



Prairie Island Independent Spent Fuel Storage Installation

# Pre-Application Meeting

## License Amendment Request

Expand the Storage Capacity of the  
Independent Spent Fuel Storage Installation (ISFSI)

**February 28, 2019**

# Meeting Agenda

- Describe future license amendment request
- Discuss scope of the request
- Schedule
- Questions

# Current ISFSI Design



# Current ISFSI Design (Continued)

- The original ISFSI site-specific license was issued in 1993 and the renewed license was issued in 2015
- License allows for a maximum storage capacity of 715.29 TeU of spent fuel assemblies, which corresponds to 48 TN-40/TN-40HT casks
- Casks are placed on two 216' long by 36' wide and 3' thick seismically qualified, reinforced concrete pads
- Each pad is designed to hold 24 casks arranged in 2 rows of 12
- Current ISFSI will be near capacity after 2020 loading campaign with placement of cask 47
- Minnesota Public Utilities Commission has previously issued a Certificate of Need authorizing the storage of up to 64 casks

# Scope of Request

- ISFSI License Condition 8.A currently limits the maximum amount of spent fuel that may be possessed at any one time to:
  - “715.29 TeU of spent fuel assemblies”
  - Corresponds to storage capacity of 48 TN-40/TN-40HT casks
- Proposed license change request to increase in the maximum amount of spent fuel that may be possessed to:
  - “1,049.60 TeU of spent fuel assemblies”
  - Corresponds to storage capacity of 64 TN-40/TN-40HT casks

# Expanded ISFSI Design

- In order to allow for operation through the end of the Prairie Island Nuclear Generating Plant Units 1 and 2 renewed operating licenses in 2033/2034, a new pad located south of current eastern pad will be constructed in order to accommodate the additional storage capacity
- While the licensing change requests expansion of the ISFSI storage capacity equivalent to 16 additional TN-40HT casks, the new pad will have a structural design capacity for 24 TN-40/TN-40HT casks
- New pad is designed to meet the licensing basis for the existing ISFSI



# Expanded ISFSI Design (Continued)



# Technical Evaluation

- Cask loading campaign will continue in sets of 3-4 casks every 2 years
- As the current licensing basis confinement analysis assumes only one cask is in off-normal accident condition, the confinement analysis dose consequence is unaffected and the 10 CFR 72.106 dose limits will continue to be met by proposed expansion
- Additional casks do not alter prior conclusion of no credible events associated with TN-40HT casks which could result in releases of radioactive products or unacceptable increases in direct radiation
- Therefore, there are no impacts on existing analyses for dose contributions due to radioactivity releases and the only impact due to the addition of 16 TN-40HT casks is due to normal offsite doses



# Technical Evaluation (Continued)

- A dose analysis was performed for the addition of 16 TN-40HT casks to the ISFSI which determined the total normal operation radiation dose values at the nearest site boundary and at the nearest resident
- The results of this analysis demonstrate that the total normal operation radiation doses at site boundary and at the nearest resident will be in compliance with the limits contained within 10 CFR 72.104(a), 40 CFR 190.10(a), and 10 CFR 20.1301(a)

# Environmental Considerations

- Environmental impacts for the ISFSI expansion were previously considered under the Final Environmental Assessment for the ISFSI License Renewal as a reasonably foreseeable future action
- Due to the requested significant change in ISFSI storage capacity and the corresponding construction activities, a supplement to the ISFSI Environmental Report will be submitted with the application

# Schedule

- Projected submission in April 2019 with a requested issuance of May 2020
- Implement in time to support construction of the new pad in 2021 with placement of additional casks in the ISFSI in 2022

# Feedback

- Questions or comments?

