

September 9, 2023

Andrew Berke
Administrator
Rural Utilities Service
US Department of Agriculture

VIA EMAIL

RE: *Minnesota Center for Environmental Advocacy, Sierra Club, and Clean Wisconsin Comments on Revised Supplemental Environmental Assessment for Dairyland Power Cooperative's Proposed Nemadji Trail Energy Center*

Dear Mr. Berke,

Minnesota Center for Environmental Advocacy, Sierra Club, and Clean Wisconsin submit these comments, including four attached Exhibits, on the Revised Supplemental Environmental Assessment (“RSEA”) for the proposed Nemadji Trail Energy Center (“NTEC”) fossil fuel gas plant. As detailed in the RSEA and in the comments below, constructing and operating NTEC for its proposed 40-year life is fundamentally inconsistent with our collective decarbonization goals. Because NTEC will contribute significant amounts of greenhouse gas (“GHG”) emissions that are cumulatively damaging the earth’s people and ecosystems, we reiterate our request that the Rural Utilities Service (“RUS”) deny the loan sought by Dairyland Power. In the alternative, we request that RUS further revise the RSEA or prepare an Environmental Impact Statement so that RUS’s flawed analysis of the No Action Alternative is rectified and RUS can properly evaluate clean energy alternatives to NTEC. While these comments are specifically addressed at the new material and explanations added to the record by the RSEA, we specifically re-state and incorporate the comments the undersigned organizations filed in August 2022 on the SEA (“2022 SEA Comments”).

I. An EIS is required because NTEC’s projected impacts are significant, both adverse and purportedly beneficial.

The RSEA explicitly describes the substantial amount of carbon dioxide (“CO₂”) and carbon dioxide equivalent (“CO₂e”) NTEC would emit each year. And the RSEA notes that the increase in emissions of these gases and other GHGs worldwide have already warmed the earth and will lead to the spread of disease, habitat loss, harm to crop production, additional air pollution, and negative economic impacts.¹ However, instead of assessing whether the emissions from NTEC itself are significant in the context of global climate change, the RSEA concludes that emissions across the region will drop if NTEC is built when compared to the No Action Alternative. The RSEA makes this flawed conclusion by relying on a faulty substitutional analysis that erroneously concludes Wisconsin’s and our nation’s thirst for fossil fuels will remain strong well into the future. Section II below addresses the flaws and drawbacks of this methodology. But even taking the methodology at face value, the RSEA’s Finding of No Significant Impact is wrong because both the adverse impacts of the project and the purportedly beneficial climate impact of building NTEC are significant.

¹ RSEA at 3-19.

In our 2022 SEA Comments, we asserted that NTEC requires an EIS because of the high direct GHG emissions expected over its projected 40-year life. These emissions, over 109 million tons of CO₂e, are significant because of their magnitude and because they will be emitted during the decades the U.S and the world are working to rapidly reduce GHG emissions to avoid catastrophic climate damage. When NTEC’s upstream methane emissions and the effect of fossil fuel lock-in² are also considered, the case for an EIS is even greater.

Both the SEA and the RSEA make the improper case, however, that *not* building NTEC would result in *higher* GHG emissions. The SEA and RSEA assert that existing coal plants in the Midwest would operate more often in the forecast period than they would if NTEC were built,³ and claim that NTEC would result in a reduction of an average of 964,000 tons per year CO₂e.⁴ But the RSEA reaches this conclusion by using a substitution analysis, which is improperly employed here, as discussed further below.

The scale of the emissions from NTEC are substantial and inconsistent with Wisconsin, Minnesota, and national goals to limit warming worldwide to 1.5 degrees.⁵ The RSEA is therefore inconsistent with recent guidance from the Center for Environmental Quality (CEQ), which advises analyzing “energy use trends that are consistent with achieving science-based GHG reduction goals, such as those pursued in the Long-Term Strategy of the United States.”⁶

The RSEA is also flawed because it fails to consider NTEC’s CO₂ emissions through the lens of a remaining carbon budget. The remaining carbon budget refers to the finite total amount of anthropogenic carbon dioxide that can still be emitted into the atmosphere while holding the global average temperature increase to the temperature limit set by the Paris Agreement. This assessment helps better visualize the impact one emitting facility will have on global emissions, and the negative impact the facility will have in meeting the goal of limiting warming to 1.5 degrees Celsius. This has become an increasingly used tool to guide climate policy. The failure to undertake this type of analysis results in a flawed RSEA that falsely diminishes NTEC’s contribution to global climate change and the true level of emissions over its projected life. Viewing the proposed facility through this lens brings clarity to how inimical NTEC is to meeting Minnesota, Wisconsin,⁷ and the United States’⁸ climate goals.

The RSEA justifies discounting NTEC’s GHG emissions through a comparative analysis. According to the RSEA, assuming certain conditions, NTEC would emit under 4 percent of the

² Fossil fuel lock in refers to the way new fossil fuel infra structure acts as a barrier to decarbonization, by forcing extended operation to pay off loans, and by incentivizing more fossil fuel production – in this case, natural gas. Jan Hasselmann and Peter Erickson, *Environmental Review of Fossil Fuels Projects—Principles for Applying a “Climate Test” in the United States*, 103 Energy Research & Social Science 1, 4 (2023) [Attached as Exhibit A].

³ The specific forecasted emission reductions for the years 2025 through 2040 are listed in the RSEA at Figure 4-1.

⁴ RSEA at 4-7

⁵ The United States Nationally Determined Contribution: Reducing Greenhouse Gases in the United States: A 2030 Emissions Target, UNFCCC (2021).

⁶ National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, 88 Fed. Reg. 1196, 1205 (Jan. 9, 2023), available at <https://www.federalregister.gov/documents/2023/01/09/2023-00158/national-environmental-policy-act-guidance-on-consideration-of-greenhouse-gas-emissions-and-climate>.

⁷ See Office of Governor Tony Evers, Exec. Order No. 38 (2019), available at <https://evers.wi.gov/Documents/EO%20038%20Clean%20Energy.pdf>; State of Wisconsin, Governor’s Task Force on Climate Change Report (December 2020), available at <https://climatechange.wi.gov/Documents/Final%20Report/GovernorsTaskForceonClimateChangeReport-LowRes.pdf>.

⁸ The United States Nationally Determined Contribution: Reducing Greenhouse Gases in the United States: A 2030 Emissions Target, UNFCCC (2021).

total GHG emissions for Wisconsin in the year 2021. This comparison downplays NTEC's climate pollution by implying NTEC will not significantly add to Wisconsin's contribution to global climate change, and it is flawed for multiple reasons. First, the comparison data is based solely on the year 2021, a year when utilities are rapidly replacing dirty electricity generation and building clean, carbon-free sources. Statewide emission levels are trending downward, and many of the major sources of GHG emissions as of 2021 are scheduled to be taken off-line in the near future. Indeed, the owners of multiple coal plants in Wisconsin have already announced the intention to retire multiple units in the state by 2026. Those announced retirements amount to nearly half of the 2021 emissions from coal plants, which comprise the largest block of electric sector emissions in the state.⁹ Thus, comparing NTEC's Potential to Emit to 2021 statewide levels fails to recognize the vastly more significant role NTEC would have Wisconsin's total GHG emissions in 2027, when NTEC is proposed to come online. At that point, many of the large emitters will be gone, and NTEC would quickly rise up the ladder and become one of the largest contributors to Wisconsin's climate pollution.¹⁰ Given current statewide and national GHG reduction commitments, it is quite unlikely regulators would approve a new facility that would be a top contributor to a state's total GHG emissions. A remaining carbon budget analysis would better contextualize how harmful NTEC would be to meeting Wisconsin and our nations' climate goals and mandates.

The scale of NTEC's emissions is also incorrectly downplayed by the snapshot single-year statewide comparison employed by the RSEA. While NTEC may emit 4% of Wisconsin's total emissions in 2021, that percentage will substantially increase over time, and NTEC's lifecycle emissions for its projected 40-year life will make up a significant portion of Wisconsin's total emissions for that same period of time. Using a remaining carbon budget analysis will shed greater clarity on NTEC's environmental impact, and why its construction is at odds with state and federal climate initiatives.

Finally, global temperature levels will not inherently decrease when CO2 levels drop. This means that NTEC's contribution to global warming will not be reversed when, if the facility were built and operated, NTEC is retired. This also means that if our carbon budget is exceeded, removing surplus CO2 from the atmosphere can only be done by having net negative CO2 emissions. The land use, social, and other changes required to have net negative emissions carry weighty complications. By not accounting for our remaining carbon budget and relying upon a snapshot comparison, the RSEA avoids engaging with NTEC's true environmental impact.

II. The RSEA improperly employs methodology that obscures NTEC's climate impact.

As an initial matter, and as argued in our 2022 SEA comments, the RSEA could have not used any sort of substitution or off-set analysis, and merely calculated the GHGs attributable to the construction and operation of NTEC. For example, an EA or EIS for a new plywood factory subject to NEPA would not typically offset the factory's adverse environmental impacts by claiming that another older, dirtier plywood factory somewhere in the region would likely be shut down once the new one opens. Simply because NTEC would power the electric grid does not make a difference under the National Environmental Policy Act ("NEPA"). In simple terms, building NTEC and financing it through a federal loan, is plainly inconsistent with the sharp and immediate

⁹ EPA Clean Air Markets Program Data (CAMPD), 2021 CO2 emissions from all reporting electricity generators in Wisconsin. Announced retirements include Columbia 1 & 2, Edgewater 5, Genoa (already retired in 2022), and South Oak Creek 5-8.

¹⁰ At approximately 4 million tCO2 per year, NTEC would be the third largest emitter after Elm Road and Weston coal plants.

emission reductions needed to prevent catastrophic climate change. A clear and defensible analysis under NEPA would simply explain the likely GHG emissions from the project, analyze any available mitigation measures and feasible alternatives, all in the context of the decarbonization trajectory consistent with the U.S. Nationally Determined Contribution and the Administration's climate goals.

However, both the SEA and RSEA employed a substitution methodology to assess the effect on the climate of building NTEC. This substitution methodology is most commonly used to assess the climate impact of *supplying* "certain energy resources, like oil, natural gas, or renewable energy generation."¹¹ The substitution analysis, and its construction here, resulted in a flawed assessment of NTEC's impacts on regional GHG emissions.

As detailed in our 2022 SEA Comments, the production modeling substitution analysis in the RSEA has not, to our knowledge, been previously used by the U.S. Department of Agriculture, and it obscures NTEC's true climate impact. The use of a market-based production model for calculating the climate impacts of NTEC employs a false set of implicit assumptions. CEQ calls for substitution assessments where "increasing the supply of resources... may result in changes to the resulting energy mix as energy resources substitute for one another."¹² To conduct such an assessment requires clarity in the alternative that would have resulted had the project not been pursued. In this case, the RSEA assumes that the proponents would pursue no alternatives if NTEC is not built, or that the system will look exactly the same irrespective of if NTEC is built or not. There is no basis for this assumption: in addition to NTEC, the proponents are all pursuing new clean energy, storage, and low emissions resources; the lack of NTEC could accelerate these procurements, and the acquisition of NTEC could delay those other procurements. A credible substitution assessment would seek to determine what resources would be built to serve the needs of the system, rather than simply assuming that no action would otherwise be taken.

Stated another way, the substitution assessment performed in the RSEA incorrectly looks exclusively at the operational margin (or short-run marginal emissions rate), and ignores the build margin (or long-run marginal emissions rate). The National Renewable Energy Laboratory (NREL) describes long-run marginal emissions rates as "the rate of emissions that would be either induced or avoided by a long-term (i.e. more than several years) change in electrical demand, incorporating both the operational and structural consequences of the change."¹³ In other words, the structural impact of a change like NTEC over the long-run can be quite different than the operational changes modeled in the RSEA. In particular, the short-run marginal emissions rate will almost always be substantially higher than the long-run marginal emissions rate, because in the long run, the next increment of generation is predominantly non-emitting. From the perspective of a correctly conducted substitution assessment, NTEC might displace gas and coal resources in the near term, but is likely to replace new renewable energy and storage in the long run.

A further defect of the RSEA's approach is its false precision. While the GHGs from the operation of NTEC can be calculated precisely, the effect of not building NTEC is subject to innumerable uncertainties.¹⁴ Simply netting out the expected GHGs from NTEC with the GHGs

¹¹ National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, 88 Fed. Reg. 1196, 1205 (Jan. 9, 2023), available at <https://www.federalregister.gov/documents/2023/01/09/2023-00158/national-environmental-policy-act-guidance-on-consideration-of-greenhouse-gas-emissions-and-climate>.

¹² *Id.* at 1205.

¹³ NREL, *Energy Analysis*, Cambium, <https://www.nrel.gov/analysis/cambium.html> (last visited on Sept. 9, 2023).

¹⁴ Hasselman, *supra* note 2 at 3.

purportedly avoided by building NTEC is comparing apples to oranges.

A. The RSEA fails to compare NTEC's effects to those from a Clean Energy Portfolio.

The RSEA is flawed in that it fails to consider the comparative environmental impacts of a Clean Energy Portfolio ("CEP"). The RSEA asserts that the purpose and need for the project, to meet the demand for capacity and energy in the Dairyland service area, can only be met by dispatchable power sources.¹⁵ Additionally, the RSEA asserts that the NTEC project will drive GHG emission reductions that would help Wisconsin meet its state GHG reduction goals.¹⁶ However, the RSEA baldly rejects any possibility that a combination of wind, solar, batteries, efficiency, and demand reduction could also meet the purpose and need for the project.¹⁷

Our 2022 SEA Comments pointed out that in 2022, RMI analyzed a CEP to specifically replace the services that NTEC would provide in terms of monthly generation and maximum output during the top 50 peak hours of the year. The analysis showed that a CEP was technically viable and cheaper than NTEC.¹⁸ This year, RMI updated its analysis of a CEP replacement for NTEC to account for the Inflation Reduction Act and found the same results: A CEP consisting of solar, wind, storage, efficiency, and demand flexibility could meet the same generation and capacity needs as NTEC at a lower cost.¹⁹

And specifically in response to the RSEA discounting the possibility of using batteries as part of a portfolio that would serve as an alternative to NTEC, we note that Wisconsin utilities have announced plans to construct projects totaling 489 MW of storage by 2025. These projects include:

- Alliant's Edgewater Battery Project, with a capacity of 99 megawatts to be operational by June 2025.
- Alliant's Grant County battery project, which has already begun construction and will include 200 megawatts of solar generation and 100 megawatts of battery storage, to be completed by Fall 2025.
- Alliant's Wood County Solar site, which will include 150 megawatts of solar generation and another 75 megawatts of battery storage and is anticipated to be completed by Fall 2024.
- Paris Solar Farm, which will include solar panels with 200-megawatt capacity and 50 megawatts of battery storage and is proposed to be completed and in-service by this year.
- High Noon Solar, which will include 300 megawatts of solar generation and 165 megawatts of battery storage and is proposed to be in service by December 2025.

Fundamental to review under NEPA and the Administrative Procedure Act is the need for agencies to show their work. This is part of the agency's duty to take a "hard look" at all relevant environmental concerns.²⁰ Agency decisions that are "conclusory, internally inconsistent, and

¹⁵ RSEA at 1-9, 1-16, 2-58.

¹⁶ RSEA at 1-16.

¹⁷ RSEA at 1-16, 2-58.

¹⁸ 2022 SEA Comments at 44.

¹⁹ RMI Deck August 14, 2023 [Attached as Appendix A to Exhibit B of these Comments, the Telos Supplement]. The methodology supporting the report is available at <https://rmi.org/business-case-for-new-gas-is-shrinking/> and <https://rmi.org/insight/headwinds-for-us-gas-power/>.

²⁰ *Town of Cave Creek, Ariz. v. F.A.A.*, 325 F.3d 320, 327 (D.C.Cir. 2003).

fail[] to adequately explain the connection between the objective facts and conclusions reached” fail the “hard look” mandate and are arbitrary and capricious.²¹

NTEC’s climate impacts are one of the largest environmental concerns, and the RUS must take a hard look at how this impact can be mitigated. Failing to assess a CEP alternative to NTEC renders the RSEA inadequate. RUS should rectify the error and evaluate a CEP alternative to NTEC.

B. The RSEA uses a baseline for comparison that is unlikely to occur.

The RSEA’s conclusion that building NTEC will likely net large GHG reductions relies on an assumed baseline of continued fossil fuel usage and dependence that is not likely to occur. As we stated in our 2022 SEA Comments, the No Action Alternative’s assumptions of continued operation of coal and gas fired power plants far into the future is not likely to be accurate.²²

First, a speedy energy transition is already underway in the U.S. as part of our climate pledges under the Paris Agreement.²³ Basing an RSEA on the U.S. ignoring these pledges makes the RSEA’s conclusions misleading at best.

Second, the RSEA ignores the strong likelihood that the decarbonization of the grid will continue to accelerate. Specifically, the RSEA disregards the fact that MISO is now basing future transmission planning on Future 2A, which, as explained below, includes a rapid transition to renewables. And, the RSEA completely discounts the effect of the Inflation Reduction Act (“IRA”) on the rate of regional grid decarbonization.²⁴ The IRA’s financial incentives will continue to accelerate retirements of fossil-fueled plants and will increase levels of both clean energy and storage in the region.²⁵ The RSEA’s disregard of the effect of this groundbreaking law and the RSEA’s continued reliance on pre-IRA analysis is unreasonable and should be rectified.

Third, the RSEA mistakenly minimizes the impact of the proposed Clean Air Act 111B & 111D rules. If enacted as proposed, these rules would hasten either the addition of GHG mitigations at existing coal and gas plants or early plant retirements.

These developments would significantly change the baseline against which NTEC’s climate impacts are compared and would change the conclusions of the RSEA’s modeling.

In support of these comments, we have commissioned an update to the Telos Energy Report appended to our 2022 SEA Comments, titled Supplemental Report to the Revised Supplemental Environmental Assessment (“Telos Supplement”), and attached as Exhibit B.²⁶ The Telos Supplement explains that the baseline assumptions in the RSEA’s analysis, namely MISO Future 1, are no longer supported by MISO. Instead, due to market forces, increased rate of transmission line buildout, and the Inflation Reduction Act, among other things, MISO has identified MISO Future 2A as the most likely future state of the grid. This Future predicts 96% decarbonization of the MISO grid by 2042.²⁷ If the analysis were re-run assuming Future 2A as the baseline, the

²¹ *Bluewater Network v. Salazar*, 721 F. Supp. 2d 7, 39, 40 (D.D.C. 2010).

²² SEA Comments 39.

²³ Hasselman, *supra* note 2 at 3.

²⁴ RSEA 4-9.

²⁵ John Bistline, et al., *Emissions and Energy Impacts of the Inflation Reduction Act*, Science. 2023 June 30; 380(6652): 1324-1327, available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10336889/>.

²⁶ Telos Supplement [Attached as Exhibit B].

²⁷ Telos Supplement at 3.

purported GHG reduction attributable to building NTEC would be much lower, reaching near zero in 2042. A better way to present the data in the RSEA would have been to show the impacts of a range of different future decarbonization trajectories, including Future 2A.²⁸

Another alternative methodology that would have more accurately reflected the effect on the climate of not building NTEC would have been a capacity expansion model. The RSEA's Production Cost Model simply isolates the effect of including or removing NTEC from the system.²⁹ A capacity expansion model in conjunction with an effective load carry-capability analysis, on the other hand, allows a system planner to ensure that both reliability and economic planning criteria are met across several least cost portfolios.³⁰ This type of model would address one criticism of the RSEA's method: namely that the decision to not build NTEC would free up additional money and resources for the NTEC owners to build alternative generation. It is exceedingly unlikely that if the NTEC project were abandoned, no other new additional generation would be built, beyond that already included in the RSEA's Production Cost Model.

C. The RSEA's upstream methane analysis is inaccurate.

The RSEA's methane analysis is also flawed for three reasons, as set forth in Exhibit D, the Addendum to PSE's July 2022 NTEC Health and Equity Analysis ("PSE Addendum"): 1) it incorrectly calculates the how much C02e NTEC will emit each year based on lifecycle methane emissions; 2) the RSEA uses an incorrect leakage rate that underrepresents how much methane is released into the environment; and 3) the RSEA includes a typographical error that infects the RSEA's conclusions regarding NTEC's upstream emissions compared to a coal alternative.

First, the RSEA concludes that NTEC will produce 2.24 million tons of C02 per year in addition to methane and nitrous oxide emissions. This number is incorrect. Incorporating a lifecycle analysis of NTEC's methane emissions shows that NTEC will emit an equivalent of 3.4 million tons of C02e over a 100-year time period and 4.8 million tons of C02e over a 20-year period.³¹

Second, the RSEA uses an outdated methane leakage rate that underrepresents the amount of methane that will be released into the environment. As explained in the PSE Addendum, the 1.5% leakage rate used in the RSEA underestimates methane leakage rates, and the scientific consensus indicates that higher leakage rates are more reflective of reality.³² The lower leakage rate employed in the RSEA undermines the report's emissions analysis and gives the false perception that NTEC is not as environmentally disastrous as it actually is.

Finally, the RSEA includes a typographical error that obscures NTEC's climate impact. The RSEA first determines that NTEC's C02e emissions factor is 16.9 lbs C02e/MMBTU. Later, however, the RSEA uses a 10.9 lbs C02e/MMBTU figure to calculate NTEC's upstream emissions, giving the false impression about NTEC's upstream emissions relative to coal. Using the correct 16.9 lbs C02e/MMBTU figure "has NTEC emitting more [upstream] C02e than a coal alternative per year."³³

²⁸ Peter H. Howard, Max Sarinsky, Institute for Policy Integrity, BEST PRACTICES FOR ENERGY SUBSTITUTION ANALYSIS (Dec. 2022) [Attached as Exhibit C].

²⁹ RSEA at 4-4.

³⁰ Telos Supplement at 9.

³¹ PSE Addendum at 3 [Attached as Exhibit D].

³² *Id.* at 3.

³³ *Id.* at 4.

These errors infect the RSEA's analysis and impair its conclusions. RUS must revise the RSEA to incorporate a proper methane lifecycle emission calculation, account for the elevated methane leakage rate, and correct the typographical errors in the C02e/MMBTU calculation.

III. RUS should deny the loan.

Finally, we reiterate our request that RUS deny the loan sought by Dairyland to build NTEC. The loan would be a federal subsidy for a fossil fuel infrastructure project. Such subsidies are inconsistent with Executive Order 14,008. Also, at no point was the proposed NTEC project approved as part of a fully-reviewed, state-level Integrated Resource Planning ("IRP") process, in either Minnesota or Wisconsin. Without approval through an IRP, RUS has no way of being certain that NTEC is the best way to meet customer and system demands. Before issuing a multi-hundred-million-dollar loan for a new fossil fuel plant that is likely to run for decades, the RUS should assure the public that the plant is the best option and in the public interest. To make this assurance, the RUS should adopt a policy that RUS loans for fossil fuel plants should be denied in the absence of an approved IRP that includes the proposed plant.

Sincerely,

/s/Evan Mulholland

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List of Attached Exhibits

Exhibit A: Jan Hasselman and Peter Erickson, *Environmental Review of Fossil Fuels Projects—Principles for Applying a “Climate Test” in the United States*, 103 Energy Research & Social Science 1 (2023)

Exhibit B: Telos Supplemental Report to the Revised Supplemental Environmental Assessment, NTEC (2023), including Appendix A, RMI Deck (August 14, 2023)

Exhibit C: Peter H. Howard, Max Sarinsky, Institute for Policy Integrity, BEST PRACTICES FOR ENERGY SUBSTITUTION ANALYSIS (Dec. 2022)

Exhibit D: Addendum to PSE’s July 2022 NTEC Health and Equity Analysis (2023)