However, at this time, and based on the following additional details about alternative fuels and carbon capture, RUS does not believe it appropriate to require or finance these technologies.

Fuel:

EPA fuel considerations. The EPA discusses fuels other than natural gas that could be burned by electric generating unit (EGU) combustion turbines. With respect to fossil fuels, natural gas is the cleanest, most abundant, and most easily obtainable fuel, and it yields CO_2 emissions much less than other fossil fuels. Other types of fossil fuels would require pre-combustion, oxy-combustion or post-combustion capture systems to control CO_2 emissions from an EGU. The feasibility of these technologies, particularly with respect to burning natural gas as a primary fuel, are addressed below.

Hydrogen and ammonia are carbon-free fuels that are often discussed as alternatives to using fossil fuels, including natural gas. Currently, neither of these two fuels are available anywhere

near the site, nor in the quantities required to operate the combustion turbines. EPA does not identify any sources of hydrogen capable of meeting the need, and RUS and the Applicants are not aware of any such sources. If hydrogen becomes commercially available in quantities suitable for use in the future, the Project turbines are capable of using an up to 30 percent hydrogen fuel mix. However, plans for development of hydrogen infrastructure are not known at this time.

Ammonia is a fuel capable of being added or blended directly into an existing natural gas infrastructure and combusted in a combustion turbine. As noted in EPA's whitepaper, a drawback to ammonia is the energy required to convert hydrogen to ammonia. At present, RUS is not aware of any project in the U.S. that is using ammonia as a fuel by an EGU or any large scale commercially successful electric generating project using ammonia as a fuel. The only project that the EPA mentions that uses ammonia is a demonstration plant that has been set up in the United Kingdom that utilizes wind power to produce the energy for hydrogen electrolysis, creating what is called "green ammonia."

Hydrogen is a carbon-free fuel that often discussed as an alternative to using fossil fuels, including natural gas. Although there are various methods for producing hydrogen, the two most practical approaches to supplying the NTEC Project with hydrogen to control GHG emissions would be i) the electrolysis of water using electrical energy derived from renewables and ii) steam methane reforming (SMR) of natural gas that includes CCUS. The best approach to relying on electrolysis would be to install electrolyzers at or close to the NTEC plant site which would use electrical energy received from either offsite and/or onsite renewable energy resources to produce what is referred to as "green hydrogen."

SMR that includes CCUS is essentially a pre-combustion capture approach used to eliminate CO_2 emissions from the natural gas. SMR could be performed offsite where natural gas is being produced, processed or stored. The hydrogen would then be transported via an intrastate or interstate piping system to the plant; however, a more practical approach would be to have the SMR process conducted at the plant site to avoid the potential technical issues and cost impacts associated with transporting high volumes of hydrogen in a piping system. There would still be technical challenges to overcome using either approach. One of the biggest issues to address is to determine where to transport the CO_2 for sequestration once it is captured and compressed.

The EPA whitepaper indicates that there are several recent examples of combustion turbine installations proposing to blend up to 30 percent hydrogen with natural gas – with 100 percent capabilities. Two specific examples are described that include the Long Ridge Energy Generation Project in southeast Ohio and the Intermountain Power Agency project in Utah.

The 485-MW Long Ridge project purchased a GE 7HA.02 turbine, which the project owners indicate can initially burn up to 15 to 20% hydrogen and that it plans to transition to 100% green hydrogen. It is clear that further upgrades to the turbine will be necessary to accomplish burning 100% hydrogen; however, there are no specific details provided to indicate the scope or cost of the upgrades, which most likely would be substantial. In addition, the transition to 100% hydrogen will likely require upgrades to the onsite fuel supply piping. The plant owners indicate that they plan to produce hydrogen onsite and that they are considering the use of below-ground salt formations for large-scale hydrogen storage, but it is uncertain how much hydrogen will

actually be produced and stored and what process and its capacity the owners intend to use to produce the hydrogen. The determination of the latter would be critical in determining the overall cost and feasibility of the project. The owners do indicate that burning higher percentages of hydrogen will be *subject to fuel availability and economics*. Therefore, the idea that the plant will utilize up to 100% hydrogen has only been established as a goal at this time; and, as a result, a much more rigorous engineering review and cost study would be required before such a project could ever be implemented.

Another example of a power plant project being developed to potentially use hydrogen is the Intermountain Power Agency's Intermountain Power Project (IPP) that will convert an existing 1,800 MW coal-fired power plant in Delta, Utah to an 840 MW natural gas combined-cycle plant. The plan is to cease coal-fired generation by 2025 and move forward with a new generation facility that will be designed to run on a mix of 30% hydrogen and 70% natural gas fuel at start-up initially, with a long-term goal to combust 100% hydrogen by 2045. The project will use excess energy generated from renewable resources located across the Western U.S. that is delivered to the plant site and used to produce "green hydrogen." The hydrogen will be produced via electrolysis and stored in an existing underground salt dome in the county. Hydrogen would then be continuously available to allow for baseload carbon-free utility-scale power generation.

Unlike the NTEC Project, IPP is uniquely situated due to its access to a wide variety of resources and substantial infrastructure to accommodate the building and operation of an 840 MW combined-cycle plant capable of burning 100% hydrogen. Existing infrastructure and resources include ample water, one of the largest deployments of electrolyzers in the world, two major electricity transmission systems, access to railroad and highway transportation, close proximity to existing natural gas interstate pipelines, and a site located directly over the only high-quality geologic salt dome in Western United States which would be used to store the hydrogen that is produced by the electrolysis onsite. Proximity to the high-quality salt dome is of course a big advantage. Another advantage to IPP is the access it will have to a vast transmission network system through which it will be able to receive an abundance of renewable energy derived from wind and solar projects located in various states across Western U.S. The plan is to use excess energy produced from these renewable resources that would otherwise be curtailed and to use the excess energy to produce hydrogen via electrolysis. Access to resources and infrastructure of this type and size is simply not available to either the NTEC Project or to any similar project that would be located in same general vicinity in Minnesota or Wisconsin.

IPP is one of the most ambitious and expensive energy projects in the U.S. that plans to burn hydrogen, and it is often called the world's "largest green energy storage project." The DOE refers to IPP as a "first-of-its-kind" hydrogen project, and it intends to provide the project with a loan guarantee in the amount of about $500 million. The cost of the project is expected to be at least $2 billion. The project would most likely incur some additional costs before the plant reaches commercial operation, and it would be expected to incur additional costs to allow the plant to reach the goal for burning 100% hydrogen by 2045 due to modifications and upgrades needed for both offsite and onsite facilities. IPP is expected to cost more than 3 times the estimated cost of the NTEC Project and it will be using technology at a scale not yet considered commercially successful. The IPP is still under development, and it has several critical

milestones to meet before it reaches the goal for burning 30% hydrogen and then 100% hydrogen.

NTEC fuel considerations. The NTEC BACT analysis investigated low carbon fuels and the combustion of biogenic sources. The proposed combustion turbine for the NTEC Project has not been designed to accommodate fibrous biomass, such as woody biomass, which is the most likely biomass available in sufficient quantities from the surrounding area. Additionally, changing the technology (i.e. – altering the design of the turbine or generation source and/or changing the fuel) is not required in a BACT analysis. A BACT analysis does not require redesign of the "project" or change in the method of operation when evaluating BACT.[9] Therefore, for both regulatory and technical feasibility issues, biogenic sources are not a feasible option since they are not part of the original design.

Combustion of natural gas yields 40 to 50 percent less CO_2 than combustion of coal and petroleum coke and approximately 30 percent less CO_2 than combustion of residual oil. Accordingly, the preferential burning of a low-carbon gaseous fuel in the proposed combustion turbine is an extremely effective CO_2 control technique. This control technique is technically feasible for the combustion turbine and duct burner and is an inherent part of the Project's design.

In addition to the BACT analysis, the Project team was required to consider project modifications by the Public Service Commission of Wisconsin as required under Wisconsin law. The Project team was required to evaluate other supply options, such as combustible renewable resources, to determine if these options were technically feasible and cost effective. After conducting an extensive contested case proceeding, and hearing expert testimony on potential alternatives to the NTEC Project, the Commission also determined that other options were not technically feasible and cost-effective in meeting the need for the Project. That decision has been affirmed upon judicial review by a trial court in Wisconsin. Similarly, in its order approving Minnesota Power's petition for approval of an affiliated interest agreement related to its ownership interest in the Project, the Minnesota Public Utilities Commission (MPUC) explained that the record before that agency reflected a robust analysis of alternatives and that the Project was in the public interest and best met the need identified, in that docket, by Minnesota Power.[10]

Carbon Capture:

Post-combustion. The EPA draft whitepaper referenced in the EPA's comments on the SEA describes post-combustion CCUS and examples where the technology has been installed or proposed for installation. However, post-combustion carbon capture has not been commercially demonstrated in the power generation industry in baseload or full stream applications. Many of the projects EPA references where post-combustion CCUS technology has been installed are considered pilot or small-scale demonstration projects, or they are utilizing a system to process only a small slipstream of the flue gas thereby removing only a small portion of the CO_2 that

[9] New Source Review Workshop Manual (DRAFT October 1990), page B.13.

[10] *See In the Matter of Minnesota Power's Petition for Approval of the EnergyForward Resource Package*, Order Approving Affiliated Interest Agreement with Conditions, Docket No. 17-568 (Jan. 24, 2019). Notably, also in that docket, the MPUC ordered Minnesota Power to include an analysis of the retirement of its two remaining coal plants in its next integrated resource.

would otherwise be emitted to the atmosphere. For example, the AES Warrior Run in Maryland and the AES Shady Point are coal-fired plants with carbon capture systems that remove only 2% or less of the CO_2 from the flue gas. Alabama Power's Plant Gaston is operating a 1-MW pilot project that is expected to capture 30 tons of CO_2 per day.

In some cases, post-combustion capture was demonstrated at a relatively small scale for a limited period only. The reference 320 MW natural gas combined-cycle plant in Bellingham, Massachusetts installed a post carbon capture system that processed a 40 MW slipstream from 1991 to 2005 to capture 85-95% of the CO_2 in the slipstream that would have otherwise been emitted. Less than 12% of the CO_2 in the total flue gas stream was ever removed, and the carbon capture system is no longer in operation. Although the project demonstrated the viability of the carbon capture system deployed, it did so at a small scale using a first-generation technology.

EPA also referenced the proposed 900 MW combined cycle EGU in Scotland and how it is anticipated to be completed by 2026 and, once operational, it will have the potential to capture up to 1.5 million tons of CO_2 annually. Although the plant would deploy a relatively large-scale carbon capture system, the system would still only remove about 50% of the CO_2 in the flue gas. Also, the carbon capture system is not yet operational since it is only in the planning stages of development. Therefore, the actual cost, risk and overall success of the project is not fully understood at this time. Furthermore, EPA's comments on the SEA listed two existing natural gas combined cycle plants that may be retrofitted with post carbon capture systems to potentially remove 95% of the CO_2 in the flue gas. These include the Deer Park Energy plant in Texas and the Delta Energy Center in California. These are highly expensive carbon capture projects that are only in the early development stages in which the front-end engineering design (FEED) study for each project has not yet been prepared.

As such, RUS has not determined that any of the examples provided by EPA of post-combustion carbon capture systems that are being proposed can be considered commercially successful and viable technologies at this time to provide for large or full-scale capturing of CO_2 at other natural gas combined-cycle plants, such as NTEC.

Pre-combustion. Pre-combustion capture is another approach that is used to eliminate CO_2 emissions from a fuel stock. When used in the electric power industry, this technology typically consists of an integrated gasification combined cycle (IGCC) power plant that converts a solid or liquid fuel into a gaseous fuel or syngas where the CO_2 is captured prior to the syngas being burned in a combustion turbine. Since natural gas is not a solid or liquid fuel stock, such a technology would not be technically feasible or practical. Typical fuel stocks include coal, coke, and residual fuel oil which are not as clean as natural gas and would yield higher CO_2 emissions without utilization of the pre-carbon capture system. The design and operation of an IGCC plant is complex and the capital cost for constructing an IGCC with or without CO_2 remains high. There have been IGCC projects with post-combustion capture that have been proposed or built, but many have been cancelled or are inactive due to cost or technical issues encountered during operation of the system. The technology needs further development for large scale in the power industry and is not widely used in the power industry.

Oxy-combustion. The EPA whitepaper refers to "oxygen combustion" (or "oxy-combustion")

as another approach to controlling or reducing GHG emissions from EGU combustion turbines. RUS agrees that the "benefits offered by this technology are its potential for higher efficiencies, reduced overall costs, reduced criteria and hazardous air pollutants, and advantages for CO_2 emissions control." However, oxy-combustion is the least developed of the CO_2 capture technologies (compared to either pre-combustion capture and post-combustion capture). Although there are pilot scale projects that have demonstrated this technology as noted by the EPA, the technology is not commercially available nor are there are any full-scale demonstration plants in operation.

Summary. Even if one assumes that a carbon capture technology would be available whether using post-combustion, pre-combustion or oxy-combustion approaches discussed above, an obstacle to CCUS is sequestration. Although there are a few industrial-sized carbon sequestration projects operating worldwide, the technology for sequestering CO_2 is still being developed. A geological survey and evaluation would need to be performed to determine a storage formation to inject and provide long-term sequestration of the captured CO_2. Further surveys would be needed to address the logistics for shipping the compressed CO_2 to the storage site. Hence RUS does not consider any of these alternatives appropriate as requirements or for its financing of this Project.

To further support the discussion above, the EPA and state agencies require a review of previous BACT determinations as part of the BACT analysis process. The most comprehensive list is a database that EPA makes available to permitting agencies and applicants is the RBLC. The RBLC was reviewed for prior BACT determinations for other combustion turbines and the RBLC only identified energy efficiency and specific items related to energy efficiency as methods to reduce greenhouse gas emissions (see RSEA Appendix B for output from the RBLC search). Further, EPA's RBLC does not list any add-on control technologies. The WDNR concurred with the BACT analysis and with the infeasibility of carbon capture as a control technology and issued the air permit. See the Preliminary Determination and Air Permit issued by the WDNR for the Project[11].

Switchgears: Switchgears that are SF_6 free at the voltage required for this Project (345-kilovolt) are not currently commercially available or technically feasible. Therefore, they are not an option for the Project.

Methane Challenge Program: The Methane Challenge Program is intended for oil and gas companies.[12] The NTEC Project is a combustion turbine project. The recommendations contained in the Methane Challenge Program are largely not applicable to a combustion turbine because the categories that have recommendations include compressors/engines, dehydrators, equipment leaks, pipelines, pneumatics/controls, tanks, valves, and wells. These listed sources do not apply to combustion turbine facilities. Further, the Project facilities have already been designed to avoid/prevent/minimize leaks for safety reasons. One emission source at the Project

[11] Found on WDNR website here: https://apps.dnr.wi.gov/warp_ext/am_permittracking2.aspx?id=28121. Document titled 18-MMC-168_Preliminary_Determination.pdf

[12] EPA. *Methane Challenge Fact Sheet.* October 30, 2019. https://www.epa.gov/sites/default/files/2017-07/documents/methanechallenge-factsheet-2017-07-20-508.pdf

site listed in the Methane Challenge Program categories is "equipment leaks/valves". A BACT analysis was performed for equipment leaks/valves in the air permit (*see* SEA, Appendix A). The BACT requirements are the same or better than the recommendations in the Methane Challenge Program. For example, BACT for equipment leaks is a Leak Detection and Repair (LDAR) program and the Methane Challenge cite similar recommendations (Directed Inspection at Compressor Stations, for example[13]).

EPA Comment 3: Disclose all direct and indirect GHG emissions for the proposed project.

EPA Recommendations

Include a discussion of:

a) Direct emissions:
   - emissions from construction
   - additional discussion on whether project will result in net decrease – estimate should include acknowledgement of reduced fossil fuel use going forward.
   - Use peer-reviewed model for analysis of displacement of higher emitting alternative fuels and disclose all assumptions and levels of uncertainty

b) Upstream emissions
   - Extraction and leaks
   - Use Inventory of U.S. GHG Emissions and Sinks (EPA tool) to develop generalized upstream emission estimates

c) Downstream emissions

RUS Response:

A. Direct Emissions

During construction of the plant, transmission line, and switching station, small amounts of air pollutants, including GHGs, would be temporarily generated. The largest source of GHG emissions during construction is the combustion of fuels such as gasoline or diesel by construction equipment. These construction emissions would be temporary in nature, would fall off rapidly with distance from construction areas, and are not anticipated to result in long-term impacts. Once the construction activities are completed, construction-related emissions would cease.

Construction emissions were discussed qualitatively in the SEA for all criteria pollutants. An approximate estimate of construction emissions of greenhouse gas emissions has been developed herein (and in the Revised SEA, Section 3.2.2.1.1) based on an expected three-year construction period with expected equipment usage during those three years. The emissions were estimated based all expected construction equipment (such as vibratory compactors, skid steers, concrete

[13] https://www.epa.gov/sites/default/files/2016-06/documents/ll_dimcompstat.pdf

trucks, dozers, graders, forklifts, manlifts, cranes and many other equipment) for the expected hours per year for each of the three-year construction period. Emission factors from EPA's 40 CFR Part 98 GHG Reporting Rule were utilized to estimate the emissions from each piece of equipment combusting fuel. Emissions from the expected construction equipment from diesel and gasoline combustion are estimated to be approximately 91,120 total tons CO_2-e over the three-year construction period (approximately 35,150 tons in Year 1; 47,350 tons in Year 2; and 8,620 tons in Year 3). Additionally, the annual metric tons of CO_2 emissions for the MISO West region for the Proposed Action Alternative and No Action Alternative were previously calculated as part the Production Cost Modeling. These emission values were used in conjunction with the SC-GHG estimates provided by the EPA to calculate the SC-CO_2 for each scenario for years 2025-2065 (analysis lifespan) as well as the difference between the two scenarios. Similarly, the CO_2 potential to emit (PTE) for the Project was calculated and used to calculate the SC-GHG for emissions from the Project over the analysis lifespan. See Comment 4 below and the Production Cost Modeling in the Revised SEA (Appendix D) for additional information.

As previously indicated in the FONSI as part of RUS responses to EPA's comments on the NTEC EA (May 2021), numerous mitigation measures were included in the EA and SEA to minimize emissions, including GHGs. These included low-carbon fuel (natural gas), monitoring and control of excess air, efficient turbine design, and catalytic oxidation. In addition, as also stated in the FONSI, Dairyland will provide EPA's Mobile and Stationary Source Diesel Controls, Fugitive Dust Controls, and Occupational Health checklist to its construction contractors and encourage them to follow and implement the controls outlined.

B. Indirect Impacts:

Upstream Emissions:
Upstream GHG emissions from the transportation of natural gas for operation of the Project were estimated. Additionally, for context, because the NTEC Project is anticipated to displace a comparable level of electricity generation from coal fired facilities, the upstream emissions from the transportation of coal that would be required to produce the same electrical output as combustion of gas at the Facility were also estimated for comparison, specifically to represent the No Action Alternative.

1. Methodology for Calculating Upstream Emissions

i. Natural Gas:

In order to analyze indirect effects of the Proposed Action, RUS consulted the EPA Inventory of U.S. GHG Emissions and Sinks[14] as well as the EPA's "Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from Combustion Turbine Electric Generating Unit", published April 21, 2022,[15] for use to determine an emission factor for upstream natural gas transportation losses. Additionally, Northwest Power and Conservation Council's "Upstream

[14] https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks
[15] https://www.epa.gov/stationary-sources-air-pollution/white-paper-available-and-emerging-technologies-reducing

Methane Emissions and Power Planning", published January 7, 2020[16] and Center for Climate and Energy Solutions "Natural Gas", retrieved July 27, 2021[17] were consulted to confirm the loss rates. These losses are considered an indirect effect of the Project as NTEC will require natural gas to operate.[18] The facilities transporting this gas are currently in-place, aside from the tap line to the plant, and owned and operated by others. In consideration of these studies, RUS determined a 1.5 percent methane loss during transportation of natural gas was appropriate. To calculate annual CO_2e emissions from upstream transportation of natural gas, an annual MMBtu/year (1 Million British Thermal Units/year) of natural gas usage was determined. This was based on the annual average estimated facility output (with duct firing and heat recovery steam generator) of 5,086,555,320 kilowatt hour (kWh)/year. Using the average facility net heat rate at these conditions of 6,925 Btu/kWh, the annual natural gas use at the facility was estimated to be 35,224,396 MMBtu/year. A 1.5 percent leakage for this amount of natural gas was calculated to equate to a leakage amount of 16.9 lb CO_2e/MMBtu of natural gas. Multiplying this natural gas leakage rate (10.9 lb CO_2e/MMBtu) by the total estimated annual natural gas use (35,224,396 MMBtu/year) provided a natural gas leakage emissions estimate of 297,701 tons CO_2e per year).

ii. Coal:

In order to estimate indirect effects of the No Action Alternative, emissions from coal combustion for commensurate energy generation were calculated. This was done to assess emissions if the Project were not built, a scenario in which the region would continue to rely on existing coal energy generation infrastructure and coal facility retirements would be delayed to meet energy needs. The same Facility output of 5,086,555,320 kWh/year was used to calculate upstream emissions using coal to generate the same electrical output of the Project. Coal has a higher required heat input for generating the same electrical output as natural gas due to coal-fired generation being less efficient than natural gas. An average coal heat rate of 10,002 Btu/kWh was used for these calculations, based on values from IEA's "Average Tested Heat Rates by Prime Mover and Energy Source, 2011 – 2021."[19] Based on this heat rate, 50,875,726 MMBtu/yr of heat input from coal would be required to provide the same electrical output.

Using this heat input from coal and an emission factor of 215.88 lb CO_2e/MMBtu, as provided in 40 CFR 98, Tables C-1 and C-2, annual CO_2e emissions from combustion of coal to provide the same level of electricity output as for the NTEC facility would be 5,491,485 TPY CO_2e. Information on GHG emissions associated with transportation of coal are not widely available. RUS consulted a 2020 paper titled "Rolling coal: The greenhouse gas emissions of coal rail transport for electricity generation."[20] This paper provided estimates of the median and upper quartile comprehensive distribution emissions of coal via rail transport to be between 2.2 and 5.2 percent of operational emissions, respectively. In extreme cases, the comprehensive transportation emissions are as high as 35 percent of operational emissions. For this analysis, the

[16] https://www.nwcouncil.org/sites/default/files/2020_01_p3.pdf
[17] https://www.c2es.org/content/natural-gas/
[18] The natural gas pipeline is not considered part of the Proposed Action. Losses are considered an indirect effect.
[19] https://www.eia.gov/electricity/annual/html/epa_08_02.html
[20] Journal of Cleaner Production. *Rolling coal: The greenhouse gas emissions of coal rail transport for electricity generation.* Volume 259, 20 June 2020. Accessed March 2023 from https://www.sciencedirect.com/science/article/abs/pii/S0959652620308179.

upper quartile value of 5.2 percent of operational emissions was used because it was presented that sub-bituminous coal (the primary coal used in the MISO west area) has some of the longest shipping distances, contributing to greater use of fuel and associated emissions. At 5.2 percent of operational emissions (5,491,485 TPY CO_2e), estimated upstream coal transport emissions are estimated to be 285,558 tons CO_2e per year.

2. Upstream Emissions Conclusions:

Based on these calculations, the Project is anticipated to result in upstream emissions due to the methane leakage of approximately 192,028 tons of CO_2e per year, assuming a 1.5 percent loss of methane during transportation of natural gas. The No Action Alternative (continued reliance on existing coal plants) is anticipated to emit approximately 285,558 tons CO_2e per year, approximately 93,530 tons more CO_2e compared to the Proposed Action Alternative, assuming an emissions rate of 5.2 percent of operational emissions resulting from transportation for coal operation. The SEA predicted a net annual average reduction of 964,000 tons per year of CO_2 under the Proposed Action Alternative, which is equal to 964,000 ton per year CO_2e.[21] Therefore, even with the additional upstream emissions of CO_2e from methane leakage, the Project is still anticipated to reduce overall emissions in MISO West by over 770,000 tons per year of CO_2e.

Additionally, using data from the *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2018*, the American Gas Association documents that total methane annual emissions declined 16 percent between 1990 and 2019. This trend is attributable to the development of new control technologies and better industry practices.[22] It is expected that this reduction in methane emissions will continue with ongoing industry and government programs aimed at further reducing leakage from the natural gas system nationwide, including the system providing natural gas to the proposed NTEC facility. NTEC will be in compliance with these programs including New Source Performance Standards, issued by the EPA, and codified in 40 CFR 60, for existing and new oil and gas facilities. Overtime, RUS believes the upstream emissions associated with the NTEC facility would be further reduced from those estimated at this time.

Downstream Emissions:

The Project will use natural gas (rather than transport it); as such, RUS has not identified any reasonably foreseeable downstream emissions from the Project that should be considered as part of operation of the Project. At some point in the future, anticipated to be 40 years or more, the Project will be decommissioned. Decommission activities are anticipated to use similar equipment and be similar in nature to construction, though generally in reverse. Given the unknown future of construction-related technologies 40 or more years into the future, it is difficult to quantify emissions from decommissioning activities. Decommissioning activities can generally be expected to have short-term emissions of pollutants, however. The following actions have the potential to emit GHG onsite during decommissioning:

- Vehicles and equipment travelling to and from the site;
- Vehicle and equipment used onsite for demolition activities, debris removal, and

[21] The production cost modeling only analyzed CO_2 reductions in MISO West and did not include other GHGs. If CH_4 and N_2O were also included in estimates, the reductions are anticipated to be even greater than this value.
[22] https://www.aga.org/globalassets/research--insights/reports/ea-2020-01-updating-the-facts-of-ghg-inventory.pdf

restoration activities

As noted above, these activities are expected to be short in duration and cease upon completion of decommissioning activities.

EPA Comment 4: Require a Social Cost of Greenhouse Gases (SC-GHG) analysis to accurately reflect the proposed project's monetized cost, incorporating climate impacts from both direct and indirect GHG emissions.

RUS Response:

The following sections describe the social cost of greenhouse gases (SC-GHG) analysis conducted for the Project. This analysis has been incorporated into Section 3.2.2.1.3.1 of the Revised SEA. The analysis showed that reductions in the SC- CO_2, associated with the displacement of higher GHG producing coal facilities, would range from between $846 million and $6.9 billion, depending on the discount rate considered.

SC-GHG Methodology

In preparing this analysis of the potential SC-CO_2 associated with the NTEC Project, RUS referenced the *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990* published by the United States Interagency Working Group (IWG) on Social Cost of Greenhouse Gases in February 2021.[23] This report contains interim estimates of the SC-GHG split to reflect the cost of carbon, methane, and nitrous oxide (SC-CO_2, SC-CH_4, SC-N_2O). SC-GHG is defined as the monetary value of the net harm to a society from emitting one metric ton of that GHG to the atmosphere each year. These estimates are provided by the IWG to allow analysts to incorporate – when appropriate – net social benefits or costs of GHG emissions in benefit-cost analyses and in policy decision making processes.

In the 2021 IWG Interim Estimates, SC-GHG monetary values were calculated for average discount rates of 5 percent, 3 percent, and 2.5 percent, as well as the 95th percentile 3 percent. Higher discount rates mean that future effects of an action, such as the emission of GHGs, are considered to be less significant than present effects; lower discount rates reflect that future and present impacts are closer to equally significant.[24] The social cost values are found in Table A-1 of the IWG Interim Estimate's appendix. This table can be seen in Figure 1 below. It should be noted that the IWG report presents the SC-GHG in 2020 dollars per metric ton. For consistency with the methodology presented in the IWG report, the results of this SC-CO_2 analysis are discounted to the present value year 2025, the project construction year. Results throughout this response are presented in 2025 dollars.

[23] https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf

[24] EPA Fact Sheet – Social Cost of Carbon. https://www.epa.gov/sites/default/files/2016-07/documents/social-cost-carbon.pdf, page 1-2.

Figure 1: Table A-1 Annual [rounded] SC-CO_2, 2025-2050 Social Cost of Greenhouse Gases published in the IWG Technical Support Document: Social Cost of Greenhouse Gases Interim Estimates.

Table A-1: Annual SC-CO_2, 2020 – 2050 (in 2020 dollars per metric ton of CO_2)

Emissions Year	Discount Rate and Statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2020	14	51	76	152
2021	15	52	78	155
2022	15	53	79	159
2023	16	54	80	162
2024	16	55	82	166
2025	17	56	83	169
2026	17	57	84	173
2027	18	59	86	176
2028	18	60	87	180
2029	19	61	88	183
2030	19	62	89	187
2031	20	63	91	191
2032	21	64	92	194
2033	21	65	94	198
2034	22	66	95	202
2035	22	67	96	206
2036	23	69	98	210
2037	23	70	99	213
2038	24	71	100	217
2039	25	72	102	221
2040	25	73	103	225
2041	26	74	104	228
2042	26	75	106	232
2043	27	77	107	235
2044	28	78	108	239
2045	28	79	110	242
2046	29	80	111	246
2047	30	81	112	249
2048	30	82	114	253
2049	31	84	115	256
2050	32	85	116	260

The annual metric tons of CO_2 emissions for the MISO West region for the Proposed Action Alternative and the No Action Alternative were previously calculated as part the Production Cost Modeling for years 2025-2040. The Production Cost Modeling analysis utilized MISO's Transmission Expansion Plan (MTEP) models, which are developed by MISO annually and are used for economic analysis. MISO develops MTEP models for the fifth, tenth, fifteenth, and twentieth years into the future. Due to this, estimates for Years 2040 through 2050 are unavailable in MTEP Future 1. Therefore, because this information is not reasonably available,[25] RUS used the average for the last five years of model data to estimate emissions for years 2041-2050. RUS determined this to be a reasonable approach due to anticipated fluctuations beyond 2040 that would result from additional generation coming online and generation retirements, fluctuations in energy demand due to climatic or other conditions, and NTEC outages for maintenance or other reasons. RUS notes that predictions this far into the future have inherent uncertainty, but believes

[25] 40 CFR 1502.21

that this methodology results in the best opportunity to assess the Project, particularly as compared to the No Action Alternative.

These emission values were used in conjunction with the social cost estimates provided in the IWG Technical Support Document to calculate the SC-CO_2 for each scenario for years 2025-2050[26] (analysis lifespan) as well as the difference between the two scenarios. Similarly, the CO_2 potential to emit (PTE) for the Project was calculated and used to calculate the SC-CO_2 for emissions from the Project over the analysis lifespan. CH_4 and N_2O emissions were excluded from these calculations since they could not accurately be determined based on the data from the model.

SC-GHG Results

Annual SC-CO_2 values for emissions from the Project were estimated based upon CO_2 PTE calculations (Appendix C of the RSEA). These PTE values represent a maximum permitted emissions scenario (assuming the combustion turbine operated at maximum load with duct firing every hour of everyday) and for the purpose of these calculations it was assumed that the Project would operate at these maximum levels every year for the lifespan of this analysis.[27] The PTE is 2,252,626 tons per year of CO_2. The SC-CO_2 was calculated for average discount rates 5 percent, 3 percent, and 2.5 percent, as well as the 95th percentile 3 percent, for the analysis lifespan and then summed to represent a total social cost in 2025 dollars. These values are shown in Table 1. For the average discount rates high to low over the analysis lifespan the SC-CO_2 was calculated to be $1.8, $4.8, and $6.6 billion in 2020 dollars. The SC-CO2 for the 95th percentile 3 percent discount rate was calculated to $14.6 billion. Due to the PTE calculations representing a worst-case scenario, these cost values represent a conservative (*i.e.*, over-) estimation.

Table 1: Total SC-CO_2 Carbon from Project for 2025-2050 in 2025 Dollars (in Billions)

Discount Rate	5% Average	3% Average	2.5% Average	3% 95th Percentile
2025-2050 SC-CO_2 (Cost in 2025 dollars)	$1.8	$4.8	$6.6	$14.6

Additionally, annual SC-CO_2 values for the entire MISO West Region, with and without the NTEC facility and associated displacement of coal-fired emissions, were calculated for average discount rates of 5 percent, 3 percent, 2.5 percent, as well as the 95th percentile 3 percent for years 2025-2050. These values were then summed to represent an analysis lifespan total cost of CO_2 emitted by the region without the NTEC Project in 2025 dollars. These values are presented in Table 2 and are displayed as a range. The addition of the Project into the MISO West Region has been modeled to reduce total CO_2 emissions compared to the No Action Alternative and therefore will also decrease the total projected SC-CO_2 values. For average discount rates high to low over the analysis lifespan the reduction in the SC-CO_2 was calculated to be $846 million,

[26] The IWG Technical Support Document only includes cost estimates through year 2050. Due to this, the analysis lifespan was limited to IWG's timeframe.

[27] Although permitted to operate at these levels, it is anticipated that the Project would rarely, if ever, see these levels due to, for example, fluctuations in energy demand, plant dispatch, scheduled outages, and other operational events.

$2.2 billion, and $3.1 billion in 2025 dollars. The reduction of CO_2 over the analysis lifespan was $6.9 billion in 2025 dollars for the 95th percentile 3 percent discount rate.

Table 2 - MISO West Region Total SC- CO_2 for 2025-2050 presented in 2025 Dollars

Discount Rates	5% Average	3% Average	2.5% Average	3% 95th Percentile
Proposed Action Alternative SC-CO_2	$53.4 billion	$143.2 billion	$198.1 billion	$436.8 billion
No Action Alternative SC-CO_2	$54.2 billion	$145.4 billion	$201.2 billion	$443.7 billion
Difference	-$846.9 million	-$2.2 billion	-$3.1 billion	-$6.9 billion

Construction and operation of the NTEC Project would result in an overall decrease in CO_2 emissions within MISO West. These reductions in the social costs of carbon, associated with the displacement of higher GHG producing coal facilities, would range from between $846 million and $6.9 billion, depending on the discount rate considered. Tables showing annual totals for both the Project emissions and the MISO West Regional Analysis are included as an appendix to the RSEA.

EPA Comment 5: Consider and disclose climate resilience and adaptation planning in project design.

- Potential implications to flooding, changes to public safety, and reliability.
- Disclose climate resilience and adaptation planning in project design.
- RUS should avoid making infrastructure investments in vulnerable locations.

RUS Response:

The record reflects that the Project has been designed to account for foreseeable events, including severe weather that may occur as a result of climate change. To this extent, the Project will be built above grade, except for foundations, some below grade duct bank, and below grade piping. No permeable pavement is planned. The Project required transmission line will co-locate an existing transmission line to use existing access as much as possible, thus avoiding new stream crossings. Further, the Project, in accordance with RUS requirements, would be located outside 500-yr floodplains, based upon current (2012) FEMA flood maps. The existing stormwater pond onsite is to be expanded in place to accommodate NTEC. Stormwater would be collected and directed to this stormwater detention pond located near the southwestern boundary of the site. The existing pond discharges via underground pipe to the Nemadji River and would be expanded to attenuate the increase in runoff volume from Project construction. Dairyland is required to prepare and submit Erosion Control and Stormwater Management Plans (ECSWMPs) to the WDNR for approval prior to construction. The ECSWMPs will address BMPs for

activities within floodplains. Dairyland and the contractors will be required to implement and comply with any WDNR BMPs required and approved for floodplains as part of these plans. As part of RUS investigations using the Climate and Economic Justice Screening Tool, which was developed by CEQ as part of EO 14008,[28] no climatic burdens above the screening tool thresholds were identified for the Project. The tool identifies disadvantaged communities using eight burden categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. None of the census tracts in the Study Area meet any burden thresholds or socioeconomic thresholds that would identify the tract as disadvantaged. Additionally, the census tracts were not above the burden threshold (90th percentile) for any of the climate change indicators (expected agriculture loss rate, expected building loss rate, expected population loss rate, projected future flood risk, and projected future wildfire risk).

Dairyland is required by its loan contract with RUS to use qualified contractors and good utility practice to design, build, and operate its facilities. The Project has been designed to be operational in all reasonably expected extreme weather conditions. It will be designed and constructed with the capability to operate any day of the year and to meet all reliability requirements during extreme weather events. For example, the Project will be capable of maintaining compliance with all North American Electric Reliability (NERC) standards for operation during all expected weather conditions, including NERC standard EOP-011-01 and its likely successor EOP-011-02, which set forth Emergency Preparedness and Operations standards for generator owners and were promulgated to address extreme weather and climate change. Further, the Project will be designed using current American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) industry standards to operate for 365 days a year under a variety of climatic and weather conditions, including heat waves, thunderstorms, high wind events, ice, and heavy snowfall. Design will account for extreme weather conditions, due to the location of the Project in northern Wisconsin. The use of dry cooling negates the need to use an external water source to operate the facility and would avoid the formation of rime ice and fogging often associated with wet cooling under certain climatic conditions. Additionally, the NTEC facility will be enclosed in a building, which will help protect the facility from climatic conditions. Disturbance to areas outside the Project footprint will be limited and current vegetation outside the footprint will be left undisturbed. As appropriate, disturbed areas within the Project footprint will be revegetated.

Likewise, the electric transmission line for the Project will be designed using National Electric Safety Code (NESC) standards or better to withstand extreme weather conditions and to provide reliability. Transmission facilities are proposed to be co-located with existing transmission lines to minimize impacts on surrounding areas and to utilize existing access as practicable and feasible.

[28] https://screeningtool.geoplatform.gov/en/about#11.32/46.6091/-92.0382

EPA Comment 6: Address Tribal and environmental justice concerns and mitigate disproportionate impacts.

- The document should clarify what tribal engagement activities have occurred; More information re: tribal coordination, including whether sufficient to understand impacts to tribal resources, cultural practices, and treaty rights.
- How will impacts to fishing access and hunting areas be remedied or mitigated?
- Cumulative impacts should be evaluated consistent with EO 14008
- Identify whether impacts to EJ communities will be disproportionately high or adverse.
- Document input from EJ communities, mitigation measures for hunting impacts, and how GHG mitigation can reduce impacts.
- Use EJSCREEN 2.0.

RUS response:

Tribal Coordination

All tribal coordination to date was included in the EA and SEA (see Section 6.5). Tribal consultation efforts were conducted as part of the NEPA Scoping and Section 106 Consultation processes.

On August 11, 2017, letters that provided preliminary Project details were mailed by the Owners to the Red Cliff Band of Chippewa, Bad River Bands of Chippewa, and the Fond du Lac Band of Lake Superior Chippewa (see Appendix C of the SEA). In addition to providing preliminary Project details, the letters invited the tribes to participate with the Owners in the pre-filing process and requested feedback regarding cultural resources in the Area of Potential Effect. The letters included an invitation to a public meeting held on September 7, 2017. Advertisements were run in the paper for the open house on September 1 and 5, 2017. On August 16, 2017, the Owners met with the Fond du Lac Band of Lake Superior Chippewa to discuss the Project. On August 21, 2017, the Owners met with Red Cliff and Bad River Bands of Chippewa (separately) to discuss the Project. The Owners met with the Lac Courte Oreilles Band on January 8, 2019. The Owners also reached out to the St. Croix and Forest County Potawatomi Bands, but to date have not received a reply. Jill Hoppe, Tribal Historic Preservation Officer for the Fond du Lac Band of Lake Superior Chippewa, sent the Owners an image of approximate locations of some cultural sites from their cultural database. Three of the locations fall within the Project Study Area and two are adjacent to the Area of Potential Effect but outside of it.

A letter was sent to tribal contacts on June 11, 2019, in regard to the SHPO concurrence that the Project would have no impact on historic properties. This letter was sent to the St. Croix Chippewa Community, Lac Courte Oreilles Band of Lake Superior Chippewa, Bad River Bands of Lake Superior Chippewa, Forest County Potawatomi Community, and Red Cliff Band of Chippewa. A letter was given to the Fond du Lac Band of Lake Superior Chippewa during a meeting on August 5, 2019. The letter requested responses be sent within 30 days. No responses were received. The Fond du Lac Band of Lake Superior Chippewa discussed potential monitoring options during construction at the August 5, 2019, meeting. The Fond du Lac Band of Lake Superior Chippewa planned to send the Owners a proposal by September 9,

2019.

By letter dated March 16, 2020, the following additional Tribes were contacted in regard to the SHPO concurrence that the Project would have no impact on historic properties:

- Fort Belknap Indian Community
- White Earth Nation
- Lac Vieux Desert Band of Lake Superior Chippewa Indians
- Lac du Flambeau Band of Lake Superior Chippewa Indians
- Lac Courte Oreilles Band of Lake Superior Chippewa Indians
- Menominee Indian Tribe of Wisconsin
- Grand Portage Band of Lake Superior Chippewa
- Keweenaw Bay Indian Community
- St. Croix Chippewa Indians of Wisconsin
- Minnesota Chippewa Tribe
- Sokaogon Mole Lake Chippewa Community
- Mille Lacs Band of Ojibwe (Mille Lacs Band of the Minnesota Chippewa Tribe Mille Lacs Band of Ojibwe)
- Leech Lake Band of Ojibwe
- Miami Tribe of Oklahoma
- Ho-Chunk Nation
- Stockbridge-Munsee Community Band of Mohican Indians
- Oneida Nation

Tribes were asked to submit comments by April 17, 2020. No responses were received during the comment period or to date.

As noted in Section 6.4 of the SEA, the Red Cliff Band of Lake Superior Chippewa Indians and the Fond du Lac Reservation Resource Management Division sent letters to USDA-RUS in October 2021 requesting that RUS conduct a SEA to consider climate change from associated GHG emissions from the Project, as well as how the Project may impact treaty rights and other cultural resources, including upstream extraction of natural gas. These topics are discussed in Section 3.3 of the SEA. Both tribes were notified directly of the publication of the SEA. The Red Cliff Band of Lake Superior Chippewa Indians and the Fond du Lac Reservation Resource Management Division requested an extension of their comment period for the SEA, which RUS granted, extending their ability to comment by 30 days (for a total of 60 days), until August 23, 2022. No comments were received from either tribe during this time or since it expired. RUS contacted the tribes directly at the close of the comment period to verify their intent to submit comments; both tribes indicated they would not be commenting.

As noted in Section 3.3.2.1 of the SEA, Native American access to ceded lands for hunting, fishing, and gathering may be temporarily curtailed or restricted during Project construction. Fishing access to the Nemadji River is provided at 18th Street and 11th Street. There are also several hunting areas owned by the City of Superior and Douglas County within the Study Area that may be used by Native Americans to access local resources (Figure 3-5 of the SEA). The

fishing access at 18th Street and Nemadji canoe launch are accessed from roads also used to access the Nemadji River Site and are near the transmission routes south of the Nemadji River Site. Though not directly crossed, the access may be limited or temporarily closed during construction of facilities through temporary road closures and temporary increased noise associated with construction. If the Nemadji River Site is constructed, there would be increased traffic and operation noise near the fishing access at 18th Street during operation. Traffic during operation would primarily include employees entering or exiting the plant facility, as well as occasional maintenance vehicles. Traffic during operation of the Project would increase vehicles on nearby roads but is not anticipated to significantly increase traffic due to the number of employees anticipated or reduce access to these facilities.

The Preferred Site is not located within a hunting area. The transmission line route south of the Nemadji River Site would require clearing woodland in a portion of the Allouez Area Parcel 1 hunting area, the Itasca Area hunting area, and the Annex hunting area. The route generally follows existing transmission line and natural gas line through these parcels, however. Clearing would remove woodland habitat and result in a minor change to the habitat mix on these areas. Access to all or portions of these areas may also be controlled during construction. Once completed, access to these areas would be restored.

While the Proposed Action will cause GHG emissions in the direct vicinity, climate change occurs on a global scale. No guidelines or thresholds for local climate impacts due to localized GHG emissions have been developed or identified by the US EPA. There are no NAAQS or health exposure thresholds for GHGs. While criteria pollutants such as NOx, SO_2, CO and particulates cause localized health impacts, GHGs have effects on the global carbon cycle and cause system-wide changes. As described in Section 1.4 of the SEA, the construction of this Project will aid in the transition to renewable electricity, and in turn cause a net decrease in GHG emissions. This transition to renewables will reduce the effects of climate change on a global and, subsequently, a local level.

The following mitigation measures are proposed in the SEA regarding tribal environmental justice:

- If the Archaeological Study Area configuration is changed, additional archaeological investigations; documentation of historic-age, non-archaeological resources; and NRHP evaluations may be necessary.

- If buried cultural resources are encountered during Project construction, land-disturbing activities in the immediate area must be halted, and the investigators and WHS/State Historic Preservation Office (SHPO) archaeologists must be notified. Any exposed cultural resources will be evaluated for their significance and appropriate actions to address these finds coordinated with WHS/SHPO.

- The Owners will continue to coordinate with the Tribes throughout the construction and operation of the Project to identify, discuss, and address their concerns. (Modified commitment in the Revised SEA.)

- The Owners will coordinate the proper construction signage near recreation area access points on the roads used by construction vehicles for the Project to make drivers aware of the increased hazards associated with the construction vehicle(s) presence.

- The Owners will post notice regarding any relevant construction activity in public hunting areas during hunting season. The public hunting areas will remain open for hunting during construction, albeit, the actual construction zone will be closed for safety reasons. (Added in the Revised SEA.)

Cumulative Impacts to Tribes/EJ Communities

The comments provided by the EPA asked RUS to consider "whether communities may be experiencing existing pollution and social/health burdens and how the proposed project may potentially result in disproportionate impacts in that context." Additionally, the EPA recommended:

> "…that the project proponents and RUS determine if any impacts to tribal communities or any identified communities with EJ concerns will be disproportionally high or adverse. We also recommend that RUS document (1) how input from these populations and communities will be considered and incorporated into specific mitigation and adaptation decisions; (2) mitigation measures and best practices for construction impacts to the specific hunting areas listed above; and (3) how consideration of non-gas alternatives and mitigation of GHGs can reduce climate impacts on these communities and produce co-benefits such as reducing air pollution."

As described below, no minority or low-income EJ communities were identified within the Study Area. To date, no tribal responses to the EA or SEA have been received. Correspondence with tribes did not identify any issues with recreational facilities, such as fishing access or hunting lands in the vicinity of the Project. Tribal cultural resources/traditional cultural properties identified by the tribes have been assessed in EA/SEA, and no impacts from the Project were identified. As noted in the SEA, traffic and noise during operation near the fishing access would primarily include employees or occasional maintenance vehicles. Traffic during operation of the Project would increase vehicles on nearby roads but is not anticipated to significantly increase traffic due to the number of employees anticipated or reduce access to these recreational facilities. As described in Section 3.3.3 of the SEA, the Owners will coordinate the proper construction signage near recreation area access points on the roads used by construction vehicles for the Project to make drivers aware of the increased hazards associated with the construction vehicle(s) presence.

Based on the consultation that has occurred for this Project and the analysis in the EA and SEA, RUS does not believe disproportionately high or adverse impacts would occur to tribal or other EJ communities.

Cumulative impacts are discussed in Section 4.2 of the SEA. During construction of the Project, direct impacts such as exhaust emissions, fugitive dust, and other construction-related emissions would occur. However, these impacts would be temporary in nature and cease when

construction is complete. As such, these emissions are not anticipated to substantially impact the overall air quality in the region, and no cumulative impacts to air quality would occur as a result of construction activities. With the Project displacing coal generation, there is a net decrease in GHG emissions and less efficient units will operate less frequently. Additionally, the proposed location of NTEC will reduce transmission congestion across the region as well, which will result in more generation from renewable resources, specifically wind, due to a reduction in renewable resource curtailment.

EJ Communities / EJSCREEN 2.0

The NTEC EA included an environmental justice analysis that utilized the EPA EJSCREEN tool (see Section 3.8.1.4 of the NTEC EA). The analysis found that Census Tract 210 was in an environmental justice low-income area. The poverty rates for the remaining Study Area census tracts were not substantially higher (and for Census Tracts 204, 209, and 302, the poverty rates were lower) than the county poverty rate.

As recommended by EPA, this analysis was updated for the Project using EJSCREEN 2.0 in October 2022 using the same methodology as described in Section 3.8.1.4 of the NTEC EA (Table 3). Environmental justice issues are identified by first determining whether minority or low-income populations are present. If so, then any disproportionate effects on these populations would be identified and considered. The CEQ guidance states that minority populations should be identified when the percentage of minority residents in the affected area exceeds 50 percent or is meaningfully greater than the percentage of minority residents in the general population.[29] If the percentage of minority residents of the population in the area census tract exceeds the county level by more than 10 percentage points, it is considered to be "meaningfully greater" for the purposes of the analysis. The CEQ guidance also states that low-income populations should be identified based on poverty thresholds as reported by the U.S. Census Bureau (USCB). If the poverty rate for the population of the area census tract exceeds the county poverty rate by more than 10 percent, it is considered an area of environmental justice concern for the purposes of the analysis. Table 1 provides total minority and poverty information for the Study Area.

Table 3: Total Minority and Poverty near Project

Environmental Justice Factor	Douglas County, WI	Census Tract 204	Census Tract 205	Census Tract 208	Census Tract 209	Census Tract 210	Census Tract 302
Total minority (percent)	8	5	13	7	1	15	6
Low-income population (percent)	30	26	33	28	29	33	20

Source: EPA EJScreen 2.0, 2022

No EJ communities were identified in the Project Study Area (Table 1). Census Tract 210 is no

[29] CEQ (Council on Environmental Quality) 1997. Considering Cumulative Effects Under the National Environmental Policy Act. January. Accessed October 2022 at: https://ceq.doe.gov/publications/cumulative_effects.html.

longer considered to be in an environmental justice low-income area as it was in the NTEC EA based on EJSCREEN 2.0. The poverty rates for all Study Area census tracts are not substantially higher (and for Census Tracts 204, 208, 209, and 302, the poverty rates are lower) than the county poverty rate. Therefore, no environmental justice low-income areas were identified in the Study Area. The percentage of minority residents in Census Tracts 205 and 210 is only slightly higher (and for Census Tracts 204, 208, 209, and 302, slightly lower) than the percentage for Douglas County as a whole. Therefore, no environmental justice minority areas were identified in the Study Area. Additionally, as described above in Comment Response 5, as part of RUS investigations using the Climate and Economic Justice Screening Tool, none of the census tracts in the Study Area meet any burden thresholds or socioeconomic thresholds that would identify the tract as disadvantaged. Because no EJ communities were identified in the Study Area, the Project will not have disproportionately high and adverse impacts on EJ communities.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

July 26, 2022

REPLY TO THE ATTENTION OF:
Mail Code RM-19J

VIA ELECTRONIC MAIL ONLY
(peter.steinour@usda.gov)

Peter Steinour
Environmental Protection Specialist
US Department of Agriculture - Rural Utility Service
1400 Independence Avenue, SW Stop 1548
Washington, District of Columbia 20250

Re: EPA Comments: Supplemental Environmental Assessment - Nemadji Trail Energy Center Project, Douglas County, Wisconsin

Dear Mr. Steinour:

The U.S. Environmental Protection Agency has reviewed the Supplemental Environmental Assessment (Supplemental EA) prepared for the proposed Nemadji Trail Energy Center (NTEC) Project in Douglas County, Wisconsin. Dairyland Power Cooperative (Dairyland) is proposing to participate with South Shore Energy, LLC, a subsidiary of ALLETE, Inc., and Nemadji River Generation, LLC, a subsidiary of Basin Electric Power Cooperative (Basin Electric) (together the "Owners"), in a one-on-one combined cycle natural gas turbine (CCGT) with an in-service date in 2027. Dairyland intends to request financial assistance from the U.S. Department of Agriculture (USDA) - Rural Utilities Service (RUS) under its Electric Loan Program for its share of the Project, thereby making the proposed project a federal action subject to the National Environmental Policy Act (NEPA). This letter provides our comments on the Supplemental EA, pursuant to NEPA, the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

RUS previously published a Draft EA for NTEC in late 2020 and a Finding of No Significant Impact (FONSI) in June 2021. After the publication of the FONSI, RUS received several petitions from both non-profit organizations and Wisconsin tribes to rescind the FONSI and prepare a Supplemental EA to include an analysis of greenhouse gas (GHG) emissions and climate change, including the effects that increased GHG emissions would have on indigenous populations and treaty resources near the NTEC facility. RUS concurred that further analysis of the potential environmental impacts of the Proposed Action was warranted and the Supplemental EA was prepared to address the petitions filed.

EPA issued a comment letter in response to RUS's October 2020 Draft EA on November 30, 2020. Additional comments and recommendations within this letter are limited to the scope of the Supplemental EA, focusing on greenhouse gases, climate change, and impacts to indigenous populations and treaty rights. Following submittal of our November 2020 comment letter, the President has issued multiple Executive Orders related to climate change. For example, *Executive Order 14008: Tackling the Climate Crisis at Home and Abroad* states, "*The United States and the world face a profound climate crisis. We have a narrow moment to pursue action…to avoid the most catastrophic impacts of that crisis and to seize the opportunity that tackling climate change presents*." EPA's review of the 2022 Supplemental EA builds on our December 2020 letter to more fully consider climate change, in line with current climate science and federal policies and directives.

The Supplemental EA does not fully quantify or adequately disclose the impacts of the GHG emissions from the proposed action. EPA recommends that the analysis include quantified estimates of all indirect GHG emissions from the proposed project over its anticipated lifetime, *including reasonably foreseeable emissions from the production, processing, and transportation of natural gas*, as supported by CEQ's preamble to its notice of proposed rulemaking relating to NEPA Implementing Regulations Revisions[1]. Calculations of upstream, construction-related, and indirect GHG emissions, along with the direct emissions already estimated in the Supplemental EA, would provide essential information to the public and RUS decisionmakers. These emissions and more appropriate disclosure of their social cost are critical to disclosing the total climate impact of the proposed action. These impacts include implications for climate justice, given that communities with environmental justice concerns, underserved populations, and tribal nations are disproportionately impacted by climate change[2]. In addition, the Supplemental EA contained no qualitative discussion of the climate impacts resulting from the proposed project.

The preferred alternative would result in substantial GHG emissions and associated environmental impacts, and mitigation options and reasonable project modifications to reduce GHG emissions were not fully analyzed in the Supplemental EA. RUS should consider additional conditions for the Owners to receive federal funding, including requiring mitigation of the environmental impacts of the proposed action, such as co-firing with and eventually moving

[1] "[A]ir pollution, including greenhouse gas emissions, released by fossil fuel combustion is often a reasonably foreseeable indirect effect of proposed fossil fuel extraction that agencies should evaluate in the NEPA process, even if the pollution is remote in time or geographically remote from a proposed action. And even where an agency does not exercise regulatory authority over all aspects of a project, it may be appropriate to consider and compare the air pollution and greenhouse gas emission effects that the proposal and the reasonable alternatives would have on the environment, even if the agency does not have control over all of the emissions that the alternatives would produce. The consideration of such effects can provide important information on the selection of a preferred alternative; for example, an agency decision maker might select the no action alternative, as opposed to a fossil fuel leasing alternative, on the basis that it best aligns with the agency's statutory authorities and policies with respect to greenhouse gas emission mitigation." 86 FR 55757, 55763 (2021).

[2] See, e.g., Climate Change and Social Vulnerability, EPA (2021). https://www.epa.gov/system/files/documents/2021-09/climate-vulnerability_september-2021_508.pdf

to 100% clean hydrogen[3], or installation of carbon capture equipment at the proposed facility. In the enclosed detailed comments, EPA has provided a table of current examples being implemented. Incorporating mitigation would show leadership in line with the federal policy priority to reduce climate risks and could also reduce regulatory risks for ratepayers.

As discussed in our detailed comments, EPA strongly recommends the proposed action be modified to mitigate expected climate impacts, and that the informational deficiencies be remedied for the public and RUS decisionmakers. Without upstream, construction-related activities, and indirect GHG emission estimates, it is not clear that project GHG emissions would be lower than GHG emissions in the without-NTEC scenario discussed in Appendix B. Our detailed comments include recommendations for consistent disclosure and consideration of upstream and downstream emissions, analyzing GHG emissions in the context of national GHG reduction policies and state reduction targets, disclosing the climate impacts by using the estimated social cost of GHGs, consideration of non-gas alternatives, improving the application of mitigation measures, considering longer term impacts including carbon-lock-in and stranded assets, incorporating climate adaptation, and considering climate-related environmental justice.

We look forward to working with you as this project advances and to reviewing future NEPA documents prepared for this project. Please send us an electronic copy of future NEPA documents, including the decision document, for this project. If you have any questions or comments regarding the contents of this letter or would like to discuss our comments in more detail, please contact the lead NEPA reviewer, Liz Pelloso, at 312-886-7425 or via email at pelloso.elizabeth@epa.gov.

Sincerely,

Jennifer Tyler
Acting Deputy Director
Tribal and Multimedia Programs Office

cc (via email):
Paul Winters, EPA (winters.paul@epa.gov)
Wayne Dupuis, Fond du Lac Resource Management Division (wayne.dupuis@fdlrez.com)
Linda Nguyen, Red Cliff Environmental Director (linda.nguyen@redcliff-nsn.gov)

[3] Two types of hydrogen production are referred to as "clean" hydrogen - blue and green. Blue hydrogen uses the Steam Methane Reformation process with the addition of carbon capture technology. Green hydrogen is an emerging technology that separates hydrogen from water molecules via electrolysis. As long as zero-emissions electricity is the power source, green hydrogen results in no direct emissions and is one of the cleanest forms of production. See Rhodium Group, "Clean Hydrogen: A Versatile Tool for Decarbonization" https://rhg.com/research/clean-hydrogen-decarbonization/

EPA Detailed Technical Comments and Recommendations
Supplemental EA - Nemadji Trail Energy Center Project (Douglas Co, WI)
July 26, 2022

1. **Consider regulatory, policy, and energy transition trends that will affect new plants, as well as appropriate mitigations.**

   A variety of State and Federal regulations are likely to affect the power sector in the coming decades. In general, these regulatory efforts aim to reduce fossil fuel emissions. There are also forecasts of declining costs and increasing adoption of renewable generation as well as increased electricity demand from increased electrification. Coal and natural gas combustion are relatively mature technologies that have limited potential for further cost-saving innovations.

   Multi-decade time horizons associated with new or refurbished natural gas electric generating units (EGUs) present financial risks to owners and ratepayers. Many coal plants are already uneconomic. Natural gas plants could become similarly pressured in the face of stiff competition from renewable sources with lower climate risk and cost-reduction potential[4]. Many natural gas EGUs are over 30 years old with the capacity-weighted age of the current U.S. natural gas fleet around 22 years[5]. Numerous coal-fired power plants have operated continuously for even longer periods, with the average age of operating U.S. coal plants currently at 45 years[6]. Given that initial fixed costs represent a large share of total or levelized costs for these fossil fuel sources, locking them in risks locking in higher costs for plant owners and ratepayers. Investing in long-lived combustion turbines due to inaccurate expectations about the costs of alternatives may lead to higher overall costs. Moreover, long-lived fossil assets may become uneconomic faster than expected if alternatives and mitigation are not fully considered.

   EPA offers the following specific recommendations to consider and mitigate regulatory and energy transition risks:

   a) *Project proponents should consider site characteristics that could promote or impede responses to regulatory and technology developments.*

      EPA recommends the project proponents and RUS consider the infrastructure and siting requirements related to the need for future potential carbon mitigation measures at combustion turbines. The project proponents should also provide the total costs for these mitigation measures so that risks of financial impact are fully understood. This should include assessment of the following: 1) space to locate carbon capture equipment or electrolyzers for clean hydrogen production; 2) pipeline routes and

[4] Report Release: Headwinds for US Gas Power - Six Trends Eroding the Business Case for New Gas Power Plants https://rmi.org/report-release-headwinds-for-us-gas-power/

[5] U.S. utility-scale electric generating capacity by initial operating year (as of Dec 2016), U.S. Energy Information Administration - Independent Statistics and Analysis https://www.eia.gov/todayinenergy/detail.php?id=34172

[6] U.S. coal power plant capacity by initial operating year (1950-2021), U.S. Energy Information Administration - Independent Statistics and Analysis https://www.eia.gov/todayinenergy/detail.php?id=50658

storage sites for potential CO_2 sequestration; and 3) any pipeline and/or storage needs associated with clean hydrogen.

b) *RUS should disclose why carbon mitigation options were not included or should otherwise analyze those options.*

Renewables and storage are not only projected to continue declining in cost over time while substantially reducing GHG and non-GHG pollution, but also to help stabilize domestic energy supply, e.g., renewable energy is less subject to global price fluctuations than natural gas[7].

Before the Final EA is published, EPA recommends that RUS and the project proponents provide a detailed explanation of why options that included carbon mitigation were not more fully considered. The alternatives considered did not include information on transitioning the turbines in the preferred alternative to lower GHG emitting technologies, e.g., use of hydrogen as an alternate fuel, or implementation of carbon capture and storage (CCS), nor was an analysis provided on the potential resulting emissions reductions. Neither the Draft EA nor the Supplemental EA considered access to clean hydrogen and/or carbon sequestration sites or the ability to construct to add post combustion CCS. Given the trends noted above, the Final EA should explain the rationale to not to consider them or address such considerations.

RUS and the project proponents should review EPA's draft whitepaper on GHG measures for turbines[8]. For illustration, the EPA has included Table 1, below, containing a list of hydrogen and CCS projects currently under development with online dates in the 2025/2026 timeframe. EPA recommends that RUS and the project proponents evaluate these types of technologies as mitigation options and discuss short or long-term plans for reducing GHG emissions from new fossil assets like the turbines proposed in the preferred alternative.

Table 1: Turbine projects with GHG mitigation technologies in development in 2026 timeframe

Type of Project	Location	Developer	Amount of Carbon Mitigation	Current Status	Next Expected Milestone	Projected On-line Date
Projects Where Construction Contract Has Been Awarded						
Hydrogen co-firing	Utah	Intermountain Power[9]	30% Green Hydrogen Co-firing on day 1	Contracts Awarded For manufacture and construction	December 2022- Award hydrogen contract	July 2025

[7] EPA. 2018. Quantifying the Multiple Benefits of Energy Efficiency and Renewable Energy: A Guide for State and Local Governments, EPA-430-R-18-00000

[8] https://www.epa.gov/stationary-sources-air-pollution/white-paper-available-and-emerging-technologies-reducing

[9] https://www.ipautah.com/ipp-renewed/#

Type of Project	Location	Developer	Amount of Carbon Mitigation	Current Status	Next Expected Milestone	Projected On-line Date
Projects On-line with Stated Commitment to Run on Green Hydrogen						
Hydrogen Co-firing	Ohio	Long Ridge Power Project[10]	Currently capable of burning 20% hydrogen	5% hydrogen Test Burn Completed in April 2022	Procure Green Energy	Currently on-line
Projects Where Decision to Build Is Expected Soon						
Oxy Combustion Turbine	Southern Ute Reservation, Colorado	Coyote Clean Power[11], NET Power	100% Carbon Capture	February 2022 – Interconnection Application Filed	Final Investment Decision Expected in 2022	2025
Oxy Combustion Turbine	Illinois	ADM[12] – NET Power	100% Carbon Capture	April 2021 Agreement in principle	Final Investment Decision Expected in 2022	2025
Oxy Combustion Turbine	UK	Sembcorp Energy – NET Power – Whitetail Energy[13]	100% Capture	July 2021 – project announced 2022 – Pre-FEED Study Completed	Regulatory Approval?	2025
Projects Considering Retro-fit CCS						
Retrofit CCS	Texas	Deer Park Energy Center[14]	95% capture	FEED study underway	TBD	TBD
Retrofit CCS	CA	Delta Energy Center[15]	95% capture	FEED study underway	TBD	TBD

[10] https://www.longridgeenergy.com/news/2020-10-13-long-ridge-energy-terminal-partners-with-new-fortress-energy-and-ge-to-transition-power-plant-to-zero-carbon-hydrogen
[11] https://www.prnewswire.com/news-releases/coyote-clean-power-begins-wapa-interconnection-301479049.html
[12] https://www.powermag.com/8-rivers-unveils-560-mw-of-allam-cycle-gas-fired-projects-for-colorado-illinois/ and https://www.prnewswire.com/news-releases/8-rivers-capital-adm-announce-intention-to-make-illinois-home-to-game-changing-zero-emissions-project-301269296.html
[13] https://energydigital.com/renewable-energy/whitetail-appoints-atkins-uks-first-net-zero-plant
[14] https://www.regulations.gov/comment/EPA-HQ-OAR-2022-0289-0016
[15] Ibid.

Type of Project	Location	Developer	Amount of Carbon Mitigation	Current Status	Next Expected Milestone	Projected On-line Date
Additional Hydrogen Turbine Projects Under Development						
Hydrogen Turbine	TX	Orange County Advanced Power Station[16]	30% hydrogen co-firing on day 1	Seeking PUC approval	Decision expected September 2022	May 2026
Electrolyzers Being Installed to Supply Green Hydrogen for Existing Turbine Project						
Electrolyzer	FL	Cavendish Next Gen Hydrogen Hub[17]	25 MW	Contract for Electrolyzer Awarded, Feb. 2022		

2. **Consider project modifications to address all practicable mitigation measures.**

Table 3.5 of the Supplemental EA summarizes Technically Feasible GHG technologies for combustion turbines, yet notes that many mitigation technologies, both pre-and post-combustion, were deemed "infeasible." EPA disagrees with these conclusions.

Specifically, neither the Supplemental EA nor Appendix A discussed the potential for use of zero or carbon neutral fuel, such as hydrogen (H_2), synthetic (renewable) methane, or ammonia (NH_3). The most common approach today to tackle pre-combustion decarbonization is to change the fuel. An advantage of gas turbines is that they are able to operate on many other fuels besides natural gas. Some of these fuels, such as hydrogen, do not contain carbon and will therefore not emit CO_2 when combusted. Furthermore, H_2 can be introduced to new gas turbines and existing gas turbines alike, reinforcing the concept that solutions are available today to decarbonize assets already in the field and those waiting to be installed. The possibility of burning hydrogen in a gas turbine avoids the potential "lock-in" of CO_2 emissions for the entire life of the power plant. While natural gas was selected as the fuel for the proposed project, the Supplemental EA did not discuss alternate sources of fuel as a means to reduce GHGs, both now and in the future.

The Supplemental EA and Appendix A also stated that post combustion CO_2 capture was deemed infeasible. Appendix A states, "*No commercially available post-combustion CO_2 capture systems are known to have been installed at large power plant other than pilot-scale demonstration projects*." This is inaccurate, as noted by information provided above in

[16] https://www.naturalgasintel.com/texas-combined-cycle-natural-gas-hydrogen-project-proposed-by-entergy/
[17] https://www.businesswire.com/news/home/20220228005567/en/FPL-Announces-Cummins-to-Supply-Electrolyzer-for-%20Florida%E2%80%99s-First-%E2%80%9CGreen%E2%80%9D-Hydrogen-Plant-%E2%80%93-Potential-Key-to-Carbon-Free-Electricity

Table 1 and in recent studies[18]. When it comes to the actual process of capturing CO_2 the most mature option today, and the baseline for all other carbon capture technologies, is the post-combustion technology of Amine Carbon Capture. In addition to the benefit of applying Carbon Capture and Utilization or Sequestration (CCUS) to existing assets, it can also be deployed as a modular solution, allowing for incremental amounts of carbon reduction with each additional module deployed. This translates to greater optionality for plant owners, taking either a phased approach by deploying carbon capture systems over years and spreading out the capital expenses over a longer period, or an immediate approach by building out the carbon capture system to full capacity in one go. Similar to introducing hydrogen to a plant, CCUS can be applied to both new and existing gas power plants, again avoiding lock-in of CO_2 emissions for the life of the power plant. The Supplemental EA did not discuss the potential for and option to implement post combustion CO_2 capture at the proposed project.

Additionally, EPA recommends the use of switchgears that are sulfur hexafluoride (SF_6) free for the proposed project, and system wide as larger switchgears become available[19]. The Supplemental EA indicates that small leaks of SF_6 are expected from gas-insulated circuit breakers (the circuit breakers will be sealed so SF_6 leakage will be minimized but will still occur). SF_6 is the most potent known GHG and is approximately 26,000 times more effective at trapping infrared radiation than carbon dioxide. SF_6 is also a very stable chemical, with an atmospheric lifetime of 3,200 years. Thus, a relatively small amount of SF_6 from each of the thousands of switchgears associated with the energy sector can have a major impact. Emissions of SF_6 also come from the manufacture and recycling of SF_6, as well as charging, repairing, and decommissioning the switchgears. As such, EPA recommends use of switchgears that are SF_6-free for the proposed project.

Finally, EPA recommends that RUS require adoption of the recommendations in EPA's Methane Challenge program to reduce potential GHG emissions attributable to the project[20].

3. **Disclose all direct and indirect GHG emissions for the proposed project.**

The Supplemental Draft EA included incomplete estimates of GHG emissions. While Table 3-6 presented estimates of CO_2, CH_4 and N_2O emissions, these estimates did not include indirect (fugitive) emissions or upstream emissions. It is also not clear that these estimates included emissions emanating from construction. As is stated in Section 3.2.2.1.1 - Construction, construction emissions would be temporary and once construction activities are completed, emissions from those activities would end. The expected decrease over time in construction-related emissions does not appear to be reflected in the emission estimates provided in Table 3-6 of the Supplemental EA. Without upstream, construction-related activities, and indirect GHG emission estimates, it is not clear that project emissions will be lower than GHG emissions in the without-NTEC scenario discussed in Appendix B.

[18] See this article for a case study of technology installed in Utah. Palash Panja, Brian McPherson, Milind Deo. Techno-Economic Analysis of Amine-based CO_2 Capture Technology: Hunter Plant Case Study, Carbon Capture. Science & Technology, Volume 3, 2022, 100041, ISSN 2772-6568. Available online: https://doi.org/10.1016/j.ccst.2022.100041

[19] https://www.epa.gov/eps-partnership

[20] https://www.epa.gov/natural-gas-star-program/recommended-technologies-reduce-methane-emissions

Additionally, GHG emissions should be analyzed in the context of national and state GHG reduction targets and policies, including Governor Evers' order that Wisconsin achieve a goal of ensuring all electricity consumed within the State of Wisconsin is 100 percent carbon-free by 2050[21]. A revised analysis should inform and improve RUS's consideration of mitigation measures and climate adaptation. Also, as recommended in detail below, this discussion should inform improved disclosure of climate impacts using the estimated social cost of GHGs (SC-GHG).

Direct Emissions

The Supplemental EA states that project modeling shows a "*net decrease in GHG emissions*" is expected in the Midcontinent Independent System Operator (MISO) west region by an average of 964,000 tons per year (from 2025-2040) by eventually displacing coal generation and requiring less frequent operation of less efficient fossil fuel units. It is not clear if this projected "net decrease" was calculated solely against a "business as usual" baseline. EPA recommends that such calculation should also be estimated against decarbonization pathways that are necessary to meet science-based targets for GHG reductions, e.g., in the Long-Term Strategy of the United States[22].

Net GHG emissions calculations and assumptions for displacement of higher emitting alternative fuels are complex. EPA recommends that RUS and project proponents use a peer reviewed model or approach for the assessment and disclose all assumptions and levels of uncertainty associated with the analysis. Experts at EPA's National Center for Environmental Economics (NCEE) are available for assistance, as needed.

The Supplemental EA did not discuss the project's GHG emissions in the context of national GHG emission reduction goals over the anticipated project lifetime. It also did not address the increasing conflict over time between continued emissions and national GHG emissions reduction goals, including ways to avoid or mitigate that conflict, which increases over time, created by projects that otherwise expand and lock-in fossil fuel consumption[23].

Upstream and Downstream (Indirect) Emissions

Petitions for the Supplemental EA requested that climate impacts of upstream methane emissions during extraction and due to leaks be assessed for the Proposed Action. Page 3-27 of the Supplemental EA states, "*Specific sources of natural gas to be transported to the NTEC facility are unknown and may change through the operation of NTEC. Due to this, the environmental impacts of upstream natural gas production are not reasonably foreseeable to predict with any specificity*."

We appreciate that the Supplemental EA quantifies construction and operational GHG emissions in carbon dioxide equivalents (CO2e) in Table 3-6. However, the

[21] https://evers.wi.gov/Documents/EO%20038%20Clean%20Energy.pdf

[22] www.whitehouse.gov/wp-content/uploads/2021/10/US-Long-Term-Strategy.pdf

[23] Recent Intergovernmental Panel on Climate Change (IPCC) reports conclude that we have less than a decade to transition for fossil fuels to clean energy if we are to stay below 1.5 degrees Celsius warming. IPCC, 2022: Climate Change 2022, Impacts, Adaptation, and Vulnerability, Sixth Assessment Report of the Intergovernmental Panel on Climate Change. February 2022.

Supplemental EA did not adequately quantify indirect emissions, as noted above. EPA recommends quantification of all upstream and downstream GHG emissions associated with the proposed action, as supported by CEQ's preamble to its notice of proposed rulemaking relating to NEPA Implementing Regulations Revisions[24]. Federal agencies have a legal obligation to consider direct and indirect impacts including upstream and downstream emissions caused by production, processing, transportation, and consumption of the project's resources.

EPA asserts that both upstream and downstream GHG emissions are reasonably foreseeable and are indirect impacts of the proposed project. The reasonably foreseeable impacts from those production and consumption activities are both causally connected to the proposed project and possible to estimate in a manner that provides reliable, important information to decisionmakers and the public for purposes of NEPA. We recommend that RUS use EPA's *Inventory of U.S. GHG Emissions and Sinks* as the basis to develop generalized upstream emission estimates and contact EPA for assistance, if needed.[25]

4. **Require a Social Cost of Greenhouse Gases (SC-GHG) analysis to accurately reflect the proposed project's monetized cost, incorporating climate impacts from both direct and indirect GHG emissions.**

EPA strongly recommends that agencies use estimates of the SC-GHG[26] to assess climate impacts and help weigh their significance in cost-benefit balancing for proposed projects. Estimates of the SC-GHG reflect the best available science and methodologies to monetize the value of net changes in direct and indirect GHG emissions resulting from a proposed action to society. The estimates provide the decisionmakers and public meaningful information on the impacts of the project's GHG emissions for NEPA purposes including disclosing GHG impacts and benefits of mitigation and for comparison across alternatives.

The SC-GHG is the monetary value of the net harm to society associated with adding a small amount of that GHG to the atmosphere in a given year. In principle, it includes the value of all climate change impacts (both negative and positive), including (but not limited to) changes in net agricultural productivity, human health effects, property damage from increased flood risk and natural disasters, disruption of energy systems, risk of conflict, environmental migration, and the value of ecosystem services. In practice, estimates of the SC-GHG are unable to include all of the important physical, ecological, and economic impacts of climate change due to data and modeling limitations

SC-GHG estimates help describe the social benefits of reducing emissions of GHGs and the social costs of increasing such emissions. This makes these estimates useful to

[24] 86 FR 55757, 55763 (2021).
[25] EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks is available at: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks
[26] SC-GHG collectively refers to the SC-CO_2 and other GHGs (including, for example, the social cost of methane (SC-CH_4) and social cost of nitrous oxide (SC-N_2O)).

analyses across a broad spectrum of proposed actions. The SC-GHG estimates provide a monetary measure (in U.S. dollars) of the future stream of damages associated with a metric ton of GHG emissions in a particular year. The effect of GHG emissions on the climate system and, in turn, on public welfare involves a multitude of complex processes and endpoints. By mapping those effects into a single dollar denominated value, the SC-GHG estimates provide a measure of impacts that are more easily understood by decision makers and the public than a measure of metric tons of emissions and can be compared to other values denominated in dollars.

The SC-GHG estimates can also help agencies analyze and disclose aggregate and cumulative climate change impacts over time. Reporting total GHG emissions over the life of a proposed action in metric tons does not disclose or explain when and how society will be affected by those emissions. The SC-GHG estimates are emissions-year specific, so applying the SC-GHG estimate corresponding to each year of emissions change provides a more comprehensive assessment of the climate damages expected from a proposed action. This long-term view is relevant because many fossil fueled projects seek approval for decades or more.

Using emissions from Table 3-6 of the Supplemental EA, applying the social cost of GHG (assuming 2020 dollars), and assuming the project would run from 2025-2040, EPA calculated the total SC-GHG and the SC by individual GHG in the following tables. Assuming the GHG estimates in Table 3-6 reflect operating and downstream (combustion turbine) emissions, the present value of aggregated climate damages from these emissions from 2025 to 2040 would be $2.15 billion dollars (in 2020 dollars) using the interim estimates of the social cost of CO_2, CH_4 and N_2O.

Total; Present Value of GHG Emission Changes (in millions, 2020$)

GHG	Total	Total	Total	Total
Discount Rate	5.00%	3.00%	2.50%	3%
Statistic	avg	avg	avg	95th
Present Value in 2025 (N Periods, 2020$)	$616	$2,150	$3,195	$6,349

Present Value of CO_2 Emission Changes (in millions, 2020$)

GHG	CO_2	CO_2	CO_2	CO_2
Discount Rate	5.00%	3.00%	2.50%	3%
Statistic	avg	avg	avg	95th
Number of periods (N)	16	16	16	16
Present Value in 2025 (N Periods, 2020$)	$471	$1,684	$2,511	$5,112

Present Value of CH_4 Emission Changes (in millions, 2020$)

GHG	CH_4	CH_4	CH_4	CH_4
Discount Rate	5.00%	3.00%	2.50%	3%
Statistic	avg	avg	avg	95th
Number of periods (N)	16	16	16	16
Present Value in 2025 (N Periods, 2020$)	$13	$30	$39	$79

Present Value of NO Emission Changes (in millions, 2020$)

GHG	N_2O	N_2O	N_2O	N_2O
Discount Rate	5.00%	3.00%	2.50%	3%
Statistic	avg	avg	avg	95th
Number of periods (N)	16	16	16	16
Present Value in 2025 (N Periods, 2020$)	$133	$436	$645	$1,157

5. **Consider and disclose climate resilience and adaptation planning in project design.**

The long-lived nature of natural gas infrastructure makes consideration of the ongoing and projected impacts of climate change extremely important. Infrastructure designed for historical climate trends is more vulnerable to future weather extremes and climate change. Impacts include, but are not limited to, changes to energy performance and corrosion of structures. The potential impacts of climatic changes on the proposed action should be discussed as part of the potential implications to flooding, changes to public safety, and reliability. EPA recommends that additional information be provided on how climate resiliency has been considered in the design of the proposed action. We also recommend that the RUS require consideration and disclosure of climate resilience and adaption planning in project design, including measures to ensure resilience to protect infrastructure investments from the effects of climate change on the project. By considering potential climate change impacts, RUS would help ensure that investments made today continue to function and provide benefits, even as the climate changes. This would also help RUS avoid making infrastructure investments in vulnerable locations, along with unintended impacts to local communities.

6. **Address Tribal and environmental justice concerns and mitigate disproportionate impacts.**

Communities with environmental justice (EJ) concerns are disproportionately affected by, and vulnerable to, climate change[27]. The increased vulnerability to climate risks and impacts should be explicitly factored into evaluations of the cumulative impact of the project on overburdened communities, consistent with section 219 of E.O. 14008. Section 3.3.2.1 of the Supplemental EA discusses impacts that will be borne by tribes, including limited access to, or closing of the fishing access at 18th Street and the Nemadji canoe launch during construction. While these impacts may be temporary, the proposed siting of the facility on the Nemadji River will result in increased traffic and operational noise near the 18th Street fishing access, which would likely be permanent. Construction of the proposed transmission line associated with the project would require tree and woodland clearing in portions of the Allouez Area Parcel 1 hunting area, the Itasca Area hunting area, and the Annex hunting area. Access to these areas would also be restricted during construction. The Supplemental EA did not discuss how these impacts would be remedied or mitigated. In addition, it's

[27] EPA. 2021. Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts. U.S. Environmental Protection Agency, EPA 430-R-21-003. www.epa.gov/cira/social-vulnerability-report

unclear how closely RUS and the project proponents have engaged tribes to learn of potential impacts; direct input from impacted tribes is essential to understanding how the project could impact tribal resources, cultural practices, and treaty rights.

EPA recommends that RUS disclose coordination with tribes to date and discuss whether the level of engagement was sufficient to reach an understanding of potential impacts to tribal resources, cultural practices, and treaty rights; supplement outreach prior to the Final Supplemental EA if robust engagement has not already occurred. In addition, consider whether communities may already be experiencing existing pollution and social/health burdens and how the proposed project may potentially result in disproportionate impacts in that context. EPA recommends that the project proponents and RUS determine if any impacts to tribal communities or any identified communities with EJ concerns will be disproportionally high or adverse. We also recommend that RUS document (1) how input from these populations and communities will be considered and incorporated into specific mitigation and adaptation decisions; (2) mitigation measures and best practices for construction impacts to the specific hunting areas listed above; and (3) how consideration of non-gas alternatives and mitigation of GHGs can reduce climate impacts on these communities and produce co-benefits such as reducing air pollution.

We are unable to tell if EJSCREEN[28] was utilized to identify and clarify EJ concerns regarding the Project. For reference, EPA notes that a new version of EJSCREEN, titled EJSCREEN 2.0, became available for public use in February 2022. This version provides a streamlined interface; up-to-date indices and indicators; and new demographic, environmental, and public health data sets. EPA encourages RUS to use this EPA tool.

[28] https://www.epa.gov/EJScreen

ATTACHMENT 2: MCEA COMMENTS

Supplemental Environmental Assessment for the Nemadji Trail Energy Center Project Rural Utilities Service Response to MCEA Comments on the Supplemental Environmental Assessment

The following text presents the Minnesota Center for Environmental Advocacy, Sierra Club, Clean Wisconsin, and Honor the Earth (collectively referred to herein as MCEA) comments the Rural Utilities Service (RUS) has received on the Supplemental Environmental Assessment (SEA) for the Nemadji Trail Energy Center (NTEC) Project. RUS has reviewed MCEA's comments to the SEA and approximately pages 1-10 of MCEA's comments include an introduction, procedural background, and legal/policy background, rather than specific comments on the SEA. As such, RUS does not provide responses to these comments.

A summary of the comment received, and the RUS response, are provided below. Comments provided by MCEA as well as appendices have been received and are stored in the Project file.

II: RUS Must Prepare An EIS Because One Is Categorically Required Under RUS Rules

RUS Response:

Per the U.S. Energy Information Administration,[30] a prime mover is the engine, turbine, water wheel, or similar machine that drives an electric generator; or, for reporting purposes, a device that converts energy to electricity directly (e.g., photovoltaic solar and fuel cells). Per RUS NEPA Regulations, actions for which an EIS is required include "new electric generating facilities, other than gas-fired prime movers (gas-fired turbines and gas engines) …with a rating greater than 50 average MW…"[31] The NTEC project will include a gas-fired prime mover; hence, it does not meet RUS regulatory requirements for an EIS based upon the generator type. As noted by MCEA, the Project also includes a heat recovery steam generator and a steam turbine generator; however, the inclusion of these components in the gas-fired prime mover (the Project) does not necessitate preparing an EIS. The Project is still a gas-fired prime mover, and the inclusion of a heat recovery stream generator and steam turbine generator is beneficial because a combined cycle has less CO_2 than simple cycle turbines on a pound per megawatt-hour (lb/MW-hr) basis. Using the waste heat from the turbine and powering a steam turbine provides an additional efficiency which reduces the CO_2 emissions per kilowatt (kW) of electricity produced. The inclusion of a heat recovery steam generator (HRSG) and steam turbine increases the facility's efficiency. *See* III (A) for additional information related to air modeling

[30] https://www.eia.gov/tools/glossary/index.php?id=P
[31] 7 C.F.R § 1970.151(b)(4).

methodology.

III. RUS Must Prepare an EIS Because NTEC Will Significantly Impact The Climate

III (A): NTEC's GHG Emissions are Significant and Require an EIS.

RUS Response:

MCEA's comments state that "NTEC requires an EIS because it will have very high GHG emissions." RUS has reviewed MCEA's comment and does not agree that an EIS is required or would be helpful in understanding the Project's impacts here. Applicable regulations do not require an EIS based on GHG emissions thresholds, and RUS's combined analysis (direct, indirect, and cumulative) of the Project's potential net emissions indicate that the Project will actually *reduce* overall CO_2 emissions in MISO West.

At the time of the SEA publication (June 2022), the document was prepared following the Council on Environmental Quality's (CEQ) Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews (August 2016). In January 2023 CEQ issued revised interim guidance with the messaging that the guidance was effective immediately. As such, and consistent with discussions with U.S. Environmental Protection Agency (EPA) during this NEPA process, the Revised SEA specifically considers the National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (CEQ 2023; referred to herein as the 2023 Interim CEQ GHG Guidance).

Policy Considerations: RUS recognizes the impact GHG emissions are having with respect to climate change and that the President has established goals to eliminate GHG emissions in the US, which includes carbon dioxide (CO_2), that is released by fossil fuel-burning power plants. The goals include having: i) a zero-carbon electricity grid by 2035, and ii) a net-zero carbon economy by 2050. RUS also recognizes how the Inflation Reduction Act (IRA) and other bills have been signed into law to promote or provide additional RUS funding to finance renewable energy resources as well as technologies such as Carbon Capture Utilization and Storage (CCUS) to reduce GHG emissions from fossil fuels. Additionally, RUS recognizes Governor Evers' Executive Order 38 that Wisconsin achieve a goal of ensuring all electricity consumed with the State of Wisconsin be 100 percent carbon-free by 2050.

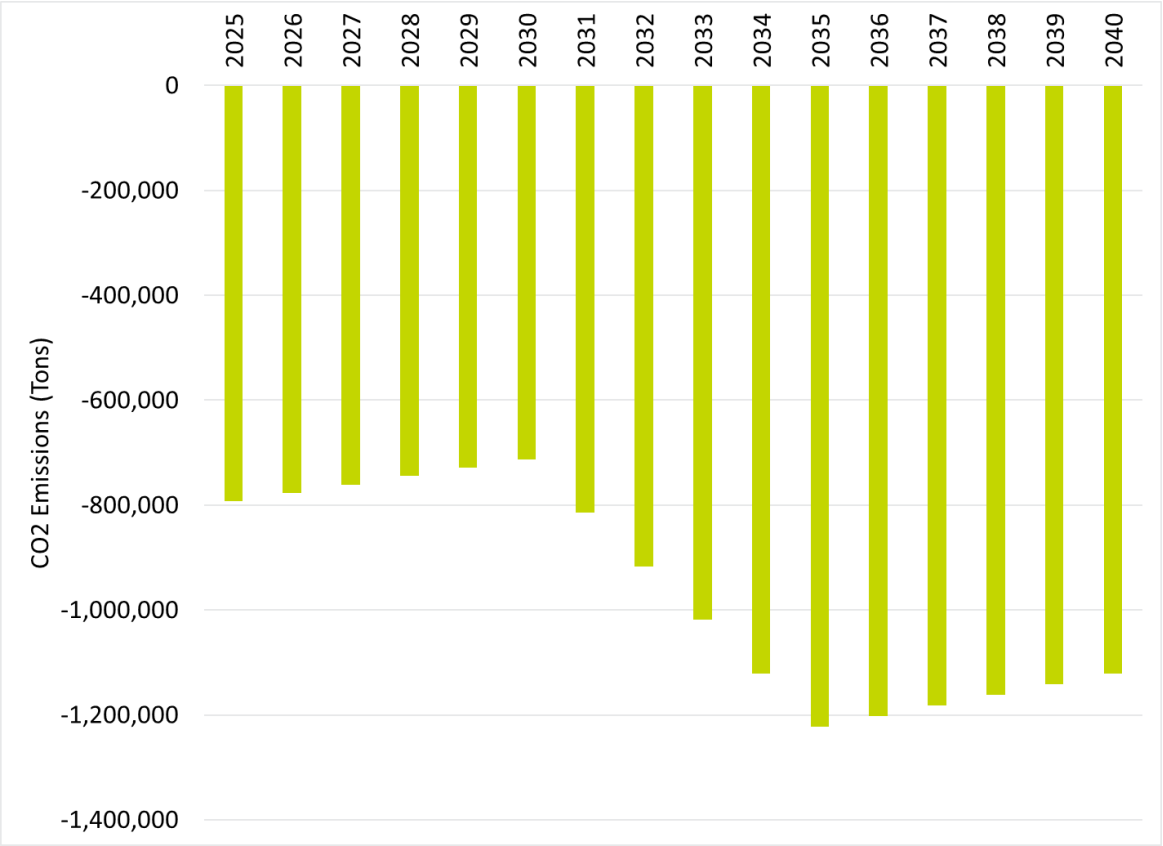
With respect to MCEA's comments concerning White House climate change policy, RUS reiterates that the Project is anticipated to result in a net reduction in CO_2 emissions in MISO West and is a critical component of the Owners' (Dairyland, South Shore Energy, LLC, and Nemadji River Generation, LLC) implementation of renewable energy. RUS has revised the SEA in consideration of recent White House Administration Executive Orders addressing climate change.

Production Cost Modeling: The Midcontinent Independent System Operator, Inc. (MISO) West emissions benefits from NTEC were modeled through 2040 based on MISO's Transmission Expansion Plan (MTEP) study time period. The MISO models are widely accepted as the best model available for projects like NTEC and within the MISO operating area to understand and plan the actual operation of the bulk electric system in the region for today and the future. The model is developed with extensive stakeholder input from generator and transmission owners across the entire operating area of MISO. The model does not attempt to predict beyond the planning period, which in this instance was 2040. However, that does not mean that the model does not inform whether NTEC can reasonably be expected to reduce overall emissions past the planning period.

MCEA appears to compare actual GHG emissions from existing facilities in the state of Wisconsin to the maximum potential permitted emissions for the NTEC combined-cycle plant when "ranking" the facilities and their GHG emissions. This is not an apples-to-apples comparison, as comparing maximum permitted GHG emissions for all facilities would result in a much different comparison of emission sources in the state.

NTEC will be among the most efficient fossil-fuel generating resources in the MISO West. It can be expected that NTEC will continue to displace less efficient fossil-fuel generation past 2040 even if more efficient facilities than NTEC are introduced into the system (*See* Figure 1 below from the production cost modeling (Appendix B of the SEA)).

Figure 1: 2025—2040 MISO West Annual CO_2 Emission Reductions with NTEC



In every year modeled for the Proposed Action (aka "with NTEC"), the model shows emissions reductions. Further in the final years modeled, the model continued to show over one million tons of reduced emissions. It is also reasonable to expect that the NTEC facility will reduce emissions over its operational life because it is expected to operate less frequently if renewable resources are operating and able to meet energy needs in the area. In the MISO markets, generators are dispatched based upon their marginal price. That price is almost exclusively influenced by fuel and variable operating expenses. As a result, NTEC is expected to displace generators that also burn fossil fuels. MISO uses economic dispatch, which will run low or no variable cost (renewable) resources prior to those that have a fuel cost associated with producing electricity, such as NTEC. Thus, the Project is anticipated to continue to displace any lesser efficient coal and natural gas resources, even beyond 2040 and will be available as a reliability insurance policy when there is insufficient renewable resources to meet system electric demand, enabling Dairyland to incorporate additional renewable resources as presented in Chapter 1 of the NTECEA. Thus, the Project is anticipated to continue to displace any lesser efficient coal and natural gas resources, even beyond 2040. As noted in the *Governor's Task Force on Climate Change Report*,[32] Wisconsin is anticipated to experience an increase in peak energy demand by 2024, so increasing grid flexibility is "critical to manage customer costs and minimize environmental impact if the system peak continues to increase" (page 35). NTEC will increase grid flexibility by providing an efficient dispatchable energy source to increase reliability during

[32] https://climatechange.wi.gov/Pages/Home.aspx

the transition to more renewable energy.

NEPA Considerations: With respect to MCEA's assertion that the Project's emissions level are "significant" and require an EIS, RUS actions for which an EIS is required are defined in 7 CFR § 1970.151(b)(4). Those regulations specifically identify gas-powered prime movers (like NTEC) as typically not requiring an EIS. A new power plant is required (under the Clean Air Act) to conduct air dispersion modeling and other evaluations to demonstrate the new facilities comply with established air quality standards for the protection of air quality and human health. However, there are no ambient air quality standards set for GHG. GHG emissions are regulated as a criteria pollutant and per Federal and State air quality regulations, the level of GHG emissions required a Best Available Control Technology (BACT) analysis per 40 CFR Part 52.21 (Prevention of Significant Deterioration [PSD]). This analysis was performed and approved by the Wisconsin Department of Natural Resources (WDNR) for the project.

Further, the draft Federal Energy Regulatory Commission (FERC) guidance mentioned in the MCEA's comments is guidance for FERC and applicable to pipeline projects, not RUS and power generation projects.

Likewise, the Telos report states "NTEC has Significant Emissions", without defining "significant". The 2023 Interim CEQ GHG Guidance does not define a threshold for GHG significance and when an EIS is required. The Project is expected to reduce CO_2 emissions in MISO West by an average of 964,000 tons per year (*see* Appendix B of the Revised SEA and Chapter 4 (Cumulative Impacts)). This equates to electrifying approximately 190,000 cars per year. Finally, as discussed further in the RSEA and herein, the Project will support U.S. climate goals because it will displace higher-emitting sources and reliably enable additional renewable energy.

III (B): The Supplemental EA improperly employs a methodology that obscures NTEC's climate impact.

1. **Under the analytic approach used by the Supplemental EA, no new gas plant would ever register as having significant emissions and require a thorough evaluation in an EIS, because there will always be another generation source somewhere on the regional grid that is more polluting and more expensive to dispatch.**

RUS Response:

RUS disagrees with MCEA's assertion that "no new gas plant would ever register as having significant emissions" under the methodology used in the SEA. This methodology accounts for, among other factors, geographical differences, technology availability, generation dispatchability—each of which is highly influenced by the particular proposal under consideration.

RUS has employed a reasonable methodology to allow it to understand the Project's impact on

carbon emissions. The methodology is helpful in assisting RUS in understanding the Project's potential impacts. RUS understands that MCEA wishes to utilize a different methodology, but NEPA does not require that any single, specific methodology be used. The SEA already incorporates a methodology which RUS believes is helpful in understanding the Project's impacts and which relies on reliable and widely-used information from MISO, the independent grid operator in the region.

MCEA criticizes the use of MTEP Future 1 model. However, at the time of modeling for the SEA, only MTEP Future 1 Production Cost models were available. RUS is not aware of any reason why using a later MISO model would meaningfully change the results. Additional detail related to the Production Cost Modeling analysis that was conducted for the Project is included in Section 4.2.1.1 of the RSEA. As detailed in Chapter 4 (Cumulative Impacts) in the RSEA, operation of the Project would reduce overall CO_2 emissions in MISO West due to a reduction in emissions from the other less efficient units that would not operate as a result of the construction and operation of NTEC. NTEC would not be constructed in the No Action Alternative. Without NTEC, it is reasonable to assume these less efficient facilities would need to continue operating to ensure a reliable grid and would have greater emissions than a more efficient facility like NTEC. MCEA argues that RUS should not consider these offsets. RUS notes that the SEA and RSEA provide discussion of NTEC's direct emissions. Additionally, the air permit did not consider the emissions from other facilities. The WDNR approved the BACT analysis and emissions from the Project. RUS has reviewed that analysis, it is included in this record, and RUS has determined that the analysis was sound.

Because NTEC would be more efficient than higher emitting sources, it would result in less frequent operation of inefficient (coal-burning) generators, thus reducing overall emissions in MISO West while still helping to maintain a reliable grid. The analytical approach used in the SEA does not seek to demonstrate that "no new gas plant would ever register as having significant emissions." See the response to comment III(A) for additional discussion.

In public comments received on the SEA, MISO stated that "…the electric grid is undergoing significant fleet changes that creates an immediate need for stakeholders." Additionally, comments from MISO noted changes to the generating fleet and potential shortfalls in generating capacity, and stated it was imperative that projects like NTEC be recognized for the "regional reliability value provided to the region's customers." Also, MISO stated:

> "In particular, as older baseload generation resources retire and are replaced by renewables and other resources, infrastructure investments (e.g., transmission, fuel delivery, and other related systems) will be needed to deliver energy to where it is needed, when it is needed. A certain level of dispatchable and flexible resources are required for MISO to reliably manage the transition to a decarbonized energy future within its region."

MISO's comment is considered within this record and serves to illustrate the importance of the Project to facilitating renewable energy resources and reliably managing the energy transition. Additionally, the Federal Energy Regulatory Commission (FERC) has recently expressed

concern about the reliability of the electric power system.[33] Commissioner Mark Christie of FERC stated in testimony to the Senate Committee on Energy and Natural Resources in May 2023 that the United States is "heading for a reliability crisis" due to too many dispatchable resources retiring too quickly. The addition of intermittent sources is not the problem (such as wind and solar) but rather the "too rapid subtraction" of dispatchable resources (such as coal and gas). Christie also noted that MISO has been warning of a reliability crisis regularly as well. FERC's comments and MISO's comment on the SEA serve to illustrate the importance of the Project to facilitating renewable energy resources and reliably managing the energy transition.

MCEA refers to the "Telos Report" attached to its comments and states that report explains that the SEA's methodology "would render insignificant the emissions of any new gas plant, as long as somewhere in the multi-state region there remains an existing power plant that is slightly more polluting and costs slightly more to run than the proposed plant." RUS has reviewed the Telos Report and does not agree with this assessment. The Telos report compares the levelized cost of energy (LCOE) for renewable resources to that of combined-cycle plants. This comparison is inconsistent with how the value of resources within MISO are evaluated. An LCOE relies on the total estimated cost of a resource, annualized, and divided by expected annual production. This approach only considers the energy value of resources. Within MISO the capacity value of a resource is also considered along with energy value to determine total value. The capacity value of a resource reflects the resource's ability to contribute to system reliability. A combined-cycle facility can contribute its net capacity, less assumptions for forced outages, while renewable resources contribute their effective load carrying capability (ELCC), which typically is less than the resources capacity factor.

The methodology utilized in the SEA and RSEA GHG analysis is reasonable because GHG emissions impacts are not localized; they are cumulative from all sources of GHG emissions on earth. A new source which allows for larger sources of GHG to be displaced is the anticipated result of the Project coming online. The RSEA has been restructured to more clearly categorize direct, indirect, and cumulative impacts. The summation of these various impacts was used to determine environmental consequences of the Proposed Action Alternative and the No Action Alternative.

2. **The Supplemental EA's analysis of NTEC is much different than the type of fuel substitution analysis used for estimating the downstream combustion emissions associated with fossil fuel extraction or transportation projects.**

RUS Response:

MCEA disagrees with the methodology employed by RUS in the SEA to assess GHG emissions

[33] https://www.energy.senate.gov/hearings/2023/5/full-committee-hearing-to-conduct-oversight-of-ferc

and impacts. However, RUS has employed the methodology which it believes will best enable the agency and the public to understand the potential environmental impacts of the Project. In doing so, it utilized a widely-accepted model used by the regional transmission organization (MISO). The methodology is described in Section 4.2 of the Revised SEA.

RUS disagrees that the analysis is a substitution analysis. RUS also disagrees that it is inappropriate or unreasonable to consider the impact of the project on total MISO emissions. The RSEA has been restructured to more clearly categorize direct, indirect, and cumulative impacts. The summation of these various impacts was used to determine environmental consequences of the Proposed Action Alternative and the No Action Alternative. GHGs and other air pollutants are generated locally, but GHG impacts are not localized like criteria pollutants. GHG analyses are intended to evaluate impacts on a global scale (e.g. climate change). Nevertheless, RUS determined that direct GHG emissions from the proposed action would be 1.245 million short tons of CO_2, or 1.13 teragrams (1.13×10^6 metric tonnes) in 2030.[34] Chapter 4 of the RSEA analyzes the affect of the Project on a regional scale.

Additionally, RUS recognizes that part of the purpose and need for the Project, as outlined in the EA, as well as the SEA, is to assist Dairyland in achieving applicable goals for the reduction of GHG. RUS did not receive comments on the Purpose and Need in the EA during the EA public comment period. A major component of achieving Dairyland's GHG reduction goals is related to NTEC supporting the curtailment and retirement of existing, much higher GHG emitting, coal-fired generation and enabling additional renewable resources. This would further additional reductions in fossil fuel generation, while still enabling Dairyland to meet its energy demand needs and reliability requirements. In its comments on the SEA, MISO supported Dairyland's position that additional natural gas-fired generation is necessary to meet demand, noting, "[w]ithin the MISO region, the retirement of generation plants is occurring far faster than new energy sources with equivalent attributes, whatever the fuel source, can be developed, constructed and brought online." Hence, additional generation such as NTEC is required to meet regional energy demand and reliability until other resources can be developed and brought on-line.

Within this evolving energy marketplace, RUS used the Production Cost Model to assess the impact of adding NTEC to the marketplace. RUS notes that the agency has the discretion to conduct the analysis it believes informs the agency and public of the Project impacts. This consideration is reasonable as NTEC is not solely an additional generation source for meeting increased electricity demand. By its stated purpose and need, the Project would help Dairyland further its systemwide emissions goals, which include the curtailment and retirement of coal-fired facilities as part of an overall reduction in GHG sources. As part of its assessment of GHG, RUS sought to understand the overall impact on GHG, within the MISO footprint, NTEC would create. RUS determined that the Project would likely result in considerable curtailment and replacement of higher GHG emitting coal-fired electricity. As NTEC was determined to reasonably replace higher GHG fossil fuel generation, RUS estimated the amount

[34] Emissions based on actual emission estimates for year 2030.

of reduction that would likely occur. This reduction, as discussed in the SEA, was determined to be greater than the actual emissions from the NTEC facility. Therefore, although the Project would not directly replace specific coal-fired generation facilities or be located at an existing coal-fired generator, it is nonetheless required to provide the energy demand support that has been provided to-date by coal-fired generation, only at lower emissions. Based on the minimal contribution of NTEC to global GHG emissions and its overall effect of enabling reductions in total GHG emissions, RUS determined that the Project would not contribute to additional climatic impacts but would help to facilitate Dairyland's goals for increased renewable sources in its energy portfolio and GHG reductions.

3. **NTEC can be distinguished from cases where a gas plant directly replaces a coal plant, though even those cases have been subjected to a higher level of environmental review than NTEC has.**

RUS Response:

Comment noted. MCEA's comments refer to different types of projects analyzed by agencies other than RUS under different regulations.

4. **NTEC's emissions should be compared to alternatives that could reasonably meet Dairyland's energy needs, not to the most polluting power plants on the grid.**

RUS Response:

As an initial matter, these comments are outside the scope of the SEA, which was prepared in response to the MCEA Commenters' Petition for SEA to evaluate the impacts of GHG. Project alternatives were considered, presented, and evaluated in the NTECEA, and no comments were received in 2020 related to the alternatives identified and analyzed in the EA. Likewise, the MCEA Commenters' Petition for SEA also did not request further analysis concerning alternatives to the Project or assert that such analysis was required.

As described in the NTECEA, RUS considered an appropriate range of alternatives for the Project and the renewable energy generation is not a reasonable alternative to the Project. The analysis in the EA reflects that renewable generation is not a feasible alternative to the Project because the Project is needed to balance the intermittent nature of renewable energy resources:

- "Dairyland needs to secure capacity and energy resources that meet the system peak and demand for electricity for the years to come. This includes accounting for required system reserve margins in MISO and covering Dairyland's forecasted losses to ensure reliability and resource adequacy during unforeseen events such as uncertainties in extreme weather and forced outages for generators." (EA at 1-4.)

- "The addition of NTEC will also enable Dairyland to facilitate the addition of new renewable electricity sources to the power portfolio by complementing their intermittent nature." (EA at 1-4; *see also* EA at 1-9.)

- "Dairyland conducted discussions with developers and other cooperatives through the NRCO to evaluate a wide range of options, including a multitude of renewable projects. The Dairyland study and planning effort culminated in the development of the Dairyland preferred power supply plan that strikes a balance between the need for accredited capacity in MISO zone 1, intermediate energy flexibility and numerous renewable resources. The plan was found by Dairyland's board to be the best course of action for Dairyland in this round of resource planning. The plan provides rate stability and reliability under a number of different future scenarios." (EA at 2-1.)

Likewise, the SEA discusses the role of natural gas facilities—like the Project—in the transition to renewable resources:

- "At this point in time, gaps exist in the ability to rely upon 100 percent renewable power. Renewable energy such as solar and wind do not function as dispatchable energy sources due to the nature of the electricity generation being highly variable, both in duration and intensity (i.e., the sun shining or wind blowing during mostly daytime hours). Battery technology to store energy generated from renewables is improving and decreasing in cost, but it is not currently capable of meeting the electricity storage needs to meet system demand and load requirements. Therefore, flexible and reliable dispatchable power sources are necessary to close this gap, and high efficiency combined cycle natural gas-fired power plants meet this need better than any other dispatchable resource, while supporting the retirement of coal and reducing reliance on lower efficiency natural gas facilities to further drive GHG reductions in the near-term." (SEA at 1-10.)

- "The Project will be designed to be highly flexible and capable of operating in peaking and intermediate load modes to fulfill energy and capacity requirements alongside renewable additions until sufficient facilities and resources are developed to continue to provide reliable electric power throughout the Dairyland system." (SEA at 1-10—1-11.)

Similarly, the Public Service Commission of Wisconsin (PSCW) specifically concluded that renewable energy generation and battery storage are not alternatives to the Project. The PSCW reached this conclusion after considering expert testimony from its staff, the Owners, and opponents of the Project. The PSCW found that the Owners credibly established that the Project would provide up to 625 MW of dispatchable generation to support the integration of renewable energy sources. The Project will enhance system reliability because it will be able to ramp up and down very quickly, and that no higher priority options that could provide reliable and dispatchable generation were cost-effective and technically feasible. The expert testimony from the PSCW hearing also established that the proposed plant has substantial advantages over batteries, which require recharge, have limited duration, and have shorter life cycles.

Ultimately, the PSCW found that "there was ample testimony in the record to support a conclusion that the proposed project will facilitate deployment of such resources [non-combustible renewable energy resources], and that such resources alone could not provide the reliability benefits that are the target of this plant."[35]

RUS also notes that the MISO has commented upon the SEA and explained the critical reliability need for resources like the Project. RUS recognizes that the PSCW and MISO have substantial responsibility and expertise under state and federal law respectively to ensure that the public has an adequate and reliable supply of electricity. RUS has reviewed the PSCW decision, expert testimony provided to the PSCW, and MISO's comment and concurs that renewable energy generation and/or battery storage will not meet the need for the Project.

MCEA's comments further note that "thousands of megawatts worth" of carbon-free renewable energy and energy storage projects are currently waiting to interconnect to the MISO grid. However, even if these projects were ultimately constructed, interconnected, and operational (which is hypothetical), the NTECEA reflects that they would not meet the same need as NTEC because NTEC is proposed and designed to complement the intermittent nature of renewable generation. Neither MCEA, RUS, nor the Owners have identified a renewable generation resource that would meet this need. Consequently, RUS has determined that renewable generation is not a feasible alternative to the Project and, accordingly, was not carried forward as an alternative in the EA or the SEA (*see* Chapter 2 of the NTECEA and RSEA).

Additionally, congestion is occurring on the grid in MISO West. Congestion on the electrical grid occurs when the lowest-priced electricity can't flow freely to a specific area, so high-priced electricity is required to meet supply demands.[36] Without the addition of NTEC, congestion like this will continue to exist between the renewables-heavy western portion of MISO West and load centers in the eastern portion of MISO West, resulting in higher dependence on existing fossil fuel generation. Higher congestion would also prevent additional renewable resources being added to the system, preventing additional reductions in fossil fuel use.

5. **Even if a substitution analysis were an appropriate way of assessing a power plant's direct emissions, the Supplemental EA analysis of NTEC is deeply flawed.**

RUS response:

RUS disagrees that the analysis is a substitution analysis. With respect to MISO Future 1, that future was available at the time the SEA was prepared, and RUS believes it is reasonable to incorporate and rely upon analysis from MISO, the independent system operator with substantial expertise concerning the operation of the grid in this region.

The changes to the MISO future to reflect the postponement of coal facilities is based on current trends. Postponement of coal retirement is already occurring due to the COVID-19 pandemic.

[35] PSCW. 2020. Final Decision Order on Docket 9698-CE-100.
[36] https://www.pjm.com/-/media/about-pjm/newsroom/fact-sheets/congestion-fact-sheet.ashx

This has delayed plans to transition away from fossil fuels and has resulted in several Wisconsin utilities relying longer on coal. This has delayed the replacement of these coal plants with renewable energy.[37] Based on feedback from Dairyland, and available public information at the time of this analysis, the retirement dates of 13 units were adjusted (*see* Appendix B of the SEA and Section 4.2 of the Revised SEA). This included shifting back the retirement date of seven units and moving the retirement of six units to be sooner. This was not done to favor any resource or outcome but to more accurately represent plans associated with units at the time.

With respect to MCEA's references to FERC's Interim Greenhouse Gas Emissions Policy Statement, RUS had reviewed that statement. However, it is not directly applicable here, and, as RUS has done here, FERC also recognizes that analysis of GHG emissions is done on a case-by-case basis that emissions analysis must be based on all relevant evidence in the record, including utilization rate, offsets, and mitigation. Likewise, FERC considers only impacts which are reasonably foreseeable and have a reasonably close causal relationship to the proposed action. RUS believes that the analysis presented in the SEA is largely consistent with FERC's approach (even though, as noted, that policy statement does not govern here) and that the SEA reflects the reasonably foreseeable impacts of NTEC's emissions, considering the relevant record evidence. The 2023 Interim CEQ GHG Guidance does not define a threshold for GHG significance and when an EIS is required. Finally, as discussed further in the RSEA, the Project will support U.S. climate goals because it will displace higher-emitting sources and reliably enable additional renewable energy.

MCEA asserts that the Project's life is 40 years and argues that emissions analysis should have matched this timeframe. As the text of the SEA notes, the project is expected to "have a term life of at least 30 years". As a practical matter, power generation facilities can be considered to have a number of different life cycles. These would include the financing life (period over which the facility is financed and depreciated), economic life (period over which the plant is economically viable to operate), and the technical life (period over which equipment could expected to operate with normal maintenance and upkeep, replacement parts are available, and technological advancements have not made the facility non-viable for continued operation). However, RUS does agree with MCEA's assertion that the operational life of the plant is considered to be 40 years. As such, RUS has expanded its consideration of plant emissions to 40 years as discussed in EPA Comment 4.

See also RUS's response to II above and EPA Comment 4.

III (C): The Supplemental EA fails to assess NTEC's GHGs in the context of GHG reduction needs and policies.

RUS response:

As stated in response to Comment III(A), RUS recognizes the impact GHG emissions are having with respect to climate change and notes the goals established by the President. No specific requirements limiting RUS financing of GHG emitting electric generating facilities

[37] https://www.wpr.org/utilities-say-wisconsin-coal-plants-will-operate-longer-due-covid-19-supply-constraints

have been established. The RUS electric financing program is not considered a subsidy.

The RUS instructed Dairyland to "consider new relevant information since the release of the EA" which included the consideration of six specific studies, which the MCEA also references in their comments on the SEA. These pathway studies were considered in drafting the SEA as instructed and relevant portions were referenced and/or incorporated into the SEA (*see* Section 1.4.1.1 and Section 3.2.1.2 as well as Chapter 7 [References]).

Additionally, RUS received comments from the EPA on the SEA in July 2022. Reponses to EPA comments and the Revised SEA have taken into account the Wisconsin Governor's Task Force on Climate Change Report (2020). The SEA has also been updated taking into account the 2023 Interim CEQ GHG Guidance. *See* Section 3.2 of the Revised SEA for additional information.

III (D): The Supplemental EA fails to use existing tools to quantify the harms caused by NTEC's GHG emissions, even as it quantifies the anticipated economic benefits.

1. **Social Cost of Carbon provides a standardized and accurate metric for capturing NTEC's climate impacts.**

RUS Response:

Dairyland has reviewed the EPA's SC-GHG analysis in the Revised SEA and incorporated a social cost of carbon analysis for the Project (*see* Section 3.2.2.1.3.1 of the Revised SEA for the analysis).

2. **The Supplemental EA inconsistently monetizes NTEC's benefits but not its costs.**

RUS Response:

A social cost of carbon analysis has been incorporated in the Revised SEA (*see* Section 3.2.2.1.3.1) in response to EPA comments.

III (E): The Supplemental EA is inadequate because it fails to account for indirect impacts from upstream methane emissions.

RUS response:

The SEA was revised with information related to upstream emissions considering the 2023 Interim CEQ GHG Guidance and EO 13990 as well as comments received from EPA. This information is included in Section 3.2.2.1.3.2 of the Revised SEA.

III (F): The Supplemental EA fails to address the short-term impacts of methane emissions.

RUS response:

The MCEA argues that by applying 100-year global warming potential to the project, the SEA does not acknowledge the 20-year global warming potential for methane emissions. RUS believes the 100-year timeframe is appropriate here. Specifically, per the EPA: "The United States primarily utilizes the 100-year Global Warming Potential (GWP) for comparing GHGs relative impacts" and thus, this was utilized to be consistent with methodology employed in all GHG analysis related to air permitting. Methane (CH_4) is estimated to have a GWP of 27-30 over 100 years. CH_4 emitted today lasts about a decade on average, which is much less time than CO_2. But CH_4 also absorbs much more energy than CO_2. The net effect of the shorter lifetime and higher energy absorption is reflected in the GWP."[38] Changing the GWP from the 100 year to 20-year value is not considered a "short term impact" and is it not considered standard practice for GHG permitting and evaluation. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO_2). As such, MCEA contends that utilizing a 20-year GWP would show more climate change in fewer years. That is not the case. The net effect of the shorter lifetime and higher energy absorption is reflected in the GWP, not the climate effects or impacts to the climate.

For this analysis, since methane emissions from this Project are not the main contributor to the overall GHG emissions changing the GWP to the 20-year GWP will not substantially impact the overall annual GHG emissions estimates (i.e., the total emissions will not increase much even if a 20-year GWP is used for methane). However, to respond to this comment, the methane GWP was changed to the Intergovernmental Panel on Climate Change (IPCC) estimated GWP for 20-year analysis for methane and this changed the total maximum estimated Potential to Emit emissions from the project, including the fugitives from the natural gas piping from approximately 2,739,300 tons per year (short tons) to approximately 2,809,260 tons per year.[39]

The comment states that the analysis should address short term impacts. Methane is a GHG which affects overall climate change and the ozone layer. Methane is not a criteria pollutant with an air quality standard, thus short-term effects are neither appropriate nor considered. Additionally, this is neither a requirement of the CEQ nor related to climate change. Further, methane is also not a photo-reactive volatile organic compound and is thus not considered a factor when determining ozone formation.

[38] https://www.epa.gov/ghgemissions/understanding-global-warming-potentials
[39] PTE assuming the 20-year GWP

III (G): The Supplemental EA fails to acknowledge that the project's climate impacts will disproportionately harm environmental justice communities.

RUS response:

RUS has conducted an environmental justice (EJ) evaluation in the EA and updated the EJ evaluation in the Revised SEA, consistent with EPA guidance. Using the EPA's EJSCREEN tool, the EA identified one potential EJ community (see Section 3.8.1.4 of the NTECEA); however, after updating that analysis using EJSCREEN 2.0 (as recommended by EPA in July 2022), no low-income or minority EJ communities were identified (*see* Sections 3.3.1.4 and 3.3.2.1 of the Revised SEA for an updated analysis using EJCREEN 2.0). Additionally, as part of RUS investigations using the Climate and Economic Justice Screening Tool, which was developed by CEQ as part of EO 14008, no climatic burdens above the screening tool thresholds were identified for the Project. The tool identifies disadvantaged communities using eight burden categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. None of the census tracts in the Study Area meet any burden thresholds or socioeconomic thresholds that would identify the tract as disadvantaged. Additionally, the census tracts were not above the burden threshold (90th percentile) for any of the climate change indicators (expected agriculture loss rate, expected building loss rate, expected population loss rate, projected future flood risk, and projected future wildfire risk).

IV: The Supplemental EA Fails To Assess NTEC's Significant Impact On Human Health And Wetlands, And Fails To Consider Cumulative Emissions

IV (A): NTEC's health impacts are significant.

1. **NTEC would impose severe health impacts, especially on low income and Native populations.**

RUS response:

The SEA was prepared at the direction of RUS to "take into account recent policy changes on the assessment of GHG emissions, to consider new information released since the FONSI was signed, and to quantify greenhouse gas emissions related to the project and evaluate these emissions in the context of transitioning to greater reliance on renewable energy resources."

The PSE report evaluates health impacts from the Project for non-GHG emissions using EPA's COBRA tool. As an initial matter, this analysis is outside the scope of the SEA which was to "take into account recent policy changes on the assessment of GHG emissions, to consider new information released since the FONSI was signed, and to quantify greenhouse gas emissions related to the project and evaluate these emissions in the context of transitioning to greater

reliance on renewable energy resources." The PSE report evaluated NOx, $PM_{2.5}$, SO_2 and VOC emissions, none of which are GHGs. Further, the underlying assumptions that the PSE report utilized in this analysis are all subjective and not supported by actual projected operations. The COBRA model run by PSE did not divulge all of the inputs and outputs and the background data that was utilized to produce the results. The online version says that it can only evaluate 2016, 2023 and 2028 years[40], while the PSE report states that it evaluated the cost of health effects to 2040. Additionally, utilizing this methodology for non-GHG emissions is speculative. It is not methodology utilized for air permitting for GHG or criteria pollutant emissions analyses. For these reasons, RUS does not believe it is reasonable to rely on this data to understand the potential impacts of the Project.

The PSE report also further attempted to evaluate $PM_{2.5}$-related impacts in their "Spatial Distribution of NTEC Health Impacts" section of their report. Note again that $PM_{2.5}$ is not a GHG emission and is therefore beyond the scope of the SEA.

Additionally, the Public Service Commission of Wisconsin (PSCW) found that the project would "not have undue adverse impacts on environmental values including ecological balance, public health and welfare, historic sites, geological formations, aesthetics of land and water, and recreational use" and approval of the project was "in the public interest considering alternative locations, individual hardships, safety, reliability, and environmental factors."[41] RUS agrees with the PSCW that the Project will not have significant health impacts.

RUS would note that, unlike criteria pollutants, there are no air quality standards set for GHG emissions. GHG emissions have not been determined to have health impacts from breathing the emissions, whereas criteria pollutants have national ambient air quality standards which have been established set to protect human health and the environment. Emissions of GHG does not affect nearby communities, as the impacts of GHG are a result not of one source but the aggregation of all GHG emissions together affecting the ozone layer and climate change. GHG from NTEC would not create localized impacts around the source of the GHG emissions. Further, no EJ communities were identified in the Study Area (see Comment III (G). Additionally, as noted above in III(G), none of the census tracts in the Study Area meet any burden thresholds or socioeconomic thresholds that would identify the tract as disadvantaged per the Climate and Economic Justice Screening Tool, including the various health-related indicators.

2. <u>RUS must prepare an EIS due to NTEC's significant health impacts.</u>

MCEA states that the SEA "fails to consider health impacts on NTEC emissions on Native and low-income communities" (p. 34). However, no low income or minority EJ communities were identified in the Project Study Area. Because no EJ communities were identified in the Study Area, the Project will not have disproportionately high and adverse impacts on EJ communities. Further, as discussed in the prior comment response, RUS has reviewed the PSE Report

[40] https://www.epa.gov/cobra/cobra-questions-and-answers#2
[41] PSCW. 2020. Final Decision Order on Docket 9698-CE-100.

accompanying MCEA's comments and does not agree that the methodology employed in that report contributes to understanding the Project's potential impacts because the asserted impacts are not reasonably foreseeable. The PSD air permit application prepared for the project included air dispersion modeling analyses. These modeling analyses showed that the project would not cause or contribute to an exceedance of any National Ambient Air Quality Standard (NAAQS). The NAAQS are set by the EPA to protect human health and are protective of the sensitive populations, such as children, asthmatics, and the elderly. As such, RUS does not agree with the assertion that there will be significant health impacts.

3. **The Supplemental EA fails to satisfy RUS regulations by not analyzing the environmental justice implications of NTEC's health and social impacts.**

MCEA reiterates a comment from the EPA to "address Tribal and environmental justice concerns and mitigate disproportionate impacts" (EPA comments on the SEA, p. 9). RUS has provided a response to EPA in Appendix A of the Revised SEA regarding the EJ analysis for the Project as well as previous and planned Tribal outreach efforts. Similarly, the Revised SEA has been updated to reflect this analysis (see Section 3.3.2).

Further, the Proposed Action Alternative would be constructed in an area that does not contain minority or low-income populations (as defined using EPA's EJScreen 2.0) therefore, RUS believes consistent with 7 CFR 1970.4(a) Dairyland has taken steps to "…avoid or minimize potentially disproportionate and adverse impacts to minority or low-income populations within the proposed action's area of impact."

IV (B): The Supplemental EA fails to consider cumulative impacts as is required under NEPA.

RUS response:

As an initial matter, cumulative impacts regarding air quality related to National Ambient Air Quality Standards (NAAQS) are outside the scope of the SEA, which was prepared to evaluate the impacts of GHG. NO_2 and hazardous air pollutants (HAPs) were considered, presented, and evaluated in the NTECEA and no comments were received in 2020 related to the alternatives identified and analyzed in the EA. Additionally, NTEC has received an air permit from the WDNR[42] and will be required to comply with the permit conditions to protect air quality and human health.

[42] Southshore Energy (SSE) and Dairyland Electric Power Cooperative (DPC) submitted a PSD air permit application in 2018 and WDNR issued the final Air Pollution Control Construction Permits for the preferred and alternate sites in September 2020 (18-MMC-168 and 18-MMC-169, respectively). Both permits expire 42-months from the date of issuance. To confirm that construction of the Project is complete prior to the expiration of the issued permits, the Owners submitted a new PSD air permit application (Appendix A of the SEA) for the Project (preferred site only) to acquire a permit with an expiration date that better aligns to the Project's construction schedule and other necessary environmental permits.

The Clean Air Act (CAA) was created to protect public health and welfare nationwide by establishing "national ambient air quality standards for certain common and widespread pollutants based on the latest science."[43] NO_2 is one of six criteria pollutants that have set air quality standards under the CAA. NO_2 was analyzed as part of the EA and in air permitting for the Project. NO_2 is not a GHG, however, and therefore was not the focus of the analysis in the SEA. Further, contrary to MCEA's comment, the air dispersion modeling conservatively showed that the 1-hour NO_2 standard would not be exceeded even if all emission sources were operating at maximum theoretical output at the exact same time. In reality, this would rarely, if ever actually occur. RUS disagrees with MCEA's comment. The permit would not be issued if there was a risk that the 1-hour NO_2 NAAQS standard would be exceeded, as the WDNR reviewed the modeling and confirmed that there was no risk of an exceedance.

As discussed in response to Comment III(G) because no EJ communities were identified in the Study Area, the Project will not have disproportionately high and adverse impacts on EJ communities.

IV (C): NTEC's Impacts to Wetlands are Significant.

RUS response:

The SEA was prepared to evaluate the impacts of GHG and permits from the Wisconsin Department of Natural Resources (WDNR) are outside the scope of the SEA. The NTECEA describes the wetland impacts of the Project and is supplemented—not replaced by—the SEA, which focused on GHG emissions.

The comment mischaracterizes RUS's analysis of wetland impacts from the Project, confusing wetland impacts from the overall project with individual portions of the project. The acreages in the MCEA's comments are from the NTECEA. The NTECEA analyzed the wetland impacts of each portion of the Project in Section 3.10.2.1.4. MCEA only included wetland impacts for the Nemadji River Site and one staging area in their comments, then compared this to total acreages included in the WDNR individual permit for wetland impacts, which includes not only the Nemadji River Site but also the other Project facilities (transmission line, switching station, and SWL&P's natural gas pipeline). If the potential impacts for each of these components of the Project are added together, the total acreage is akin to that reflected in the WDNR individual permit.

As a result of further engineering and design conducted after the NTECEA was published, and additional consultation held with the WDNR and the USACE, the footprint of the switching stations (and therefore wetland impact) was reduced from over 13 acres to between 4.1 and 4.4 acres.

[43] https://www.epa.gov/clean-air-act-overview/clean-air-act-requirements-and-history

V: The Supplemental EA Does Not Consider Reasonable Alternatives To NTEC

RUS response:

The NTECEA discussed the alternatives development and screening process in Chapter 2.0. A SEA was prepared consistent with RUS Regulation 7 CFR 1970.103. Per 7 CFR 1970.103, the EA is supplemented by "revising the applicable section(s) or by appending the information to address potential impacts not previously considered." The SEA did not conduct a new alternatives analysis because the purpose of the SEA was to supplement the EA in response to the petition with information related to GHG emissions, climate change, and tribal environmental justice as a result of changes in guidance issued after the NTECEA was published, in particular EO 13990. Additional information has been provided in Chapter 2 of the Revised SEA regarding technologies considered but eliminated from further study (*see* Section 2.7 of the Revised SEA).

Also see response to III(B)(4) and V(A) through V(F) below.

V (A): The Supplemental EA's No Action alternative wrongly assumes continued fossil fuel dependence.

The SEA was prepared to evaluate the impacts of GHG. Project alternatives were considered, presented, and evaluated in the NTECEA and no comments were received in 2020 related to the alternatives identified and analyzed in the EA.

Per RD Instruction 1970-A Exhibit A, the no action alternative:

> "The alternative that describes the future environment in the absence of the proposed federal action (40 CFR 1502.14(d)…mean[s] the proposed activity would not take place, and the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activities or an alternative activity to go forward."

In addition, the No Action alternative establishes an environmental "baseline", enabling Agency decisionmakers to compare the magnitude of existing impacts which would continue into the future against the proposed impacts of the proposal and what would be the consequences of not implementing the proposal.

The Revised SEA provides clarification in Section 2.6 on the No Action Alternative. Further, the Revised SEA has been restructured to more clearly categorize direct, indirect, and cumulative impacts. The summation of these various impacts was used to determine environmental consequences of the Proposed Action Alternative and the No Action Alternative. Considering the congestion in MISO West and the other delayed retirements of coal-generation facilities in the region (*see* Section 4.2 of the Revised SEA), it is reasonable to assume that the region would

continue its reliance on fossil fuels which would result in higher GHG emissions and experience higher wind generation curtailment than with the addition of NTEC, as presented in production cost modeling (*see* Appendix B of the SEA). Further, RUS disagrees that the SEA assumes continued fossil fuel dependence, as asserted by MCEA. Rather, the SEA's analysis, in relevant part, is based upon detailed modeling and analysis from MISO, which reflects a reliable energy transition away from dependence on coal and an increase in renewable energy generation sources.

V (B): Dairyland's need for NTEC is questionable given how much its current capacity exceeds its load.

RUS disagrees that Dairyland's statement of purpose and need is questionable. The need for dispatchable generation, as well as the inability of renewables to meet that need, was vetted extensively by state regulatory commissions and is confirmed by MISO. *See* NTECEA Section 1.4 for a discussion of purpose and need for the Project. RUS agrees with those analyses.

With respect to MCEA's assertion that the Project is not needed because Dairyland already has sufficient capacity, RUS notes that that, too, is beyond the scope of the SEA. Regardless, the information provided by Dairyland continues to demonstrate a need for the Project. Specifically, currently Dairyland's portfolio consists of renewables, base load energy, and peaking energy, without efficient intermediate energy sources that can come on quickly to support the grid in times when renewables are not producing, both on Dairyland's system and in the region. When operating in the independent system operator ("ISO") (such as MISO) model, if the ISO is not reliable it is impossible for an individual utility to be reliable due to the interconnectedness of the system, and MISO identification of the need for combined cycle gas is another important reason for Dairyland to construct NTEC. MISO has identified a need for additional combined cycle in or around the Dairyland's territory to support the grid because of higher renewable penetration. A large portion of Dairyland's portfolio is reliant on older resources, with the John P. Madgett Station over 40 years old, which could lead to future plant retirements or, depending on carbon rules, may force the retirement of some of Dairyland's coal facilities, early in the life of NTEC. Only looking at load and capability falls short of identifying the needs of Dairyland's overall requirements needed to provide capacity, energy and ancillary services to both its members and the region to insure reliability. Dairyland is working to reduce its system emissions rate 50% from the levels in 2005 by 2030. The low emitting highly efficient NTEC facility is a key component of reaching this goal both through its low rate of emissions, but also through its support of additional renewables on Dairyland's system and the region as a whole.

RUS finds MCEA's suggestion that the MISO wide need for capacity will be resolved by 2027 too speculative, especially considering comments from MISO itself setting forth MISO's need for resources like the project to facilitate a broader shift to renewable energy resources. Similarly, RUS does not find the Telos report generally reliable in light of MISO's comments and the MPUC and PSCW findings that the Project meets a need that cannot presently be met by renewables alone. Similarly, RUS is not persuaded that one utility moving from a similar Project is indicative of a broader shift from the need for dispatchable generation.

V (C): The Supplemental EA fails to consider carbon-free alternatives to NTEC.

Project alternatives were discussed in the NTECEA. *See* Section 2 of the Revised SEA for a discussion of Project alternatives.

V (D): Carbon-free alternatives are technically and economically feasible.

RUS responded to EPA comments related to the use of carbon-free alternatives for the Project in Appendix A of the Revised SEA. *See* EPA Comment 2 for further information. This information was also incorporated into Section 2 of the Revised SEA.

V (E): The failure to explore renewable alternatives violates NEPA and RUS regulations, rendering the Supplemental EA inadequate.

RUS response:

As an initial matter, these comments are outside the scope of the SEA, which was prepared to evaluate the impacts of GHG. A Supplemental EA was prepared consistent with RUS Regulation 7 CFR 1970.103. Project alternatives were considered, presented, and evaluated in the NTECEA and no comments were received in 2020 related to the alternatives identified and analyzed in the EA. *See* response in Comment III (B-4) above.

MCEA also refers to 7 CFR 1970.102(a)(3). This regulation requires that an EA include, "if a specific project element is likely to adversely affect a resource, at least one alternative to that project element." MCEA appears to interpret this rule broadly to assert that the SEA should consider non-emitting alternatives. However, the record reflects, as discussed here, that renewable generation/batteries is not an alternative to the Project because the Project is needed to provide dispatchable generation to complement the intermittent nature of renewable energy generation. Further, where there are specific elements of the Project with the potential to adversely affect a resource, the record reflects a consideration of appropriate and reasonable alternatives.

V (F): The RUS failed to consider requiring carbon capture as a mandatory condition of securing RUS loan assistance.

RUS response:

RUS must consider the financial risks to owners and ratepayers by investing in technologies to control GHG emissions that are neither currently fully mature nor commercially available. The RUS Electric Program does not finance projects or systems that would be a risk or would include what is considered a risky technology. This includes the various technologies and processes discussed in the Revised SEA that could potentially be implemented to remove or

reduce GHG emissions (*see* Section 2.7 of the RSEA). It is the policy or long-standing practice of the RUS Electric Program to finance only commercially proven technologies that have been previously constructed, have a track record of operating and performing reliably, and can be expected to be maintained in a cost-effective manner. This supports RUS's core requirement of loan security whereby there is a reasonable assurance that the loan will be repaid in full as scheduled. The project's technology must perform during the term of the loan at a level necessary to produce with a reasonable amount of certainty the revenues required to repay the RUS loan. This approach protects not only the taxpayer but it also ensures that the rural community is receiving the benefits of the project with electric rates that are both reasonable and affordable.

RUS can still position itself to providing financing for those projects that use a technology not widely used at the commercial level or do not have an extensive history of operation. Loan request for these types of projects would be handled on a case-by case basis. RUS would evaluate the technology and make a recommendation. If RUS feels uncomfortable with the design, construction and ultimate operation of the technology, then RUS may reject the use of the technology and not recommend accepting or processing the loan application. There may be unique circumstances where guidance or approval from the RUS Administrator or the Secretary may be required. Such circumstances depend on the perceived level of risk of the technology and the ability to provide loan feasibility. Outside of merely rejecting the use of the technology, there are other ways to address the added risk. RUS may require a borrower provide some additional type of loan security during the construction phase and/or during the initial operation phase of the project or for the entire term of the loan. RUS may consider or even be required to include a subsidy.

The above does not relieve Dairyland of the NTEC Project from reviewing technologies to control GHG emissions such as carbon capture utilization and storage (CCUS) or processes to produce and deliver hydrogen to blend with or replace natural gas. RUS remains optimistic that in the coming years further testing and development of these technologies will allow them to become viable options to reducing GHG emissions from fossil power generation facilities and that such projects could in fact be financed by RUS. However, at this time, RUS does not believe it appropriate to require or finance these technologies.

See Section 2.7.2 of the Revised SEA for a detailed discussion of the feasibility of carbon capture.

August 23, 2022

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RE: ***MCEA, Sierra Club, Clean Wisconsin, and Honor the Earth Comments on Supplemental Environmental Assessment***
Dairyland Power Cooperative's Proposed Nemadji Trail Energy Center

Dear Mr. McLean and Mr. Steinour,

Minnesota Center for Environmental Advocacy ("MCEA"), Sierra Club, Clean Wisconsin, and Honor the Earth submit these comments on the Supplemental Environmental Assessment ("Supplemental EA") for the proposed Nemadji Trail Energy Center ("NTEC") fossil fuel gas plant. As detailed in the Supplemental EA and in the comments below, NTEC has the potential to directly emit up to 2.7 million tons of carbon dioxide equivalent ("CO_2e") each year, or over 109 million tons of CO_2e over a forty-year operating lifetime. Because of this enormous amount of emissions, we ask that the Rural Utilities Service ("RUS") deny the loan sought by Dairyland Power. In the alternative, we ask that RUS prepare an Environmental Impact Statement to adequately analyze the environmental and public health impacts of NTEC and consider appropriate alternatives to building it.

President Biden has called this "the decisive decade" for tackling climate change.[1] His administration has ordered all agencies to "immediately commence work to confront the climate

[1] Matt Magrath, *Biden: This Will Be 'Decisive Decade' for Tackling Climate Change*, BBC (Apr. 22, 2021), https://www.bbc.com/news/science-environment-56837927.

crisis."[2] As a federal agency, the Rural Utilities Service is tasked with commencing that work. Furthermore, RUS's regulations require "international cooperation in anticipating and preventing a decline in the quality of humankind's world environment in accordance with NEPA."[3] Studies have given us a roadmap for confronting the climate crisis with a straightforward takeaway: don't build new fossil fuel infrastructure.[4] Yet, Dairyland has approached the RUS and asked for a federal loan to build a new fossil fuel gas plant that is expected to run from 2027[5] until 2067,[6] emitting potentially millions of tons of greenhouse gases each of those forty years. This context clearly weighs on whether RUS should approve a loan for the NTEC Project — a loan that is far out of step with the Biden Administration's goals. But, this context also weighs on the environmental review process and the "significance" of NTEC's impacts.

Context is a key concept in NEPA analysis. Impacts are not felt in a vacuum. Instead, the "significance" of an impact depends on the context in which the impact occurs. In this case, Dairyland is seeking to lock in millions of tons of greenhouse gas ("GHG") emissions for decades to come. NTEC's GHGs would be emitted into a world where we cannot afford to replace old fossil fuel generation with new fossil fuel generation. Rather, our power sector must lead the way in transitioning to net zero emissions.

The Supplemental EA fails to adequately grapple with the significant climate impacts of building and operating NTEC. It obscures NTEC's direct climate impact using an unorthodox methodology that claims credit for reducing emissions at competing power plants and that would portray virtually any new fossil fuel plant as having net negative emissions. The Supplemental EA also fails to provide any frame of reference within which to judge NTEC's emissions, neither comparing them to quantified, science-based greenhouse gas emission reduction policies nor quantifying the emissions' impact using the federally-established Social Cost of Carbon. And despite Dairyland being instructed by RUS to quantify the project's indirect upstream emissions, the Supplemental EA fails to do so. It also fails to consider the short-term impact of methane emissions or to acknowledge how the project's climate impacts will disproportionately harm environmental justice communities.

Non-climate impacts are also overlooked in the Supplemental EA and the original EA, including NTEC's impact on human health and on wetlands. And neither EA considers the impact of cumulative emissions on air quality and health.

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[2] Exec. Order 13,990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, 86 Fed. Reg. 7,037 (Jan. 20, 2021).
[3] 7 C.F.R. § 1970.4(f).
[4] See discussion of pathway studies *infra* Part I.C.4.
[5] RUS, *Suppl. Env't Assessment for the Nemadji Trail Energy Ctr. Project* at 1-1 (June 2022) (hereinafter "Supplemental EA").
[6] The Supplemental EA says NTEC would run for "at least 30 years," Supplemental EA at 2-1. However, Minnesota Power—the partner utility that would build and run NTEC—has stated in regulatory filings that the plant will have a 40-year economic useful life. *See* Minnesota Power, *In the Matter of Minnesota Power's Petition for Approval of the EnergyForward Resource Package,* Petition for Approval, Docket No. E015/M/AI-17-568, Appendix H: Unit Contingent Capacity Dedication Agreement Between South Shore and Minnesota Power, at 4 (July 28, 2017).

Dairyland could economically and feasibly meet its needs using carbon-free alternatives, like renewable energy and energy storage, instead of NTEC. However, the Supplemental EA fails to provide any analysis of these alternatives to NTEC, despite it being required to consider reasonable alternatives to this major new fossil fuel plant.[7] It similarly fails to consider requiring carbon capture as a condition of securing the loan.

MCEA, Sierra Club, Clean Wisconsin, and Honor the Earth request that the RUS require an environmental impact statement ("EIS") where RUS can explore renewable alternatives to the project and properly analyze NTEC's environmental impacts, including climate impacts, health and air quality impacts, and impacts to wetlands. Ultimately, our organizations urge RUS to reject Dairyland's forthcoming loan application. However, at a minimum, the RUS must fully comply with NEPA by requiring an EIS.

I. Background

A. Procedural History.

Dairyland seeks to finance and own a half-interest in a combined cycle natural gas-fired powerplant with an in-service date in 2027. In 2020, Dairyland asked the federal government to loan it money for Dairyland's portion of the proposed gas plant through an RUS loan. RUS and Dairyland completed an environmental assessment ("EA") on October 30, 2020. Construction and operation of a major new fossil fuel power plant like NTEC would have serious and known environmental consequences, especially on the climate. Yet, the climate impacts were not named or discussed in the EA. Despite this omission, on May 2, 2021, the RUS made a finding of no significant impact ("FONSI") for NTEC.

On June 23, 2021, MCEA, Sierra Club, Clean Wisconsin, and Honor the Earth petitioned RUS for a supplemental environmental assessment ("Supplemental EA") to address the climate impacts of the proposed NTEC. Petitioners specifically cited six studies related to climate change and upstream methane emissions.[8] Petitioners also cited Executive Order 13,990 which requires agencies to evaluate greenhouse gas emissions and climate impacts in NEPA review and Executive Order 14,008 which pledges to end all federal subsidies of fossil fuels and discourages new fossil fuel infrastructure. Red Cliff Band of Lake Superior Chippewa Indians and Fond du Lac Reservation Resource Management also submitted letters to RUS requesting a Supplemental EA.

In response, RUS agreed that a Supplemental EA was required and instructed Dairyland to address the impacts discussed in the petition. More specifically, RUS instructed Dairyland to:

- consider new relevant information since the release of the EA, including the six studies cited by petitioners;
- provide an analysis that quantifies the projected greenhouse gas emissions of the NTEC project, including an analysis of potential indirect upstream impacts;

[7] 40 C.F.R. §§ 1501.5(c)(2), 1508.1(z).

[8] Letter from Stephanie Fitzgerald, Staff Attorney, Minn. Ctr. for Env't Advoc., to Peter Steinour, Env't Prot. Specialist, Rural Util. Serv. at 4 (July 23, 2021). The six referenced studies, along with other studies and documents cited in these comments, are included in Appendix 3.

- and consider President Biden's Executive Order 13,990 and address the need for the project in light of the ultimate transition from fossil fuels.

In June 2022, RUS published this Supplemental EA.

B. Legal Landscape.

NEPA was enacted to create harmony between humanity and the surrounding environment.[9] NEPA's "sweeping commitment" to prevent environmental destruction is based on two key concepts: agencies must consider environmental impacts before acting, and agencies must inform the public about the environmental consequences of the action.[10] "By so focusing agency attention, NEPA ensures that the agency will not act on incomplete information, only to regret its decision after it is too late to correct."[11]

NEPA requires that an EA take a "hard look" at the environmental impacts of the proposed project.[12] Those impacts include direct impacts, indirect impacts, and cumulative impacts of the action. Furthermore, an adequate EA must explore reasonable alternatives.[13] An agency must prepare an EIS if the EA raises "substantial questions" about whether the proposed agency action will "significantly affect the quality of the human environment."[14]

In recent years, NEPA has undergone significant regulation changes. In 2020, the Trump administration made extensive changes to NEPA's implementing regulations. One of the most notable changes to the regulations was the change to the definition of "effects" to eliminate the reference to direct, indirect, and cumulative effects. However, as of April 2022, the Biden administration has restored the original definition of effects to include direct, indirect, and cumulative effects.[15] When changing back the rule, the Council on Environmental Quality ("CEQ") pointed out that the analysis of direct, indirect, and cumulative impacts are particularly important for analysis of climate change impacts.[16]

Similarly, the guidance surrounding climate change and NEPA implementation has been in flux, but the relevant guidance for this environmental assessment is the 2016 greenhouse gas emissions and climate change guidance. In 2016, the Obama administration CEQ released a NEPA climate and GHG guidance document: "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National

[9] 42 U.S.C. § 4321.
[10] *Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 371 (1989).
[11] *Id.*
[12] *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 53 (D.D.C. 2019) (applying the same standard for EIS and EA).
[13] *N. Idaho Cmty. Action Network v. U.S. Dep't of Transp.,* 545 F.3d 1147, 1153 (9th Cir. 2008).
[14] *Cascade Forest Conservancy v. U. S. Forest Serv.,* No. 3:21-cv-5202-RJB, 2021 WL 6062629, at *14 (W.D. Wash. Dec. 22, 2021) (internal citation omitted).
[15] 87 Fed. Reg. 23453 (CEQ, Apr. 20, 2022).
[16] 87 Fed. Reg. 23463 (CEQ, Apr. 20, 2022) (noting this definition will "help ensure the proper scope of analysis that NEPA requires, including analysis of effects on climate change, communities with environmental justice concerns, and wildlife").)

Environmental Policy Act Reviews" ("2016 GHG Guidance").[17] The Trump administration replaced that guidance with new draft guidance. However, in February 2021, CEQ rescinded the 2019 Draft Guidance, and indicated that new guidance on GHG emissions would be forthcoming in a separate notice.[18]

The rescission noted that "[f]ederal courts consistently have held that NEPA requires agencies to disclose and consider climate impacts in their reviews"[19] and advised that, "[i]n the interim, agencies should consider all available tools and resources in assessing GHG emissions and climate change effects of their proposed actions, including, as appropriate and relevant, the 2016 GHG Guidance."[20] The reinstated 2016 GHG Guidance directs agencies to "quantify projected direct and indirect GHG emissions, taking into account available data and GHG quantification tools that are suitable for the proposed agency action."[21]

In addition to CEQ's NEPA regulations and guidance, RUS regulations shed light on how the agency must implement NEPA. The RUS "is responsible for all environmental decisions and findings related to its actions."[22] The RUS is required to encourage applicants to design environmentally responsible proposals.[23] Of particular importance to projects impacting climate change, the RUS must "recognize the worldwide and long-range character of environmental problems" and promote consistency with "international cooperation in anticipating and preventing a decline in the quality of humankind's world environment in accordance with NEPA."[24] The RUS must also ensure proposals minimize adverse environmental impacts and avoid disproportionate and adverse impacts to minority or low-income populations.[25]

The RUS rules require an EIS for proposals "for which an EA was initially prepared and that may result in significant impacts that cannot be mitigated."[26] They are also required for "new electric generating facilities, other than gas-fired prime movers (gas-fired turbines and gas engines) . . . with a rating greater than 50 average MW…."[27] And the RUS rules allow the RUS to "issue a FONSI or a revised FONSI only if the EA or supplemental EA supports the finding that the proposed action will not have a significant effect on the human environment."[28] If the EA does not support a FONSI, an EIS is required before the RUS can take action on the proposal.

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[17] Memorandum for Heads of Federal Departments and Agencies, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews, CEQ (Aug. 1, 2016) [hereinafter "CEQ 2016 Guidance"], https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf.
[18] 86 Fed. Reg. 10,252 (CEQ Feb. 19, 2021).
[19] *Id.* (citing *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172 (9th Cir. 2008)).
[20] *Id*.
[21] 81 Fed. Reg. 51,866 (CEQ Aug. 5, 2016).
[22] 7 C.F.R. § 1970.5(a)(1).
[23] 7 C.F.R. § 1970.5(a)(1).
[24] 7 C.F.R. § 1970.4(f).
[25] 7 C.F.R. § 1970.4(a).
[26] 7 C.F.R. § 1970.151(b)(1).
[27] 7 C.F.R § 1970.151(b)(4).
[28] 7 C.F.R. § 1970.104.

C. Climate Landscape.

1. International climate agreements and the scientific basis.

In 2021 the US, along with the other nations of the world, signed the Glasgow Pact of 2021. This pact reaffirms the goal adopted under the Paris Agreement in 2015, of holding global warming to "well below 2 °C" above preindustrial levels and to "pursue efforts to limit the temperature increase to 1.5 °C."[29] (Humans have already caused global warming of around 1.1 degree C.[30]) The Glasgow Pact goes on to state that limiting global warming to 1.5 degrees C "requires rapid, deep and sustained reductions in global greenhouse gas emissions, including reducing global carbon dioxide by 45 percent by 2030 relative to the 2010 level and to net zero around mid-century, as well as deep reductions in other greenhouse gases."[31] Achieving these cuts "requires accelerated action in this critical decade."[32]

In June of this year, President Biden reaffirmed and expanded upon this commitment to limit warming to 1.5 degrees C, alongside the other members of the G7:

> "We will phase out new direct government support for international carbon-intensive fossil fuel energy as soon as possible, with limited exceptions consistent with an ambitious climate neutrality pathway, the Paris Agreement, 1.5°C goal and best available science…We will lead a technology-driven transition to Net Zero, noting the clear roadmap provided by the International Energy Agency and prioritising [sic] the most urgent and polluting sectors and activities."[33]

The enhanced urgency around limiting warming to 1.5 degrees C is solidly grounded in the science, including in a series of major reports produced by the Intergovernmental Panel on Climate Change (IPCC). When the world first agreed to pursue efforts to limit warming to 1.5 degrees C in the Paris Agreement of 2015, the IPCC was asked to issue a special report on the impacts of exceeding that limit. That special report, issued in 2018, found that while 1.5 degrees warming will poses many dangers, allowing warming to rise to 2 degrees warming poses far greater ones.

If warming hits 2 degrees the world faces more extreme heat, more heavy precipitation, more severe flooding, deeper droughts, higher sea level rise, more acidified oceans, more degraded ecosystems, and faster rates of extinctions on land and in the water.[34] For example, over 99% of the world's coral reefs are projected to be lost at 2 degrees C warming, whereas at 1.5 degrees C warming we might be able to limit the decline to 70% of coral reefs.[35] Allowing warming to exceed

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[29] *Glasgow Climate Pact: Advance Unedited Version*, United Nations Climate Change Conference, at para. 15 (Nov. 13, 2021) [hereinafter "Glasgow Pact"], https://unfccc.int/sites/default/files/resource/cop26_auv_2f_cover_decision.pdf.
[30] *Id.* at para. 3.
[31] Glasgow Pact at para. 17.
[32] *Id*. at para. 18.
[33] *Carbis Bay G7 Summit Communiqué*, The White House (June 13, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/13/carbis-bay-g7-summit-communique.
[34] *Summary for Policymakers*, Special Report: Global Warming of 1.5°C, IPCC, at 7-9 (2018) [hereinafter "IPCC 2018"], https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SPM_version_report_LR.pdf.
[35] IPCC 2018 at 8.

1.5 degrees also amplifies the impact on humans, including more heat-related deaths, the wider spread of vector-borne diseases, more food insecurity as crops and livestock are harmed, and a major increase in how many people face water stress.[36]

The IPCC special report found that having a reasonable chance of limiting warming to 1.5 degrees will require CO_2 emissions to drop by 45% (below 2010 levels) by 2030, reaching "net zero" by around 2050.[37] Even maintaining a reasonable chance to limit warming to the more dangerous 2 degrees C will require CO_2 emissions to drop by 25% by 2030 and reach net zero by around 2070.[38] According to the IPCC, "net zero carbon dioxide (CO_2) emissions are achieved when anthropogenic CO_2 emissions are balanced globally by anthropogenic CO_2 removals over a specified period."[39]

The IPCC's 6th Assessment of the science, a series of reports released by three working groups in 2021 and 2022, further identifies the harms climate change is doing right now and the grave dangers ahead, especially if we allow warming to surpass 1.5 degrees C.[40] The IPCC notes that by 2019, levels of CO_2 in the atmosphere were higher than at any time in at least the last two million years, and levels of methane and nitrous oxide, two other GHGs emitted by NTEC, were higher than at any time in at least 800,000 years.[41] And these reports confirm the need to reduce global CO_2 emissions by roughly half by 2030, and to reach net zero CO_2 emissions by midcentury if we are to limit warming to 1.5 degrees.[42]

2. Federal climate policies and emission reduction goals.

In response to the climate science and in compliance with nation's commitments under the Paris Agreement and Glasgow Pact, the Biden administration has adopted ambitious science-based greenhouse gas reduction goals. In April of 2021, the U.S. formally pledged to cut its economy-wide emissions of greenhouse gases by **50-52% below 2005 levels by 2030**.[43] This pledge constitutes the nation's official Nationally-Determined Contribution ("NDC"), submitted in accordance with the Paris Agreement under the U.N. Framework Convention on Climate Change

[36] IPCC 2018 at 9.
[37] IPCC 2018 at 12.
[38] *Id.*
[39] IPCC 2018 at 24.
[40] *Summary for Policymakers*, Climate Change 2021: The Physical Science Basis, IPCC (2021), https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf; *Summary for Policymakers*, Climate Change 2022: Impacts, Adaptation and Vulnerability, IPCC (2022), https://report.ipcc.ch/ar6wg2/pdf/IPCC_AR6_WGII_SummaryForPolicymakers.pdf; *Summary for Policymakers*, Climate Change 2022: Mitigation of Climate Change, IPCC (2022), https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SPM.pdf.
[41] *Summary for Policymakers*, Climate Change 2021: The Physical Science Basis, IPCC at 8 (2021), https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf.
[42] *Summary for Policymakers*, Climate Change 2022: Mitigation of Climate Change, IPCC at 21, 27 (2022), https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SPM.pdf.
[43] *The United States Nationally Determined Contribution: Reducing Greenhouse Gases in the United States: A 2030 Emissions Target*, UNFCCC (2021) [hereinafter "US NDC"], https://unfccc.int/sites/default/files/NDC/2022-06/United%20States%20NDC%20April%2021%202021%20Final.pdf.

("Framework Convention").[44] The Framework Convention was ratified by the US Senate in 1992.[45] The nation's NDC reflects the greatly enhanced urgency around the climate crisis. As the President stated in Executive Order 14,008: "The scientific community has made clear that the scale and speed of necessary action is greater than previously believed. There is little time left to avoid setting the world on a dangerous, potentially catastrophic, climate trajectory."[46]

The US NDC 2030 goal is intended to put the nation on a path to achieve the longer-term US goal of "**net-zero emissions, economy-wide, by no later than 2050**." This 2050 goal has been expressed not only in the US submission under the Paris Agreement but in multiple executive orders and other documents. [47]

In addition to these economy-wide emission reduction goals, the Biden administration has established a policy goal of achieving **100 percent carbon-free electricity by 2035**.[48] The administration has stated that this steeper federal emission reduction target for the power sector is a key part of achieving the broader economy-wide reductions. For example, the report outlining pathways for achieving the 2050 goal states that achieving 100% clean electricity by 2035 is "a crucial foundation for net-zero emissions no later than 2050."[49] Working toward a completely decarbonized power sector is also part of the US strategy for achieving its NDC pledge of 50-52% reductions economy-wide by 2030.[50]

The Administration has adopted what it calls an "all-of-government" approach to achieving its climate goals. In Executive Order 14,008, "Tackling the Climate Crisis at Home and Abroad," the President establishes "the policy of my Administration to organize and deploy the full capacity of its agencies to combat the climate crisis to implement a Governmentwide approach that reduces

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[44] Under this treaty, the US committed itself to the objective of stabilizing greenhouse gas concentrations in the atmosphere "at a level that would prevent dangerous anthropogenic interference with the climate system." U.N. Framework Convention on Climate Change, UNFCCC, Article 2 (last visited Aug. 5, 2022), https://unfccc.int/resource/docs/convkp/conveng.pdf.

[45] Treaty Document 102-38, U.N. Framework Convention on Climate Change, Congress.gov (1992), https://www.congress.gov/treaty-document/102nd-congress/38.

[46] *Executive Order on Tackling the Climate Crisis at Home and Abroad*, The White House (Jan. 27, 2021), https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad.

[47] US NDC at 14, 22-23; *see also* Exec. Order 14,008, Tackling the Climate Crisis at Home and Abroad, 86 Fed. Reg. 7619 (Feb. 1, 2021); Exec. Order 14,030, Climate-Related Financial Risk, 86 Fed. Reg. 27967 (May 25, 2021); Exec. Order 14,057, Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability, 86 Fed. Reg. 70935 (Dec. 13, 2021); *The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050*, U.S. State Dep't and Exec. Office of the President (Nov. 2021), https://www.whitehouse.gov/wp-content/uploads/2021/10/US-Long-Term-Strategy.pdf.

[48] *Fact Sheet: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies*, The White House (Apr. 22, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies.

[49] *The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050*, U.S. State Dep't and Exec. Office of the President (Nov. 2021), https://www.whitehouse.gov/wp-content/uploads/2021/10/US-Long-Term-Strategy.pdf.

[50] US NDC at 3.

climate pollution in every sector of the economy…"[51] That order also requires that federal agencies "take steps to ensure that, to the extent consistent with application law, Federal funding is not directly subsidizing fossil fuels."[52]

The Administration has also stressed the need for federal agencies to assess the full costs of greenhouse gases when making decisions. Executive Order 13,990 states that "[i]t is essential that agencies capture the full costs of greenhouse gas emissions as accurately as possible, including by taking global damages into account," adding that "[a]n accurate social cost [of carbon, nitrous oxide, and methane emissions] is essential for agencies to accurately determine the social benefits of reducing greenhouse gas emissions when conducting cost-benefit analyses of regulatory and other actions."[53] In a subsequent executive order, the President required the establishment of processes to ensure that climate-related financial risk is integrated into "Federal financial management and financial reporting, especially as that risk relates to Federal lending programs."[54]

3. State climate policies and emission reduction goals.

A 2019 executive order by Governor Tony Evers states that "the State of Wisconsin has agreed to fulfill the carbon reduction goals of the 2015 Paris Climate Accord, [and] set a goal to ensure that all electricity consumed in Wisconsin is 100 percent carbon-free by 2050…"[55] This order also set up a Governor's Task Force on Climate Change to develop a state climate strategy.

The Governor's Task Force issued that strategy in 2020. It included a carbon-reduction goal for utilities that sought to "reduce net carbon emissions from the power sector by at least 60% below 2005 levels" by 2030.[56] The Report also reiterated the 2050 goal of reducing power sector emissions by 100%.[57]

Minnesota has recently released a draft Climate Action Framework that lists as a priority action establishing "a standard to achieve 100% carbon-free electricity and 55% renewable electricity by 2040."[58] Minnesota's climate goals are relevant to NTEC because Minnesota Power will build and operate the plant and take 20% of its energy output.[59] Minnesota also has a statutory goal set in 2007 to reduce statewide GHG emissions by 30% by 2025 and 80% by 2050 (below

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[51] Exec. Order 14,008, Tackling the Climate Crisis at Home and Abroad, 86 Fed. Reg. 7619, 7622.
[52] 86 Fed. Reg. at 7625; Supplemental EA at 1-9. *See also,* Exec. Order 13,990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, 86 Fed. Reg. 7037 (Jan. 25, 2021) (ordering all federal agencies "to immediately commence work to confront the climate crisis").
[53] Exec. Order 13,990, 86 Fed. Reg. 7037, 7040.
[54] Exec. Order 14,030, Climate-Related Financial Risk, 86 Fed. Reg. 27967, 27969 (May 25, 2021).
[55] Governor Tony Evers, State of Wisconsin, Executive Order #52, "Relating to the Creation of the Governor's Task Force on Climate Change," Oct. 17, 2019, available at https://evers.wi.gov/Documents/EO/EO052-ClimateChange.pdf.
[56] *Governor's Task Force on Climate Change Report*, State of Wis., at 40 (2020), https://climatechange.wi.gov/Documents/Final%20Report/GovernorsTaskForceonClimateChangeReport-LowRes.pdf.
[57] *Id.*
[58] *Minnesota's Climate Action Framework*, Draft, Our Minn. Climate at 45 (last visited Aug. 7, 2022), https://climate.state.mn.us/sites/climate-action/files/2022-01/Climate%20Action%20Framework%20Draft_2.pdf.
[59] Allete Announces Third Partner in Nemadji Trail Energy Center Project, Allete (Sept. 28, 2021), https://investor.allete.com/node/21306/pdf. Minnesota Power's affiliate, South Shore Energy LLC, will own 20 percent of NTEC. Both Minnesota Power and South Shore Energy LLC are subsidiaries of Allete, Inc.

2005 levels),[60] and it defines those emissions to include GHGs associated with energy generated outside Minnesota but consumed within it.[61]

Both Wisconsin and Minnesota are members of the U.S. Climate Alliance, a bipartisan coalition of governors working to "achieve the goals of the Paris Agreement and keep temperature increases below 1.5 degrees Celsius."[62] More specifically, members are committed to reducing collective net GHG emissions at least 26-28 percent by 2025 and 50-52 percent by 2030 (below 2005 levels) and to achieving net-zero emissions as soon as practicable, and no later than 2050.[63] These GHG reductions are consistent with the goals of the Paris and Glasgow agreements, and with the US NDC.

4. Emission reduction pathway studies.

Several national modeling studies have been conducted attempting to identify plausible pathways to achieving the emission reductions needed to limit warming to 1.5 °C. In its letter rescinding the FONSI for the NTEC project and requiring a Supplemental EA, the RUS told Dairyland Power that the Supplemental EA should consider "at least" three such studies released in 2021 – by the Maryland Center for Global Sustainability (N. Hultman, et al.), by Energy Innovation Policy and Technology LLC (R. Orvis), and by the International Energy Agency.[64] The Hultman, et al. and Orvis studies both conclude that new gas plants are incompatible with the pathways they identify for limiting warming to 1.5 degrees.

The Hultman, et al. study uses a leading modeling platform to chart a pathway to achieving the US NDC, cutting emissions economy-wide by 51% by 2030. It stresses the importance of largely eliminating coal-fired electricity without carbon capture and storage[65] by 2030, but it does not recommend replacing them with gas plants. On the contrary, the Hultman, et al. study states that "US climate ambition by 2030 hinges fundamentally on the ability to *rapidly shift to zero-emissions electricity generation*," which includes not just eliminating coal power but "making major progress in *reducing gas-fired electricity*."[66] The Hultman, et al. study therefore includes a

[60] Minn. Stat. § 216H.02, subd. 1.
[61] Minn. Stat. § 216H.01, subd. 2.
[62] *Fact Sheet: Further. Faster. Together*, U.S. Climate Alliance at 1 (Apr. 19, 2022), https://static1.squarespace.com/static/5a4cfbfe18b27d4da21c9361/t/62a258211d5eab2536b9d7ba/1654806561848/USCA+2022+Fact+Sheet.pdf.
[63] *Id*., at 2.
[64] Letter from Christopher McLean, Acting Adm'r, Rural Utils. Serv., to Brent Ridge, President & CEO, Dairyland Power Coop. at 2 (Nov. 9, 2021); *see also* Nathan Hultman, et al., *Charting an Ambitious U.S. NDC of 51% Reductions by 2030*, Working Paper, Univ. Md. Center for Global Sustainability (Mar. 2021) [hereinafter "Hultman, et al., 2021"], https://cgs.umd.edu/sites/default/files/2021-03/Working%20Paper_ChartingNDC2030_Mar2021.pdf; Robbie Orvis, *A 1.5 Celsius Pathway to Climate Leadership for the United States*, Energy Innovation (Feb. 2021) [hereinafter "Orvis, 2021"], https://energyinnovation.org/wp-content/uploads/2021/02/A-1.5-C-Pathway-to-Climate-Leadership-for-The-United-States.pdf; *Net Zero by 2050: A Roadmap for the Global Energy Sector,* International Energy Agency (Oct. 2021), [hereinafter "IEA, 2021"], https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf.
[65] Hultman et al., 2021 at 2 (emphasis added).
[66] *Id.* (emphasis added).

policy that requires all new gas plants be built with 90% carbon capture and storage by 2025.[67] NTEC – a gas plant that would come online in 2027 and that would lack carbon capture and storage – could not be built under the pathway identified by Hultman, et al.

The Orvis study uses a different model, the US Energy Policy Simulator, to identify the policies needed to reduce emissions consistent with a 1.5 degree pathway, including by cutting US emissions in half by 2030 consistent with the US NDC. In addition to retiring coal plants, the Orvis analysis finds that "[c]utting electricity emissions in line with a 1.5 C target also requires *not building any new gas plants* that lack carbon capture. The United States already has a massive oversupply of gas plants, many of which are likely to become stranded assets, and no reason exists to build more plants."[68]

Other research also shows how incompatible new gas plants like NTEC are with achieving the nation's 2030 GHG emission goals. A modeling analysis published in 2021 by the Goldman School of Public Policy at the University of California Berkeley charts a pathway to achieving an 80% carbon-free US electric grid by 2030.[69] The study, known as the "2030 Report," notes that modeling of the US NDC goal of 50% economy-wide GHG reductions by 2030 converges with the need to reach at least 80% clean electricity by that year.[70] Using state-of-the-art capacity-expansion and production-cost models, the 2030 Report finds that the nation could achieve an 80% clean grid that is dependable *without coal plants or new natural gas plants*, even with significant new electricity demand from electrification of vehicles.[71] In the scenario charted by this study, all existing coal plants are retired by 2030 and no new fossil plants are built beyond those already under construction.[72] Moreover, it finds that this 80% carbon-free power grid could be achieved by 2030 without increasing the costs of generating and delivering electricity compared to today.[73]

A major global analysis by the International Energy Agency (IEA) similarly shows how incompatible NTEC is with global decarbonization efforts.[74] The IEA study – *Net Zero by 2050: A Roadmap for the Global Energy Sector* – was one of the studies Dairyland was instructed to consider by the RUS, and it is the roadmap President Biden was referring to in his G7 comments, above. The IEA roadmap charts a path where coal generation without carbon capture is phased out in all advanced nations by 2030.[75] Gas generation without carbon capture, like NTEC, begins to fall steeply in the mid-to-late 2020s and is virtually gone worldwide by 2040.[76] By 2035, advanced

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[67] *Id.* at 4; *see also,* Hultman et al., *Charting an Ambitious US NDC of 51% Reductions by 2030*, Working Paper, Technical App. at 4 (Mar. 2021), https://cgs.umd.edu/sites/default/files/2021-03/Charting%20NDC%202030_Technical%20Appendix.pdf.
[68] Orvis, 2021 at 8 (emphasis added).
[69] *2030 Report: Powering America's Clean Economy, A Supplemental Analysis to the 2035 Report*, Goldman Sch. Pub. Pol'y (Apr. 2021) [hereinafter "2030 Report"], https://energyinnovation.org/wp-content/uploads/2021/04/2030-Report-FINAL.pdf.
[70] *Id.*at 2.
[71] *Id, at 3, 13, 17.*
[72] *Id. at 22.*
[73] *Id. at 23.*
[74] IEA 2021.
[75] *Id.* at 116.
[76] *Id.* at 115-16, Figure 3.10.

nations achieve overall net zero emissions from electricity generation.[77] Clearly this is not a roadmap that includes NTEC.

II. RUS Must Prepare An EIS Because One Is Categorically Required Under RUS Rules

The RUS's rules require an EIS for certain categories of projects, including for: "[n]ew electric generating facilities, other than gas-fired prime movers (gas-fired turbines and gas engines) … with a rating greater than 50 average MW, and all new associated electric transmission facilities."[78] If NTEC were just a gas-fired turbine, it would fall under the exclusion for gas-fired prime movers, however NTEC also includes a heat recovery steam generator and a steam turbine generator.[79] These are not gas-fired prime movers but rather steam-driven prime movers, and their addition is what makes NTEC a plant that will run far more often than a peaker plant, and therefore with higher annual emissions. NTEC – a new electric generating facility more than ten times larger than the 50 megawatt ("MW") threshold – does not fit within this category's exclusion. An EIS is therefore required for NTEC under this categorical mandate.

III. RUS Must Prepare An EIS Because NTEC Will Significantly Impact The Climate

NEPA requires varying levels of review for projects depending on whether the action is likely to significantly affect the environment. In order to determine what level of NEPA review is required, CEQ regulations direct agencies to ask whether the proposed action "[i]s likely to have significant effects and is therefore appropriate for an environmental impact statement."[80] Similarly, the RUS NEPA regulations tell the agency to ask whether there is the potential for significant environmental impacts or whether there are "environmental conditions, scientific controversy, or other characteristics unique to a specific proposal" that would trigger a higher level of review.[81]

"Significance" is a key concept in NEPA. The CEQ regulations direct agencies to first consider the context the action takes place in, or the "affected environment."[82] Second, agencies must consider the intensity, or "degree of the effects of the action."[83] The degree of the effects includes: (1) short- and long- term effects, (2) beneficial and adverse effects, (3) effects on public health and safety, and (4) effects that would violate federal, state, Tribal, or local law protecting the environment.[84] When examining these effects, NEPA requires agencies to consider the direct, indirect, and cumulative impacts of the proposed action.[85]

[77] *Id.* at 20.
[78] 40 CFR § 1970.151(b)(4).
[79] Supplemental EA at 1-1.
[80] 40 C.F.R. § 1501.3(a)(3).
[81] 7 C.F.R. § 1970.10.
[82] 40 C.F.R. § 1501.3(b).
[83] 40 C.F.R. § 1501.3(b).
[84] 40 C.F.R. § 1501.3(b)(2).
[85] 40 C.F.R. § 1508.1(g).

A. NTEC's GHG emissions are significant and require an EIS.

"Climate change is a fundamental environmental issue, and its effects fall squarely within NEPA's purview."[86] Under NEPA, agencies must examine the proposed project's impacts on climate change.[87] Because "the nature of the climate change challenge itself" is that each project will only have a relatively minute impact on global emissions, agencies are directed not to compare a project's emissions to total global emissions.[88] Rather, agencies must use "appropriate tools and methodologies for quantifying GHG emissions and comparing GHG quantities across alternative scenarios."[89]

Furthermore, the RUS's own NEPA regulations call on the agency to participate in the Biden administration's fight against climate change. The regulatory requirement that RUS lend support to international environmental initiatives[90] would certainly include the Paris Agreement and the Glasgow Pact, and the US commitment under those agreements to cut emissions in half by 2030. And, specifically related to GHG emissions, the RUS regulations require the agency to "use the NEPA process, to the maximum extent feasible, to identify and encourage opportunities to reduce greenhouse gas (GHG) emissions caused by proposed Federal actions that would otherwise result in the emission of substantial quantities of GHG."[91]

NTEC requires an EIS because it will have very high GHG emissions. NTEC will have the potential to directly emit up to 2,739,294 tons of GHGs each year.[92] While the Supplemental EA provides this annual number, it does not inform the public of NTEC's expected lifetime emissions. The plant is currently scheduled to go online in 2027.[93] While the Supplemental EA only says that NTEC will have "a term life of at least 30 years,"[94] regulatory filings by Dairyland's Minnesota partner establish that NTEC has an intended operating life of 40 years.[95] This amounts to potential new emissions of over 109 million tons CO_2e between 2027 to 2067,[96] during which time the US and the world will be struggling to slash GHG emissions to avoid catastrophic warming. (Moreover, as we discuss in Part III.E, if the Supplemental EA had estimated NTEC's upstream methane emissions, the plant's total estimated climate impact would be substantially larger.[97])

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[86] CEQ 2016 Guidance at 2.
[87] CEQ 2016 Guidance at 4.
[88] CEQ 2016 Guidance at 11.
[89] CEQ 2016 Guidance at 11.
[90] 7 C.F.R. § 1970.4(f).
[91] 7 C.F.R. § 1970.4(g).
[92] Supplemental EA at 3-21 (expressed as CO2-equivalent). This figure assumes constant operation rather than the average 76% capacity factor assumed in the Supplemental EA's modeling.
[93] Supplemental EA at 1-1.
[94] Supplemental EA at 2-1.
[95] NTEC has a 40-year economic useful life, according to Minnesota Power, the partner utility that would build and operate NTEC. *See* Minnesota Power, *In the Matter of Minnesota Power's Petition for Approval of the EnergyForward Resource Package,* Petition for Approval, Docket No. E015/M/AI-17-568, Appendix H: Unit Contingent Capacity Dedication Agreement Between South Shore and Minnesota Power at 4 (July 28, 2017).
[96] Telos Report at 3.
[97] PSE Report at 5.

By way of comparison, NTEC's potential direct annual emissions of GHGs are equivalent to the annual GHG emissions of over half a million passenger vehicles.[98] The EPA's database of major GHG sources shows that there are only five facilities in Wisconsin with 2020 emissions higher than NTEC's potential emissions, including two old coal plants scheduled to retire by 2025. If NTEC comes online in 2027, it will be the fourth largest source of GHGs in Wisconsin and the highest emitting new source built in the state for 16 years – since before the world understood the need to achieve dramatic emission reductions by 2030 and reach net zero by midcentury. NTEC's GHG emissions would only be exceeded in Wisconsin by two coal plants and one even larger gas plant. NTEC's potential GHG emissions are higher than the 2020 reported emissions of the entire power sector of South Dakota, a state to which some of NTEC's power will be sold.[99]

There can be no question that NTEC's direct GHG emissions are significant under NEPA and require an EIS. The Federal Energy Regulatory Commission (FERC) recently published a draft interim policy announcing that it would consider any project with GHG emissions of over 100,000 metric tons per year significant enough to conduct an EIS.[100] NTEC would have potential direct GHG emissions about 25 times greater than FERC's significance threshold.

The Supplemental EA nonetheless manages to come to the conclusion that NTEC will result in a "net decrease in GHG emissions."[101] This claim is based on its use of a novel and inappropriate methodology that credits NTEC for emission reductions at competing power plants. The Supplemental EA also fails to take a hard look at NTEC's climate impact by: failing to consider NTEC's emissions in the context of GHG reduction targets and schedules; failing to use available tools and methodologies to quantify NTEC's climate impact; failing to quantify upstream methane leakage; failing to address the short-term impacts of methane; and failing to consider how the project's climate impacts disproportionately harm environmental justice communities.

B. The Supplemental EA improperly employs a methodology that obscures NTEC's climate impact.

NEPA's fundamental goal is to ensure that the government and the public understand the environmental impact of proposed government actions, and it mandates a long-term and global perspective. If there was ever a time when government needed to understand the long-term environmental implications of its actions, it is now, as we combat the climate crisis and struggle to rapidly decarbonize the economy and especially the power sector.

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[98] Obtainable through the *Greenhouse Gas Equivalencies Calculator*, EPA (updated Mar. 2022), https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results.

[99] All facility emission figures reflect 2020 emissions data and can be obtained from EPA's "Facility Level Information on Greenhouse Gases Tool" ("FLIGHT"). *2020 Greenhouse Gas Emissions from Large Facilities*, EPA (data reported to EPA as of Aug. 7, 2021), https://ghgdata.epa.gov/ghgp/main.do.

[100] Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews, 87 Fed. Reg. 14104, 14115 (FERC Mar. 11, 2022). FERC issued an order on March 24, 2022, turning this interim policy into a draft interim policy due to a US initiative to increase gas exports to Europe following the Russian invasion of Ukraine. Order on Draft Policy Statements, *Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews,* FERC Docket No. PL21-3-001 (Mar. 24, 2022). https://ferc.gov/media/c-1-032422.

[101] Supplemental EA at 3-25.

It follows that using taxpayer dollars to help build a huge new source of GHG emissions should, if done at all, only happen following the highest level of scrutiny under NEPA to determine the source's long-term impacts. And yet, the Supplemental EA relies on a novel type of analysis that we have not seen before and that would render NEPA useless when it comes to considering the GHGs of virtually any new power plant.

The Supplemental EA is inadequate because it relies on a flawed methodology to analyze the project's climate impacts. As set out below, the methodology: (i) would misleadingly portray any new gas plant as having negative carbon emissions; (ii) can be distinguished from the fuel substitution analyses used for fuel supply projects; (iii) can be distinguished from cases where a gas plant directly replaces a coal plant; (iv) compares NTEC to the most polluting plants on the grid rather than to reasonable alternatives; and (v) would be deeply flawed even if a substitution analysis were a valid way of assessing a power plant's direct emissions. As a result, RUS should order an EIS to fully evaluate the project's impacts.

1. Under the analytic approach used by the Supplemental EA, no new gas plant would ever register as having significant emissions and require a thorough evaluation in an EIS, because there will always be another generation source somewhere on the regional grid that is more polluting and more expensive to dispatch.

NTEC has the potential to emit 2.7 million tons of CO_2e every year of its intended working lifetime, or over 109 million tons of CO_2e over 40 years. As discussed above, NTEC would be one of the very largest GHG sources in Wisconsin and by the time it goes online the largest new source built in the state in 16 years. Yet the type of analysis relied on by the Supplemental EA yields the conclusion that NTEC will actually reduce system-wide emissions by an average of nearly one million tons per year during the period from 2025 to 2040. (The Supplemental EA's modeling analysis wrongly assumes NTEC will come online in 2025, even though its text acknowledges it will come online in 2027.)

The Supplemental EA reaches this extraordinary conclusion by claiming that NTEC will displace emissions from more polluting power plants using a novel approach to assessing a source's direct emissions. In support of these comments, we have commissioned an expert report from Telos Energy to analyze the Supplemental EA, and particularly its modeling methodology.[102] The Telos Report (attached as Appendix 1) explains that the approach used by the Supplemental EA would render insignificant the emissions of *any* new gas plant, as long as somewhere in the multi-state region there remains an existing power plant that is slightly more polluting and costs slightly more to run than the proposed plant.[103] The Supplemental EA's methodology thus clearly misrepresents the environmental impact of building a huge new fossil fuel power plant, suggesting

[102] Comments to the Suppl. Env't Assessment: Nemadji Trail Energy Center, Telos Energy (2022) [hereinafter "Telos Report"], attached as Appendix 1. Telos Energy is an analytics and engineering company specializing in renewable integration, including wind, solar, storage and transmission resources. Telos Energy's expertise includes energy market design and policy as well as electricity production cost modeling.
[103] Telos Report at 2.

it is harmless or even helpful when in fact we must rapidly phase out such plants to avoid catastrophic climate changes.

The model relied on by the Supplemental EA looks at the electric grid of the entire Midcontinent Independent System Operator (MISO) West region, which covers all or part of eight Midwestern states. MISO manages the regional electric grid, ensuring that enough power is generated at any moment to meet electric demand. It dispatches power first from the sources with the lowest generating cost, and then dispatches more expensive sources of power in order of cost, presuming they are available. (The system is more complex than this, but as described in the Supplemental EA, the modeling does not reflect those complexities.)

The Supplemental EA model thus lines up the sources of power in a "stack" based on their generation cost.[104] Because wind and solar power have no fuel costs, they are positioned lowest on the stack and dispatched first, followed by combined cycle gas plants like NTEC, followed in order by coal plants, gas peaker plants, and fuel oil peaker plants. Because NTEC is expected to have a lower production cost than coal, it would be dispatched before coal plants. NTEC would also be dispatched ahead of gas and fuel oil peaker plants, which are less efficient and thus cost more to run than a gas combined cycle plant. And since coal and peaker plants have higher carbon emissions per megawatt-hour, NTEC is given credit for displacing that higher-carbon power, yielding negative CO_2e emissions.

What this approach means, though, is that no power plant would ever have significant or even positive CO_2e emissions under NEPA unless it *polluted at a higher rate than every other plant* higher on the system-wide stack. As the Telos Report explains, this type of analysis "will always show a marginally more efficient fossil fuel resource as 'clean' with negative emissions until that unit becomes the dirtiest unit on the stack as coal and inefficient peaking units retire during the expected lifetime of the proposed resource."[105] It will take many years to retire all the dirtier fossil fuel plants on the grid, and meanwhile "virtually any new fossil fuel plant (expected to be more fuel efficient than existing plants) would be shown to have negative emissions" under the approach used by the Supplemental EA.[106] A proposed plant's emissions are not being compared to the cleanest generators, or even to a system-wide average, but to the most polluting and inefficient existing generators. As long as there is something both more polluting and costly anywhere within the multi-state region, the proposed plant's backers can claim that all of its emissions net out to below zero. And the Supplemental EA's analysis assumes there will indeed be more polluting and costly plants on the regional grid at least through 2040, when its analysis stops. As discussed below, it assumes a level of continued fossil fuel use, including coal generation, far higher than science-based national and global emission reduction goals would allow.

The Supplemental EA's approach to NTEC's emissions deviates from the way that power plant emissions are traditionally assessed under NEPA. For example, an EIS under NEPA was performed when the Four Corners coal plant and coal mine in New Mexico sought approval to

[104] Supplemental EA, Appendix B: Production Cost Modeling at 13.
[105] Telos Report at 2.
[106] *Id.*

extend the mine's and plant's life for 25 years. The EIS estimated the plant's air emissions, including its GHGs over the 25-year period, but it did not attempt to offset those emissions by claiming credit for any net reductions from other power plants that would operate instead if the Four Corners plant closed. On the contrary, the No Action alternative projected a steep reduction in emissions because the plant would close in two years.[107]

Counting power plant emissions the way the Supplemental EA does deviates from the way power plants have traditionally been assessed and it is utterly contrary to the goals of NEPA. Rather than environmental review helping the RUS and public understand the damage caused by the millions of tons of CO_2e emitted by NTEC, it obscures that damage, rendering those emissions invisible. Even worse, by enabling the construction of new fossil fuel plants with long operating lifetimes, this approach would lock that damage in for decades, perpetuating our dependence on such plants despite the urgent need to phase them out. If RUS and other agencies were to apply this approach to power plants generally, it would severely hinder efforts to combat the climate crisis.

2. The Supplemental EA's analysis of NTEC is much different than the type of fuel substitution analysis used for estimating the downstream combustion emissions associated with fossil fuel extraction or transportation projects.

Federal agencies often use a type of fuel substitution analysis when assessing the climate impact of fossil fuel supply projects. What the Supplemental EA is doing in this case, however, is very different. Fossil fuel supply projects – including fuel extraction projects (such as coal leases) and fuel transportation projects (such as new gas pipelines) -- typically have some of their own direct combustion emissions of GHGs, but these direct combustion emissions are far smaller than the indirect emissions that occur when the fuel being supplied is ultimately burned by power plants or other facilities. Thus, unlike NTEC, the majority of a fuel supply project's impact on the climate occurs as a result of indirect emissions that occur later in time but are nonetheless foreseeable impacts of agency action. The marketplace lies between the project and most of its climate impact.

The challenge for agencies and courts has been to decide how such indirect downstream combustion emissions should be estimated. One option is to count as part of the project the GHG emissions associated with burning *all* the fuel being supplied. The Federal Energy Regulatory Commission (FERC) in a recently published draft interim policy proposes to use this approach, which it calls the "full burn" assumption, when determining whether a gas pipeline project's emissions are significant enough to trigger an EIS.[108]

By contrast, some agencies formerly improperly discounted these downstream GHG emissions, claiming that the fuel extracted or transported by the proposed project was entirely substituting for fuel that would otherwise be obtained from another source or via other means of

[107] Office of Surface Mining Reclamation and Enforcement, *Final EIS for the Four Corners Power Plant and Navajo Mine Energy Project,* Section 4.2, Climate Change, p. 4.2-21, 4.2-28. This EIS is available through the EPA EIS database: https://cdxapps.epa.gov/cdx-enepa-II/public/action/eis/search/search#results.
[108] Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews, 87 Fed. Reg. 14104, 14115 (FERC Mar. 11, 2022).

transportation. However, courts have rejected this so-called "perfect substitution" assumption, ruling that such an assumption violates basic economic principles.[109] Agencies making assumptions about fuel market behavior have been required to do more sophisticated analyses, including to factor in the proposed project's own impact on that market.[110] If a project adds enough fuel supply to lower fuel costs, the laws of supply and demand mean that the lower costs will increase fuel consumption. That, in turn, will increase GHG emissions, and that increase is attributable to the proposed extraction or transportation project.

There is a critical distinction, though, between a fuel supply project and a power plant like NTEC. NTEC would be a stationary source with its own enormous combustion emissions emitted directly from the project itself. There is no marketplace lying between the plant and its climate impact. The RUS does not need to consider the behavior of MISO's regional dispatch stack; it only needs to look at what will come directly out of NTEC's stack and then compare it to alternatives that would meet the purpose and need statement. Even when a fuel substitution analysis is used in the review of a fuel supply project, the substitution analyses is only used to discount the project's downstream indirect emissions, not its direct ones. The GHGs that would be directly emitted by, say, coal mining equipment or gas pipeline compressor stations are simply estimated; *they are not offset by any assumptions about how they might be displacing emissions from existing coal mines or gas pipelines with which the project would compete.*

There is simply no need to analyze of the workings of the marketplace to determine NTEC's direct emissions. They can and should be estimated the same way the direct emissions of other projects are estimated in an environmental review. The fact that the electricity NTEC produces is expected to displace electricity from competing generators does not mean the proposed project gets to claim credit under NEPA for reducing those generators' emissions. Any facility making a product to be sold into a marketplace may to some degree displace products manufactured by other facilities. A company proposing a new copper mine hopes its copper will displace copper made by competitors, but that mine would never be allowed under NEPA to offset its own direct emissions by claiming credit for reducing emissions from competing copper mines. The direct emissions of power plants should not be treated differently in this regard just because they are selling into the electricity market – and past power plant EISs have not treated emissions the way the Supplemental EA does, as noted above.

Indeed, a proposed power plant's GHG emissions should not be treated differently than its many other direct environmental impacts. Power plants emit enormous quantities of non-GHG air pollutants (including pollutants with deadly health impacts) and they have substantial water and land-use impacts. These impacts could all similarly be obscured if projects were allowed to claim credit for offsetting air, water, and land impacts elsewhere on the power grid. Yet this is not done even in this Supplemental EA or the original EA. This unorthodox approach is only taken toward NTEC's GHG emissions.

[109] *WildEarth Guardians v. U.S. Bureau of Land Mgmt*., 870 F.3d 1222, 1234–38 (10th Cir. 2017).
[110] *See, e.g.*, *Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549 (8th Cir. 2003); *High Country Conservation Advocates v. U.S. Forest Service,* 52 F. Supp. 3d 1174, 1197-98 (D. Colo. 2020).

3. NTEC can be distinguished from cases where a gas plant directly replaces a coal plant, though even those cases have been subjected to a higher level of environmental review than NTEC has.

Nor is NTEC similar to cases that sometimes claim that a new gas plant will reduce emissions by replacing an old coal plant with higher emissions. For example, a 2015 6th Circuit case regarded the demolition of the Tennessee Valley Authority's (TVA's) Paradise coal plant and the construction of a new gas plant at the same site.[111] By contrast, NTEC is a new plant proposed to be built on a greenfield site, and it is not physically replacing any coal plant. (The 6th Circuit noted that the TVA "prepares an impact statement as a matter of course when it builds a new plant on an *undeveloped* site," just not always when it builds new units at an existing site.[112]) Moreover, the assessment of the Paradise project built upon an earlier EIS conducted for an earlier Integrated Resource Plan (IRP). The NTEC Supplemental EA does not build upon an earlier EIS, and if Dairyland has conducted an IRP comparing NTEC to no- or low-carbon alternatives it has not made it part of the Supplemental EA.[113]

The TVA is currently planning another coal-to-gas project, replacing its Cumberland coal plant with a gas plant at the same site. While we have objections to how that EIS was conducted, at least there has been an EIS, unlike for NTEC. And even though the Cumberland draft EIS analyzes a solar-plus-storage alternative to the gas plant, which has not been done for NTEC, the EPA has raised strong objections to the project based on the urgency of the climate crisis.[114] EPA urged the TVA to review the project within the context of science-driven GHG emission reduction policies and to more fully analyze lower carbon alternatives. Ultimately, it "strongly recommends the proposed action be modified or a different preferred alternative be selected."[115]

In short, even when a gas plant is directly replacing a coal plant, that gas plant warrants an EIS that considers a full range of alternatives and our GHG emission reduction targets. A new gas plant that, like NTEC, is not even directly replacing a coal plant should be subject to even greater scrutiny.

4. NTEC's emissions should be compared to alternatives that could reasonably meet Dairyland's energy needs, not to the most polluting power plants on the grid.

One reason that fuel supply projects use a fuel substitution analysis to estimate downstream emissions is because the nature of such projects makes it hard to do a traditional alternatives analysis under NEPA. The fuel being extracted or transported will be sold to others and dispersed to many locations. The alternatives to burning the fuel in question – such as building carbon-free

[111] *Ky. Coal Ass'n v. Tenn. Valley Auth.*, 804 F.3d 799 (6th Cir. 2015).
[112] *Id.* at 805.
[113] Dairyland does submit a truncated sort of IRP to the Minnesota Public Utilities Commission, including a 2022 filing discussed in Part V.B. However, this document does not consider alternatives to NTEC, and as we discuss below, it seems to show that Dairyland has no need for NTEC given how much capacity the utility already has.
[114] Letter and Comments from Mark J. Fite, Director of Strategic Programs Office, EPA Region 4, to Ashley Pilakowski, NEPA Specialist, TVA, CEQ No. 20220059 at 3 (June 30, 2022).
[115] *Id.*

energy sources – lie in the hands of multiple downstream fuel consumers. That makes it difficult for an agency assessing a fuel supply project's environmental impact to answer the question, "compared to what?" A fuel substitution analysis represents a specialized approach to answering that question for a supply project's downstream emissions.

But that specialized approach is neither necessary nor appropriate to assess this project. NTEC's direct emissions are far easier to estimate than the indirect downstream emissions of a fuel supply project, and NTEC can be directly compared to alternatives that Dairyland itself could instead pursue, like building carbon-free renewable energy and energy storage rather than a new gas plant. Such projects are so economically viable that thousands of megawatts worth of renewable and battery projects are currently waiting to interconnect to the MISO grid.[116] As we discuss in Part V, the Supplemental EA fails to conduct such an alternatives analysis, in violation of NEPA, but it could and should do so rather than using a novel and inappropriate methodology that renders NTEC's millions of tons of GHG emissions insignificant.

5. Even if a substitution analysis were an appropriate way of assessing a power plant's direct emissions, the Supplemental EA analysis of NTEC is deeply flawed.

Our organizations believe the emissions-obscuring methodology used in the Supplemental EA is far from an "appropriate" methodology under the CEQ's 2016 GHG Guidance, as explained above.[117] However, even if it were appropriate to use such a methodology, this analysis is deeply flawed.

First, the Supplemental EA only looks at the period from 2025 to 2040. NTEC does not even come online until 2027, which the text acknowledges.[118] Yet the Supplemental EA relies on an analysis that claims NTEC is displacing higher-emitting power plants as early as 2025.[119] However the bigger problem is that the analysis stops at 2040, when NTEC would only be 13 years old.[120] With an operating life of 40 years, two-thirds of NTEC's operating life comes after 2040, and those emissions are left out of the Supplemental EA's analysis.[121] It especially troubling that the Supplemental EA ignores post-2040 emissions when we know that the climate crisis and the need to combat it will only have intensified by then.

Second, the Supplemental EA analysis is based on the assumption that the US and Wisconsin will fail to achieve its GHG emission reduction targets, and will remain heavily dependent on fossil fuel power plants for decades. Society's assumed continuing dependence on fossil power through 2040 is explicit in the Supplemental EA's analysis, portraying NTEC as reducing emissions through that year. Society's continued dependence on fossil power for decades

[116] John Engel, *Solar, Storage Lead MISO's Record-Setting Interconnection Queue*, Renewable Energy World, (Sep. 17, 2021), https://www.renewableenergyworld.com/solar/solar-storage-lead-misos-record-setting-interconnection-queue/#gref.
[117] CEQ 2016 Guidance at 11.
[118] Supplemental EA at 1-1.
[119] Supplemental EA at 3-23.
[120] *Id.*
[121] Telos Report at 3.

beyond 2040 is implicit in the very idea of building a new gas plant with an operating lifetime of 40 years going online in 2027.

As discussed in Part I.C.1, the IPCC has established that the world must cut GHG emissions roughly in half by 2030 and reach net zero by midcentury to have a reasonable chance of limiting warming to 1.5 degrees. Even limiting warming to below 2.0 degrees will require dramatic near-term reductions in GHGs heading toward net-zero.[122] The Biden administration has set the goal of a carbon-free electric grid by 2035, along with setting economy-wide goals of cutting GHG emissions 50-52% by 2030 and reaching net zero by 2050. The governors of Wisconsin and Minnesota have endorsed a target of carbon-free power in their states by 2040. And now, as discussed more below, the nation has finally overcome years of political gridlock and passed the Inflation Reduction Act, making its largest investment ever in clean energy in support of achieving these ambitious decarbonization goals.[123]

The Supplemental EA analysis does not come close to reflecting this pace of grid decarbonization in assessing NTEC's "net" emissions through 2040. Obviously, if the power sector is fully decarbonized by 2035, there would be no carbon left for NTEC to displace after 2035 or during the subsequent decades of its operating life.

Instead of assuming the rate of decarbonization that the science says is necessary, that pathways studies show is plausible, and that decarbonization policies aim for, the Supplemental EA relies on MISO "Future 1" -- one of three visions of the future created by MISO in an exercise it uses to predict future transmission needs. None of the MISO futures reflects the rate of decarbonization we actually need and are targeting in federal and state policies. In fact, the MISO report projecting these futures does not reflect federal decarbonization goals at all, and MISO Future 1 assumes that utility goals and non-legislated state goals are only 85% achieved.[124] And among the three options, the Supplemental EA chose to base its analysis on the one future that is most inconsistent with science-based federal climate policy.

The Supplemental EA then makes changes to MISO Future 1 that weight it in favor of Dairyland's proposal by extending the dates of coal plant retirements in ways that do not comport with other public information. For example, the Supplemental EA's analysis postpones the retirement of Minnesota Power's Boswell 4 coal plant to 2050, but Minnesota Power has announced its plans to make Boswell 4 coal-free by 2035.[125] The Supplemental EA also extends the life of Coal Creek units 1 and 2 in North Dakota to 2050, but the new owners of these units

[122] IPCC 2018, para. C.1.
[123] John Engel, *Inflation Reduction Act: Clean Energy Industry Cheers 'Monumental' Vote by Senate*, Renewable Energy World (Aug. 8, 2022), https://www.renewableenergyworld.com/solar/inflation-reduction-act-clean-energy-industry-cheers-monumental-passage-by-senate/#gref.
[124] Midcontinental Independent System Operator (MISO), MTEP21 Report at 5, https://www.misoenergy.org/planning/planning/previous-mtep-reports/#t=10&p=0&s=FileName&sd=desc.
[125] Brooks Johnson, *Minnesota Power shutting, converting final two coal plants by 2035*, Star Tribune, Jan. 12, 2021, https://www.startribune.com/minnesota-power-shutting-converting-final-two-coal-plants-by-2035/600009603/.

have announced their intention of using carbon capture and storage at these units,[126] which if successful would greatly reduce the GHGs available for NTEC to displace. Adjustments like these just serve to illustrate that the unorthodox approach used in the Supplemental EA depends on a myriad of assumptions about how other power plants over a multistate area will operate for decades to come.

Fourth, the Supplemental EA claims that NTEC would enable the use of more renewable energy by reducing some of the regional transmission congestion currently curtailing renewable generation.[127] As the Telos Energy analysis indicates, however, the amount of new renewable power the Supplemental EA claims NTEC would enable is the equivalent of a small, 35 MW wind project running at 50% capacity.[128] If Dairyland chose to meet its needs by investing directly in renewables and energy storage rather than investing in a 625 MW gas plant, it could increase renewable energy production by hundreds of MW.

And finally, the Supplemental EA's elaborate analysis yielding net negative emissions for NTEC is being done within an EA rather than an EIS. Rather than being part of a deeper analysis of NTEC's impacts, it is a means of avoiding that deeper analysis. Courts have held that where a project has adverse effects "and the agency is in the position of having to balance the adverse effects against the projected benefits, the matter must, under NEPA, be decided in light of an environmental impact statement."[129] FERC has essentially embraced this approach by adopting an interim policy that any pipeline project with emissions above 100,000 tons per year, even indirect emissions, is significant and requires an EIS.[130] FERC is willing to consider on a case-by-case basis more complex factors that could reduce a project's emissions, including fuel substitution considerations, in an EIS, but not when determining the threshold question of whether a project's emissions are significant enough to warrant an EIS.

In sum, the Supplemental EA deviates from past practices by using a methodology that not only obscures NTEC's millions of tons of direct GHG emissions but would portray any new gas plant as having negative emissions, despite the firmly established need to stop building new gas plants and to rapidly shift to zero-carbon energy. Even if it was appropriate to use such a methodology to assess a power plant's direct emissions, the Supplemental EA ignores most of NTEC's lifetime emissions as well as assuming the failure of climate policies critical to avoiding catastrophic warming. This approach – undermining the goals of NEPA just when we need it to inform our response to the climate crisis – cannot be considered a valid substitute for a genuine analysis of carbon-free alternatives to NTEC. RUS should order an EIS to thoroughly analyze the GHG impacts of the proposal and appropriate alternatives.

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[126] Eloise Ogden, *Hoeven: ND to lead country with carbon capture project at Coal Creek Station,* Minot Daily News, Jul. 2, 2021, https://www.minotdailynews.com/news/local-news/2021/07/hoeven-nd-to-lead-country-with-carbon-capture-project-at-coal-creek-station/.
[127] Supplemental EA at 3-26.
[128] Telos Report at 5.
[129] *Friends of Fiery Gizzard v. Farmers Home Admin.,* 61 F.3d. 501, 505 (6th Cir. 1995).
[130] Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews, Interim Greenhouse Gas Policy Statement, 87 Fed. Reg. 14104, 14115 (FERC Mar. 11, 2022).

C. The Supplemental EA fails to assess NTEC's GHGs in the context of GHG reduction needs and policies.

Despite the enormity of NTEC's GHG emissions, the Supplemental EA fails to address the obvious question: is NTEC compatible with the pace and scale of GHG reductions we need to avoid catastrophic climate changes? One way to answer this question is to look at federal GHG reduction policies. The 2016 CEQ Guidance specifically instructs agencies to provide a frame of reference for GHG emissions by discussing "relevant approved federal, regional, state, tribal, or local plans, policies, or laws for GHG emissions reductions or climate adaptation to make clear whether a proposed project's GHG emissions are consistent with such plans or laws."[131] The EPA's July 26 comments in this docket similarly stress the need for RUS to analyze NTEC's GHG emissions in the context of national GHG reduction policies and state reduction targets.[132] Another way to answer this question is to look at the underlying science establishing the size and timing of needed GHG reductions. Courts have stressed the importance, when an agency is determining the significance of a project's GHG emissions, of "some articulated criteria for significance in terms of contribution to global warming that is grounded in the record and available scientific evidence."[133] The Supplemental EA does not look at either the emission reduction policies or the emission reduction science.

Indeed, while the Supplemental EA briefly discusses federal initiatives to address climate change, it fails to even mention the new federal GHG reduction targets and deadlines they establish.[134] The Supplemental EA even makes the claim that "the United States does not have an overarching policy for GHG reductions,"[135] ignoring the Biden Administration's commitment to achieving 100 percent carbon-free electricity by 2035, the nation's NDC pledging to cut national emissions by 50-52% below 2010 levels by 2030, and the longer-term target of reaching net zero carbon emission by 2050 (all discussed under Part I.C above).

The Supplemental EA briefly discusses the Paris Agreement and the Glasgow Climate Pact, along with their goals of holding warming well below 2 °C and pursuing efforts to limit warming to 1.5 °C.[136] However, once again the assessment fails to mention the part most relevant to assessing NTEC – how these goals translate into emission reduction targets and deadlines. It fails to mention the Glasgow Pact's statement on the need to reduce global carbon emissions by 45 percent below 2010 levels by 2030, and reach net zero by midcentury, in order to limit warming to 1.5 °C.[137] This failure is notable given the RUS's rule requiring it to lend appropriate support to international environmental initiatives to prevent the decline of the world environment.[138]

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[131] CEQ 2016 Guidance at 28-29.
[132] Letter with comments from Jennifer Tyler, Acting Deputy Director, EPA Region V, to Peter Steinour, Env't Prot. Specialist, USDA RUS, 3, (July 26, 2022) (re Supplemental Environmental Assessment, Nemadji Trail Energy Center Project).
[133] *350 Mont. v. Haaland,* 29 F.4th 1158, 1170 (9th Cir., 2022).
[134] Supplemental EA at 1-10.
[135] Supplemental EA at 1-8.
[136] Supplemental EA at 1-7.
[137] Glasgow Pact at para 17.
[138] 7 CFR § 1970.4(f).

In its discussion of the state of Wisconsin's 2020 climate plan, the Supplemental EA fails to acknowledge the plan's goal of reducing carbon emissions from the power sector by at least 60 percent below 2005 levels by 2030. The analysis briefly notes Wisconsin's goal of achieving 100 percent carbon-free electricity by 2050, but does not discuss how building NTEC, intended to operate well past 2050, is inconsistent with that goal.[139]

The failure of the Supplemental EA to assess NTEC's emissions relative to these quantified emission reduction targets, or to even acknowledge them, is particularly troubling given the multiple presidential executive orders increasing climate responsibilities for all federal agencies. These include the overarching responsibility to deploy the agency's full capacity to combat climate change, as part of the Administration's government-wide approach to the crisis.[140] The Supplemental EA also fails to discuss whether funding the construction of new fossil fuel plant violates the Administration's policy of ensuring that "federal funding is not directly subsidizing fossil fuels."[141] And by not assessing NTEC in the context of emission reduction goals, RUS is failing to ensure that climate-related financial risk is integrated into federal lending.[142]

As a federal agency, the RUS is bound to implement these executive orders to the extent allowed by law.[143] The RUS, is therefore obliged to pursue the Administration's goal of 100% carbon-free electricity by 2035 – a target that cannot be reconciled with lending money to build a new generator that will emit millions of tons of GHGs for decades.

The Supplemental EA exhibits a similar failure to reflect of the most relevant conclusions of the pathway studies discussed in Part I.C.4 above, three of which Dairyland was explicitly instructed to review by the RUS. As noted, these studies all clearly indicate that building new gas plants is incompatible with the pathways they chart to reduce GHGs at the pace needed to limit warming to 1.5 °C. However the Supplemental EA ignores these findings and cites those studies instead in support of the need to eliminate coal in order to limit warming to 1.5 degrees C.[144] The Orvis study is even cited in a way that suggests it supports the shift from coal to gas power, despite that study's statement that "[c]utting electricity emissions in line with a 1.5 C target also requires *not building any new gas plants* that lack carbon capture."[145] NTEC would be built without carbon capture, a technology that is not yet in commercial use and would require an as-yet unbuilt infrastructure to transmit any captured carbon and sequester it underground.

If we needed only gradual GHG emission reductions over several decades (and if we ignored upstream methane emissions), one might envision that a new gas plant like NTEC could

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[139] Supplemental EA at 1-9 to 1-10; Governor's Task Force on Climate Change Report, State of Wis., at 92-93 (2020), https://climatechange.wi.gov/Documents/Final%20Report/GovernorsTaskForceonClimateChangeReport-LowRes.pdf.
[140] Exec. Order 14,008, Tackling the Climate Crisis at Home and Abroad, 86 Fed. Reg. 7619, 7622.
[141] *Id.,* 7625.
[142] Exec. Order 14,030, Climate-Related Financial Risk, 86 Fed. Reg. 27967, 27969.
[143] *Sherley v. Sebelius*, 689 F.3d 776, 784 (D.C. Cir. 2012) ("NIH may not simply disregard an Executive Order. To the contrary, as an agency under the direction of the executive branch, it must implement the President's policy directives to the extent permitted by law.").
[144] Supplemental EA at 1-7 to 1-8.
[145] Supplemental EA at 1-10; Orvis 2021 at 8 (emphasis added).

help us meet our emission targets. However, that vision cannot survive the recognition that we need to cut emissions in half by 2030, entirely decarbonize the power sector by 2035, and reach net-zero economy-wide by midcentury – all during the operating lifetime of this proposed plant. It is only by acknowledging the scale and pace of needed emission reductions that one can begin to determine whether NTEC helps or hinders our efforts to confront the climate crisis. That is why the failure of the Supplemental EA to assess NTEC's emissions within the context of these emission reduction targets is such a fatal flaw. A finding that NTEC has no significant impact on climate based on this Supplemental EA would be arbitrary and capricious.

D. The Supplemental EA fails to use existing tools to quantify the harms caused by NTEC's GHG emissions, even as it quantifies the anticipated economic benefits.

The Supplemental EA is inadequate because it fails to provide the public with an understanding of the context and significance of NTEC's enormous GHG emissions. "[M]ere quantification is insufficient" for addressing GHGs in NEPA review.[146] NEPA seeks to "inform the public about the environmental consequences" of federal actions.[147] This requires agencies to "consider and disclose [an action's] actual environmental effects" and demonstrate to the public that the agency "considered environmental concerns in its decisionmaking process."[148] In addition to failing to put NTEC's GHG emissions into a frame of reference by comparing them to GHG reduction schedules, the Supplemental EA fails to use other available tools that could provide a frame of reference for NTEC's emissions.

Without a tool for interpretation, the public remains uninformed of NTEC's "actual environmental effects," and it is unclear how the agency accounted for these emission levels in its decision making regarding NTEC.[149] These limitations of listing bare emission quantities are why federal courts emphasize that "mere quantification is insufficient" for addressing GHGs in NEPA review.[150]

1. Social Cost of Carbon provides a standardized and accurate metric for capturing NTEC's climate impacts.

The Social Cost of Carbon ("SCC") surpasses "mere quantification"[151] of GHG emissions by allowing agencies to measure those emissions' impact. The SCC is a widely used tool in NEPA review.[152] The tool works by assigning a monetary cost per ton of CO_2 (or other GHG) emitted by an action, which provides agencies and the public with a concrete means for weighing the harms

[146] *California v. Bernhardt*, 472 F. Supp. 3d 573, 623 (N.D. Cal. 2020).
[147] *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 371 (1989).
[148] *Balt. Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 96-97 (1983).
[149] *Baltimore Gas*, 462 U.S. at 96 (1983).
[150] *California v. Bernhardt*, 472 F. Supp. 3d 573, 623 (N.D. Cal. 2020).
[151] *Bernhardt*, 472 F. Supp. 3d at 623.
[152] *See* Peter Howard & Jason A. Schwartz, *Think Global: International Reciprocity as Justification for a Global Social Cost of Carbon*, 42 COLUM. J. ENV'T L. 203, 270–84 (2017) (listing eight SCC assessments conducted under NEPA); *See also* 2016 GHG Guidance, 33, n. 86 ("[SCC] provides a harmonized, interagency metric that can give decision makers and the public useful information for their NEPA review").

of that action's GHG emissions.[153] The SCC is designed to measure the impact of an incremental increase in carbon emissions.[154] An Interagency Working Group of federal agencies determined the SCC by examining GHGs' effect on, among other things, "net agricultural productivity, human health effects, property damage from increased flood risk natural disasters, disruption of energy systems, risk of conflict, environmental migration, and the value of ecosystem services."[155]

The Supplemental EA asserts that "there is no standard methodology to determine how a project's relatively small incremental contribution to GHGs will translate into physical effects on the global environment."[156] In fact, the SCC is precisely that: a standard methodology designed to measure physical effects on the environment, along with human health and social effects, caused by incremental contributions to GHGs. As one federal court explained in rejecting this same agency rationale in 2014, "a tool is and was available: the social cost of carbon protocol."[157] Federal agencies incorporate the SCC in their NEPA reviews because it is an effective and accurate tool. A claim that no standardized tool exists for measuring GHG impacts, is a "factually inaccurate justification" for omitting the SCC.[158]

Federal agencies are encouraged by the CEQ to "consider all available tools and resources in assessing GHG emissions and climate change effects of their proposed actions," explicitly including the Social Cost of Greenhouse Gases.[159] Courts emphasize that, for the SCC specifically, "taking a 'hard look' has to include a 'hard look' at whether this tool [the SCC] . . . would contribute to a more informed assessment of the impacts than if it were simply ignored."[160] The Supplemental EA's blunt dismissal of the SCC fails the hard look standard.

The failure of the Supplemental EA to consider the social cost of carbon is striking given Executive Order 13,990, which calls it "essential that agencies capture the full costs of greenhouse gas emissions as accurately as possible."[161] That order goes on to describe the social cost of carbon (SCC), along with the social cost of nitrous oxide (SCN) and the social cost of methane (SCM) as useful tools in capturing GHG costs. It orders that the federal Working Group establish updated interim values, "which agencies shall use when monetizing the value of changes in greenhouse gas

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[153] *See* Peter Howard & Jason A. Schwartz, Think Global: International Reciprocity as Justification for a Global Social Cost of Carbon, 42 COLUM.J. ENV'T L. 203, 205-206 (2017).
[154] *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates Under Executive Order 13990*, Interagency Working Grp. on Soc. Cost of Greenhoues Gases, U.S. Gov't at 2 (Feb. 2021), https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf.
[155] *Id.* at 2.
[156] Supplemental EA at 3-18.
[157] *High Country Conservation Advocs. v. United States Forest Serv.*, 52 F. Supp. 3d 1174, 1190 (D. Colo. 2014).
[158] *High Country Conservation Advocs. v. United States Forest Serv.*, 52 F. Supp. 3d 1174, 1191 (D. Colo. 2014).
[159] National Environmental Policy Act Implementing Regulations Revisions, 86 Fed. Reg. 55757, 55763, n. 25 (CEQ, proposed Oct. 7, 2021); *See also* 2016 GHG Guidance at 33.
[160] *High Country Conservation*, 52 F. Supp. 3d at 1193.
[161] Exec. Order 13,990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis 86 Fed. Reg. 7037, 7040 (Jan. 25, 2021).

emissions resulting from regulations and other relevant agency actions until final values are published."[162]

In their comments on NTEC, EPA also "strongly recommends that agencies use estimates of the SC-GHG [Social Cost of Greenhouse Gases] to assess climate impacts and help weigh their significance in cost-benefit balancing for proposed projects."[163] EPA explains that by turning the multitude of impacts from GHGs into a single dollar value, the SC-GHG provides a measure of impacts that is more easily understood by decisionmakers and the public than a simple estimate of tons of emissions. And EPA's own calculation of the social costs of just part of NTEC's emissions illustrates just how significant NTEC's impact would be. EPA estimates that the social cost of carbon emissions from just the first 15 years of NTEC's operation (using potential emissions from the Supplemental EA) would be **$2.15 billion dollars**. This estimate does not include costs associated with upstream methane emissions or non-CO_2 direct emissions, nor any emissions after 2040.[164]

2. The Supplemental EA inconsistently monetizes NTEC's benefits but not its costs.

"It is arbitrary for an agency to quantify an action's benefits while ignoring its costs where tools exist to calculate those costs."[165] The Supplemental EA uses quantification to emphasize NTEC's socioeconomic benefits, but it ignores the SCC as a tool for quantifying the project's costs. This approach places a "thumb on the scale by inflating the benefits of the action while minimizing its impacts."[166]

The Supplemental EA repeatedly uses quantification to describe NTEC's projected socioeconomic impacts. The Supplemental EA quantifies job growth, that of 260 positions during "peak activity" of construction followed by "25 full time permanent jobs" during operation.[167] It also quantifies tax revenue of one million dollars for the surrounding municipalities.[168] This approach is similar to past EAs that quantified jobs,[169] tax revenue,[170] or decreased compliance cost,[171] but then excluded the SCC from their review of GHG emissions. In each case, courts held that the EA's analysis was unbalanced and internally inconsistent.[172] It is misleading for agencies to refuse to monetize the impact of GHG emissions, "then turn around and calculate down to the

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[162] *Id.*
[163] Letter with comments from Jennifer Tyler, Acting Deputy Director, EPA Region V, to Peter Steinour, Env't Prot. Specialist, USDA RUS, 3, (July 26, 2022) (re Supplemental Environmental Assessment, Nemadji Trail Energy Center Project) [hereinafter "EPA NTEC Comments"].
[164] *Id*., attached comments at 8.
[165] *California v. Bernhardt*, 472 F. Supp. 3d 573, 623 (N.D. Cal. 2020).
[166] *Montana Env't Info. Ctr. v. U.S. Off. of Surface Mining*, 274 F. Supp. 3d 1074, 1098 (D. Mont. 2017).
[167] Supplemental EA at 3-10.
[168] *See* Supplemental EA at 3-10.
[169] *See High Country Conservation*, 52 F. Supp. 3d at 1195; *Montana Env't*, 274 F. Supp. 3d at 1096.
[170] *See High Country Conservation*, 52 F. Supp. 3d at 1195; *Montana Env't*, 274 F. Supp. 3d at 1096.
[171] *See Bernhardt*, 472 F. Supp. 3d at 623.
[172] *See Montana Env't*, 274 F. Supp. 3d at 1096; *High Country Conservation*, 52 F. Supp. 3d 1174 at 1191; *Bernhardt*, 472 F. Supp. 3d at 623.

job and the nearest $100,000 the [projects'] economic impacts."[173] The Supplemental EA commits this same error. In doing so, it fails to take a "'hard look' that ensure[s] both the agency and the public [are] well-informed" about NTEC's true costs and benefits.[174]

Not only is the methodology inappropriate to this context, it is selectively applied throughout the analysis to benefit NTEC. For example, while emission reductions at theoretically retired coal units are somehow attributable to NTEC, the loss of jobs, tax revenue and other social benefits from those retired units are completely ignored.

E. The Supplemental EA is inadequate because it fails to account for indirect impacts from upstream methane emissions.

NEPA requires analysis of a project's indirect impacts. CEQ regulations define "effects or impacts" as including "[i]ndirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable."[175] Indirect impacts are particularly important in the context of climate change impacts and GHG emissions. The 2016 GHG Guidance "[r]ecommends that agencies quantify a proposed agency action's projected direct *and indirect* GHG emissions."[176] The CEQ recently reiterated the importance of indirect effects, calling the inclusion of indirect effects in the definition of effects "critical to ensuring that agency decision makers have a complete view of the reasonably foreseeable effects of their proposed actions."[177]

The NTEC proposal illustrates why quantifying upstream GHG emissions is so important for analyzing climate change impacts. The Supplemental EA calculates NTEC's total direct potential emissions of CO_2 alone (not counting NTEC's direct emissions of other GHGs) as 2,242,381 tons per year.[178] However, in support of these comments we commissioned an expert report from PSE Healthy Energy, and the PSE Report (attached as Appendix 2) makes clear that when a gas plant's indirect upstream methane emissions are included, its climate impact goes far beyond just its direct CO_2 emissions.[179] This is because, as the PSE Report explains, "[m]ethane, the primary constituent in natural gas, leaks throughout the entire process of production, processing, transmission, and use. Estimates suggest that this leakage would increase the radiative forcing of gas combustion by 92 percent over a 20-year timeframe and 31 percent over a 100-year timeframe."[180] (As we discuss more below, methane's potency relative to CO_2 varies based on the timeframe because methane has a much shorter atmospheric lifetime than CO_2). In reality, NTEC's

[173] *High Country Conservation*, 52 F. Supp. 3d at 1195.
[174] *Montana Env't*, 274 F. Supp. 3d at 1098.
[175] 40 C.F.R. § 1508.1(g)(1)-(2).
[176] 2016 GHG Guidance at 4 (emphasis added).
[177] National Environmental Policy Act Implementing Regulations Revisions, 87 Fed. Reg. 23453, 23467 (CEQ Apr. 20, 2022).
[178] Supplemental EA at 3-22.
[179] Kelsey Bilsback, et al., *Nemadji Trail Energy Center Health and Equity Analysis,* PSE Healthy Energy (July 2022) [hereinafter "PSE Report"], attached as Appendix 2. PSE Healthy Energy is a multidisciplinary, nonprofit research institute that studies the way energy production and use impact public health and the environment.
[180] PSE Report at 5.

climate impacts almost double compared to its direct CO_2 emissions over a twenty-year timeframe when upstream methane emissions are taken into account.

There is growing urgency to reduce methane emissions as global atmospheric levels of methane have been rising rapidly in recent years. A major global assessment of methane in 2021 concluded that "without relying on future massive-scale deployment of unproven carbon removal technologies, expansion of natural gas infrastructure and usage is incompatible with keep warming to 1.5° C."[181]

In Petitioners' request for a supplemental EA, Petitioners stressed the importance of analyzing NTEC's expected upstream methane emissions in the light of new studies.[182] The RUS instructed Dairyland to "[p]rovide an analysis that quantifies the projected greenhouse gas emissions of the NTEC project, including an analysis of potential indirect upstream impacts."[183] However, Dairyland refused to attempt to quantify upstream methane emissions. And, instead of requiring Dairyland to remedy this omission, the RUS published the Supplemental EA for comment, making Dairyland's failure its own.

First, the Supplemental EA supports this omission by claiming the methane emissions "are not reasonably foreseeable to predict with any specificity."[184] Upstream methane emissions *are* reasonably foreseeable, and there is scientific data available to calculate those emissions, as the PSE Report shows.[185] EPA's comments also state that upstream emissions are reasonably foreseeable and "possible to estimate in a manner that provides reliable, important information to decisionmakers and the public for purposes of NEPA."[186] In any event, the complete failure to even attempt to calculate these indirect emissions renders the Supplemental EA inadequate: "It should go without saying that NEPA also requires the Commission to at least attempt to obtain the information necessary to fulfill its statutory responsibilities."[187]

Second, the Supplemental EA relies on a draft EIS for a dissimilar project to avoid evaluating the indirect impacts of NTEC.[188] The Supplemental EA claims that FERC has also determined that upstream methane emissions are not quantifiable for purposes of NEPA, citing a recent draft EIS that examines the environmental impacts of a new natural gas transmission pipeline.[189] The draft EIS actually defers the question of whether upstream methane emissions should be quantified until FERC could issue a new policy statement on the issue. Importantly, the

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[181] *Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions* U.N. Environment Programme at 10 (May 6, 2021), https://www.unep.org/resources/report/global-methane-assessment-benefits-and-costs-mitigating-methane-emissions.
[182] Letter from Stephanie Fitzgerald, Staff Attorney, Minn. Ctr. for Env't Advoc., to Peter Steinour, Env't Prot. Specialist, Rural Util. Serv. at 4 (July 23, 2021).
[183] Letter from Christopher McLean, Acting Adm'r, Rural Utils. Serv., to Brent Ridge, President & CEO, Dairyland Power Coop. at 2 (Nov. 9, 2021).
[184] Supplemental EA at 3-27.
[185] PSE Report at 5.
[186] EPA NTEC Comments, attached comments at 7.
[187] Birckhead v. FERC, 925 F.3d 510, 520 (D.C. Cir. 2019).
[188] Supplemental EA at 3-27.
[189] FERC, *Henderson County Expansion Project: Draft EIS*, (Apr. 2022) https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220414-3004&optimized=false (hereinafter "Henderson DEIS").

draft EIS that the Supplemental EA refers to does not make any finding of significance or insignificance in relation to climate impacts: "Regarding climate change impacts, this EIS is not characterizing the Project's greenhouse gas emissions as significant or insignificant because the Commission is conducting a generic proceeding to determine whether and how the Commission will conduct significance determinations going forward."[190] FERC's draft interim policy on GHGs, published in March of 2022, does not say that upstream methane emissions cannot be foreseen and estimated. On the contrary, it states that FERC has and will continue to consider upstream emissions "on a case-by-case basis," and project sponsors are encouraged to submit information about upstream impacts.[191]

Even if the Supplemental EA's characterization of FERC's position on upstream methane were accurate, though, there is an important distinction between a project that burns gas, like NTEC, and one that transmits it, like a pipeline. As discussed in Part III.B.2, projects that supply fuel, like pipelines, often require a more complicated analysis to determine their indirect emissions, including consideration of how the project affects fuel prices and therefore consumption. NTEC's upstream emissions can be estimated more straightforwardly, based on evidence about rates of methane leakage per ton of natural gas consumed.[192] Even where indirect emissions are much more speculative than the methane leaks ignored here, courts have found NEPA review inadequate for failure to include such emissions.[193]

Third, the Supplemental EA applies yet another inappropriate substitution analysis to dismiss NTEC's methane emissions.[194] The Supplemental EA states that "the potential upstream emissions from natural gas extraction and transportation are expected to be lower than coal in terms of GHGs emissions."[195] First, NEPA does not allow RUS to dismiss upstream emissions on the basis that NTEC would avoid other methane emissions. However, even if that type of analysis were appropriate in this context, RUS has provided no evidentiary support for its claim and it cannot be taken at face value. Methane, the main constituent of natural gas, leaks all through the supply chain, and because methane is such a potent GHG, a growing number of studies warn that

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[190] FERC, Henderson DEIS, at 1.
[191] Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews, 87 Fed. Reg. 14104, 14110 (FERC Mar. 11, 2022).
[192] For example, the 2018 Alvarez, et al. study, cited by PSE in Appendix 2, found that U.S. oil and gas supply chain methane emissions in 2015 were equivalent to 2.3% of natural gas production. Ramón A. Alvarez et al., *Assessment of Methane Emissions from the US Oil and Gas Supply Chain*, 361(6398) Science, 186-88 (2018), https://science.sciencemag.org/content/361/6398/186. Similarly, a 2020 study estimated that the Permian Basin loss rate is 3.7% of gas production. Yuzhong Zhang et al., *Quantifying Methane Emissions from the Largest Oil-Producing Basin in the United States from Space*, 6 Sci. Advances 17 (2020), https://advances.sciencemag.org/content/6/17/eaaz5120/tab-pdf. Much of the fossil natural gas delivered to Wisconsin is produced in Texas. *See also,* D. Burns and E. Grubert, *Attribution of production-stage methane emissions to assess spatial variability in the climate intensity of US natural gas consumption*, Environ. Res. Lett. 16 (2021) 044059, https://iopscience.iop.org/article/10.1088/1748-9326/abef33/pdf; *and* M. Lackner, et al., *Pricing Methane Emissions from Oil and Gas Production,* Environmental Defense Fund Economics Discussion Paper Series (April 28, 2021) https://www.edf.org/sites/default/files/content/Pricing%20Methane%20Emissions%20from%20Oil%20and%20Gas%20Production.pdf.
[193] *See Mid States Coal. for Progress v. Surface Transp. Bd*., 345 F.3d 520 (8th Cir. 2003) (remanding EIS that failed to consider emissions that "may occur" from additional coal consumption resulting from new rail line).
[194] Supplemental EA at 3-28.
[195] Supplemental EA at 3-28.

these upstream emissions gravely undermine the climate benefits of switching from coal to gas.[196] The Supplemental EA simply states that displaced coal would have produced more upstream emissions, citing no studies at all. NEPA does not allow for this type of bare assumption.[197]

F. The Supplemental EA fails to address the short-term impacts of methane emissions.

The Supplemental EA does estimate NTEC's direct annual methane emissions,[198] which are far less than the indirect methane emissions it fails to quantify at all. However, even with respect to the direct methane emissions, the Supplemental EA fails to address their short-term impact on the climate. Methane is a potent GHG, with far greater heat trapping characteristics than carbon dioxide. The Supplemental EA fails to take the required 'hard look' at both the short- and long-term climate impacts of the proposed project by failing to consider and disclose methane's 20-year global warming potential (GWP). NEPA specifically mandates agencies consider "the degree of the effects of the action," including "[b]oth short- and long-term effects"[199] and the Supplemental EA fails to meet this obligation by analyzing methane's long-term climate impact to the total exclusion of its short-term effects.

In order to standardize warming potentials across gases, scientists and federal agencies use GWPs to report all GHGs in carbon dioxide equivalents (CO2e). The standard GWP is based off the warming characteristics of one ton of carbon dioxide (CO_2), which by definition has the warming potential of 1.[200] Methane has greater radiative forcing (i.e., a greater capacity to warm the atmosphere), but a shorter atmospheric lifetime, than CO_2, and is therefore a more potent greenhouse gas in the near-term. For this reason, agencies and scientists often report methane's GWP in both long-term (100 year) and short-term (20-year) GWPs.

EPA estimates methane's 20-year GWP is 81 to 83, and its 100-year GWP as 27-30.[201] By contrast, the Supplemental EA relies exclusively on methane's 100-year GWP, which it lists as 25, and an even longer-term 50- to 200-year GWP, which it lists as 12.[202] The Supplemental EA's failure to even disclose that methane has a 20-year GWP, or to calculate CO_2e for methane emissions based on the 20-year GWP, is an important omission that results in the assessment understating the project's climate impacts.[203] This failure violates NEPA's mandate to consider

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[196] See, e.g., Alvarez, et al. (2018) and Zhang et al. (2020).
[197] *WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, 870 F.3d 1222, 1234–38 (10th Cir. 2017) (rejecting the "perfect substitution" without any quantitative analysis).
[198] Supplemental EA at 3-21.
[199] 40 C.F.R. § 1501.3(b)(2)(i).
[200] Supplemental EA at 3-17.
[201] U.S. EPA, *Understanding Global Warming Potentials*, (last visited Aug. 19, 2022) https://www.epa.gov/ghgemissions/understanding-global-warming-potentials#Learn%20why.
[202] Supplemental EA at 3-17. For purposes of converting methane to CO2e, the Supplemental EA uses methane's 100-year GWP of 25. *Id.* at 3-15.
[203] The Supplemental EA discloses 1,227 tons of direct methane emissions per year. Supplemental EA at 3-21, T.3-6. 1227 tpy x 25 GWP = 30,675 tons CO_2e per year. 30,675 x 40 year life of project = 1.2 million tons of CO_2e from direct methane emissions over the life of the project. (These life-of-project emissions are not disclosed by the

"[b]oth short- and long-term effects" of an action when determining the appropriate level of NEPA review (i.e., whether to prepare an EA or an EIS).[204] Such consideration was readily available by applying the GWP for both the 100-year and 20-year time horizons. As explained by the federal District Court in Montana, which invalidated a federal agency's NEPA review for two resource management plans where the agency relied exclusively on the 100-year GWP for methane, "BLM's unexplained decision to use the 100-year time horizon, when other more appropriate time horizons remained available, qualifies as arbitrary and capricious under these circumstances."[205]

G. The Supplemental EA fails to acknowledge that the project's climate impacts will disproportionately harm environmental justice communities.

In January 2021, White House National Climate Advisor Gina McCarthy acknowledged that, "[c]limate change is a racial justice issue because it exacerbates the challenges in the communities that have been left behind. It goes after the very same communities that pollution has held back and racism has held back. And it's our opportunity to serve those communities -- to elevate them."[206]

As the RUS analyzes the climate impacts of its loan decisions, it must recognize that climate impacts in the United States are not and will not be felt evenly. Within the U.S., environmental justice communities currently suffer the greatest harms from climate change and will continue to do so in the foreseeable future.[207] If the RUS recognizes this fact, as it must, any decision to issue loans that allow for the construction and decades-long operation of gas-fueled power plants would amount to a deliberate choice to inflict climate harms most acutely on environmental justice communities. That unnecessary human suffering can and should be avoided. But if the RUS refuses to align its choices with the Biden Administration's climate and environmental justice priorities, the RUS must at a minimum own the impacts of its choices on low-income and communities of color.

A recent EPA report, released in September 2021, *Climate Change and Social Vulnerability in the United States*, concluded that climate change will disproportionately affect people of color and low-income communities.[208] The report examined how six impacts of climate change (1. air quality and health, 2. extreme temperature and health, 3. extreme temperature and

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Supplemental EA.) By contrast, using EPA's 20-year GWP for methane results in more than triple the lifetime CO_2e emissions attributable to methane: 1,227 tons direct emissions per year x 83 GWP = 101,841 tons CO_2e per year. 101.841 x 40 years = 4.07 million tons of CO_2e from direct methane emissions over the life of the project.

[204] 40 C.F.R. § 1501.3(b)(2)(i).

[205] *Western Organization of Resource Councils v. BLM*, 2018 WL 1475470 at *15 (D. Mont. 2018).

[206] *Gina McCarthy Talks About the Intersectionality of Climate Change*, YouTube, (Jan. 30, 2021), https://www.youtube.com/watch?v=z9RfN375QDI.

[207] Alex Lubben, et al., *These Communities Are Trapped in Harm's Way as Climate Disasters Mount,* Mother Jones (Aug. 4, 2022) https://www.motherjones.com/environment/2022/08/these-communities-are-trapped-in-harms-way-as-climate-disasters-mount/ ("People of color make up more than half the residents in counties that experienced at least three climate disasters in the past five years. These counties also have a higher proportion of residents who speak limited English and people in poverty than the rest of the country.")

[208] *Climate Change and Social Vulnerability in the United States,* U.S. Environmental Protection Agency (Sep. 2021), https://www.epa.gov/system/files/documents/2021-09/climate-vulnerability_september-2021_508.pdf.

labor, 4. coastal flooding and traffic, 5. coastal flooding and property, and 6. inland flooding and property) affect "socially vulnerable" groups based on income, education, race, and age.[209]

Of the four identified socially vulnerable groups, EPA found that racial minorities are most likely to currently live in areas that are at the highest risk for climate change related impacts such as increased mortality because of extreme temperatures, increased rates of childhood asthma, lost labor hours, and land loss due to higher sea levels.[210] EPA concluded that racial minorities are projected to be impacted significantly more than non-minorities by the extreme weather, air pollution, and ocean level rise that would be caused by a 2°C global warming. Notably, according to EPA, Black and African American individuals are 40% more likely to currently live in areas with the highest projected increase in mortality due to extreme temperatures.[211]

The RUS must disclose the climate and environmental justice impacts of its loan decisions, particularly where those decisions result in more than 100 million tons of direct GHG emissions and over $2 billion in social costs just in the first 15 years of operation.[212]

IV. The Supplemental EA Fails To Assess NTEC's Significant Impact On Human Health And Wetlands, And Fails To Consider Cumulative Emissions

A. NTEC's health impacts are significant.

The Supplemental EA is inadequate because it fails to consider the impact NTEC will have on the health of neighboring communities, especially environmental justice communities. The core of NEPA is examining how proposed federal actions impact "the quality of the human environment."[213] Because an action's "health, socioeconomic and cumulative consequences" can greatly impact the human environment, these consequences must be considered in NEPA review.[214]

1. NTEC would impose severe health impacts, especially on low income and Native populations.

NTEC's health and social effects are highlighted in the PSE Report. Overall, the facility's health impacts would be substantial: NTEC's emissions of criteria air pollutants are estimated to cause over one hundred million dollars in health-related harms over 40 years.[215] This estimate is not based on NTEC's full potential to emit, but on the average annual energy NTEC generates in the Supplemental EA's production cost modeling, extrapolated to cover its working life. The report specifies that these harms would include avoidable mortalities.[216]

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[209] *Id.* at 5-6.
[210] *Id. at 6.*
[211] *Id.*
[212] EPA NTEC Comments, attached comments at 8.
[213] *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 757 (2004); *see also* 42 U.S.C. § 4332(C).
[214] *Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 106 (1983); *see also* 40 C.F.R. § 1508.1(g)(4).
[215] PSE Report at 3.
[216] *Id.*

These adverse effects would be concentrated in low income and Native populations. Communities near NTEC have a "high concentration of low-income households and people with low educational attainment."[217] Native people would experience particularly "elevated" risks because they are centrally located in the path of NTEC emissions.[218] The PSE Report projects Native populations would suffer health impacts "over 3 times as high as the overall population."[219]

Moreover, these impacted communities already experience "high cumulative pollution from other sources."[220] The area surrounding NTEC "ranks very high for air toxics and wastewater discharge sites . . . among other high pollutant indicators."[221] Because new sources of pollution compound the effects of existing pollution, nearby communities are more at risk for NTEC emissions. The facility would exacerbate "population vulnerability and risk of adverse health outcomes," [222] as low income and Native populations that are already overburdened by pollution will be further harmed by the plant's emissions.

2. RUS must prepare an EIS due to NTEC's significant health impacts.

NTEC's context, or its "affected environment,"[223] raises significant environmental justice concerns. Environmental justice plays a key role in how agencies should consider health and socioeconomic effects. The "principle of environmental justice encourages agencies to consider whether the projects they sanction will have a disproportionately high and adverse impact on low-income and predominantly minority communities."[224]

A 1994 Executive Order commits federal agencies to prioritizing environmental justice in their work.[225] 'To the greatest extent practicable and permitted by law," the Order requires federal agencies to "identify[] and address[], as appropriate, disproportionately high and adverse human health or environmental effects of [their] programs, policies, and activities on minority populations and low-income populations."[226] As part of this broad mandate, federal agencies must analyze environmental justice concerns in their NEPA reviews.[227]

The Supplemental EA fails to consider the health impacts of NTEC emissions on Native and low-income communities. While the Supplemental EA's Tribal Environmental Justice analysis broadly acknowledges that "criteria pollutants such as NOx, SO2, CO and particulates cause localized health impact. . ." it does not examine how this applies to Native and low-income

[217] *Id.* at 1.
[218] *Id.* at 4.
[219] *Id.*
[220] *Id* at 2.
[221] *Id* at 1.
[222] *Id* at 2.
[223] 40 C.F.R. § 1501.3(b).
[224] Sierra Club v. FERC, 867 F.3d 1357, 1368 (D.C. Cir. 2017) (citation omitted).
[225] Exec. Order 12,898, Federal Actions to Address Environmental Justice in Minority Populations and Low–Income Populations, 59 Fed. Reg. 7629 (Feb. 11, 1994).
[226] *Id.* at § 1–101.
[227] *Sierra Club*, 867 F.3d at 1368.

communities specifically, or how criteria pollutants would exacerbate the high cumulative pollution already shouldered by these communities.[228]

Instead, the Supplemental EA repeats its claim that the facility will result in net GHG reductions,[229] and it never returns to analyze the localized health impacts of criteria pollutants it referenced.[230] Consequently, the Supplemental EA never examines the impact of NTEC criteria pollutant emissions on environmental justice communities.

The PSE Report establishes that these unexamined health impacts would be significant. Significance under NEPA is measured using four criteria: (1) short- and long- term effects, (2) beneficial and adverse effects, (3) effects on public health and safety, and (4) effects that would violate federal, state, Tribal, or local law protecting the environment.[231]

Each factor reinforces the significance of NTEC's health and social impacts. Over one hundred million dollars in health impacts,[232] effects that would disproportionately be experienced by environmental justice communities,[233] pose a clear adverse effect that centers on public health and safety. The PSE Report highlights that these effects would apply in both short and long term, up to four decades or longer if NTEC continues to operate.[234] Finally, NTEC violates Executive Order 12,898's environmental justice mandate by not identifying and addressing NTEC's "disproportionately high and adverse human health" effects "to the greatest extent practicable and permitted."[235]

The PSE Report finds that NTEC would "increase population vulnerability and risk of adverse health outcomes,"[236] while causing health impacts three times higher for Native communities than the general population.[237] These findings illustrate the significance of NTEC's health impacts, and those impacts necessitate EIS review.

3. The Supplemental EA fails to satisfy RUS regulations by not analyzing the environmental justice implications of NTEC's health and social impacts.

Separate from NEPA's significance analysis, RUS specifies in its regulations that loan applicants' proposals must, whenever practicable, "minimize adverse environmental impacts" and,

[228] Supplemental EA at 3-40 to 4-2.
[229] Supplemental EA at 3-40.
[230] Supplemental EA at 3-30 to 4-2.
[231] 40 C.F.R. § 1501.3(b)(2).
[232] PSE Report at 3.
[233] *Id.* at 4.
[234] *Id.* at 2 (explaining the report "giv[es] a 40-year estimate of NTEC's generation, emissions, and health impacts").
[235] Exec. Order 12,898, Federal Actions to Address Environmental Justice in Minority Populations and Low–Income Populations, 59 Fed. Reg. 7629 § 1–101 (Feb. 11, 1994).
[236] PSE Report at 2.
[237] *Id.* at 4.

in particular, "avoid or minimize potentially disproportionate and adverse impacts to minority or low-income populations."[238]

Consistent with EPA's July 26, 2022 comments, the Supplemental EA should have included an assessment of whether NTEC's public health impacts fall disproportionately on Native American communities.[239] The same is true for NTEC's impacts on the high concentration of low-income households near the facility. But the Supplemental EA simply does not contain these assessments.[240] Without examining NTEC's health impacts on nearby minority and low-income communities, RUS cannot determine whether Dairyland's proposal satisfies the requirement to "avoid or minimize disproportionate impacts" for these communities.[241]

B. The Supplemental EA fails to consider cumulative impacts as is required under NEPA.

NEPA also requires consideration of cumulative impacts, defined in rule as "effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency . . . or person undertakes such actions."[242]

RUS should include a fuller cumulative impacts analysis of the public health impacts of NTEC in an EIS. Air pollution impacts are not experienced by surrounding communities in isolation; rather, they are experienced cumulatively with other pollution sources. As described in the PSE Report, the area surrounding the proposed NTEC site "has a high concentration of low-income households and people with low educational attainment; the area also ranks very high for air toxics and wastewater discharge sites as well as diesel particulate matter and traffic, among other high pollutant indicators."[243] According to the report, these multiple social and environmental health stressors increase the risk of adverse health outcomes.[244]

The Supplemental EA does not independently assess the impact of adding a significant amount of air pollution from the operation of NTEC to a community already burdened by some of the worst air quality in the state.[245] Instead, it relies wholly on the original EA's conclusion that NTEC will not "cumulatively contribute to significant adverse air quality impacts" because it will be permitted under the Clean Air Act and is not anticipated to result in a violation of the National Ambient Air Quality Standards (NAAQS).[246]

In December 2021, Dairyland submitted a new air permit application, analyzing the extent to which NTEC's emissions would increase the concentrations of certain air pollutants and worsen

[238] 7 CFR 1970.4(a).
[239] EPA NTEC Comments, attached comments at 10.
[240] Supplemental EA, 3-30 to 3-40.
[241] 7 C.F.R. § 1970.4(a).
[242] 40 C.F.R. § 1508.1(g)(1)-(2).
[243] PSE Report at 1.
[244] PSE Report at 2.
[245] PSE Report at 2 (noting in Table 1 that the populations within 6 miles of the NTEC site rank in the top ten percent for exposure to Diesel Particulate, and Air Toxics per EPA's EJSCREEN 2.0 tool).
[246] Supplemental EA at 3-2; *See also* EA at 3-6 to 3-7.

the ambient air quality nearby.[247] This application, included in the Supplemental EA as Appendix A, shows that because of the operation of NTEC, ambient air levels of nitrogen dioxide (NO_2) are expected to nearly exceed the one-hour NO_2 standard.[248] In comments on the application and draft permit, the Sierra Club criticized the NO_2 modeling for two reasons. First, the Club noted that the background NO_2 concentration data used in the modeling were from 2018-2020 and were artificially low due to the COVID-19 pandemic.[249] Incorporating ambient NO_2 data from 2021, as car and truck traffic significantly increased as a result of the moderation of the pandemic, would increase the likelihood that actual cumulative NO_2 levels would exceed those modeled in the application. In addition, the application's modeling omits NO_2 emissions from the on-site 1490 horsepower diesel generator. Emissions from this engine should be included in the cumulative impacts analysis.

In other words, once NTEC begins operating, there is a significant risk that the cumulative NO_2 levels in nearby communities will exceed the short-term NAAQS, resulting in harm to people's health. Breathing high concentrations of NO_2, even for short periods of time, can "aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms … hospital admissions and visits to emergency rooms."[250] Without a full and independent assessment of the impacts of the air emissions from NTEC, considered cumulatively with the present-day poor air quality in the communities around the proposed site, the Supplemental EA is deficient and does not comply with NEPA.

C. NTEC's Impacts to Wetlands are Significant.

Both the Supplemental EA and the original EA underestimate the project's impact on wetlands, which would be significant. The EA indicates that the project will permanently impact 3.47 acres of wetlands, and temporarily impact 14.82 acres of wetlands.[251] However, DNR's wetland individual permit finds that NTEC's project will cause over 80 acres of impacted wetlands, including 44.32 acres of "temporary fill," 29.99 acres of wetland conversion, and 8.56 acres of permanent wetland fill.[252] DNR required purchase of 49.78 credits from wetland mitigation banks to compensate for the project's wetland impacts.[253]

The "temporary" fill is associated with access matting and staging areas.[254] Per the wetland fill permit, South Shore Energy (the Wisconsin affiliate of Minnesota Power) and Dairyland will provide a "Final Wetland Restoration and Revegetation Plan" and "Post-Construction Monitoring

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[247] Supplemental EA 3-14, 3-22
[248] Supplemental EA, Appendix A at 6-15. The NO2 concentration as modeled to reach 181.9 micrograms per cubic meter. The 1 hour NAAQS is 188.
[249] Letter from Elizabeth Ward, Chapter Dir., Sierra Club-Wis., to Jordan Munson, Air Mgmt. Eng'r, Wis. Dep't of Nat. Res. at 2 (May 21, 2022), https://www.sierraclub.org/sites/www.sierraclub.org/files/sce-authors/u560/Sierra%20Club%20NTEC%20comments_with%20exhibits.pdf.
[250] U.S. EPA, *Basic Information About NO_2*, https://www.epa.gov/no2-pollution/basic-information-about-no2#Effects (last updated Aug. 2, 2022).
[251] EA at 3-91.
[252] Wisconsin Department of Natural Resources, *Utility Permit* WP-IP-NO-2021-16-N00912, 932, 933 (July 15, 2022), Finding of Fact 33.
[253] *Id*., Finding of Fact 35.
[254] *Id.*, Findings of Fact 33, 36.

Plan" to DNR 45 days prior to construction. These plans must explain how these parties propose to restore wetlands in the access and staging areas to the functioning they had prior to construction, and how those restoration efforts will be monitored for success.[255]

The preliminary plans DNR has regarding wetland restoration and monitoring in these areas are cursory. They are just a few pages in length and comprised mostly of bullet points. If restoration fails, the impacts to these wetlands will not be temporary, but permanent, and the mitigation provided by the purchase of mitigation bank credits will not compensate for impacts to wetland functional values caused by the project. In other words, absent successful restoration in the access matting and staging areas, the project will not meet the standards for permit issuance under Wisconsin law.[256] Given this, it is concerning DNR issued the wetland permit without more information about what the final restoration and monitoring plans will look like.

It is also not clear that the wetland permit DNR issued covers the full impacts to wetlands the project will cause. For example, erosion and runoff issues could lead to significant impacts to wetlands along the Nemadji River downstream of the project site.

Wetlands have a critical role to play in limiting climate change impacts, because wetlands reduce the severity and incidence of flooding, a function that will become only more important as climate change makes Wisconsin warmer and wetter in coming years.[257] NTEC would not only worsen climate change by emitting GHGs for years into the future, but it could also impair water resources necessary for landscapes and communities to be resilient in the face of a changing climate. NTEC's wetlands impact is another reason the RUS cannot find that the project "will not have a significant effect on the human environment" under its rules, and so an EIS is required.[258]

V. The Supplemental EA Does Not Consider Reasonable Alternatives To NTEC

NEPA requires thorough exploration of project alternatives. Federal agencies are required to "study, develop, and describe appropriate alternatives" for project proposals.[259] This responsibility extends to "any actions that have an impact on the environment,"[260] and it "applies whether an agency is preparing an [EIS] or an [EA]." [261] The alternatives requirement entails "full and meaningful consideration [of] all reasonable alternatives."[262] CEQ defines reasonable alternatives as a "reasonable range of alternatives that are technically and economically feasible, and meet the purpose and need for the proposed action."[263]

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[255] *Id*., Permit Condition 6, Finding of Fact 79.
[256] Wis. Stat. § 281.36(3n)(c)3 (state wetland permit issuance is also how Wisconsin issues its water quality certification for purposes of Section 404 permits under the federal Clean Water Act).
[257] Wis. Admin. Code § NR 103.03(1)(a); *Governor's Task Force on Climate Change Report,* State of Wis., at 60-61 (2020).
[258] 7 C.F.R. § 1970.104.
[259] 42 U.S.C. § 4332(E).
[260] *City of N.Y. v. U.S. Dep't of Transp*., 715 F.2d 732, 742 (2d Cir. 1983).
[261] *N. Idaho Cmty. Action Network v. U.S. Dep't of Transp.*, 545 F.3d 1147, 1153 (9th Cir. 2008)
[262] *Id.*
[263] 40 C.F.R. § 1508.1(z).

RUS regulations more specifically require EAs to consider alternatives that would alleviate a proposal's environmental risks. Specifically, for "any specific project element that is likely to adversely affect a resource," EA's must "[a]t a minimum" consider both the "No Action alternative, and . . . at least one [other] alternative to that project element."[264] For example, if a project would likely damage a wetland, the EA would need to include an alternative that would not damage the wetland.

"Considering alternatives, including alternatives that mitigate GHG emissions, is fundamental to the NEPA process and accords with NEPA Sections 102(2)(C) and 102(2)(E).[265] The alternatives requirement "ensure[s] that each agency decision maker has before him and takes into proper account all possible approaches to a particular project (**including total abandonment of the project**) which would alter the environmental impact and the cost-benefit balance."[266]

The Supplemental EA leaves out the obvious alternative approach that would mitigate GHG emissions: a renewable energy alternative to NTEC. It states, "[h]aving determined to advance the NTEC project, [Minnesota Power] and Dairyland sought to evaluate potential alternative sites for a new generation project."[267] Rather than explore the obvious generation alternative, the Supplemental EA narrowly suggests two possible alternative *locations*, approximately one and a half miles from each other, and two possible routes for the transmission lines. In addition to these siting alternatives, the Supplemental EA compares NTEC's emissions projections to a hypothetical future without NTEC which is based on its severely flawed displacement methodology, discussed in Part III.B. These "alternatives" are insufficient to meet the requirements of NEPA.

A. The Supplemental EA's No Action alternative wrongly assumes continued fossil fuel dependence.

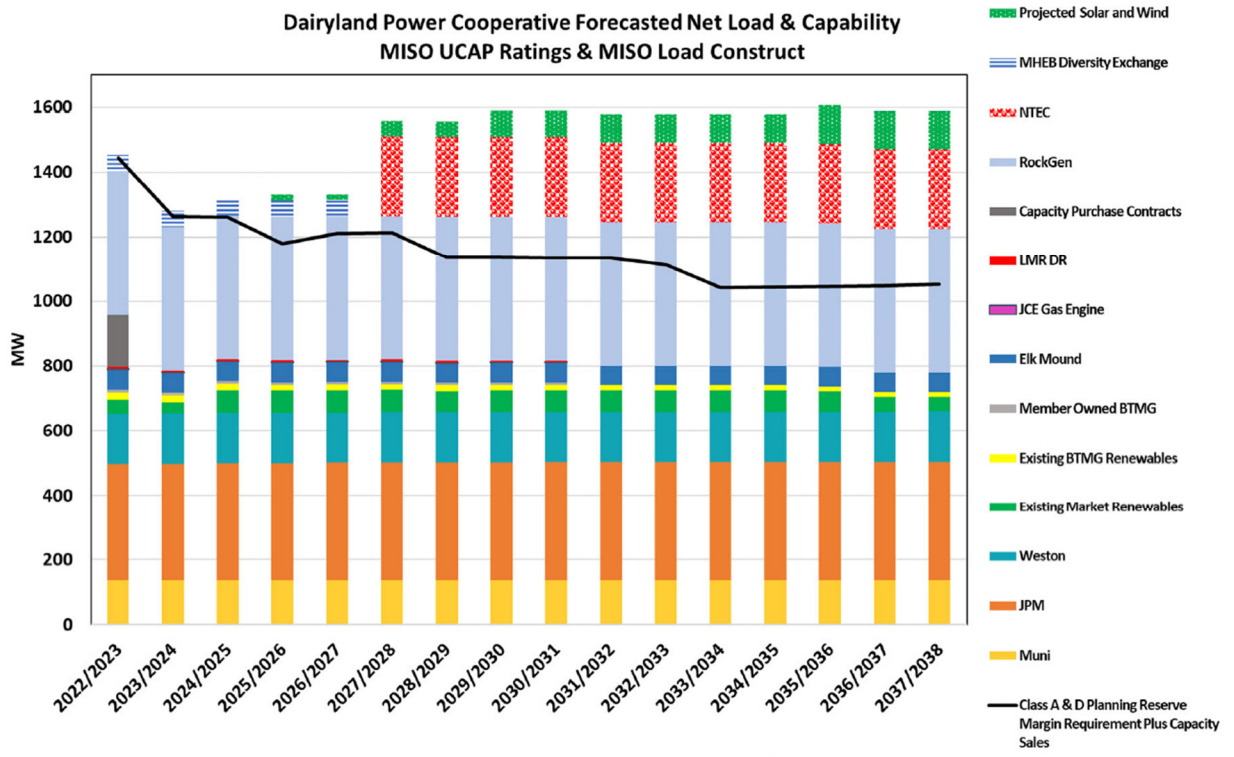
The Supplemental EA's No Action alternative is based on its flawed modeling methodology, which inappropriately obscures NTEC's GHGs and credits NTEC for emission reductions at other power plants. And the Supplemental EA essentially assumes society will fail to achieve the emission reductions set forth in state and federal policies, as discussed in Parts III.B and III.C. Given how urgently we need these GHG reductions, and given that building a carbon-free power grid is key to achieving them, it is reckless and contrary to the purpose of NEPA to assume (and contribute to) such a failure. A more realistic No Action alternative would recognize that the grid is decarbonizing now and is under growing pressure to decarbonize faster. Moreover, thousands of megawatts worth of carbon-free renewable and battery projects are queued up waiting to interconnect to the MISO grid and aid in that decarbonization.[268] If NTEC is not built, rather

[264] 7 C.F.R. § 1970.102(a), (a)(3).
[265] 2016 GHG Guidance at 14.
[266] *Calvert Cliffs' Coordinating Committee, Inc. v. U.S. Atomic Energy Comm'n,* 449 F.2d 1109, 1114 (D.C. Cir. 1971). (emphasis added).
[267] Supplemental EA at 2-1.
[268] John Engel, *Solar, Storage Lead MISO's Record-Setting Interconnection Queue*, Renewable Energy World (Sept. 9, 2021), https://www.renewableenergyworld.com/solar/solar-storage-lead-misos-record-setting-interconnection-queue/#gref.

than deprive the system of "overall climatic benefits" as the Supplemental EA claims,[269] it will avoid locking in millions of tons of new GHG emissions.

B. Dairyland's need for NTEC is questionable given how much its current capacity exceeds its load.

A threshold question is raised by a recent regulatory filing by Dairyland: does the utility need NTEC at all? Dairyland recently submitted a document to the Minnesota Public Utilities Commission that appears to indicate that it already has far more capacity than it needs.[270] The figure below is taken from that filing.



The black line shows Dairyland's planning reserve margin requirement plus its capacity sales. Even including those sales, it shows that Dairyland has more than enough capacity to meet its needs without NTEC. Much of that capacity is represented by RockGen, a 503 MW gas plant that Dairyland purchased in December of 2021, after the initial EA and prior to the Supplemental EA. Dairyland's website explains that RockGen will help "support intermittent solar and wind resources."[271] Dairyland similarly describes the purpose of NTEC as, in part, "to facilitate the addition of new renewable energy sources to the power portfolio by complementing their

[269] Supplemental EA at 3-29.
[270] Dairyland Power Cooperative, *2022 Optional-IRP Compliance Report of Dairyland Power Cooperative Pursuant to Minn. Stat. § 216B.2422, Subd. 2b,* at 6, Minnesota Public Utilities Commission, docket no.22-313 (July 1, 2022), https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={70FF617A-0000-CD16-BDB3-46BC35B8FED9}&documentTitle=20216-175746-01.
[271] *Dairyland Acquires RockGen Energy Center*, Dairyland Power Cooperative, https://dairylandpower.com/dairyland-acquires-rockgen-energy-center (last visited Aug. 10, 2022).

intermittent nature."[272] RockGen was purchased after Dairyland agreed to participate in the NTEC project and after the original EA. Its purchase, combined with Dairyland's apparently ample capacity shown in the figure above, raises the question of whether Dairyland still "needs" NTEC at all. Certainly, Dairyland's purchase of RockGen gives the utility additional flexibility to consider carbon-free alternatives to NTEC, especially renewables.

The Supplemental EA makes the additional claim that NTEC will help address a 1230 MW capacity shortfall identified by MISO.[273] However, as the Telos Report explains, the shortfall in question is for the 2022/2023 Planning Resource Auction (PRA). NTEC would not come online until 2027, so it could not address this short-term concern.[274] As for longer term capacity concerns, there are a large number of other resource additions already in the MISO queue that will likely address the shortfall before 2027.[275] In addition, over $10 billion in new transmission investments were recently approved by MISO, which as Telos states, will "largely increase transmission capability from the renewable rich MISO West regions to those regions experiencing the capacity shortfall (Zones 4-7 in the east of MISO)."[276] The recent enactment of the Inflation Reduction Act, making available hundreds of billions of dollars of new incentives, will spur even greater investment in renewable energy and storage across MISO.[277]

Moreover, the projected regional capacity shortfall for the 2022/2023 PRA is not due to a shortfall in the MISO West subregion, where NTEC would be. The shortfall is projected to be in states to the east and south of Wisconsin, in different MISO zones. Even if NTEC could be built in time to address the short-term capacity concern, Dairyland has apparently ample capacity to meet its own customers' needs, and as Telos states, "it would be extremely unusual for Dairyland to specifically acquire capacity to meet the shortfall of different load serving entities located in entirely different MISO zones."[278]

C. The Supplemental EA fails to consider carbon-free alternatives to NTEC.

The Supplemental EA also describes NTEC as intended to "secure capacity and energy resources that meet the system peak and demand for electricity for the years to come."[279] As discussed, there is reason to question whether this purpose and need is valid given Dairyland's current level of capacity. However, even if the need exists, both the original EA and the Supplemental EA are flawed because they fail to assess whether carbon-free alternatives could satisfy the stated purpose and need.

Rather, the Supplemental EA explains that Dairyland conducted "strategic planning sessions" with its own managers and board.[280] Dairyland also issued an RFP and obtained

[272] Supplemental EA at 1-6 to 1-7.
[273] Supplemental EA at 1-1.
[274] Telos Report at 7.
[275] Telos Report at 7.
[276] Telos Report at 7-8.
[277] Telos Report at 8.
[278] Telos Report at 8.
[279] Supplemental EA at 1-6.
[280] Supplemental EA at 2-1.

proposals that included a "variety of alternatives to meet Dairyland's supply needs."[281] These alternatives could supply "over 350 annual MW" (compared to 300MW from NTEC) and "included renewable projects."[282] Yet, the Supplemental EA fails to explore these renewable alternatives and only briefly reports that "Dairyland determined that none of these alternatives would be superior to participation in the NTEC Project." Not only is there no renewables-based alternative actually assessed in the EA or Supplemental EA, but there has been no public integrated resource planning process to consider whether Dairyland's needs could be met with renewable power rather than NTEC.[283]

RUS sidestepped its responsibility to analyze renewable alternatives that "meet the purpose and need for the proposed action" while vaguely referencing a decisionmaking process that happened outside of the NEPA process.[284] It is accepting Dairyland's prior and unsupported determination to choose NTEC over alternatives, even though RUS has the legal duty to analyze the alternatives itself as part of this environmental review process, under the standards imposed by NEPA and RUS's own rules. The Supplemental EA does not describe the renewable energy proposals Dairyland considered. It does not identify the emission reductions those alternatives would result in, the relative costs involved of building them, or even what type of renewable energy was analyzed.[285] Rather, the Supplemental EA generally acknowledges the existence of renewable alternatives to NTEC, but it dismisses them without further discussion.[286] It then pivots to reviewing alternative sites for NTEC.[287] Dairyland identified two locations for building NTEC's facility and two "macro-corridors . . . for transmission line development."[288] The Supplemental EA compares these options for building NTEC. However, this comparison assumes that a natural gas plant is the ideal means for supplying "capacity and energy resources" to the nearby region.[289]

D. Carbon-free alternatives are technically and economically feasible.

The Supplemental EA fails to provide the opportunity to evaluate meaningful low-carbon alternatives, particularly a renewable energy alternative to NTEC, possibly combined with batteries if needed to ensure reliability. There is ample evidence that a renewable energy alternative is reasonable. First, as presented in the Telos Report, the cost of energy from renewables is competitive with the cost of energy from combined cycle (CC) gas plants like NTEC. Second, modeling presented in the Minnesota Power Integrated Resource Plan proceedings currently in front of the Minnesota Public Utilities Commission shows that gas power can be economically and reliably replaced with renewable power and batteries. Third, Rocky Mountain Institute has analyzed proposed gas plants across the United States, including NTEC, and shown that clean energy portfolios are viable and often preferable alternatives. Fourth, Xcel Energy recently canceled its own proposed CC plant in Minnesota in favor of greater investment in renewables.

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[281] *Id.*
[282] *Id.*
[283] *Id.*
[284] 40 C.F.R. § 1508.1(z).
[285] Supplemental EA at 2-1.
[286] *See id.*
[287] *See* Supplemental EA at 2-2.
[288] *Id.* at 2.5.
[289] Supplemental EA at 1-6; *See* Supplemental EA at 2-2.

Fifth, the EPA has recently emphasized the importance of considering renewable alternatives to gas plants in environmental review, including in its comments to RUS on NTEC. And, finally, the decarbonization pathway studies discussed in Part I.C.4 establish the viability of meeting electric needs using carbon-free alternatives rather than new gas plants.

The Telos Report shows that, on a levelized cost of electricity basis, wind, solar, and solar hybrid facilities (which combine solar power with batteries) are cost competitive and sometimes cheaper than combined cycle gas plants, and that the costs of renewables and batteries are projected to continue to fall long-term.[290] In addition to having no GHG emissions, renewables and batteries protect ratepayers from gas price volatility, fuel shortages and potential future carbon regulatory costs.[291] If Dairyland met its energy needs with these carbon-free alternatives it could displace existing fossil fuel generation without adding the 2.7 million tons of potential GHG emissions per year from NTEC. An energy storage investment would also provide co-benefits: "batteries can be more efficient at providing capacity, ancillary services and responsive reserves" because they do not have minimum up or down times, unlike gas plants like NTEC.[292] Additionally, investments in storage would directly enable more renewable energy to be stored during overproduction times and used during peak demand times to mitigate transmission congestion.[293]

The Integrated Resource Planning ("IRP") proceedings currently before the Minnesota Public Utilities Commission ("PUC") also provide evidence that a renewable portfolio is an obvious and feasible alternative to NTEC. In the IRP proceedings, Minnesota Power, Dairyland's Minnesota partner, has presented its plans to build, operate, and use a portion of the power from the proposed NTEC gas plant. Clean Energy Organizations[294] ("CEOs") have presented compelling evidence that NTEC is not needed to meet the future energy demands of Minnesota Power's customer base. The CEOs conducted extensive modeling to show that increased investment in renewable energy resources, such as wind, solar, and battery storage, can reliably meet the energy demands at less cost than NTEC.[295]

In the IRP proceedings, CEOs show that a clean energy portfolio is cost-effective and reduces the financial, policy, and climate risks presented by NTEC, without sacrificing reliability. In particular, the Energy Futures Group Report ("EFG Report"), submitted with the CEOs' comments, shows the resource mixes of Minnesota Power's preferred plan (which includes NTEC) and the CEOs' plan (which excludes NTEC and replaces it with renewables).[296] The EFG Report shows that the CEOs' renewable energy plan is not just economically feasible—it is slightly

[290] Telos Report at 4.
[291] *Id*.
[292] Telos Report at 4-5.
[293] Telos Report at 5.
[294] The coalition of various environmental and energy organizations in the Minnesota Power IRP includes both MCEA and Sierra Club, along with others.
[295] Clean Energy Organizations' Initial Comments, *In the Matter of Minnesota Power's Application for Approval of its 2021-2035 Integrated Resource Plan*, Minnesota PUC Docket No. E015/RP-21-33 (Apr. 28, 2022), and attached expert reports: Energy Futures Group, *A Clean Energy Alternative for Minnesota Power* (Apr. 2022) [hereinafter "EFG Report"]; and Telos Energy, *Transmission Reliability Analysis of Minnesota Power's Integrated Resource Plan* (Apr. 2022).
[296] EFG Report at 20.

cheaper than the plan with NTEC.[297] CEOs' evidence in the IRP proceeding shows that a renewable energy alternative is feasible and economic for at least the 20% share of NTEC's capacity that would be dedicated to Minnesota Power, and the same analysis should be done for the whole of NTEC.

Confining the climate impacts analysis to a comparison between a new gas plant or continued coal use does not reflect the current reality. The obvious alternative is to replace NTEC with renewable energy, or a Clean Energy Portfolio ("CEP") combining renewables with storage, energy efficiency and demand response. RMI released a 2021 report showing that over 90% of new capacity entering interconnection queues in 2020 came from the components of CEPs, including wind, solar, and energy storage.[298] It found that more than half of proposed new gas plants scheduled to enter service in the previous two years were canceled due to a combination of economics and advocacy.[299] Moreover, it shows that 80% of the remaining proposed gas plants (and 90% of CC plants like NTEC) could be economically avoided with CEPs, saving $22 billion and 873 metric tons of CO_2 emissions over a 20-year lifetime.[300]

In 2022, RMI specifically analyzed NTEC and its viability against CEPs.[301] RMI developed various CEPs to replace NTEC. CEPs were shown to be a technically viable option: each was able to provide the same services in terms of expected monthly generation and in maximum output during the top 50 peak hours of the year.[302] Furthermore, they are an economic option – RMI Found that "[g]as may not be the least-cost option for meeting the need NTEC is proposed to meet."[303]

Other utilities are catching on and shifting away from new gas. In 2017, Xcel Energy proposed to build a large new gas plant, similar to NTEC, to meet customer needs.[304] This proposed new gas plant, the "Sherco CC," would have been in the MISO West territory, like NTEC, and was proposed as an even larger 800MW resource.[305] Clean Energy Organizations, like in the Minnesota Power IRP concerning NTEC, pushed back with a clean energy plan during the Xcel IRP proceedings. In those proceedings, the Organizations presented evidence that a renewable energy portfolio was a technically feasible alternative and was actually cheaper than building the

[297] EFG Report at 23.
[298] RMI, *Headwinds for US Natural Gas Power: 2021 Update on the Growing Market for Clean Energy Portfolios*, at 3, https://rmi.org/insight/headwinds-for-us-gas-power/.
[299] *Id,* at 14.
[300] *Id.* at 25-26.
[301] RMI, *Analysis of Alternative Clean Energy Portfolios (CEPs) for the Proposed Nemadji Trail Energy Center (NTEC)* (2022).
[302] *Id.* at 5.
[303] *Id*. at 6.
[304] Elizabeth Dunbar, *Replace Sherco Coal Plant with Natural Gas? Xcel Brings Debate to the Capitol*, MPR News (Feb. 2, 2017), https://www.mprnews.org/story/2017/02/02/xcel-sherco-coal-plant-replacement-natural-gas.
[305] John Farrell & Karlee Weinmann, *Sherco Power Plant: The Wrong Project, for the Wrong Reasons, at a Big Cost*, Star Tribune (Feb. 13, 2017), https://www.startribune.com/sherco-power-plant-the-wrong-project-for-the-wrong-reasons-at-a-big-cost/413648453/.

large new gas plant.[306] After years of promoting the Sherco CC, Xcel Energy changed course, and voluntarily abandoned the gas plant plans in favor of a lower-carbon portfolio.[307]

EPA has also been emphasizing the importance of fully exploring renewable alternatives to proposed gas plants. In its comments to the RUS in this docket, EPA notes that "[r]enewables and storage are not only projected to continue declining in cost over time while substantially reducing GHG and non-GHG pollution, but also to help stabilize domestic energy supply, e.g., renewable energy is less subject to global price fluctuations than natural gas."[308] EPA also stressed the importance of renewable alternatives to gas power in its recent comments on the Tennessee Valley Authority's ("TVA's) EIS for a proposed gas plant to replace the Cumberland coal plant. Unlike RUS with NTEC, the TVA conducted an EIS to study its proposed gas plant and in the EIS it explored a renewable solar generation and storage alternative. However, EPA asked TVA to go further by including other clean energy alternatives that were not fully analyzed to create blended alternatives for analysis. In its comments to the RUS and to the TVA, EPA has also warned of the risks of locking-in fossil fuel use and urges the agency to assess the plant emissions in the context of GHG reduction schedules.[309]

Finally, the multiple pathway studies discussed in Part I.C.4 above clearly model futures where gas power plants are replaced with renewable energy and batteries. The US studies chart out pathways that include rapid increases in the rates of renewables and batteries deployed, while new gas power plants lacking carbon capture are not built at all. The IEA global study similarly charts a path where renewable generation nearly triples by 2030, increasingly paired with batteries, while generation from gas plants lacking carbon capture plummets.[310]

All the examples listed above indicate that renewable power and batteries were economically viable alternatives to gas power even before the passage of the landmark Inflation Reduction Act (IRA), signed into law on August 16, 2022. The IRA -- hailed as the largest investment in combating climate change in U.S. history and as a monumental boost to clean energy -- invests $369 billion in the clean energy transition.[311] Analysts estimate that the law could greatly accelerate U.S. decarbonization, closing two-thirds of the emissions gap between current policy and the U.S. 2030 emission reduction target, and it does this largely through reducing the cost of

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[306] Robert Walton, *Clean Energy Groups, Xcel Energy Battle Over Future of Minnesota Coal Facility*, Utility Dive (July 23, 2015), https://www.utilitydive.com/news/clean-energy-groups-xcel-energy-battle-over-future-of-minnesota-coal-facil/402780/.

[307] *In the Matter of the 2020-2024 Upper Midwest Integrated Resource Plan of Northern States Power Company d/b/a Xcel Energy,* Order Approving Plan with Modifications and Establishing Requirements for Future Filings, Minnesota Public Utilities Commission Docket No. E-002/RP-19-368 (Apr. 15, 2022).

[308] EPA NTEC Comments, attached comments at 2.

[309] Letter and Comments from Mark J. Fite, Director of Strategic Programs Office, EPA Region 4, to Ashley Pilakowski, NEPA Specialist, TVA, CEQ No. 20220059 at 8 (June 30, 2022), https://cleanenergy.org/wp-content/uploads/2022-06-30-EPA-comments-on-Cumberland-CUF-DEIS.pdf.

[310] IEA 2021 at 114.

[311] John Engel, *Inflation Reduction Act: Clean Energy Industry Cheers 'Monumental' Vote by Senate*, Renewable Energy World (Aug. 8, 2022), https://www.renewableenergyworld.com/solar/inflation-reduction-act-clean-energy-industry-cheers-monumental-passage-by-senate/#gref.

clean energy in the power sector.[312] The previously intermittent tax credits for wind and solar power are effectively extended until 2032, new tax credits are provided for energy storage, and there are tax credits to incentivize domestic clean energy manufacturing to overcome supply chain problems.[313] The US currently has over 211 gigawatts ("GW") of clean power capacity, and this is expected to more than triple by 2030 to 750 GW.[314] And rural electric co-ops like Dairyland, which previously had trouble taking advantage of tax credits used by for-profit utilities, now have access to direct federal payments to deploy carbon-reducing technologies including renewables and energy storage.[315]

Renewable energy is an obvious alternative to NTEC that the Supplemental EA must explore. Not only would a renewable alternative meet the purpose and need for the project, there is also ample evidence that renewable alternatives are technically and economically feasible and becoming even more so. By choosing to ignore clean energy options, RUS has predetermined that NTEC is the preferred option, rather than using NEPA to fully inform the decisionmaking process.

E. The failure to explore renewable alternatives violates NEPA and RUS regulations, rendering the Supplemental EA inadequate.

"NEPA review cannot be used 'as a subterfuge designed to rationalize a decision already made.'"[316] The Supplemental EA openly states that Dairyland decided to build NTEC rather than renewables before doing any alternatives analysis under NEPA.[317] By accepting Dairyland's predetermined choice, the RUS has deprived itself and the public of a full picture of the alternatives to NTEC and undermined the purposes of NEPA: to fully inform government decisionmakers and the public of the impacts of a federal action.[318]

In addition to undermining the purpose of NEPA, the failure to consider a renewable alternative also violates RUS regulations. For any action under review, RUS requires EA's to analyze the "[e]nvironmental impacts of the proposed action including the No Action alternative, and, *if a specific project element is likely to adversely affect a resource, at least one alternative to that project element*."[319] Because greenhouse gas emissions adversely affect the climate, RUS was responsible for analyzing at least one NTEC alternative that would avoid the high emitting "element" of the NTEC proposal. Incorporating renewable energy proposals into the Supplemental

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[312] Jesse D. Jenkins, et al., *Preliminary Report: The Climate and Energy Impacts of the Inflation Reduction Act of 2022*, at 9-10, Princeton University Zero Lab, Aug. 2022, https://repeatproject.org/docs/REPEAT_IRA_Prelminary_Report_2022-08-12.pdf.
[313] John Hensley, *It's a Big Deal for Job Growth and for a Clean Energy Future*, The Power Line (Aug. 5, 2022), https://cleanpower.org/blog/its-a-big-deal-for-job-growth-and-for-a-clean-energy-future/.
[314] *Id.*
[315] Jennifer Runyon, John Engel, *The Inflation Reduction Act is Signed into Law*, PowerGrid International (Aug. 16, 2022), https://www.power-grid.com/td/the-inflation-reduction-act-is-signed-into-law/#gref.
[316] *Envtl. Def. Ctr. v. Bureau of Ocean Energy Mgmt.*, 36 F.4th 850, 882 (9th Cir. 2022) (quoting *Metcalf v. Daley*, 214 F.3d 1135, 1142 (9th Cir. 2000)).
[317] Supplemental EA at 2-1.
[318] *See Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 371 (1989)("NEPA promotes its sweeping commitment to 'prevent or eliminate damage to the environment and biosphere' by focusing Government and public attention on the environmental effects of proposed agency action.").
[319] 7 C.F.R. § 1970.102(a)(3) (emphasis added).

EA would accomplish this goal. In contrast, an alternative sites analysis, where no site influences NTEC's rate of emissions,[320] does not fulfill RUS's responsibilities under its rules.

NTEC's emissions will adversely impact the climate. The Center for Global Sustainability at the University of Maryland stressed in 2021 that making the emission reductions we need by 2030 "hinges fundamentally on the ability to rapidly shift to zero emissions electricity generation."[321] This project, emitting up to 2.7 million tons of CO_2e each year for decades, clearly interferes with that critical shift.[322] The Supplemental EA does not consider alternative proposals for avoiding that damage.

The Supplemental EA's alternatives analysis fails to comply with both NEPA's statutory requirements and RUS's regulatory requirements. It therefore cannot provide a reasonable basis for a finding of no significant impact.

F. The RUS failed to consider requiring carbon capture as a mandatory condition of securing RUS loan assistance.

In addition to the clean energy alternatives described above, RUS fails to consider the alternative of requiring carbon capture and sequestration as a means to mitigate the project's climate impacts. Before the RUS uses public dollars to make a decision that facilitates four decades of gas combustion, it should at least consider an alternative that reduces the harm that the project inflicts on the public by requiring mandatory climate mitigation as a prerequisite to issuing the loan. Here, one available way to do that is to condition RUS's loan decision on the project applicant's enforceable commitment to use carbon capture and sequestration technology. While NEPA requires both consideration of reasonable alternatives, and a description of feasible mitigation measures, MCEA, Sierra Club, Clean Wisconsin, and Honor the Earth are proposing that RUS consider an alternative that would mitigate the project's climate harm by requiring use of carbon capture and sequestration as a condition of receiving RUS's federal loan assistance. This mandatory-mitigation alternative is feasible, within RUS's statutory mandate, and is the type of alternative that federal courts have required of other agencies.[323]

As EPA states in its comments on NTEC, "RUS should consider additional conditions for the Owners to receive federal funding, including … installation of carbon capture equipment at the proposed facility."[324] According to EPA, carbon capture and sequestration technologies "can be applied to both new and existing gas power plants, again avoiding lock-in of CO_2 emissions for the life of the power plant. The Supplemental EA did not discuss the potential for and option to implement post combustion CO_2 capture at the proposed project."[325]

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[320] *See* Supplemental EA at 3-2
[321] Hultman, et al., 2021 at 2.
[322] Supplemental EA, at 3-21.
[323] *WildEarth Guardians v. Bernhardt*, 423 F. Supp. 3d 1083, 1097 (D. Colo. 2019) (finding that NEPA obligated the Department of the Interior to analyze an alternative that would require a coal mine to flare its methane emissions, thereby mitigating climate impacts, as a condition of receiving federal authorization to mine coal on public lands).
[324] EPA Comments at 2-3.
[325] EPA Comments, attached comments at 5.

VI. Conclusion

The Supplemental EA fails to assess NTEC's climate impact, as required under NEPA, in the following ways:

- It obscures NTEC's millions of tons of new GHG emissions using a novel methodology that would make virtually any new power plant appear to reduce GHGs by effectively letting the proposed plant claim credit for emission reductions at competing power plants. The Supplemental EA's analysis also stops in 2040, when NTEC would be only 13 years into its intended 40 year operating life, thereby missing most of NTEC's lifetime emissions.
- While it quantifies NTEC's annual direct GHG emissions, it fails to estimate its lifetime emissions or to assess them within the context of the GHG emission reductions we need to avoid catastrophic warming. Without acknowledging the pace and scale of emission reductions that the science shows we need, and that federal and state climate policies reflect, the RUS and public cannot reasonably assess the significance of NTEC's emissions.
- It fails to apply the Social Cost of Carbon, which would allow it to estimate NTEC's negative climate impacts in monetary terms. The represents another failure to provide a frame of reference for NTEC's emissions, and it is particularly inappropriate when the analysis does quantify the plant's monetary benefits.
- It fails to quantify upstream methane emissions, despite the RUS request to do so and despite studies indicating upstream methane leakage greatly increases the climate impact of gas power.
- It fails to consider the short-term impacts of methane emissions, only looking at them in a 100-year timeframe rather than the widely-used 20-year timeframe.
- And, it fails to acknowledge that NTEC's climate impacts will fall disproportionately upon environmental justice communities.

The Supplemental EA also fails to assess NTEC's other impacts, in the following ways:

- It fails to address the significant health impacts associated with NTEC's emissions, including the 107.8 million dollars' worth of health impacts over forty years, falling disproportionately on Native Americans.
- It fails to consider NTEC's cumulative impact on air quality, including how its emissions of NO2 would bring an already polluted area close to nonattainment.
- And, it fails to sufficiently consider the damage NTEC would cause to wetlands.

And finally, the Supplemental EA completely fails to do the necessary analysis of alternatives to building NTEC or mitigating its emissions. The obvious alternative to building NTEC – which is feasible and would avoid all the above impacts – would be to instead build

renewable resources, possibly combined with batteries. And the possibility of mitigating NTEC's carbon emissions using carbon capture technologies is nowhere considered.

For these and other reasons described in these comments, a finding of no significant impact based upon this Supplemental EA would be arbitrary and capricious. Our organizations urge the RUS to find instead that an EIS is necessary prior to funding NTEC, and that the EIS must correct the deficiencies of the Supplemental EA, including by conducting a thorough analysis of carbon-free alternatives to NTEC.

Alternatively, the RUS should simply reject Dairyland's forthcoming loan application on the grounds that building a huge new source of GHG emissions is utterly incompatible with the climate protection policies that RUS is required to advance, including the goal of achieving a carbon-free electric grid by 2035.

Sincerely,

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Tom Vilsack, U. S. Secretary of Agriculture
Adrien D. Lindsey, USDA Director of the Office of Secretariat

ATTACHMENT 3: MISO COMMENTS

MISO provided comments (included in this attachment) to Peter Steinour at RUS in July 2022. MISO comments focused primarily on the "need for RUS to consider in its review the need for electric generation and generator replacement to continue reliable operation of the electric grid in the MISO region." MISO noted that it "needs to help ensure the best options to provide needed resource capabilities and attributes are available to bridge the gap between electrical baseload retirements and replacement capabilities and attributes." MISO stated that "…the electric grid is undergoing significant fleet changes that creates an immediate need for stakeholders." MISO noted changes to the generating fleet and potential shortfalls in generating capacity, and stated it was imperative that projects like NTEC be recognized for the "regional reliability value provided to the region's customers."

RUS appreciates and thanks MISO for taking the time to review the SEA and submit comments. These comments have been reviewed as part of the preparation of the Revised SEA and included in the public record.

Kristina Tridico
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Direct Dial: 317-618-0151
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July 25, 2022

VIA ELECTRONIC MAIL

Peter Steinour
Environmental Protection Specialist, RUS
Peter.Steinour@usda.gov
Nemadjitrailenergycenterproject@usda.gov

Re: *Comments from the **Midcontinent Independent System Operator, Inc. (MISO)** Regarding the Nemadji Trail Energy Center Project in Douglas County, Wisconsin and the Need for Grid Reliability*

Mr. Steinour:

The Midcontinent Independent System Operator, Inc. (MISO) provides the following comments to the United States Department of Agriculture's Rural Utilities Services (RUS) as it considers the Nemadji Trail Energy Center Project (NTEC Project) and possible environmental impacts related to the NTEC Project. In particular, MISO's comments below will primarily focus on the need for RUS to consider in its review the need for electric generation and generator replacement to continue reliable operation of the electric grid in the MISO region.

MISO is an independent, not-for-profit, member-based organization responsible for operating the power grid across 15 U.S. states and the Canadian province of Manitoba. Today, 42 million people depend on MISO to coordinate the generation and transmission of the right amount of electricity every minute of every day. MISO is committed to delivering electricity reliably, dependably and cost effectively. In addition to managing the power grid within our region, MISO administers the buying and selling of electricity, and partners with members and stakeholders to plan the grid of the future. While MISO is both fuel- and technology-neutral, MISO needs to help ensure the best options to provide needed resource capabilities and attributes are available to bridge the gap between electrical baseload retirements and replacement capabilities and attributes.

With regard to reliability requirements, RUS should consider that the electric grid is undergoing significant fleet changes that creates an immediate need for stakeholders

to work together to address and maintain electric reliability. In particular, as older baseload generation resources retire and are replaced by renewables and other resources, infrastructure investments (*e.g.,* transmission, fuel delivery, and other related systems) will be needed to deliver energy to where it is needed, when it is needed. A certain level of dispatchable and flexible resources are required for MISO to reliably manage the transition to a decarbonized energy future within its region. MISO currently faces declining levels of resource capacity which is challenging its ability to supply electricity to customers within the MISO Northern region, where the NTEC Project sits. Given the existing and projected regional supply situation, resources are needed to provide capacity and transmission grid stability to meet the system's needs. Even with the recognized growth of alternative and renewable energy sources, MISO continues to be concerned about the looming shortfall of generation needed to ensure grid reliability in the region. Within the MISO region, the retirement of generation plants is occurring far faster than new energy sources with equivalent attributes, whatever the fuel source, can be developed, constructed and brought online. The future of the electric grid and associated electric markets depend upon resource availability, flexibility and visibility.

Based on our assessments and the pace of the energy transition, MISO anticipates both short- and long-term increased risk of implementing emergency operating procedures necessary to ensure grid reliability during times of high electricity demand or extreme weather events, or both.

The most currently available information projects that non-firm imports from neighboring regions and the use of emergency resources within MISO will be needed to meet the forecasted 2022 summer peak demand. MISO's recent Planning Resource Auction, results of which were announced April 14, 2022, specifically showed capacity shortfalls of over 1200 MW in the North and Central regions, which includes the area where the NTEC Project would be located. Additional generator closures and operating limits will worsen what is projected to be an already difficult situation. For example, MISO has experienced an increasing number of hours during the year when supply is barely adequate to cover demand even during non-peak seasons and times of the day. These events, which place MISO in near-emergency or emergency conditions, are the result of the changing resource profile, including a significant number of thermal plant retirements and related reduced operations.

Given the changes to the generating fleet, and the potential shortfalls in generating capacity, it is imperative that reliable generating resources, like those in the NTEC Project, be recognized for the regional reliability value provided to the region's customers. In this regard, MISO notes that RUS's notice of supplemental environmental assessment states that the NTEC Project would consist of a one-on-one combined cycle natural gas generation plant with a capacity of approximately 625 megawatts (MW) and transmission lines that would connect to the power grid and come into service in 2027. Moreover, the NTEC Project is noted as being proposed to: 1) add new generating capacity to serve growing load within the service territories that the member cooperatives serve; 2) replace

generation that was recently retired; and 3) facilitate the addition of new renewable electricity sources to the power portfolio by complementing their intermittent nature. *See* RUS Notice of Supplemental Environmental Assessment, at pp. 2-3. All of these stated purposes further grid stability and reliability. Accordingly, MISO asks that the RUS consider the value the addition of 625 MW of capacity the NTEC Project could provide in addressing the existing regional supply situation.

Looking forward, the uncertainty around available supply will continue to magnify the real risk of major energy shortfalls under all realistic growth scenarios throughout the region. As RUS considers the need for electrical power in its decisions, MISO fully supports not only the development of new energy projects, but the orderly transition of existing resources to ensure short- and long-term grid reliability and prevent future resource inadequacies in the MISO region. For these reasons, MISO requests RUS, as it considers the NTEC Project, consider grid reliability and the role that the NTEC Project could play in resource adequacy. MISO offers its staff and resources to consult further, as needed.

If you have any questions about MISO's comments, please contact Kristina Tridico at ktridico@misoenergy.org.

Sincerely,

/s/ *Kristina Tridico*

Kristina Tridico
Deputy General Counsel - Regulatory
Midcontinent Independent System Operator, Inc.

ATTACHMENT 4: PUBLIC COMMENTS

Following publication of the SEA for the NTEC Project in July 2022, over 500 public comments were received related to the SEA (an example form email and names of commenters is provided in this attachment). The following provides a summary of the comments and responses to the concerns raised. Many of the public comments were form emails that generally had ten main themes:

1. Opposition to fossil fuels
2. Concern for air quality impacts
3. Request for RUS to deny funding
4. Misinterpretation of benefits and costs
5. Concern for wetland impacts
6. Concern for health impacts
7. Request for RUS to require an EIS
8. Concerns for Project impact
9. Need for additional public understanding
10. Support for clean energy

Each of these is discussed below in more detail below. A list of commenters, a summary of each topic, and a sample form email is also provided. An additional comment from League of Women Voters of Ashland and Bayfield Counties was not part of the form email campaign (provided in this attachment). The League of Women Voters of Ashland and Bayfield Counties expressed similar concerns as the above mentioned form emails. In particular, the emailed letter stated that NTEC would not be a clean source of energy and that the group opposed the loan being granted to construct the Project. The group noted increased renewable energy development, particularly solar power in northwest Wisconsin, and questioned the need for the Project. The League stated that energy efficiency improvements and renewables would result in greater reductions in emissions compared to the Project. Lastly, the group stated that the Project would cost ratepayers millions while adversely impacting local environments and contributing to climate change.

The following is a summary of concerns in the form email campaign which made up the majority of the public comments received on the Project.

1. OPPOSITION TO FOSSIL FUELS

Approximately 496 emails expressed an opposition to fossil fuels in general. These emails noted that the Biden Administration has promised to stop subsidizing fossil fuel use, yet the U.S. Department of Agriculture (USDA) Rural Utility Service (RUS) is "threatening to break that promise" by reviewing new fossil fuel projects.

See EPA Comment Responses, Comment 1 on page 3 of this appendix for a response.

2. CONCERNS FOR AIR QUALITY IMPACT

Approximately 230 emails expressed a concern for the impact of the Project on air quality. These emails stated that the Project would pollute the area with GHGs for the next thirty years.

RUS evaluated potential air quality impacts associated with the Project in Section 3.1.2 of the NTECEA. See Section 3.2 (Air Quality and Greenhouse Gases) in the Revised SEA for information related to air quality and GHG emissions.

3. REQUEST FOR RUS TO DENY FUNDING

Approximately 494 emails stated that the federal government should "follow through on its promise" to reduce fossil fuel use by ensuring RUS does not approve the loan for the Project. Many of these emails stated that RUS should deny the project due to opposition from the Tribes and due to local impacts.

See Section 6.5 of the Revised SEA for a summary of Tribal outreach to date. See also EPA Comment Responses, Comment 1 on page 3 of this appendix for a response related to RUS funding decisions.

4. MISINTERPRETATION OF BENEFITS AND COSTS

Approximately 228 emails claimed that the SEA overstated the benefits and understated the cost of the Project.

See Section 3.2.2.1.3.1 of the Revised SEA for a discussion of the Social Cost of GHGs (SC-GHG) for the Project. See also EPA Comment Responses, Comment 1 on page 3 of this appendix for a response.

5. CONCERN FOR WETLAND IMPACTS

Approximately 224 emails stated that the SEA downplayed the impacts on wetlands and the local environment. Comments about wetlands are outside the scope of the SEA. The SEA was prepared to evaluate the impacts of GHG and permits from the Wisconsin Department of Natural Resources (WDNR) are outside the scope of the SEA. The NTECEA describes the wetland impacts of the Project and is supplemented—not replaced by—the SEA, which focused on GHG emissions and tribal environmental justice.

See NTECEA, Section 3.10, for information related to wetlands. See MCEA Comment Responses, Comment IV(c) on page 60 of this appendix for response.

6. CONCERN FOR HEALTH IMPACTS

Approximately 232 emails stated that the NTEC Project would "lock us into years of fossil fuel use that we can't afford for the climate, environment, our health, and our pocketbooks."

See NTECEA, Section 3.1, and the Revised SEA, Section 3.2, for information related to air quality impacts. See also Section 3.2.2.1.3.1 of the Revised SEA for a discussion of the SC-GHG for the Project and EPA Comment Responses, Comment 4 on page 18 of this appendix for response.

7. REQUEST FOR RUS TO REQUIRE AN EIS

Approximately 493 emails called for RUS to prepare an Environmental Impact Statement (EIS) for the Project.

See MCEA Comment Responses, Comment II and III(a) on pages 43-44 of this appendix for a response.

8. CONCERNS FOR PROJECT IMPACT

Approximately 291 emails expressed a concern on continued reliance on fossil fuels in light of climate scientists' warnings of climate change.

See also Section 3.2.2 and Section 4.2.1 of the Revised SEA for a discussion of the GHG emissions for the Project and the anticipated reduction in overall GHG emissions in MISO West as a result of displacement of emissions from coal facilities.

9. NEED FOR ADDITIONAL PUBLIC UNDERSTANDING

Approximately 284 emails requested that RUS not proceed with approving the loan for the Project until the public is "given a chance to understand the impacts of this decision." These comments often referenced the desire for an EIS to be prepared as well.

Public input has been sought throughout the Project, as detailed in the NTECEA (Section 6.1 and Section 6.3) and the SEA (Sections 6.1, 6.3, and 6.4). Public and agency input to date has been reviewed and the SEA has been revised to include additional information to address comments. This Revised SEA will be available for public review and comment from July 28 to August 28, 2023. Feedback received during this comment period will be considered in RUS's decision on the Revised SEA. See also MCEA Comment Responses, Comment III(a) on page 44 of this appendix for a response regarding EIS preparation.

10. SUPPORT FOR CLEAN ENERGY

Approximately 20 emails stated support for using clean energy whenever possible as a way to combat climate change.

As discussed in Section 1.4 of NTECEA and Section 1.5 of the Revised SEA, this Project would assist Dairyland in facilitating the addition of new renewable electricity sources to the power portfolio by complementing their intermittent nature. See also MCEA Comment Responses, Comment III(b)(4) on page 51 of this appendix for a discussion of renewable energy.

Ashland Bayfield Counties
LEAGUE OF WOMEN VOTERS

PO Box 175
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July 20, 2022

USDA Rural Development
Rural Utility Services
NemadjiTrailEnergyCenterProject@usda.gov

Supplemental Environmental Assessment (SEA) for
Nemadji Trail Energy Center (NTEC), Superior, Wisconsin

Gentlepeople:

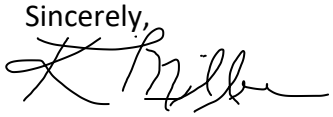
The League of Women Voters of Ashland and Bayfield Counties appreciates this opportunity to comment on the above-referenced SEA. The League has, for decades, advocated for energy efficiency improvements and shifting to renewable energy. We have opposed the construction of new fossil fuel infrastructure which threatens to increase the world's dependence on dirty fuels and increase the greenhouse gas emissions that contribute to climate change. Preservation of a healthy environment is a top priority.

This proposed natural gas plant would not be a clean source of electricity, and we strongly believe that the proposed loan should not be granted. We question the justification for constructing the proposed NTEC facility, given the recent proliferation of renewable energy sources in this part of the state. Indeed, Northwest Wisconsin has seen a dramatic increase in solar energy installations in the past several years, and with the trend continuing, it is entirely possible that the NTEC plant would be an obsolete and unneeded dinosaur not long after it goes online.

While the SEA indicates that the NTEC facility would reduce reliance on coal-based energy production, this claim, and the SEA in general, fail to recognize the much greater reductions in emissions that can be achieved with energy efficiency improvements and renewables like solar energy. We will not need another fossil fuel plant five years from now (when NTEC would go into service) to "transition" to renewables. We are ready and able to switch to renewables now. We are coming to realize, as we face more than one global crisis, that it is time to leave all fossil fuels behind. Plants like this one, which will

cost ratepayers millions while adversely impacting the local environment and contributing to climate change, have no place in the new economy.

Sincerely,



Kate Miller
On behalf of the Board of Directors,
League of Women Voters of Ashland and Bayfield Counties
president@abcleaguevoters.org

From: [redacted]
To: SM.RD.Nemadji Trail Energy Center Project
Subject: [External Email]Nemadji Trail Energy Center SEA Comment
Date: Sunday, July 10, 2022 7:52:30 AM

[External Email]
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Dear Rural Utility Service of the USDA,

Although the Biden administration has promised to stop subsidizing fossil fuels, the USDA Rural Utility Service is threatening to break that promise by reviewing new fossil fuel projects. Right now, the RUS is considering giving Dairyland Power Cooperative a loan to build the Nemadji Trail Energy Center, which would pollute our home with greenhouse gasses for the next thirty years.

I am calling on the federal government to follow through on its promise by ensuring that the RUS does not approve this loan. This Environmental Assessment claims that NTEC would be net positive for the climate, but Dairyland is overstating the benefits and understating the cost of building this new gas plant. It also significantly downplays the impacts on the wetlands and local environment. This is especially important given that the plant is on the shores of Lake Superior.

Building NTEC would lock us into years of fossil fuel use that we can?t afford ? for the climate, environment, our health, and our pocketbooks. The stakes are high and call for a full Environmental Impact Statement to be done.

Following the full EIS, the RUS should deny this loan because the federal government should not be loaning money for fossil fuel infrastructure, especially a project with opposition from the Tribes and local impacts.

Sincerely,

[redacted]

List of Commenters

First Name	Last Name
Thomas	Ackerman
Karen	Ackroff
Susan	Adams
Edna	Anderson
DyAnn	Andybur
Melissa	Anglin
Susan	Armour Seidman
Mary	Arps Thompson
Carol	Ashley
Kevin	Bailes
Ryan	Baka
Ryan	Baka
Barbara	Baker
Marie	Barbe
Tim	Bardell
Robin	Barr
Pam	Bartholomew
Rhonda	Bast
Kay	Beams
Theresa	Beckhusen
Leigh	Begalske
Jonathan	Behling
James	Beldon
Frances	Bell
Gerald	Belter
Eric	Benson
Sam	Benson
George	Bently
Kathleen	Bernardo
Eugene	Bersing
Tanya	Beyer
Rama	Bharadwaj
Dennis	Blawat
Melissa	Bletsian
Charles	Boardman
Lawrence	Bogolub
Julia	Bohnen
Jessica	Boll
Dean	Borgeson
Allan	Bostlemann
Marya	Bradley
Diana	Brainard
Lois	Braun
Megan	Brennan
Barbara	Brockway
Kelsey	Brodt
Assata	Brown
Jacquelyn	Brown
Mary	Brown
Thomas	Brown
Richard	Buchholz
Lisa	Burke
Elizabeth	Burr
Cindy	Buschena
Lindsey	Buscher
Garrett	Butler
Kristin	Campbell

First Name	Last Name
Verlanie	Halvorsen
Mary Jo	Hamann
Lisa	Hanes Goodlander
Angela	Hansen
Kenneth	Harris
Rosemary	Harris
Jean	Hartje
Kathy	Harvey
Kathleen	Hauser
JoAnna	Hebberger
James	Heindl
Barbara and Roy	Heinrich
Alana	Hendriskson
Janet	Henk
David	Henning
Glenda	Henning
Erin	Henry
Lisa	Hensel
Linda	Herron
Norman	Herron
Liz	Hickerson
Holly	Hinnrichs-Dahms
Mary Lou	Hoff
Frances	Hoffman
Richard	Holcomb
Alice	Holm
Samatha	Holm
Krissa	Holzinger
Catherine	Holzmann
Michael	Horejs
Jenifer	Horne
Amy	Hubbard
Edward	Hubbard
David	Huebsch
Matt	Humphries
Jason	Husby
Michael	Iltis
Susan	Imker
Kim	Irvin
Beverly	Iverson
Jessica	Jacobson
Maria	Jacobson
Alexia	Jandourek
Gary	Jansen
Barbara	Janssen
Susu	Jeffery
Christine	Jenkins
Jan	Jensen
Adrianna	Jereb
Mary	Johannsen
Todd	Johnson
Wade	Johnson
Haidee	Johnstone
Andrea	Jolley
Catherine	Jordan
Susan	Jordan
Doug	Jost

First Name	Last Name
Dan	Newman
Jason	Nicholoff
Randy	Niles
Jennifer	Norwood
Russell	Novkov
Jodie	Nowakowski
Masaura	Oka
Jason	O'Keane
Corey	Olsen
Barbara	Olson
Chris	Ottosen
Maureen	Ouellete
Gary	Overby
Tyler	Owens
Nate	Pakan
Ellen	Parker
Nancy	Partin
Lynda	Pauling
Elizabeth	Paulson
E and W	Paulson and Mayer
Gloria	Peck
Ryan	Pelowski
Louise	Petering
Lori	Philipsen
Julia	Phillips
Mehgan	Pierce
Renee	Pierce
Cathy	Plantenberg
Paula	Plasky
Maurice	Plummer
Lisa	Pollei
Glen	Popple
Betsey	Porter
Christine	Raddatz
Ian	Radtke-Rosen
Susan	Reichel
Shirley	Reider
Shirley	Reis
Doretta	Reisenweber
Jennifer	Rials
Colette	Riethmiller
Matt	Ringquist
Jeannie	Roberts
Kris	Roberts
Joseph	Rojas
Dagmar	Romano
Federiaco	Rossi
Kyle	Ruedinger
Juliann	Rule
Paula	Rusterholz
Juanita	Ryan
Geoffrey	Saign
Liam	Sarafin
Alexis	Scarborough
Katherine	Schafer
Ken	Schafer
Matthew	Schaut

List of Commenters

First Name	Last Name
Karen	Cannestra
Sammie	Cantrell
Thomas	Carey
Jonathan	Carlson
Chris	Casper
Joanne	Caswell
Brett	Cease
Rita	Chamblin
Michael	Chutich
David	Clapper
Jennifer	Clements
Ronda	Conner
Jerome	Corneau
L	Cottrell
David	Councilman
Alease	Crary
Kate	Crowley
Hugh	Curtler
Stan	Danielson
Mary	Davies
Jerry	Dawson
Ellen	De Marco
David	Delforge
Theresa	Delrosario
Matthew	DeMars
James	Denniston
Paul	Densmore
Pandora	Deschner
Shelia	Dillon
Sheila	Dingels
Claire	Dolney
Dana	Doty
Sally	Downing
Sara	Dufour
Terri	Dugan
Daniel	Dummer
Mary	Durdall
Gail	Dustin
Harvey	Dym
Stephanie	Eastwood
Nora	Eiesland
Mary	Emery
Erin	Enger
James	Erickson
Angela	Evans
John	Evenson
Nicole	Everling
Carlene	Ewait
Jeanne	Fahlstrom
Elizabeth	Falk-Thompson
Dave	Fallow
Amy	Farland
Stu	Farnsworth
Charles	Favorite
Barbara	Federlin
Don	Ferber
Douglas	Ferley

First Name	Last Name
Melissa	Jurkowski
Shawn	Kakuk
James	Kalb
Moraski	Kathleen
Lynnette	Kayser
Kathleen	Kaysinger
Patrick	Keiser
Kendra	Kendrick
Suzanne	Kessler
Regina	Kijak
Paige	Kimble
Tim	King
Tina	King
Rev James	Kinney
Hunter	Klapperich
Sandra	Klueger
Ginger	Klug
Joseph	Knaeble
Stuart	Knappmiller
Kathy	Knoeppel
Jeremy	Koehl
David	Koeller
Raleigh	Koritz
Aleks	Kosowicz
Teilen	Kove
Susan	Kozinski
Kay	Krause
Jennifer	Krinke
Cindy	Kroening
Gloria	Krueger
Donna	Kuehn
Alisha	Kurak
Sandra	Kuschel
Cathie	Kwasneski
Anne	Labouy
Howard	Lambert
Andrew	Larson
Ron	Larson
Wendy	Larson
William	Larson
Thomas	Lavery
Diane	Lawson
Meg	Lee
Wayne	Leeds
Theresa	Lehman
Marc	Lemaire
Sally	Leque
Jane	Leslie
Marcy	Leussler
Stephen	Lewis
Deb	Lily
John	Limbach
R	Limoges
Steve	Lindstorm
Adam	Lohrmann
Ana	Lois-Borzi
Molly	Ludden

First Name	Last Name
Nellie	Scheffler
Kelly	Schetnan
Sandra	Schilling
Holly	Schmaling
Jeff	Schmid
Diane	Schmidt
Roger	Schmidt
John	Schmitt
Jen	Schnabel
Rebecca	Schockley
Randolph	Schoedler
Cassandra	Schorn
Tom	Schrader
Donald	Schuld
Jane	Schuler
Donna	Seabloom
Dave	Searles
Sandra	Serazio
Mary Jo	Serfin
Emily	Servatius
Rebecca	Shedd
Edward	Shields
Jane	Shippy
Lynn	Shoemaker
Mike	Shoop
Sara	Shutkin
Carol	Siewert
Allie	Simon
Margaret	Sines
Brett	Slocum
Ryan	Smith
Vicki	Smith
Brad	Snyder
Elizabeth	Songalia
Carol	Soper
Robert	Sothern
Christy	Spear
Jo-Ann	Sramek
Emily	St Onge
Greg	St Onge
William	Steele
Deborah	Steinmetz
Val	Stelse
Christina	Stemwell
Nan	Stevenson
Patrick	Stoffel
Wayne	Stout
Lyn	Strangstad
Deborah	Strauss
Stephen	Streed
Kevin	Stueven
Kathie	Swanson
Michael	Sweeney
Tracy	Templin
Diane	Tessari
Judith	Thayer
Patricia	Thielman

List of Commenters

First Name	Last Name
Helen	Findley
Mark	Fischer
Richard	Fish
Charles	Fitze
Lisa	Fitzpatrick
Corita	Forster
Ronald	Foster
Sarah	Foster
James	Frazee
Rand	Friedenfels
Roxanne	Friedenfels
Johannah	Frisby
Andrea	Fritz
Steve	Froemming
Joyce	Frohn
Linda	Frost
Lynn	Fuller
Penny	Fuller
Sue	Fuller
Joanna	Furth
Dick	Gallien
Nancy	Gardner
Colleen	Garrity
Donna	Gasbarro
Don	Gawronski
Lynnette	Gbato
Becky	Geiser
Sue	Geurkink
Anne	Gillen
Victoria	Gillet
Lynn	Glesne
Louis	Glowacki
William	Goell
Debra	Goodlaxson
Candence	Gouze
Amy	Grace
Bruce	Grau
Leigh	Gray
Jean	Greenwood
Laura	Greteman
Emer	Griffin
Patricia	Griffin
Thomas	Griffin
Sage R	Grothe
Steven	Guillotel
Dawn	Gustafson
Karen	Gutierrez
Kristof	Haavik
Susan	Haebig
Dan	Haeffner
JT	Haines
Karen	Hall

First Name	Last Name
Julie	Lyne
Rebecca	Lystig
M	M
Alice	Madden
Ann	Madland
Tim	Madsen
James	Maggi
Larry	Margolis
Tommy	Markley
Denise	Marlowe
Chris	Marquardt
Marion	Marsh
Don	Marti
Chad	Martin
Pam	Martin
Jane	Maya Shippy
Stratton	McAllister
Tom	McCarrier
Janet	Mcconaunghey
Mary	McIntyre
John	Mckenzie
Samatha	Mckeough
Kimberly	McReavy
William	Meemkin
Alison	Mehlhorn
Peggy	Meisch
Elizabeth	Merryman
Janet	Messinger
Hans	Meyer
Justin	Meyer
Susan	Michetti
Lola	Milanovic
Tanya	Milanowski
Lester	Miller
Scott	Mills
Beth	Minehart
Shari	Mleczewski
Steve	Molenaar
Emily	Moore
Steve and Lori	Moore
Shaun	Morrell
Janet	Munger
Martha	Munger
Sara	Murn
Amber	Murphy
Patricia	Nadreau
April	Narcisse
Debbie	Nelson
Jarrod	Nelson
Julie	Nelson
Patricia	Nelson
Daniel	Nemes

First Name	Last Name
Anthony	Thompson
Gary	Thompson
Keith	Thompson
Mark	Thompson
Shelia	Tran
Jessica	Tritsch
Mary	Vlazny
Erik	Voldal
Theodore	Voth
Karrie	Vrabel
Erica	Wagener
Bob	Walker
Rosanna	Walker
Alexandra	Walter
Jane	Walters
Wendy	Walz
Tiffany	Watts
Linda	Weber
Elizabeth	Weberg
Adam	Wegren
Layla	Weide
Don	Weirens
Susie	Weitzenkamp
Sue	Welti
Larry	Wendlandt
Joseph	Wenzel
Alice	West
Rebecca	West
Liz	Whitlock
Lawrence	Wiesner
Kimberly	Wilcox
Brian	Wilferson
Dyke	Williams
Dana	Willis-Jick
Alana	Willroth
Jonathan	Wilsnack
Anne	Winkle
Sally	Wise
Bill	Woessner
Robert	Wohlberg
Dakotah Lynn	Woller
Cathy	Wood
Nancy	Worcester
Nancy	Wrensch
Norman	Wrensch
Jenna	Yeakle
Patrick	Zalusky
Lila and Dave	Zastrow/Hendrickson
Anne	Thompson
John	Steinworth