ID Number 5

"The generic EIS analyzed three potential lengths of spent fuel storage in an ISFSI:
(1) 60 years,
(2) 160 years, and
(3) indefinite storage.[1]

5-7 cont.

For the purposes of analysis, this would include cask and IFSI license periods, decommissioning timelines, if and how many casks might be added to the ISFSI during decommissioning; a list of the factors influencing rates of concrete, metal and cask deterioration and compromise; with reference to engineering studies for concrete and cask materials, climate, temperature, moisture and other factors

Half inch (½) to five eighth (⅝) inch 54 ton (?) thin walled canisters of high level nuclear waste depend upon concrete shafts for shielding and integrity. Both must be monitored. 9-10" walled dual purpose casks incorporate shielding. There are a myriad of cask integrity studies online at EPRI, NRC, Sandia etc. The SEIS should review and reference them. Examples include:

5-8

https://adamswebsearch2.nrc.gov/webSearch2/view?AccessionNumber=ML16103A218
https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-24412rev1.pdf
https://www.epri.com/research/products/000000003002000815
Failure Modes and Effects Analysis (FMEA) of Welded Stainless Steel Canisters for Dry Cask Storage System (2013)

"The only plant"? It is often claimed that PINGP is "the only plant" with "this kind" of cask. It is true that only Prairie Island has TN-40's. The TN series of metal dual purpose casks, numbers TN-24, 32, 40 etc. indicate how many rods they hold. Prairie Island does not have a unique design of cask but the TN series with the largest number of rods. Xcel has applied to have both current casks approved for transportation. What are the benefits and risks, other than short term cost savings, to install an additional, different cask technology for the last % of casks? Monitoring technology costs and requirements are other critical factors for comparison.

5-9

What needs to be clarified?

2.1 Regulatory Framework - State

State - "at the state level, the project requires approval from the Commission – an amendment of the CN issued by the Commission in 2009"...

5-10

Please clarify: what is the agency's current thinking or position on the matter of CON recertification, information development and conditions?

2.2 Regulatory Framework - Federal

According to the SEIS:

- "The NRC regulates the storage of spent nuclear fuel in ISFSIs by means of two licensing processes – a site-specific license and a general license."
- "The Prairie Island ISFSI has a site-specific license for the use of TN-40 casks.[21] The ISFSI was initially licensed by the NRC in 1993.[22] The license has subsequently been renewed and currently expires in 2053."[2]
- "Xcel Energy proposes to use an(y) NRC-certified cask for the storage of spent nuclear fuel in the PINGP ISFSI"
- "Xcel Energy proposes to proceed under the NRC's general license process (discussed above)."
- Using this process, Xcel Energy will need to file documentation with the NRC demonstrating that the cask selected can be properly used in the PINGP ISFSI, i.e., that its use in the ISFSI will be consistent with the conditions in the cask's certificate of compliance.[35]
- (However) "NRC has not yet implemented its general license process"

ID Number 5

Please clarify: Is Xcel requesting the commission to grant permission for Xcel to use any cask certified by NRC – without recertification (CON) of cask technology for the site specific license – *before it completes the general licensing process* with NRC? This is confusing and unclear.

5-11

What needs to be added or edited such that the final SEIS is complete and accurate?

B. Safe Long Term Storage: Most importantly there is no information in the SEIS about the actual requirements of monitoring and maintenance that are central to the assumption of "institutional control", upon which the conclusions of the SEIS (and the NRC's Generic EIS) depend.

> "Based on Chapters 4 and 5 of this SEIS, and assuming institutional control that facilitates monitoring and maintenance of the ISFSI, a different spent fuel storage technology in the PINGP ISFSI is not anticipated to adversely affect public health over of storage period of up to 200 years. "
> **7. Long Term Storage of Nuclear Fuel**

5-12

Under the terms of the Nuclear Waste Policy Act, the regulated utility - Xcel - remains responsible for safe storage until it is moved to a federal facility. In assessing costs, it is crucial that the commission have a basis to understand the financial investments that must be made to meet the assumptions of 'no impact' or 'minimal effect'. The SEIS is an opportunity to inform the commission of what investments are required to prevent the "predictable and severe" health and environmental consequences of failure to plan for and fund these requirements. Funding provisions for the costs of this assurance is the regulatory responsibility of the Commission.

7. 1 NRC Generic EIS – Assumptions:

> "Analysis in the (NRC Generic) EIS was based on a number of assumptions, including:
>
> - Spent fuel casks and 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.
>
> …The NRC amended the WRC to remove any expressions of confidence regarding a federal repository or the length of time that spent nuclear fuel could be safely stored in an ISFSI."

The SEIS concludes that there will be no significant effects for a storage term up to 200 years "assuming institutional control that facilitates monitoring and maintenance of the ISFSI" throughout the duration. Yet no such provisions exist. And will not exist without continued exercise of PUC authorities and oversight. Without planning and funding for these provisions, the conclusion of the SEIS is invalid.

5-13

The SEIS need, at least, to outline the provisions for safe long term ISFSI storage that would allow for costs to be calculated, along a timeline. And consider proposing a condition that PUC require and monitor planning and funding for the assumed controls above - which are the basis for the SEIS conclusion of no environmental or health impacts.

ID Number 5

5-14

Costs and savings: The commission *needs this information* to consider the cost factors of long term environmental protections, all of which depend on funding, when it acts on Xcel's request to save money by using a cheaper canister system. The SEIS must at least specify (and chart) the requirements for monitoring, maintenance, cask and facility replacement and the other factors noted in A. If, in fact, thick walled casks have stood the test of time (since 1986), safety and testing regimes (and accidents such as Fukushima) it may be prudent for PUC to consider the possibility that such savings is false economy, for the long term. (See "Fact Sheet" at end).

7. Long Term Storage of Spent Nuclear Fuel - at reactor sites - How long?

The SEIS clearly and fairly examines the federal status of the promise of permanent storage. It also notes that the federal legality of Interim Storage facilities is unresolved; state prohibitions have been passed; and initial licensure is for a small fraction of plant waste inventories. In addition the priority of the facilities is for waste from decommissioned plants using their cask technologies. License terms of casks and facilities is 20-40 years. There are no license provisions for extension for ISFSIs or Interim storage out to 200 years. Hence the Generic EIS "assumption" of replacement of ISFSI and cask and canisters every 100 years.

Xcel discusses possible cost savings of using SAFSTOR to delay decommissioning for 60 years at the PING. NRC requires decommissioning to be completed within 60 years.. However, 10CFR 72.30 on ISFSI Decommissioning Funding Plans (2018) notes:

> Completion of the ISFSI decommissioning process is dependent upon the DOE's ability to remove spent fuel from the site. DOE's repository program assumes that spent fuel allocations will be accepted for disposal from the nation's commercial nuclear plants, with limited exceptions, in the order (the "queue") in which it was discharged from the reactor.

D. Maintaining Institutional Oversight - The SEIS affirms the 2009 EIS conclusion:

"Individuals living near degraded ISFSIs would suffer severe health impacts due to direct The Yucca Mountain EIS made clear that institutional control directly influences ISFSI functioning and public health.[7] Regarding institutional control, the 2009 Prairie Island EIS concluded:

> Institutional control assumes not only a solvent and effective entity (e.g., Xcel Energy) responsible for maintaining proper functioning of the ISFSI, but also solvent and effective socio-political institutions that provide a stable societal framework for the ISFSI. For there to be institutional control of the Prairie Island ISFSI, the city of Red Wing, Goodhue County, the State of Minnesota, and the United States of America all have to exist as functioning political entities. There are myriad demands on these entities. In this respect, the Prairie Island ISFSI is just one more demand on the list. However, the ISFSI is unique in that its demands will last much longer than typical socio-political demands and the consequences for failing to meet these demands are predictable and severe.[8] "

*116D.04 Subd. 6. Prohibitions. No state action significantly affecting the quality of the environment shall be allowed, nor shall any permit for natural resources management and development be granted, where such action or permit has caused or is likely to cause pollution, impairment, or destruction of the air, water, land or other natural resources located within the state, so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health,safety, and welfare and the state's paramount concern for the protection of its air, water, land and other natural resources from pollution, impairment, or destruction. **Economic considerations alone shall not justify such conduct"**