

**EXHIBIT B – EXCERPTS FROM
SER FOR PRAIRIE ISLAND ISFSI**

**SAFETY EVALUATION REPORT
FOR THE
PRAIRIE ISLAND
INDEPENDENT SPENT FUEL STORAGE INSTALLATION**

**U.S. Nuclear Regulatory Commission
Office of Nuclear Material Safety and Safeguards
July, 1993**

8 OPERATING PROCEDURES

8.1 Area of Review

Operating procedures for the TN-40 cask are described in Chapter 5 and Section 7.1 of the TSSAR. This SER review is limited to the procedures as presented by NSP in this TSSAR.

8.2 Acceptance Criteria

10 CFR 72.24(h) requires the applicant to submit "...a plan for the conduct of operations including the planned managerial and controls system, and the applicant's organization, and program for training of personnel...." Although this provision applies primarily to the ISFSI, the operations involved in loading, transporting, and storing of the spent fuel are closely associated with the design of the cask, to the extent that design features are incorporated to facilitate the conduct of these operations. Spent fuel loading and cask handling procedures in the auxiliary building are governed by the 10 CFR Part 50 license. Consequently, the review of the operating procedures is limited to the specific operations of handling the cask from the time it leaves the auxiliary building until it is placed on the storage pad. Managerial and administrative controls would only be relevant if the cask design were such that only administrative controls could ensure that the spent fuel could be safely handled and stored under conditions that would not pose a hazard to operating personnel or the public.

10 CFR Part 20 covers the standards, for protection against radiation, that must be met during the operation of an ISFSI.

Regulatory Guides 8.8 and 8.10 (References 19 and 20) provide guidance to ensure that occupational radiation exposures will be "as low as is reasonably achievable" (ALARA).

8.3 Review

TSSAR Section 5.1.1 provides a general description of the operational procedures for loading the cask and preparing it for storage. More detailed procedures describing the receipt and loading of the TN-40 cask at the ISFSI are described in flowsheet form in Fig. 5.1-1. Inspections and tests are described as part of the preparation for loading.

TSSAR Section 7.1 describes the general procedures to be followed to meet the requirements of 10 CFR Part 20, Regulatory Guide 8.8, and Regulatory Guide 8.10. These general procedures for radiation protection and meeting ALARA criteria for occupational exposure apply to the cask loading procedure.

NSP has an NRC-approved physical protection program for the Prairie Island Nuclear Generating Plant. It has also developed an amendment to this program, to accommodate the needs of the ISFSI. The NRC staff reviewed and approved this amendment, concluding that the physical protection requirements for the ISFSI (10 CFR Part 72, Subpart H) will be met with

the incorporation of the amendment into the site physical protection plan.

NSP currently has a training program that has been approved, by NRC staff, for reactor operations. Additional sections will be added to this program, as needed, to include information pertinent to the ISFSI. All personnel performing cask and fuel handling functions will be given additional training in specific areas, as required by the radiation protection program in effect at Prairie Island. The NSP ISFSI training should address the following:

- a. TN-40 cask design;
- b. ISFSI Design;
- c. ISFSI Safety Analysis;
- d. ISFSI Technical Specifications; and
- e. ISFSI Normal and Off-normal Procedures.

The NRC staff finds that the existing training program, when modified to include the ISFSI, will comply with the requirements of 10 CFR Part 72, Subpart I.

The TN-40 Cask TSSAR addresses the cask receipt, loading, and some onsite transportation procedures at the ISFSI. Procedures for unloading the cask are not covered in the TSSAR, even though this operating procedure is inseparable from decommissioning. This review only covers the inspections, tests, and special preparations of the cask for loading spent fuel. Section 5.1.1 of the TSSAR addresses the loading procedures, whereas Section 7.1 of the TSSAR addresses the issue of ensuring that the occupational radiation doses are ALARA.

Detailed procedures for loading, draining and drying the cask, creating an inert environment for the spent fuel, ensuring the effectiveness of the seals at the bolted closure joints, transporting the loaded cask to the storage pad, and ensuring that occupational radiation exposures are maintained ALARA should be developed before NSP loads fuel into the first cask. This has been made a license condition.

8.4 Findings and Conclusions

The operational procedures for loading the TN-40 cask are in compliance with the appropriate guidance and/or regulations. These procedures must be incorporated into the operational procedures for the reactor. The written procedures for onsite transportation, unloading, and preoperational testing must be added to the operational procedures for the ISFSI.