

Minnesota Department of Natural Resources

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May 8, 2009

Bill Storm
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

RE: Xcel Energy Prairie Island Nuclear Generating Plant Proposed Uprate and Dry Cask Storage
Draft Environmental Impact Statement
PUC Site Permit Docket Number: E002/GS-08-690

Dear Mr. Storm:

The Minnesota Department of Natural Resources (DNR) has reviewed the Prairie Island Nuclear Generating Plant (PINGP) Draft Environmental Impact Statement (DEIS.) We offer the following comments.

Water Use

On page 90, Section 5.0, the DEIS states, "water consumption will remain approximately 1 percent of the lowest annual mean." The annual mean includes high flows. DNR is less concerned about surface water appropriation during high flows. A more meaningful measure would be the percentage of some low flow value, such as Q90. DNR recommends the Final EIS compare the rate of appropriation as a percentage of the Q90 at Lock and Dam No. 3

Also, DNR requests clarification of the term "consumption" as used in the statement from Section 5.0, page 90. Does this term reflect the amount evaporated, or the rate of appropriation? Minnesota Rules, part 6115.0630, subpart 7 defines the term "consumption" as "water withdrawn and not directly returned to the same waters as the source for immediate further use in the area." The Final EIS should define how the term "consumption" is used in this context.

Thermal Footprint

The reach of the Mississippi River downstream from the PINGP thermal mixing zone is one of the most popular large river fisheries in Minnesota, and supports high levels of use by resident and nonresident anglers. As interstate water, it constitutes a valuable fishery resource for the state of Wisconsin as well. In addition to providing an important coolwater fishery, the river provides critical habitat for a number of state threatened and endangered mussel species at this location. As such, the DNR has considerable interests and responsibilities for managing and protecting these aquatic resources. We are concerned that the effects of the increased thermal discharge, acting in concert with changing summer climate regimes, might unsustainably increase the stress to sensitive aquatic organisms during periods of low stream flow with conditions of high temperatures and humidity. The State's currently permitted water quality temperature maximum of 86 degrees F. is already a stressful condition for coolwater species, and NPDES permit conditions allow for limited exceedences of this standard. The 3 degree F. increase in the cooling water discharge volumes will extend the periods of high temperatures approaching the maximum, and could contribute to the frequency of exceedence. DNR is also concerned that a change in the river's thermal regime could have negative impacts on winter ice cover on Lake Pepin, affecting angler



accessibility to the resource and safety concerns. Because of these factors, we have requested the provision of additional cooling capacity, to be deployed seasonally on an as-needed basis, to protect the aquatic communities of the Mississippi river.

While the DEIS appropriately references the 1987 study conducted by H.G. Stefan on PINGP's effect on residual heat input to Lake Pepin, the study did not contemplate a 10 percent increase in thermal loading. Stefan concluded that the ice cover on Lake Pepin was not affected "very adversely," that a detailed analysis was beyond the scope of the study, and that further analysis of that point is necessary. Stefan's observation on ice cover was based on review of ice thickness data collected by Northern States Power (NSP) from 1981 to 1986. However, the most upstream of the five measured transects was 5 miles downstream from the head of Lake Pepin. Therefore, Stefan's conclusion and the NSP data do not represent conditions for the upper quarter (5 miles) of the lake. This reach is shallower and does not allow for the sinking plume of the denser, warmer water. Visual observations conducted by NSP in 1982 at Greene Point, 2 miles downstream from the head of the lake, indicated the lake was totally ice covered to the head of the lake when observed on January 5 & 19 and February 8. This was the year prior to discontinuing the use of cooling towers in the winter. Our field staff observations and U.S. Corps of Engineer ice thickness monitoring show that open water conditions are now typical for the upper 2-3 miles and common for mile 3-5 of the Minnesota side of the lake.

DNR recommends, as a condition of the site permit, Xcel Energy initiate a study that updates the Stefan study, reviews recent U.S. Army Corps of Engineers data and Landsat imagery, and evaluates the need for additional modeling and monitoring of the effects that a thermal change may have on ice cover. DNR is willing to coordinate with Xcel, and other interested agencies, on developing the methodology of such a study, and will provide review and evaluation of the results.

Thank you for the opportunity to provide comments on the Draft EIS. Please contact me with any questions regarding this letter.

Sincerely,



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c: Joe Kurcinka, Tim Schlagenhaft, Wayne Barstad, Jack Enblom, Bill Huber, Kevin Stauffer, Scot Johnson