Minnesota Department of Natural Resources
500 Lafayette Road • St. Paul, MN • 55155-4037

October 7, 2008

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

RE: Prairie Island Nuclear Generating Plant Proposed Uprate and Dry Cask Storage EIS Scope
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) EIS Scoping document and Scoping EAW. We offer the following comments on the Scope of the EIS.

Water Level Drawdowns
The DNR has discussed with Xcel Energy a potential water level drawdown of Pool 3 to improve habitat for fish and wildlife. We have requested Xcel provide information on the potential effects of a drawdown on plant operations, including information needs and potential issues. This information is important for continued planning efforts within the Water Level Management Task Force, a multi-agency work group charged with making water level management recommendations on the Mississippi River. Drawdowns have been used successfully on other Mississippi River pools, and have great potential to improve the degraded habitats in Pool 3 by consolidating sediments and stimulating growth of submerged and emergent aquatic vegetation. Active participation by Xcel in planning and coordination, as well as meeting our information requests, is needed.

Xcel Prairie Island Communications Tower
Xcel maintains a 340-foot high tower that is centered in the river valley. This geographical location is directly in the Mississippi Flyway that is the corridor for 40 percent of the migrating birds in North America. The tower poses a hazard to both migrating and resident birds, as well as being an aesthetic impairment for surrounding residents and river user groups. Our discussion with Xcel staff has indicated that the tower is a component of the Nuclear Regulatory Commission required communication system, but we question whether advanced technology could replace the tower with a low profile transmitter/receiver coupled with a low profile bluff top repeater station that would provide the same system reliability.

Thermal Footprint
The DNR has been directly involved with the negotiations and consultations for the licensing, permitting, and general operating procedures of PINGP. We have coordinated with Xcel, MPCA, WDNR and other interested parties in matters relating to the operation of this facility, and an important body of biological, physical, and water chemistry data has been gathered and distributed by Xcel over the operating life of the plant. The required monitoring of the fish populations, upstream and downstream of the plant discharge, has been conducted to provide assurance that any impairment to the aquatic biota of the river is avoided or reduced to the lowest practical level. This reach of the Mississippi River is a very high priority for DNR because of the intrinsic natural resource values of the surrounding area, the high recreational use, and the high profile walleye/sauger sport fishery that exists here.

The current thermal footprint, temperature restrictions, cooling water appropriation volumes, and fish entrainment/impingement have been highly important issues for DNR since initiation of facility service. We have

worked with our cooperators to ensure appropriate conditions within the NPDES Permit, and reviewed the results of annual environmental monitoring to evaluate the effects to the ecology of the Mississippi River. The monitoring conducted by Xcel and Minnesota and Wisconsin DNRs has not documented any substantial negative effects on the fish community to date, but facility operation causes some fish redistribution towards the warm water plume during the winter, and negative effects on Lake Pepin ice conditions at this time of year. Past NPDES Permit conditions have alleviated the concern for maintaining the appropriate winter chill period for egg maturation in percid fish (walleye/sauger) between the fall temperature trigger and March 31st. Permit limitations have also prevented any measurable effect of heat stress during summer periods of high river temperature and low stream flows.

Based on the proposed uprate, and increase in rejected heat, DNR requests that Xcel provide companion discussion of expanded cooling tower capacity that addresses the additional increment of thermal load to the river. The 10% increase in rejected heat, and maximum of 3 degrees F. increase at the discharge canal should be process treated through the use of an additional 10% (plus margin of safety) of cooling tower capacity. We suggest that an auxiliary dry cooling tower should be evaluated, which could address this new increment of thermal loading to the river, and eliminate any concerns of impairment to aquatic biota. This type of design would provide the partial cooling necessary during winter operation when the existing wet cooling towers would be subject to severe maintenance issues. This would prevent further deterioration of ice cover on Lake Pepin. A dry tower would also be able to provide backup capacity for those periods of low river flow and high atmospheric temperatures when PINGP is at or approaching an energy emergency (Code Red).

In order to maintain the established design proportions of cooling capacity to thermal output for PINGP, an additional (10%) of cooling capacity must be included in the uprate design. Without this action, the exceedences of the 86 degree Fahrenheit summer temperature maximum will increase. While there are permit provisions (with MPCA notification) for these extreme periods and temperature violations, DNR does not want future plant operation to contribute any additional thermal pollution during these periods of high stress with potential mortality for aquatic organisms. These periods generally occur when electrical demands are at peak and reducing power is counter to meeting the annually increasing demand. Energy emergencies have already resulted in temperature exceedences and required PINGP to curtail power to customers, purchase more expensive power from the grid, and de-rating the plant is not an acceptable alternative, with imminent brown-out conditions.

The MDNR also has concern with increased thermal loading, during open cycle winter operation, contributing to the loss of fish life from cold shock. Cold shock can occur with temperature dropping too rapidly after either a planned or emergency shut down and subsequent loss of heat generation. It is our assumption that Xcel has administrative procedures for gradually reducing outfall temperature, when practical with a planned shut down, but loss of fish stocks down of the outfall may still occur. With an emergency shut down, there is a high degree of certainty that mortality will occur. We noted briefly a minimum of nine cold shock events since 1985, with loss of fish. Our communications with Xcel indicate that dead fish are generally counted within the discharge canal and that river currents do not make it conducive to account for fish that may have died in the river thermal plume. Again, addressing the increased potential for cold shock with an auxiliary tower would eliminate this resource concern.

Without the above referenced provision of additional cooling capacity, DNR will request that MPCA maintain the historical level of environmental monitoring by Xcel for a minimum 10-year period. The monitoring would likely demonstrate increased environmental impact and need for additional cooling tower construction. If the new increment of heat were not discharged to the river, DNR will meet with Xcel officials and MPCA to discuss cessation of the long-term aquatic biota monitoring.

Thermal discharge from PINGP results in areas of variable and unpredictable ice cover on Lake Pepin. This results in some reductions in accessibility to certain areas of the lake and increases concern for safety overall. Xcel posts advisory signs at public access sites, but users access the lake from numerous other sites as well. Vehicles fall through

thin ice, and although infrequent, this remains a serious safety concern where warmer bottom waters are deflected to the surface by underwater obstructions such as points and bars. Providing safe access and use for sport and commercial fisherman, and a variety of other recreational users is an important priority for resource managers.

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

Sincerely,

Matt Langan, Environmental Planner
Environmental Review Unit
Division of Ecological Resources
(651) 259-5115

c: Joe Kurcinka, Tim Schlagenhaft, Wayne Barstad, Jack Enblom