

**PINGP STUDY GROUP - critical issues for PUC Docket Number(s): E-002/CN-24-68 OAH Docket Number: 25-2500-39971**

**Commenter profile** – Kristen Eide-Tollefson for the **PINGP STUDY GROUP:**

The commenter has been following and participating in proceedings related to the PINGP nuclear plant since 1995, when she was appointed to the EQB Citizen Advisory Task Force for Dry Cask Storage at an alternative site in Florence Township where she resides. She was assigned by the chair of the task force to research and make recommendations on related legal, regulatory and legislative issues. She also organized local participation in the environmental review scoping. The Florence Township site was released in 1996 from both of Xcel's state and federal applications for what would have been the first offsite ISFSI in the country.

Eide-Tollefson has participated in legislative initiatives, regulatory proceedings and coalition collaborations for over 20 years, representing the local community group *Communities United for Responsible Energy* (CURE). This participation includes nuclear regulatory and IRP dockets, EQB and PUC rulemaking, and nuclear waste and energy planning reports. Carol Overland represented CURE throughout the dry cask proceedings.

In 2009 EERA/DOC created a local citizen task force for environmental review of Xcel's application to uprate the PINGP plant and expand storage to run through 2033/4. The commenter, for CURE, supported interested participants in a study group on Saturdays following the meetings, where they could talk with each other and access background information and related documentation. This resulted in the initiative of participants to develop a report clarifying community concerns and requests for information development. The report was led and written by the mayor of Lake City, a member of the task force.

The PINGP STUDY GROUP, was granted informal participant status by PUC in the CON. It was represented by attorney Paula Maccabee, with supporting briefs and the development of expert testimony on key issues laid out in the study group report, shared by the surrounding communities, the Prairie Island Indian Community and Red Wing. Eide-Tollefson supported this representation.

6. <a href="#">20098-41095-02</a>	Public	08-510 (CN)	VARIOUS PARTIES	8/24/2009
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In 2014, Eide-Tollefson was appointed as one of the 5 citizen members of the Environmental Quality Board (EQB), where she served two 4 year terms, through January 2022. She suspended advocacy work during this period. In 2022, Eide-Tollefson developed comments on the SEIS for Xcel Energy's Request for a Change in Spent Fuel Storage Technology Prairie Island Independent Spent Fuel Storage Installation Docket No. E002/CN-08-510. The change from 9" steel-walled casks to 5/8" thick cannisters is for "cost savings", a questionable priority given the indeterminate timeline of storage and uncertainty of the legality of consolidated private interim storage.

Issues involving the expansion of waste storage at Prairie Island have changed little throughout this period. The FEIS and SEIS to the 2009 and 2021 proceedings and comments to these previous dockets are relevant to the present proceeding. **The history of nuclear waste authorization in Minnesota** bears review in the ALJ's report. After the 1994 legislation, the most consequential debate was in 2003 when the 17 cask cap on waste storage was going to be lifted, or the plant shut down. Mike **Bull's Legislative Information Brief on Nuclear Power and Xcel's 2002 IRP** brilliantly outlines the debate with background and topics highly relevant to the present proceeding. Xcel's 2002 IRP provided the most developed set of alternatives to the PINGP that had been seen to date.

<https://www.house.mn.gov/hrd/pubs/nucxcel.pdf>

**From the report:** "The administrative law judge (Klein) in the CON proceeding on the ISFSI at Prairie Island found that "The Yucca Mountain storage facility would reach maximum capacity under current storage schedules before all of Prairie Island's waste is taken." Xcel has confirmed that this is still true (in 2002).

#### **Topics for Comment:**

- **Should the Commission find that the Final Environmental Impact Statement is adequate?** No.

An EIS is an analytic document. The FEIS does not meet this standard, primarily because it fails to develop sufficient information or issues for analysis. The FEIS presents only vague scenarios without data or documentation. It fails to utilize or cite official reports to fully inform decision-makers of the current status of the legal, political and economic viability of centralized storage options. The dangerously naive representations and assumptions of the FEIS undermine the validity of its conclusions, betray Minnesota environmental statute and rule, and endanger the long-term well-being of the state's people, waters, and natural resources.

The FEIS errs in its basic assumptions:

**Storage is not "Temporary"** – The FEIS refers to ISFSI storage as "temporary storage" at 7.4 (p. 91):

"Spent fuel storage at nuclear plants is considered temporary, with the ultimate goal being permanent disposal".

And again, at 6.2 (p. 76- 77):

... "the analysis here assumes the *temporary, long-term storage* of spent fuel in the PINGP ISFSI for up to 200 years. This assumption is strictly for analysis purposes and is used to bound the uncertainty associated with the eventual availability of an off-site storage facility."

This terminology is both internally contradictory and wholly inaccurate. NRC long ago revised its terms to reference “indefinite storage at reactor sites”. This misleading assumption underlies the fundamental inadequacy of the FEIS to provide accurate information and analysis.

Assuming an eventual offsite alternative, the FEIS fails to adequately investigate and accurately describe the risk of indeterminate (potentially permanent) storage at the doorstep of the Prairie Island Indian Community, on the banks of the Mississippi River. This risk is *the most* consequential factor in potentially significant future environmental, social, and financial impacts.

Representing vague scenarios, without data or documentation, the FEIS fails to utilize or cite official reports that would more fully inform decision-makers of the current status of the legal, political, and economic viability of centralized storage options. Because the legislature no longer receives semi-annual Nuclear Waste Reports, decision-makers are not well informed of the realities of the ongoing failure of centralized ‘solutions’ or the implications for our state, which was a key feature of the Nuclear Waste Report. The last report was submitted by EQB in 2007.

Each new federal and private initiative, before it fails, generates false promises and hope that support the continued expansion of waste inventories. Meanwhile high-level nuclear waste remains stranded at reactor sites, growing beyond the capacity of any centralized storage plan.

The dangerously naive representations and assumptions of the FEIS undermine the validity of its conclusions, betray Minnesota’s environmental statute and rule, and endanger the public interest. See citations under CON question 2 for recent official reports.

**Restricted information base:** It is a major flaw in a decision-making proceeding of such consequence that the FEIS does not utilize or reference points of information beyond the limited and self-referential sources cited at 1.6, and in chapter footnotes:

“1.6 The primary sources of information for this EIS are:

- Xcel Energy’s CN application.
- The scoping environmental assessment worksheet (EAW) prepared for Xcel Energy’s proposed additional spent fuel storage in the PINGP ISFSI. 7
- New and additional information from Xcel Energy sent to the Department’s Energy Environmental Review and Analysis (EERA) unit in personal email communication regarding its CN application. 8
- The 2009 PINGP ISFSI Final EIS and the 2022 Supplemental EIS.

The information base for each section of the FEIS is similarly restricted. A consequential example is the Alternative Replacement Plan ‘analysis’ (p. 96): Alternatives to Continued Operation of the PINGP:

“The replacement scenario modeled by Xcel Energy is the only scenario discussed in this EIS (Appendix A). Other replacement scenarios are possible.”

**Restricted Alternatives analysis.** Alternatives play an essential role in the development of the environmental review and decision-making record and informs CON considerations of size, type and timing etc. The National Bar Association calls it as “the heart of the EIS.”

**ALTERNATIVES:** MN Rule 4410.2300 CONTENT OF EIS.

G. “Alternatives: the EIS shall compare the potentially significant impacts of the proposal with those of other reasonable alternatives to the proposed project. The EIS must address one or more alternatives of each of the following types of alternatives or provide a concise explanation of why no alternative of a particular type is included in the EIS: alternative sites, alternative technologies, modified designs or layouts, modified scale or magnitude, and alternatives incorporating reasonable mitigation measures identified through comments received during the comment periods for EIS scoping or for the draft EIS.”

**1. Alternative Storage Technologies: Thin or Thick walled casks**

The PINGP submitted extensive scoping comments and final comments to the 2021 proceeding on Xcel’s application to use any cask approved by NRC without further PUC review or approval. EERA determined that a supplemental EIS was necessary.

The issues raised are highly relevant to this docket and to the consideration of technology alternatives. PUC did not authorize any particular cask. The order provided that the choice of cask is up to Xcel. The rationale for the change to thin-walled casks was ‘cost’ savings. The cannister system proposed to be used is made by same the company that is proposing a private consolidated storage facility, now undergoing multiple legal challenges.

There are still NUHOMES thick-walled casks to load through 2026. A change to the thin-walled cannister system would follow. If consolidated private storage is rejected by the courts, it would be prudent for Xcel with the Commission to reevaluate the risks and benefits of introducing a different technology. The NUHOMES casks on Prairie Island are more robust than cannister systems for free-standing dry cask storage and are licensed for transportation by NRC.

PINGP Study Group comments on Alternate Cask Storage technology  
PUC Docket E-002/CN-08-510

9	<ul style="list-style-type: none"> <li><a href="#">20223-183649-03</a></li> </ul>	Public	08-510 (CN)	DOC	<b>Written Comments</b> <b>PINGP STUDY GROUP</b> <b>3/20/2022</b>
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This power point from the San Ofreo decommissioning docket is included in the PINGP Study Group comment above. It summarizes extensive evidence-based testimony on thin-walled versus thick-walled cask alternatives. It is also accessed via the NRC docket below:

<https://www.nrc.gov/docs/ML2103/ML21036A015.pdf>

## **2. Alternative replacement plans examined in the FEIS:**

“The replacement scenario modeled by Xcel Energy is the only scenario discussed in this EIS (Appendix A). Other replacement scenarios are possible.”

### **CON Rules 216b.243 https Subd. 3. Showing required for construction.**

**No proposed large energy facility shall be certified for construction unless the applicant can show that demand for electricity cannot be met more cost effectively through energy conservation and load-management measures and unless the applicant has otherwise justified its need. In assessing need, the commission shall evaluate:**

**(1) the accuracy of the long-range energy demand forecasts on which the necessity for the facility is based;**

**Need claims:** Without the first showing required in CON Rules it is not possible to accurately assess alternative replacement plans.

Carol Overland has pressed this issue for years. Former PUC chair Garvey once asked intervenors, “is no one going to challenge this need claim?” As Overland stated at the public hearing, there is a difference between “need” for reliable service and claims of need based upon the IRP, Xcel’s ‘preferred’ business plan, and state energy policy goals. While IRP analysis is rigorous, the underlying need claim is the utility’s representation.

**Alternatives development:** The Commission has increasingly encouraged private negotiations between interested parties and the utility to inform its decision options. New ‘streamlining’ laws push public interests not represented by these parties, even further to the edges of Commission proceedings, as the state closes in on its renewable resource objectives. The bar for advancing an “alternative” has become very high, shifting the burden

for technical development from the utility to the public. This requires resources far beyond the reach of parties without the funding to meet the requirements of new rule 7849.0110.

**The FEIS fails to consider the combined cycle gas replacement** at the plant site, an alternative referenced in multiple Xcel documents as far back as 2003. This plan is fully developed with respect to the requirements of rule. The independent study commissioned for this alternative by Xcel was submitted by CURE in DEIS comments. The alternative is within the scope as a ‘replacement plan’.

The attorney for CURE raised the issue at the public hearing that the FEIS failed to include, analyze, or recommend an update of Xcel’s independent study of the Prairie Island replacement plan of 2002, as an alternative to extended operations and waste expansion.

The subsequent discussion with Steve Rakow (Commerce) revealed that EERA constrained the scope of alternatives to a selection of options in the present IRP. The PINGP Study Group requests that a requirement to update this replacement plan – attached to the CURE comments --- be added to the alternatives under consideration in the case.

**Mitigations.** Another key provision of the EIS. Where are they discussed?

## **2. Should the Commission grant a Certificate of Need to Xcel Energy for additional dry cask storage at the Prairie Island Nuclear Generating Plant? PUC Docket Number E002/CN-24-68 3 | Page.**

No.

The CON involves four interconnected actions that Xcel is pursuing to:

- Switch from the NUHOMES 9” steel-walled storage casks to a 5/8” thin-walled cannister system made by Holtec. The stated goals, as noted in the FEIS, are to save money and coordinate with Holtec’s consolidated private storage initiative, licensed by NRC for 40 years, currently suspended by multiple legal challenges <https://apnews.com/article/supreme-court-nuclear-waste-texas-new-mexico-a426602c562f3a43696f0a2a9760ffde>
- Push the operating life of the highly profitable but aging plant out to 80 years;
- Double the number of casks stored on site from 64 to at least 127, with decommissioning wastes; and
- Reduce decommissioning fund accruals from 21 million to 3 million annually.

**3 key questions** for evaluating the environmental, social and economic costs and benefits in the Certificate of Need proceeding for continued expansion of waste storage:

- **Term of storage:** Given the record of failed attempts to create a centralized permanent or interim site, what evidence is there that the waste will not be stored indefinitely or permanently at Prairie Island on the banks of the Mississippi River?

In 1993-95 the state's legal and legislative apparatus grappled with this essential question. Judge Klein's rejection of the Commission's decision warned of the dangers of "ongoing expansion of waste stranded at reactor sites" becoming ad hoc permanent storage.

In addition to discussion in this comment, two relevant historic documents from Judge Klein's deliberations and the legislative debate are linked for your review.

<https://www.lrl.mn.gov/webcontent/lrl/guides/nuclear%20waste/amicusbrief.pdf>

<https://www.lrl.mn.gov/webcontent/lrl/guides/nuclear%20waste/oahnsp41092.pdf>

- **Waste inventories and costs:** Who will ultimately bear the risks and costs of indefinite at reactor site storage? How long can we expect the current institutions, federal government and utility, to remain responsible for the 3 essentials: monitoring, management and funding? What is the back up? What costs might be left to the state and communities to bear?

**CON Rules 216b.243 (12) if the applicant is proposing a nonrenewable generating plant, the applicant's assessment of the risk of environmental costs and regulation on that proposed facility over the expected useful life of the plant, including a proposed means of allocating costs associated with that risk.**

By 2011, waste inventories had already exceeded the planned capacity and legal cap on Yucca Mountain. Both official and media reports demonstrate how little impetus there is to resolve a waste problem that is growing exponentially by an estimated 2000 metric tons a year. Costs of indeterminate, long-term storage are compounding at a rate even greater than waste inventories, due to the lack of coordination of multiple strategies, and lack of R&D for indefinite storage: (technology, security, monitoring, management; transfer and periodic replacement of casks/cannisters and facilities).

This predicament is discussed in the 2024 report to Congress and the Secretary of Energy, from the U.S. NUCLEAR WASTE TECHNICAL REVIEW BOARD Evaluating the U.S. Department of Energy Research and Development Activities on The Disposition of Commercial Spent Nuclear Fuel in Dual-purpose Canisters

[https://www.nwtrb.gov/our-work/reports/evaluation-of-the-u.s.-department-of-energy-research-and-development-activities-on-the-disposition-of-commercial-spent-nuclear-fuel-in-dual-purpose-canisters-\(february-2024\)](https://www.nwtrb.gov/our-work/reports/evaluation-of-the-u.s.-department-of-energy-research-and-development-activities-on-the-disposition-of-commercial-spent-nuclear-fuel-in-dual-purpose-canisters-(february-2024))

“3.1 From 2008 through 2022, an average of more than 190 dry-storage casks per year were loaded at nuclear power plant sites (Freeze et al. 2021; UxC 2022, 2023b). As of June 1, 2023, almost 4,000 dry-storage casks are in service at ISFSIs (UxC 2023a). Freeze et al. (2021) estimated that about 10,000 dry-storage casks will be needed to store SNF discharged from nuclear power plants by 2080, when all SNF from the final shutdown reactors will have been transferred to dry storage ...

3.1.1 DOE Research- As of June 2023, there is no DOE R&D activity specifically addressing indefinite storage (more than 80–120 years) of SNF at ISFSIs.”

These realities, among many others, belie the assumptions of the NRC’s 2014 Generic EIS, quoted in the FEIS at page 80:

- Spent fuel canisters would be replaced every 100 years.
- To facilitate this replacement, a dry transfer system (DTS) would be constructed at each ISFSI to repackage spent fuel
- ISFSI and DTS facilities would be replaced every 100 years.
- Institutional controls would remain in place for all analysis timeframes.
- All spent fuel would be moved from spent fuel pools to dry storage by the end of the short-term storage timeframe (60 years).”

The FEIS continues with the conclusion: “Analysis in the generic EIS indicated that most all potential human and environmental impacts of continued storage of spent nuclear fuel would be small. Though the NRC analyzed a scenario in the EIS reflecting indefinite storage in an ISFSI, the NRC believes that the most likely scenario for spent fuel storage is the availability of a federal, geologic repository within 60 years of a reactor’s licensed lifetime.”

**Programmatic implementation and funding do not exist for any of these highly unrealistic assumptions to date.** It is unknown whether the burgeoning costs of nuclear waste management will be supported by this or future administrations. The Commission’s duty is to critically assess present and future financial and environmental risks and benefits; and act to protect the state’s ratepayers and resources. The FEIS does not provide the basis of information required for this assessment.

Two articles from 2010-11 show how little things have changed.

<https://world-nuclear-news.org/Articles/US-utilities,-regulators-sue-DoE-over-waste-fund>; <https://www.nbcnews.com/id/wbna42219616>:

“Users pay as taxpayers, too — for dry storage. Utilities that have run out of storage space in pools successfully sued the federal government for breach of contract, because it failed to keep to the 1998 deadline to establish long-



term storage. **By law, the money for dry casks cannot come from the nuclear waste fund, and must come from the federal budget.”**

While discussing funding for nuclear waste maintenance at the hearing, Pam Gorman’s comments implied that the Nuclear Waste Fund pays and will continue to pay for storage costs incurred due to the failure of the federal program. This is not accurate. A thorough overview of all these factors is provided in a **2021 Congressional Report on Civilian Nuclear Waste Disposal**, which confirms and explains the situation noted above.

<https://www.congress.gov/crs-product/RL33461>

**There is no responsible, safe storage of nuclear waste without adequate funding.**

The state must retain, by exercising it, PUC’s regulatory authority over economic decisions related to nuclear power and waste disposal. In this and associated proceedings, *the Commission must consider the possibility that the federal government will not indefinitely repay utility costs, and that decommissioning funds may be the only source of funding for indefinite storage*, including associated costs of periodic replacement of casks and ISFSI facilities, which will require dry transfer systems that are exceedingly costly to develop.

- **Storage Technology and radioactive half-lives:**

**Impact to ratepayers?** Given the enduring dangers of radioactive elements to be contained for an “indeterminate period” at reactor site ISFSIs in dry cask storage, how should we view priorities of storage technologies? What if the Consolidated Interim Storage initiative, like all the initiatives before it, fails? Will the less robust container technology, which relies on concrete casing for shielding, prove effective for hundreds or thousands of years? Will utilities retain legal responsibility for the waste, as required by the national RWMA, if they are moved offsite to a privately owned facility? How will all this impact ratepayers?

**The attached AI inquiry for technical information** on radioactive half-lives of the elements in spent fuel attempts to provide data and gain perspective on the dramatic gap between the length of time that radioactive elements remain deadly and the containment strategies that are being proposed and deployed. I was unable to check all sources, but the contrast is stark. NRC is licensing facilities for 20 years, 40 years at a time, for radioactive materials with half lives in the thousands, tens and hundreds of thousands, millions of years.

**Plutonium-239 (Pu-239)**

- **Half-life:** 24,100 years - **Decay:** Alpha emitter, highly toxic if inhaled or ingested, and it remains hazardous for thousands of years.

#### . Uranium-235 (U-235)

- **Half-life:** 703.8 million years - **Decay:** Uranium-235 undergoes fission in nuclear reactors but is present in spent fuel as an isotope that has not completely fissioned.

**Question: How much plutonium and uranium are still present in a typical spent fuel rod**

After a typical reactor cycle, the spent fuel rod still contains mostly **U-238** (about 95%), with small amounts of **U-235** left.

The half-life of **Uranium-238 (U-238)** is approximately **4.468 billion years**. U-238 decays by emitting an alpha particle. Alpha particles are highly **ionizing**, meaning they can cause significant damage to cells, but they have very **low penetration power** and can be stopped by something as thin as a sheet of paper or even human skin. However, **alpha particles are extremely dangerous if inhaled, ingested, or if they enter the body through a wound**. Inside the body, they can cause substantial damage to internal tissues and organs because they deposit a lot of energy in a small area. Common sources of alpha radiation include **radon gas** and certain isotopes like **Uranium-238** and **Radium-226**.

- **Plutonium** will be present in the spent fuel at about **1-2%** of the mass, primarily as **Pu-239**, with other plutonium isotopes.
- The remaining mass is mostly composed of **fission products** that result from the fission of uranium and plutonium.

“U.S Spent power reactor fuel contains some of the world’s largest concentrations of artificial radioactivity. (1) 23 billion curies (8.51E+20 Bq) of long-lived radioactivity (>20 times more than generated by the U.S. nuclear weapons program). (2) About 9.2 billion curies (3.4E+20Bq) of cesium-137(350 times more than released by all atmospheric nuclear weapons tests); and (3) About 700 metric tons of plutonium (about 3 times more than used for weapons throughout the world).”

The 2021 GAO Office Report on *Commercial Nuclear Waste* discusses the steep cost curve of unresolved and uncoordinated storage initiatives and technologies.

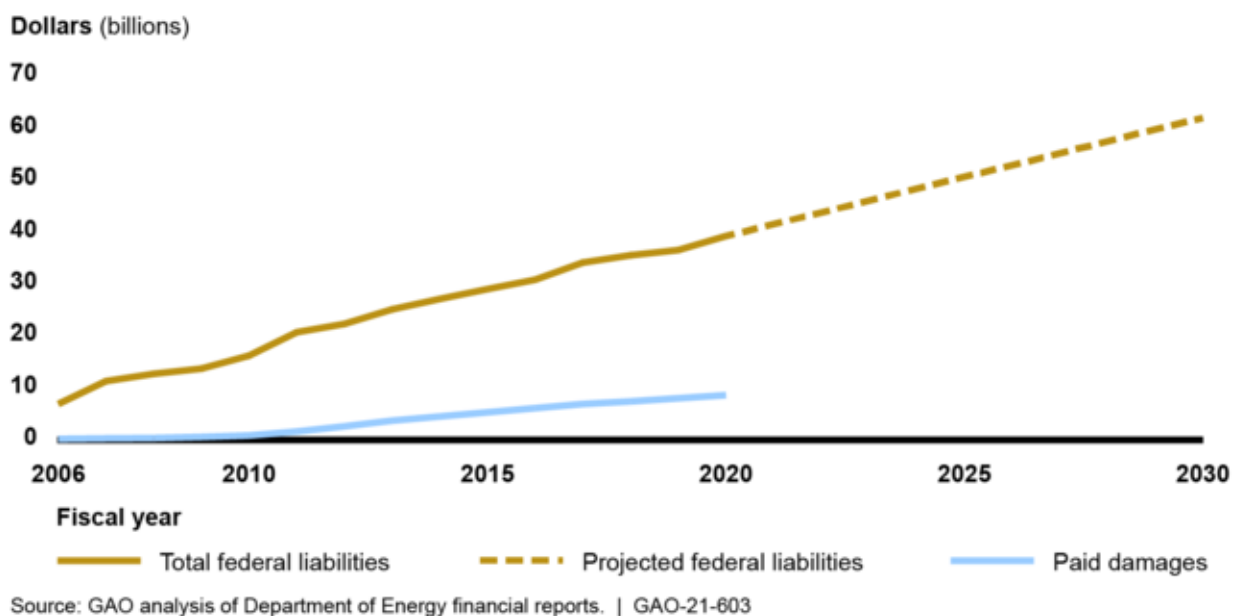
<https://www.gao.gov/products/gao-21-603>

“The United States currently has an ad hoc system for managing commercial spent nuclear fuel, which can affect future disposal decisions and costs. For example, spent fuel is stored using a variety of different technologies that will have implications for final disposal.”

This point is made in PINGP comments to the 2021 proceeding (linked above) regarding the potential complications of combining cask and container technologies on Prairie Island. Projected costs for 100 year replacement of casks and cannisters, including technology to transfer rods to new containers, deal with damaged rods, and replacement of ISFSI facilities are in the billions. Are these costs accurately represented in the Triennial Decommissioning report?

**Figure: Department of Energy Total Estimated Costs and Remaining Liabilities for Storing Commercial Spent Nuclear Fuel (SNF), in Billions of Dollars**

4. How much plutonium and uranium are still present in a typical spent fuel rod



**3. If granted, what additional conditions or requirements should be considered for inclusion in the Certificate of Need?**

If the CON for continued operations and expanded storage is legally permitted by PUC, the likelihood predicted by Judge Klein in his 1993 report that the waste would never be removed is becoming reality.

**A. Provision for ongoing long-term evaluation and oversight of nuclear waste stranded at reactor sites in Minnesota needs to be moved to the forefront of state, utility and PUC planning.**

- **Collaboration** with the Prairie Island Indian Community and Red Wing is essential;

- **A public forum** that includes interested parties and members of the public should be held at least annually – by Xcel, with NRC and responsible state agencies.
- **An independent facilitator** needs to be paid for by Xcel to ensure unbiased treatment and independent development of issues and concerns, as recommended by the PINGP Study Group in the 2009 proceedings.
- **EQB needs to act** upon its responsibilities under the state’s Radioactive Waste Management Act. It should resume, design and implement a Nuclear Waste Management Program with annual reporting to the Legislature. It is important to have an independent platform for these issues. The MEQB alone provides public access to state agency heads and the ability for anyone to provide input on issues that affect the state’s resources, as all are charged under MERA, 116B.01.  
<https://www.revisor.mn.gov/statutes/cite/116B.01>
- **Reactivating the Nuclear Waste Council for state oversight** remains an option for the legislature to direct and fund. The Council was put into place in the 1980s to protect the state from federal citing

It is essential to have an independent platform for state and local institutional oversight.  
All the nuclear waste environmental reviews from at least 2009 on, note that this is the only way to mitigate potentially disastrous effects of radiological releases over time.

The Prairie Island Indian Community has borne the brunt of advocacy for federal action. The state’s Department of Public Service under Kris Sanda once had an effective program which tracked, advocated and educated on state interests in nuclear matters. PUC’s involvement in NARUC and the Nuclear Waste Strategy Coalition is important, but the ultimate responsibility for nuclear waste in Minnesota lies with the Legislature.

**B. 200 year timeline.** As directed by PUC, Xcel is integrating a 200 year timeline into its waste management projections. In light of PUC direction given to Xcel and outlined in their 2022-24 Triennial Decommissioning plan, Xcel must develop and share public facing documentation of these long-term plans. This documentation must be clear and accessible, accurate and complete – estimating projected costs, funding sources, timelines and associated monitoring and management provisions. Anything else is a ‘shell game’, the kind where you hide a pea under a shell, and move the shells around to confuse and evade detection.

### **C. Provisions to be integrated into relevant proceedings- joint report to PUC:**

A recommendation for a condition for an ongoing oversight provision arose in the 2021 proceeding. It was supported by EERA/DOC. It is referenced in the 2025 FEIS.

The PUC chair was opposed to including it in the CON conditions. Commissioner Sullivan suggested that further discussion be included in the next Triennial Decommissioning Plan: 08-510 Order 10/05/2022 [202210-189557-01](#)

“The Commission recognizes the importance of institutional controls concerning spent nuclear fuel. The Commission will solicit comments on improving public input regarding new or existing planning processes that address new or existing institutional controls in the next Triennial decommissioning docket.”

At page 12 the 2022-2024 Triennial Decommissioning Report Xcel discusses:

THE OBLIGATIONS OF THE UTILITY HOLDING SPENT NUCLEAR FUEL TO STATE AND LOCAL HOST COMMUNITIES RELATED TO DECOMMISSIONING AND STORAGE

<https://www.lrl.mn.gov/docs/2023/mandated/230666.pdf>

The page lists 3 initiatives called for by PUC or PIIC. Where are these reports? And when were these discussions? Despite being closely involved with the issues and dockets for decades the commenter has never been contacted to participate.

- In Docket No. E-002/11-939, the Commission required Xcel Energy to work with the host communities and the Prairie Island Indian Community (PIIC) prior to the next triennial filing to address the requirement to evaluate the cost, if any, arising from the storage of spent nuclear fuel to the state, tribal, and local governments once the plants are no longer operating. The Commission required Xcel Energy to file periodic status reports on those discussions.
- In Docket No. E-002/14-761, the Commission required Xcel Energy to continue working with its host communities, and that in its next nuclear decommissioning filing, Xcel Energy develop 60, 100, and 200-year plans for the City of Red Wing to enable better communications with the city and foster an understanding of the long-term safety-related costs of spent fuel storage on host communities.
- “Most recently, in Docket No. E-002/M-17-828, the PIIC filed comments expressing strong concern that spent nuclear fuel will remain at the Prairie Island Independent Spent Fuel Storage Facility (ISFSI) for many years following discontinuation of generation from the plant, with little assurance of a specific timeline given the Federal government’s inaction on permanent storage”

What condition would consolidate these requirements so that they could be tracked, and accountable?

**Conditions to consider to address Environmental Justice:**

An article on *Emerging Environmental Justice Issues in Nuclear Power and Radioactive Contamination* (2016) confirms the scope of concerns expressed in comments from the Prairie Island Indian Community <https://pmc.ncbi.nlm.nih.gov/articles/PMC4962241/>

Minnesota has placed a priority on environmental justice. Progress in this matter over the last 10 years is not reflected in the FEIS. We appreciate EERA consultation with PIIC for the present review. Unfortunately, as stated repeatedly in comments to the 2009, 2021, and 2024/5 dockets the discussion of Environmental Justice in the FEIS remains wholly inadequate.

Respecting the provisions for, and PIIC's active engagement in, its consulting rights and roles -- it is regrettable that this section is so dismissive of the issues:

- CURE's comments informing the record of new developments in the health effects of low-level radiation exposure were dismissed.
- The palpable anguish in comments about health impacts from PIIC community members is dismissed with "Thank you for your comment".

**Mitigation of EJ issues:** There was no discussion in the FEIS of possible paths to mitigation for the unique situation of the PIIC, as the closest community to reactor operations and storage in the country.

An ongoing mediated/facilitated independent platform for discussions between the Tribe and Xcel, funded but not controlled by Xcel was recommended in PINGP Study Group comments to the 2009 docket. All items under 3A above are relevant to this discussion.

#### **4. Requesting ALJ review of legislative requirements and agency responsibilities:**

##### **The Nuclear Waste Management Reports:**

<https://www.eqb.state.mn.us/sites/eqb/files/documents/NuclearReport.pdf>

Background: "In 1988, Minnesota Statutes were amended to require the Office of Strategic and LongRange Planning to report annually to the Legislature on activities by the federal government relating to the federal high level radioactive waste disposal program (Minnesota Statutes section 116C.712, subdivision 5). The Office of Strategic and Long Range Planning has prepared an annual report since 1987. The last report was prepared in June 2000. These reports are all available at the Minnesota Legislative Reference Library."

<https://www.eqb.state.mn.us/sites/eqb/files/documents/NuclearReport.pdf>

**The Minnesota Environmental Quality Board is responsible for Nuclear Waste matters under 116C.701-116C.83.**

When the Long Range Planning Office was abolished by Governor Pawlenty in 2003, the reporting requirement fell to EQB. “The Environmental Quality Board reports each year to the Legislature on federal activities to construct and operate a national repository for management of high-level radioactive wastes “ The waste report was not separately funded. The last report was submitted to the Legislature in 2007.

Despite the authorities and responsibilities assigned to it under 116C.701-116C.83, MEQB has not had an active Radioactive Waste Management Program for two decades. The transfer of the Power Plant Siting staff of EQB to EERA at DOC -- and now to PUC – has created programmatic complications for Nuclear Waste oversight in Minnesota.

**Transfer of Routing and Siting from EQB to PUC:** Effective July 1, 2005, Article 3 of the energy bill S.F.1368 transferred power plant and wind turbine siting, transmission line and pipeline routing authority from the Minnesota Environmental Quality Board (EQB) to the Minnesota Public Utilities Commission (PUC).

The same law transfers the energy facility permitting staff from the EQB to the Minnesota Department of Commerce. PUC testified In 2005 that they were concerned to assure the independence of environmental review group. The Environmental Quality board staff was transferred to DOC (Ed Garvey) as the EERA Energy Environmental Review & Analysis group.

Responsibility for 116C.701-116C.83 was not transferred. And responsibility for mandatory environmental review for expanded waste storage remained under EQB in rule until 2024, when EQB rule changes transferred the review provision to PUC which now houses the ‘independent’ environmental review staff (EERA).

#### **Addendum – Nuclear is not a renewable resource 216B.243 Showing for CON.**

**Subd 3a. The commission may not issue a certificate of need under this section for a large energy facility that generates electric power by means of a nonrenewable energy source, unless the applicant for the certificate has demonstrated to the commission's satisfaction that it has explored the possibility of generating power by means of renewable energy sources and has demonstrated that the alternative selected is less expensive, including environmental costs, than power generated by a renewable energy source. For purposes of this subdivision, "renewable energy source" includes hydro, wind, solar, and geothermal energy and the use of trees or other vegetation as fuel.**

Regardless of its role in the state’s policy goals for reducing greenhouse gas emissions, nuclear power does not qualify as a renewable resource. Nor is it an emissions-free energy

resource as is sometimes claimed. Nuclear power plants produce a range of operational emissions, including radioactive isotopes in the form of gaseous and liquid releases:

**Tritium (H-3)**, a byproduct of neutron interaction with lithium or boron in the reactor, is released through venting or as part of water discharge, in both gaseous and liquid forms. It releases low-energy beta radiation, which can be hazardous if inhaled, ingested or absorbed through the skin.

The worst tritium releases at Prairie Island have involved tritiated water leaks from pipes in the plant's systems, with notable incidents occurring in 2004, 2010, and 2013. While these releases were serious, they were contained within the plant's site and did not result in significant off-site contamination. The plant's operators have responded with corrective measures, and the releases have generally been managed within the regulatory frameworks set by the NRC and state agencies.

- The well at Prairie Island Nuclear Generating Plant that was affected by tritium contamination was replaced in **2014**. This well, which was part of the plant's monitoring system, had shown elevated levels of tritium in the groundwater, which was linked to a leak at the facility. This was part of a larger effort to address groundwater contamination from the tritium leaks that had been detected in previous years (notably in 2010 and 2013).

**Carbon Dioxide (CO<sub>2</sub>)**: While nuclear reactors themselves do not directly produce significant amounts of CO<sub>2</sub> during operation, the full lifecycle of nuclear energy, including uranium mining, fuel processing, plant construction, and waste management, does produce CO<sub>2</sub> emissions.

**Other emissions** released in small amounts, include the Noble Gases, like krypton and xenon; Iodine-131 and Cesium-137 and Radon.

**Cooling Water and Thermal Pollution**: Nuclear plants often use large amounts of water for cooling. The process of discharging the heated water back into nearby rivers, lakes, or oceans can raise the temperature of those water bodies, affecting local ecosystems. This is known as thermal pollution.