EXHIBIT B

License Amendment Request dated November 24, 1980

Docket Nos. 50-282	License Nos. DPR-42
50-306	DPR-60

Exhibit B consists of revised pages for the Prairie Island Nuclear Generating Plant Technical Specifications, Appendix A, as listed below showing the proposed changes:

TS.3.1-1
TS.3.1-1A
TS.3.1-3
TS.3.8-1
TS.3.8-4
Table TS.4.1-2A

3.0 LIMITING CONDITIONS FOR OPERATION

3.1 REACTOR COOLANT SYSTEM

Applicability

Applies to the operating status of the reactor coolant system

Objective

To specify those limiting conditions for operation of the reactor coolant system which must be met to assure safe reactor operation.

Specification

A. Operational Components

1. Coolant pumps

a. Both reactor coolant pumps shall be operable whenever average reactor coolant system temperature is above 350°F.

b. Both reactor coolant pumps shall be in operation whenever a reactor is critical, except during low power physics tests.

c. At least one reactor coolant pump or one residual heat removal pump shall be in operation at all times. All pumps may be shutdown provided the reactor is subcritical, no operations are permitted ' at would cause dilution of the reactor coolant boron concentration, and core outlet emperature is maintained at least 10°F below saturation temperature.

d. If a reactor coolant pump becomes inoperable with average reactor coolant temperature above 350°F, restore the pump(s) to operable status within 72 hours or reduce the average reactor coolant temperature below 350°F.

2. Steam Generators

   a. Both steam generators shall be operable whenever average reactor coolant system temperature is above 350°F.

   b. If a steam generator becomes inoperable with average reactor coolant temperature above 350°F, restore the steam generator to operable status within 72 hours or reduce the average reactor coolant temperature below 350°F. In the event of excessive primary to secondary leakage take the actions required by Specification 3.1.C.6.

3. Requirements for Decay Heat Removal Below 350°F

   a. Whenever the average reactor coolant temperature is below 350°F, except during refueling shutdown with the vessel head unbolted, at least two methods for removing decay heat shall be operable. Acceptable methods for removing decay heat are an operable steam generator or a residual heat removal loop including pump and associated heat exchanger.

   b. If two methods of removing decay heat are not operable, the affected reactor shall be placed in a cold shutdown condition and corrective action initiated immediately to restore the inoperable equipment.

   c. Prior to draining the reactor coolant level below the reactor vessel flange during maintenance, both residual heat removal loops, each consisting of a pump and associated heat exchanger, shall be operable. If a residual heat removal loop becomes inoperable, immediate action shall be taken to restore reactor coolant system level above the vessel flange.

The pressurizer is needed to maintain acceptable system pressure during normal plant operation, including surges that may result following anticipated transients. Each of the pressurizer safety valves is designed to relieve 325,000 lbs per hour of saturated steam at the valve set point. Below 350°F and 450 psig in the reactor coolant system, the residual heat removal system can remove decay heat and thereby control system temperature and pressure. If no residual heat were removed by any of the means available, the amount of steam which could be generated at safety valve relief pressure would be less than half the valves' capacity. One valve therefore provides adequate defense against over-pressurization of the reactor coolant system for reactor coolant temperatures less than 350°F. The combined capacity of both safety valves is greater than the maximum surge resulting from complete loss of load.[1]

"Steam Generator Tube Surveillance", Technical Specification 4.12, identifies steam generator tube imperfections having a depth $\geq$50% of the 0.050-inch tube wall thickness as being unacceptable for power operation. The results of steam generator burst and tube collapse tests submitted to the staff have demonstrated that tubes having a wall thickness greater than 0.025-inch have adequate margins of safety against failure due to loads imposed by normal plant operation and design basis accidents.[2]

The Specifications require that at least two methods of removing decay heat are available for each reactor. Above 350°F, both steam generators must be operable to serve this function. Below 350°F, either a steam generator or a residual heat removal loop are capable of removing decay heat and any combination of two loops are specified. If redundant means are not available, the reactor is placed in the cold shutdown condition.

References

[1]FSAR, Section 14.1.9

[2]Testimony by J Knight in the Prairie Island Public Hearing on January 28, 1975.

3.8 REFUELING AND FUEL HANDLING

Applicability

Applies to operating limitations during fuel-handling and refueling operations.

Objective

To ensure that no incident could occur during fuel handling and refueling operations that would affect public health and safety.

Specification

A. During refueling operations the following conditions shall be satisfied:

1. The equipment hatch and at least one door in each personnel air lock shall be closed. In addition, at least one isolation valve shall be operable or locked closed in each line which penetrates the containment and provides a direct path from containment atmosphere to the outside.

2. Radiation levels in fuel handling areas, the containment and the spent fuel storage pool areas shall be monitored continuously.

3. The core subcritical neutron flux shall be continuously monitored by at least two neutron monitors, each with continuous visual indication in the control room and one with audible indication in the containment, which are in service whenever core geometry is being changed. When core geometry is not being changed, at least one neutron flux monitor shall be in service.

4. During reactor vessel head removal and while loading and unloading fuel from the reactor, the minimum boron concentration of 2000 ppm shall be maintained in the reactor coolant system. The required boron concentration shall be verified by chemical analysis daily.

5. During movement of fuel assemblies or control rods out of the reactor vessel, at least 23 feet of water shall be maintained above the reactor vessel flange. The required water level shall be verified prior to moving fuel assemblies or control rods and at least once every day while the cavity is flooded.

6. At least one residual heat removal pump shall be operable and running. The pump may be shutdown for up to one hour to facilitate movement of fuel or core components.

7. If the water level above the top of the reactor vessel flange is less than 20 feet, except when the cavity is being drained for head replacement or control rod latching and unlatching operations, both residual head removal loops shall be operable.

8. If Specification 3.8.A.6 or 3.8.A.7 cannot be satisfied, all fuel handling operations in containment shall be suspended, the containment integrity requirements of Specification 3.8.A.1 shall be satisfied, and no reduction in reactor coolant boron concentration shall be made.

the cask into a carrier, there is a potential drop of 66 feet[5]. The cask will not be loaded onto the carrier for shipment prior to a 3-month storage period. At this time, the radioactivity has decayed so that a release of fission products from all fuel assemblies in the cask would result in off-site doses less than 10 CFR Part 100. It is assumed, for this dose analysis that 12 assemblies rupture after storage for 90 days. Other assumptions are the same as those used in the dropped fuel assembly accident in the SER, Section 15. The resultant doses at the site boundary are 94 Rems to the thyroid and 1 Rem whole body.

The Spent Fuel Pool Special Ventilation System[4] is a safeguards system which maintains a negative pressure in the spent fuel enclosure upon detection of high area radiation. The Spent Fuel Pool Normal Ventilation system is automatically isolated and exhaust air is drawn through filter modules containing a roughing filter, particulate filter, and a charcoal filter before discharge to the environment via one of the Shield Building exhaust stacks. Two completely redundant trains are provided. The exhaust fan and filter of each train are shared with the corresponding train of the Containment In-service Purge System. High efficiency particulate absolute (HEPA) filters are installed before the charcoal adsorbers to prevent clogging of the iodine absorbers in each SFPSVS filter train. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment. The in-place test results should indicate a HEPA filter leakage of less than 1% through DOP testing and a charcoal adsorber leakage of less than 1% through halogenated hydrocarbon testing. The laboratory carbon sample test results should indicate a radioactive methyl iodide removal efficiency of at least 90% under test conditions which are more severe than accident conditions. The satisfactory completion of these periodic tests combined with the qualification testing conducted on new filters and adsorber provide a high level of assurance that the emergency air treatment systems will perform as predicted in the accident analyses.

During movement of irradiated fuel assemblies or control rods, a water level of 23 feet is maintained to provide sufficient shielding.

The specifications require that at least one residual heat removal loop be in operation. This assures that sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor below 140°F and that sufficient coolant circulation is maintained through the core to minimize the effect of a boron dilution incident and prevent boron stratification. The requirement to have two residual heat removal loops operable when there is less than 20 feet of water above the vessel flange ensures that a single failure of the operating loop will not result in a complete loss of residual heat removal capacity. With the reactor vessel head removed and 20 feet of water above the vessel flange, a large heat sink is available for core cooling. In the event of a failure of the operating RHR loop, adequate time is provided to initiate repairs or emergency procedures to cool the core.

References

(1) FSAR Section 9.5.2
(2) FSAR Table 3.2.1-1
(3) FSAR Section 14.2.1
(4) FSAR Section 9.6
(5) FSAR Page 9.5-20a

MINIMUM FREQUENCIES FOR EQUIPMENT TESTS

	Test	Frequency	FSAR Section Reference
1. Control Rod Assemblies	Rod drop times of full length rods	All rods during each refueling shutdown or following each removal of the reactor vessel head; affected rods following maintainance on or modification to the control rod drive system which could affect performance of those specific rods	7
1a. Reactor Trip Breakers	Open trip	Monthly	-
2. Control Rod Assemblies	Partial movement of all rods	Every 2 weeks	7
3. Pressurizer Safety Valves	Set point	Each refueling shutdown	4
4. Main Steam Safety Valves	Set point	Each refueling shutdown	10
5. Reactor Cavity	Water level	Prior to moving fuel assemblies or control rods and at least once every day while the cavity is flooded.	-
6. (Deleted)			
7. (Deleted)			
8. (Deleted)			
9. Primary System Leakage	Evaluate	Daily	4
10. (Deleted)			
11. Turbine stop valves, governor valves, and intercept valves. (Part of turbine overspeed protection.)	Functional	Monthly	10
12. (Deleted)			

NOTES:

* See Specification 4.1.D.