

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board

In the Matter of)	
)	Docket No. 72-10-ISFSI-2
Northern States Power Co.)	
)	
(Prairie Island Nuclear Generating Plant, Independent Spent Fuel Storage Installation))	ASLBP No. 12-922-01-ISFSI- MLR-BRD01

STATEMENT OF MATERIAL FACTS

The Prairie Island Indian Community (“PIIC”) hereby submits the following Statement of Material Facts in response to Northern States Power Company-Minnesota’s (“NSMP”) Motion for Summary Disposition of PIIC’s Contention 6 (High Burnup Fuel), and in support of PIIC’s Cross Motion for Partial Summary Disposition of Contention 6. The paragraphs set forth below cross reference those within NSPM’s Statement of Material Facts (“NSPM’s Statement”).

1. PIIC **agrees** with the facts set forth in paragraph 1 of NSPM’s Statement.
2. PIIC **agrees** with the facts set forth in paragraph 2 of NSPM’s Statement.
3. PIIC **agrees** with the facts set forth in paragraph 3 of NSPM’s Statement.
4. PIIC **agrees in part** with paragraph 4 of NSPM’s Statement. PIIC **agrees** that the Nuclear Regulatory Commission (“NRC”) has approved storage of high burnup fuel (“HBF”) for a period of 20 years. PIIC **disputes** the conclusion that compliance with the temperature limits listed in Interim Staff Guidance 11 (“ISG-11”) will prevent degradation due to cladding creep and hydriding. There is no guarantee that compliance with ISG-11, Rev. 3, will prevent degradation during any period of HBF storage. Greeves Decl. ¶ 15. ISG-11, Rev. 3, was created over a decade ago when renewal periods were limited to 20 years. *Id.* ISG-11 is also based on low burnup fuel (“LBF”) testing and analyses. *Id.*

5. PIIC **disputes** the legal conclusion set forth in paragraph 5 of NSPM's Statement. Intended compliance with temperature limits set forth in ISG-11 does not ensure satisfaction of the requirements for protection of spent fuel cladding and ready retrieval of spent fuel under 10 C.F.R § 72.122. Section 72.122(h)(1) requires a license application to demonstrate protection of the spent fuel cladding throughout the duration of NSPM's requested term of renewal (40 years). But the NRC has acknowledged that the guidance in ISG-11 may not be applicable beyond the initial 20 year storage period. NSPM Enclosure 6 to Pickens Decl., at 1. Thus, it follows that NSMP's intended compliance with ISG-11 cannot demonstrate storage and retrieval safety for 40 years and therefore cannot satisfy the requirements of 10 C.F.R § 72.122.

6. PIIC **agrees** with the facts set forth in paragraph 6 of NSPM's Statement to the extent they imply that hydrides contribute to cladding embrittlement.

7. PIIC **agrees** with the facts set forth in paragraph 7 of NSPM's Statement. But again, PIIC **disputes** that NSPM's intended compliance with temperature limits listed in ISG-11, as shown by the HBF peak cladding temperature limitations set forth in the Prairie Island Independent Spent Fuel Storage Installation ("PI ISFSI") Safety Analysis Report, satisfy the requirements of 10 C.F.R §§ 72.42 and 72.122.

8. PIIC **agrees** with the facts set forth in paragraph 8 of NSPM's Statement.

9. PIIC **agrees in part** with the facts set forth in paragraph 9 of NSPM's Statement. PIIC **agrees** that, through NRC Interim Staff Guidance 24 ("ISG-24"), NRC staff acknowledges that compliance with ISG-11 may not be sufficient to demonstrate long term performance of HBF beyond a 20 year period. However, PIIC **disputes** that ISG-24 describes a need for "additional" confirmatory data to demonstrate HBF storage safety beyond a 20 period. The term "additional" implies that confirmatory data regarding the safety of HBF storage beyond 20 years exists, which

it does not. Greeves Decl. ¶¶ 15, 19, 33. ISG-24 does not cite the need for “additional” confirmatory data, but states that short term laboratory tests and analysis upon which ISG-11 is based “may not be applicable to the storage of [HBF] beyond twenty years.” NSPM Enclosure 6 to Pickens Decl., at 1.

10. PIIC **agrees** with the facts set forth in paragraph 10 of NSPM’s Statement.

11. PIIC **agrees in part** with paragraph 11 of NSPM’s Statement. PIIC **agrees** that NSPM’s HBF Aging Management Program (“AMP”) addresses the ten criteria for an AMP listed in the *Standard Review Plan for Renewal of Spent Fuel Dry Cask Storage System Licenses and Certificates of Compliance* (March 2011) (“NUREG-1927”), but **disputes** that NSPM’s discussion of these criteria is adequate to comply with its regulatory burden. NSPM admits that its compliance with at least three of the ten criteria listed in NUREG-1927 is entirely dependent on future collection and evaluation of data through a proposed Department of Energy Cask Demonstration Project (“Demonstration Project”), which is based on a highly speculative and incomplete research plan. Greeves Decl. ¶¶ 25-30.

Furthermore, addressing the AMP criterion in NUREG–1927 does not ensure NSMP’s compliance with 10 C.F.R §§ 72.42 and 72.122 because NUREG–1927 was not developed to support license renewal periods beyond 20 years. Greeves Decl. ¶ 24. NUREG-1927 is also currently under significant revision and has not been published for public review. *Id.* NRC staff determined a need to update guidance after a review of current applications revealed inadequate aging management reviews, lack of detail in AMPs, and insufficient guidance. *Id.* Revisions are likely to address the potential degradation of HBF due to aging during storage, subsequent handling, and transportation. *Id.* As acknowledged by NRC staff, guidance with respect to storage of HBF remains in its early stages. *Id.* A number of NRC guidance documents are still

in preparation, including: (1) Responding to Industry Proposals (NEI 14-03); (2) revisions to NUREG 1927; (3) Issue a final HBF Regulatory Issue Summary (RIS); (4) Issue HBF Consequence Analyses; (5) Complete technical report on monitoring of dry cask storage systems (DCSS); (6) Complete a technical report on stress analysis of fuel cladding in DCSS; and (7) Engagement of ASME Code Committee on Renewal licensing standards. *Id.*

12. PIIC **agrees** with the facts set forth in paragraph 12 of NSPM's Statement.

13. PIIC **agrees in part** with the facts set forth in paragraph 13 of NSPM's Statement. PIIC **agrees** that the proposed Demonstration Project is progressing, that a test plan has been published, and that the Demonstration Project as currently envisioned entails loading and storing a TN-32 bolted lid cask with HBF. PIIC **disputes** that the Demonstration Project and its design are complete. Greeves Decl. ¶¶ 25-30. PIIC also **disputes** that North Anna Power Station will serve as the host facility and as the source of spent nuclear fuel for the Demonstration Project. This assumption is conditioned on an amendment to North Anna Power Station's current license to permit loading of high burnup fuel in a TN-32 bolted lid cask. No application for such amendment has been filed. *Id.*, ¶ 25.

14. PIIC **agrees** with the facts set forth in paragraph 14 of NSPM's Statement.

15. PIIC **agrees in part** with the facts set forth in paragraph 15 of NSPM's Statement. PIIC **agrees** that the proposed schedule for the PIIC shows cask loading in 2017. PIIC **disputes** that the Demonstration Project will be equipped to gather data to confirm compliance with ISG-11 for more than 20 years and monitor the condition of the loaded fuel. Again, in order for the Demonstration Project to be properly equipped for these functions, the license for the North Anna Power Station must be amended to permit loading of high burnup fuel in a TN-32 bolted lid cask. Greeves Decl. ¶ 25. The license must also include requirements to avoid unmonitored

release of radionuclides into the atmosphere. *Id.* Furthermore, there is no guarantee that the gas sampling necessary to gather data can be performed safely. *Id.*, ¶ 26. Obtaining samples will be difficult once the cask has been moved onto the ISFSI pad. *Id.* The Electric Power Research Institute (EPRI) has stated it will continue to investigate and evaluate methods for performing gas sampling for the storage period. *Id.* Nonetheless, there is no guarantee that sampling methods can be licensed, funded, and deployed without creating undue risk. *Id.* Given that obtaining intended data from Demonstration Project is entirely conditional, PIIC also **disputes** the assertion that the Project will yield data “in a short time” to “confirm” that the temperatures collected from the Project cask adhere to the temperatures listed in NSPM’s license application. This is a hope and not a fact.

16. PIIC **disputes** the facts set forth in paragraph 16 of NSPM’s Statement. PIIC **disputes** that the Demonstration Project requires (1) monitoring of the interior of the cask for various gases, moisture, and oxygen; (2) taking periodic samples throughout the storage period; and (3) reporting data to NSPM on a quarterly basis. These Project requirements are not consistent with the EPRI’s final test plan, which is devoid of any requirements for cavity gas pressure or gas sampling on a quarterly basis. Greeves Decl. ¶ 27. NRC staff has acknowledged the difficulty of implementing a research program in a sealed system such as the one proposed for the Demonstration Project. *Id.*, ¶ 28. The NRC has neither approved nor reviewed processes for safely monitoring fuel temperature, moisture, or gas composition, under the proposed conditions of the Demonstration Project. *Id.*

17. PIIC **disputes** paragraph 17 of NSPM’s Statement. PIIC **disputes** that the cask will remain in storage at the North Anna ISFSI for at least 10 years before being transported to a facility capable of handling the HBF in dry conditions for necessary testing. This is a proposal

and not a fact. It is based on a speculative, currently unsettled and necessarily evolving research plan that does not provide adequate assurance that the research can be timely conducted in a technically acceptable manner and adequately inspected and documented within permitted constraints. Greeves Decl. ¶ 29. There are a number of unresolved barriers to completing the research proposed in the Demonstration Project that require additional licensing, funding, construction, instrumentation, and settlement negotiations with states. *Id.*

18. PIIC **disputes** paragraph 18 of NSPM’s Statement. PIIC **disputes** that the Demonstration Project meets the first eight conditions in ISG-24 for utilizing a Demonstration Project. PIIC has not received or reviewed the NRC Safety Evaluation Report (SER) for the PI ISFSI. PIIC has not reviewed NRC revised guidance documents, including the revised NUREG-1927.

PIIC **agrees** that NSPM’s AMP contains a series of “Toll Gates,” but **disputes** that the necessary formal evaluations of data will be performed at these toll gates. PIIC **disputes** that the first toll gate will be in 2028 and that it “will provide confirmation that the HBF continues to perform its intended function well before exceeding twenty years of storage at the PI ISFSI.” Through this statement, NSPM is attempting to state the results of the Demonstration Project as fact before the Project has even begun. As stated, it is speculative as to whether data will be available at the proposed “Toll Gates” to demonstrate that structures, systems, and components important to safety continue to perform their intended function for NSPM’s requested 40 year period of extended storage. Greeves Decl. ¶ 22. Moreover, the physical examination of the HBF cladding that will be required to obtain relevant data will be very difficult given the lack of any research facility that can accept the proposed storage configuration for testing and evaluation similar to that which was done for LBF. *Id.*, ¶ 30. A federal facility at the DOE Idaho National Laboratory is being assessed for the capability to handle the Demonstration Project casks, but

feasibility studies and conceptual design studies have not been completed and federal funding has not been authorized. *Id.* Further, the United States Government is currently not in compliance with a 1995 Settlement Agreement for missing deadlines related to waste removal at the Idaho site. *Id.* As a result, the DOE must renegotiate a difficult consent agreement with the state of Idaho before it will be permitted to send spent nuclear fuel to the Idaho site. *Id.* For these reasons, PIIC has no assurance that physical examination of the HBF and, as a corollary, the Demonstration Project as a whole, can be conducted as planned.

19. PIIC **agrees in part** with the facts set forth in paragraph 19 of NSPS's Statement. PIIC **agrees** that NRC staff approved the Calvert Cliffs Nuclear Power Plant ISFSI renewed license, which includes a high burnup AMP that relies on the Demonstration Project. However, the storage system at Calvert Cliffs is materially different from the system at the PI ISFSI and the issues raised herein apparently were not specifically investigated in the Calvert Cliffs renewal. Greeves Decl. ¶ 31. PIIC **is not in a position to agree or dispute** NSPM's contention that the NRC prepared a draft renewal license containing substantially the same license condition pertaining to the Demonstration Project included in the Calvert Cliffs license. The NRC has not provided PIIC with an official draft PI ISFSI renewed license.

20. PIIC **disputes** the legal conclusion in paragraph 20 of NSPM's Statement. NSPM cannot satisfy its burden at this juncture of demonstrating the continued safety of storing HBF at PI ISFSI for 40 years as required by 10 C.F.R §§ 72.42(a) and 72.122 through (1) compliance with guidance (ISG-11) that pertains only to the initial 20 year storage period of HBF and (2) hopes of obtaining favorable data in the future.

Respectfully submitted,

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Dated April 27, 2015