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From: Phil Mahowald [pmahowald@piic.org]
Sent: Tuesday, July 03, 2012 5:56 PM
To: ESTOutreach Resource
Subject: PIIC Comments
Attachments: 2449_001.pdf

Greetings:

Attached please find the Prairie Island Indian Community's comments on the draft report, "Identification and Prioritization of the Technical Information Needs Affecting Potential Regulation of Extended Storage and Transportation of Spent Nuclear Fuel."

Sincerely,

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PRAIRIE ISLAND INDIAN COMMUNITY
LEGAL DEPARTMENT

July 3, 2012

Christian Jacobs, Project Manager
Mailstop EBB-2B2
Office of Nuclear Material Safety and Safeguards
US Nuclear Regulatory Commission
Washington, DC 20555-0001

VIA EMAIL
ESTOutreach@nrc.gov

RE: NRC Draft Report "Identification and Prioritization of the Technical Information Needs Affecting Potential Regulation of Extended Storage and Transportation of Spent Nuclear Fuel"

Dear Mr. Jacobs:

The Prairie Island Indian Community (PIIC, Community or Tribe), a federally recognized Indian tribe, offers the following comments and recommendations to the Nuclear Regulatory Commission (NRC) on the draft report, "Identification and Prioritization of the Technical Information Needs Affecting Potential Regulation of Extended Storage and Transportation of Spent Nuclear Fuel" (Draft Report).

The Tribe's Reservation is located on the ancestral homeland of the Mdewakanton Dakota on Prairie Island, which is formed at the confluence of the Vermillion and Mississippi Rivers in southeastern Minnesota (approximately 35 miles southeast of the Twin Cities of Minneapolis and St. Paul, Minnesota). The Mdewakanton, "those who were born of the waters," have lived on Prairie Island for countless generations. The Tribe's current land base (including both trust and fee lands) has grown through various federal acts beginning in 1891 and direct purchases by the Tribal Council, and now totals over 3,000 acres (including both land and water).

The Prairie Island Nuclear Generating Plant (PINGP), owned by Northern States Power Company d/b/a Xcel Energy (Xcel), is also located on Mdewakanton Dakota ancestral lands and immediately adjacent to the Prairie Island Indian Community Reservation. The PINGP's Independent Spent Fuel Storage Installation (ISFSI) is approximately 600 yards from the nearest Community residences, and is located on the west bank of the Mississippi River in an area that is quite popular for recreational boating and heavily used by barges. *See Figure 1.*

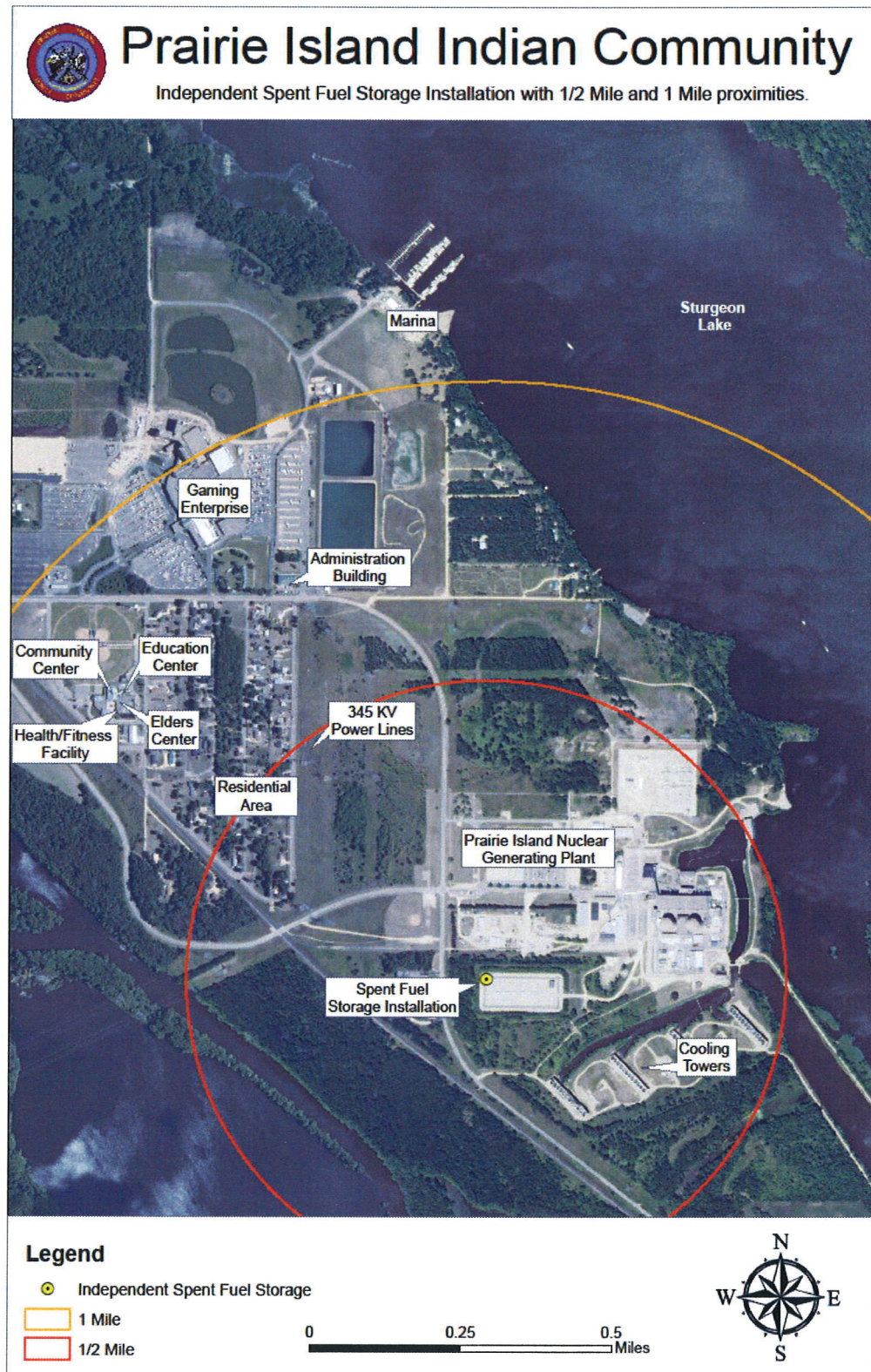


FIGURE 1

The PINGP has been online since the early 1970s and will operate at least until 2034 (both operating licenses were renewed in June 2011 for an additional 20 years). If the PINGP is decommissioned in 2034, the spent fuel is estimated to require a total of 98 casks – approximately 2500 tons of spent nuclear fuel. Most recently, Xcel has applied for a 40-year license extension for the ISFSI because its initial 20-year license is set to expire in 2013.

When the ISFSI at Prairie Island was initially proposed in the early 1990s, it was to be *temporary* measure to keep the plant running and plant personnel working until Yucca Mountain could be opened. Our Tribe and others expressed concerns about the *long-term* storage of spent fuel in dry casks and the possibility that the waste would never leave Prairie Island. We were assured that the ISFSI was to be an *interim* or *temporary* solution until the national geologic repository at Yucca Mountain could begin accepting waste. We doubt that the State of Minnesota would have approved PINGP's ISFSI if commissioners and legislators and members of the public had known that the waste would be on-site for more than 200 years as the NRC discusses in its Waste Confidence Environmental Impact Statement (EIS) report, let alone the 300-year "analytical" time period this Draft Report uses.

As the NRC is well aware, these ISFSIs are not located in remote parts of the country. Many are located near population centers. In our case, the ISFSI is located 600 yards away from the nearest homes and less than one mile from our Community Center, Elders Center, Education Center, Administration Building and Gaming Enterprise. *See* Figure 1. Prairie Island is our *only* homeland, the land promised to us by the federal government. We cannot simply relocate our ancestral and reservation lands to another place away from a nuclear waste dump.

The history of the Prairie Island ISFSI is an important back-drop to our comments, in that what was sold to the public as a *temporary* storage measure is now being re-packaged as "extended storage." Moreover, through this Draft Report, the NRC is now effectively telling the public that the technical data, scientific studies, and research that would demonstrate the long-term performance of these dry casks do not currently exist. This provides no assurance to our Tribe and tribal members given the apparent federal policy to strand nuclear waste on Prairie Island for decades or even centuries longer than promised.

Community and public consultation

We stated in our February 2012 comments regarding the EIS for Waste Confidence that the NRC should meet with affected communities like ours to explain why spent nuclear fuel will be stored in their backyards for more than 200 years after the nuclear power plants cease operations. The NRC project plan for extended storage (COMSECY-1-2007) indicates that there would be public meetings and outreach, but not until much later in the process – the 2017 – 2019 timeframe.

Many communities initially supported on-site dry cask storage as a means to keep the local nuclear power plants operational (and jobs in the community) until the national

repository at Yucca Mountain could be licensed and opened. No one ever imagined that a short-term solution would turn into a two or three century endeavor. The public should be made aware that the NRC does not currently have the technical and scientific information needed to support "extended storage" of 200 to 300 years. There's a world of difference between 20 years and 300 years.

The Draft Report states that a time-period of 300 years was selected for "analytical purposes." The Waste Confidence EIS report uses a period of 200 years. Neither scenario is acceptable and underscores the need for the NRC to hold public meetings in host communities to explain that the temporary solution is no longer temporary and that there is currently no data to support "extended storage." Our fear is that if the NRC demonstrates that dry cask storage is technically feasible for 300 years, the immediate need to develop a repository will diminish, further underscoring our fears that the so-called *temporary* storage facilities are *de facto* permanent storage facilities.

Technical evaluation of dry casks

To our knowledge, there have been very few technical studies regarding the long-term performance of dry casks. How many casks have been opened and inspected after placement on the storage pad? The earliest casks at a commercial nuclear power plant were placed into service in 1986. While 26 years may not be a very long period of time to demonstrate long-term performance, it would nevertheless seem prudent to thoroughly test how internal cask components have performed for one-quarter century before approving regulations to allow for onsite dry cask storage for two or three centuries. Casks should be opened and inspected to fully study potential degradation, structural integrity and cladding integrity.

Considering that the NRC is using a 300-year analytical time period, it is crucial that the NRC complete the technical work before it moves forward with the extended storage EIS. How can the NRC evaluate potential environmental, health and safety risks if we do not know how the casks will perform for the extended time period? It is unrealistic to ask the public to accept 200+ years (or even 300 years) of on-site dry cask storage without robust testing of casks and technical data to support the long-term use of such casks.

According to the NRC's Environmental Assessment (EA) for the Prairie Island ISFSI, "The TN-40 dry storage cask is designed to provide storage of spent fuel for at least 25 years" (ADAMS ML090260415, July 1992). We are not convinced, twenty years later, that the "design life" of a cask can now be rewritten to mean 200, or even 300 years. The NRC should define, to the public, what exactly is meant by "design life."

What we find most alarming in this Draft Report is the fact that the NRC currently has little to no monitoring or inspection capability to determine whether any of the internal components are functioning as intended. According to Table 3-1, there is no monitoring or inspection capability for the following components: cladding, fuel cladding interactions, fuel assembly hardware and damaged fuel cans, fuel baskets, stainless steel

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canister, stainless steel canister, stainless steel canister and steel/cast iron and seals, polymer seals, neutron absorbers, and neutron shielding.

Table 5-1 is even more alarming. The level of knowledge (for a particular component and related degradation phenomena) is coupled with the overall ranking for additional research needs. For example, under cladding, there is low level of knowledge regarding galvanic corrosion and stress corrosion cracking and a high ranking for additional research. Table 6-1 details the reason for the high rankings and categorizes each phenomenon as research priority 1 or 2. With the exception of the thermal-mechanical degradation for cask bolts and the concrete over pack, there is currently no inspection or monitoring capability for any of the components listed in Table 6-1 (all with a high ranking for additional research).

This list of technical needs and apparent uncertainties for monitoring and inspection capability of internal casks components are extensive. How will the NRC, the licensees or the public know if any of the internal cask components are not functioning or otherwise degrading if there are no monitoring or inspection capabilities? Moreover, what are public health and safety ramifications? Common sense tells us that these issues should have been studied and resolved *before* the first cask was ever placed on a pad, and it is grossly irresponsible to extend ISFSI licenses for 40 years and promulgate rules and regulations to facilitate stranding nuclear waste in dry casks for 200 to 300 years without a clear understanding of the technical needs for long-term monitoring and inspection capabilities for internal cask components.

We appreciate the opportunity to provide comments on this important issue. As the closest community in the nation to an ISFSI, we find it outrageous that the NRC routinely approves reactor and ISFSI license extensions, and continues to kick the regulatory can down the road in 40 year, 200 year or 300 year time increments to accommodate the federal government's broken promise to remove spent nuclear fuel to a geologic repository, all apparently without an established methodology for assessing, much less a proven understanding of, the embrittlement, stress corrosion cracking, delayed hydride cracking, metal fatigue and other types of degradation that could compromise cladding integrity and structural integrity of cask components during the now long-term interim storage. Unfortunately, the Draft Report detailing technical information needs and the NRC's apparent inability to thoroughly inspect and study internal cask components only heightens our fear that spent nuclear fuel will continue to be stranded indefinitely on Prairie Island without a comprehensive, site-specific analysis of the potential risks and adverse impacts on our Tribe and reservation.

Sincerely,



Philip R. Mahowald
General Counsel