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Committed to Nuclear Excellence

Kewaunee / Point Beach Nuclear
Operated by Nuclear Management Company, LLC

NRC 2002-0040

10 CFR 50.36

May 13, 2002

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Dockets 50-266 And 50-301
Point Beach Nuclear Plant, Units 1 and 2
TECHNICAL SPECIFICATION BASES REVISIONS

Ladies/Gentlemen:

Nuclear Management Company, LLC (NMC), licensee for the Point Beach Nuclear Plant (PBNP) Units 1 and 2, hereby submits a revision to the following Bases for Technical Specifications (TS): LCO 3.7.9, "Control Room Emergency Filtration System (CREFS)" and LCO 3.8.10, "Distribution Systems – Shutdown". A description of the changes is provided in Attachment I.

These changes have been screened for evaluation pursuant to the requirements of 10 CFR 50.59 in accordance with approved PBNP procedures and were determined to be acceptable.

Attachment II provides clean copies of the affected Technical Specification Bases pages indicating the changes.

If there are questions on this matter, please contact Roger Scott, of my staff, at (920) 755-7255.

Sincerely,

T. Taylor
Plant Manager

RDS/kmd

Attachments: I - Description of Changes
II - Revised Technical Specification Bases Pages

cc: NRC Regional Administrator
NRC Resident Inspector
NRC Project Manager
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ATTACHMENT I

to Letter

NRC 2002-0040

Description of Changes

1.0 INTRODUCTION

Nuclear Management Company, LLC (NMC), licensee for the Point Beach Nuclear Plant (PBNP) Units 1 and 2, hereby submits a revision to the following Bases for Technical Specifications (TS): LCO 3.7.9, "Control Room Emergency Filtration System (CREFS) and LCO 3.8.10, "Distribution Systems – Shutdown".

2.0 DESCRIPTION OF CHANGES

The Bases for LCO 3.7.9 was revised to be consistent with the PBNP licensing basis, which does not require the plant to be analyzed for a Loss of Offsite Power coincident with a Loss of Coolant Accident for control room dose calculations. Additionally, the Bases for LCO 3.7.9 was revised to require one emergency make-up fan and one recirculation fan for CREFS operability, because CREFS is a single train, non-safety related system.

The Bases for LCO 3.8.10 was revised to be consistent with LCO 3.8.9, Note 1, and the Bases for LCO 3.8.9. LCO 3.8.9, Note 1, allows the opposite unit's 480 V Class 1 E safeguards buses (B03 and B04) to be cross-tied for less than or equal to 8 hours if: the opposite unit is in Mode 5 or Mode 6, or defueled; all required redundant shared features "for" the unit in Mode 1, 2, 3, or 4 are operable; and all AC electrical power sources required by LCO 3.8.1 for the required redundant shared features "for" the unit in Mode 1, 2, 3, or 4 are operable. However, the Bases for LCO 3.8.10, misstates these requirements by substituting the words "powered from" in place of the word "for" (see above). PBNP supplemented the ITS conversion submittal on May 11, 2001, identifying that use of the word "for" instead of "powered from" in LCO 3.8.9, Note 1, was consistent with the CTS requirements. NRC SER dated August 8, 2001, approved the conversion of the CTS to ITS with this change in place. Therefore, the error in B 3.8.10 was an oversight and is editorial, in that it does not match LCO 3.8.9, Note 1, and the Bases for LCO 3.8.9.

ATTACHMENT II

To Letter

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Affected TS Bases Pages:

B 3.7.9-3 through B 3.7.9-6
B 3.8.10-2

BASES

BACKGROUND (continued)

The limiting design basis accident for the control room dose analysis is the large break LOCA. CREFS does not automatically restart after being load shed following a loss of offsite power; manual action is required to restart CREFS. Although it has been demonstrated that a loss of offsite power does not need to be assumed coincident with a LOCA with respect to CREFS system analysis and control room habitability, the control room emergency make-up and recirculation fans have been included in the emergency diesel generator loading profile during the recirculation phase of a loss of coolant accident.

The CREFS will pressurize the control and computer rooms to at least 0.125 inches water gauge in the emergency make-up mode of operation. The CREFS role in maintaining the control room habitable is discussed in the FSAR, Section 9.8 (Ref. 1).

APPLICABLE SAFETY ANALYSES

The CREFS provides airborne radiological protection for control room personnel, as demonstrated by the limiting control room dose analyses for the design basis large break loss of coolant accident. Control room dose analysis assumptions are presented in the FSAR, Section 14.3.5 (Ref. 2).

The CREFS satisfies Criterion 3 of the NRC Policy Statement.

LCO

The CREFS (mode 4) is required to be OPERABLE to ensure that the control room habitability limits are met following a limiting design basis LOCA. Total system failure could result in exceeding the control room operator thyroid dose limit of 30 rem in the event of a large radioactive release. The CREFS is considered OPERABLE when the individual components necessary to filter and limit control room in-leakage are OPERABLE. CREFS is considered OPERABLE when:

a. One emergency make-up fan (W-14A or W-14B) is OPERABLE;

b. One recirculation fan (W-13B1 or W-13B2) is OPERABLE;

c. Emergency make-up filter unit (F-16), HEPA filters and charcoal adsorbers are not excessively restricting flow, and are capable of performing their filtration functions;

d. Control room ventilation envelope is capable of achieving and maintaining a positive pressure of at least 0.125 inches water gauge in the emergency make-up mode of operation;

BASES

LCO (continued)

e. Ductwork and dampers are OPERABLE, and air circulation can be maintained; and

f. CREFS is capable of being manually initiated in the emergency make-up mode of operation (mode 4).

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors.

APPLICABILITY

In MODES 1, 2, 3, 4, and during movement of irradiated fuel assemblies and during CORE ALTERATIONS, CREFS must be OPERABLE to control operator exposure during and following a DBA.

During movement of irradiated fuel assemblies and CORE ALTERATIONS, the CREFS must be OPERABLE to cope with the release from a fuel handling accident.

ACTIONS

A.1

When CREFS is inoperable, action must be taken to restore the system to OPERABLE status within 7 days. The 7 day Completion Time is based on the low probability of a DBA challenging control room habitability occurring during this time period.

B.1, B.2, B.3, and B.4

If CREFS cannot be restored to OPERABLE status within the required Completion Time with CORE ALTERATIONS or movement of irradiated fuel in progress, these activities must be suspended immediately. Immediately suspending these activities places the unit in a condition that minimizes risk from these activities. This does not preclude the movement of fuel to a safe position.

In MODE 1, 2, 3, or 4, if CREFS cannot be restored to OPERABLE status within the required Completion Time, the unit must be placed in a MODE that minimizes accident risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.9.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, testing each fan subsystem once every month provides an adequate check of this system. Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system. The 31 day Frequency is based on the reliability of the equipment.

SR 3.7.9.2

This SR verifies that the required CREFS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The Frequency of CREFS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 3). The VFTP includes testing the performance of the HEPA filter, charcoal adsorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. Specific test Frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.9.3

This SR verifies that each CREFS emergency make-up fan starts and operates on an actual or simulated actuation signal. The Frequency of 18 months is specified in Regulatory Guide 1.52 (Ref. 3).

SR 3.7.9.4

This SR verifies that each CREFS automatic damper in the emergency make-up mode flow path will actuate to its required position on an actuation signal. The Frequency of 18 months is specified in Regulatory Guide 1.52 (Ref. 3).

SR 3.7.9.5

This test verifies manual actuation capability for CREFS. Manual actuation capability is a required for OPERABILITY of the CREFS. The 18 month Frequency is acceptable based on the inherent reliability of manual actuation circuits.

SR 3.7.9.6

This SR verifies the integrity of the control room enclosure. The control room positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify proper functioning of the CREFS. During the emergency mode of operation, the CREFS is

BASES

SURVEILLANCE REQUIREMENTS (continued)

designed to pressurize the control room ≥ 0.125 inches water gauge positive pressure with respect to adjacent areas in order to minimize unfiltered inleakage. The CREFS is designed to maintain this positive pressure with one emergency make-up fan in operation at a makeup flow rate of ± 10% of the nominal make-up pressurization flow rate of approximately 4950 cfm. The Frequency of 18 months is consistent with the guidance provided in NUREG-0800 (Ref. 4).

REFERENCES

1. FSAR. Section 9.8.
2. FSAR. Section 14.3.5.
3. Regulatory Guide 1.52, Rev. 2.
4. NUREG-0800, Section 6.4, Rev. 2, July 1981.

BASES

LCO (continued)

necessary to support OPERABILITY of required systems, equipment, and components-all specifically addressed in each LCO and implicitly required via the definition of OPERABILITY.

Portions of the 4.16 kV and 480 VAC Class 1E safeguards buses are required to be OPERABLE in support of the opposite unit, when the opposite unit is in MODE 1, 2, 3, or 4 as addressed in the Bases of LCO 3.8.9. Accordingly, the redundancy incorporated into the design of the 4.16 kV and 480 VAC Class 1E safeguards buses must be maintained to prevent a single failure within any system or within the electrical power distribution subsystem from presenting a loss of essential safety function(s). To maintain this redundancy, the cross tie breakers between redundant safety related 480 VAC buses must be open with control power removed. This prevents any electrical malfunction in any power distribution subsystem from propagating to the redundant subsystem, that could cause the failure of a redundant subsystem and a loss of essential safety function(s).

The LCOs permit abnormal electrical distribution lineups for a unit in MODE 5 or 6, to facilitate maintenance and testing.

When a unit is in MODE 5 or 6, the safeguards and safe shutdown systems and equipment associated with that unit are not required to be OPERABLE. However, shared equipment (e.g., Service Water, Auxiliary Feedwater, etc.) in support of a unit in MODE 1, 2, 3, or 4, and residual heat removal for the unit in MODE 5 or 6 must be considered.

With one unit in MODE 1, 2, 3, or 4 and the other unit in MODE 5 or 6, the B03 and B04 buses on the unit in MODE 5 or 6 may be cross tied for $\leq$ 8 hours providing:

a. All required redundant shared equipment (Auxiliary Feedwater and Service Water Systems), for the unit in MODE 1, 2, 3, or 4 are OPERABLE;

b. The normal offsite power supply and standby emergency power source for the required redundant shared equipment (Auxiliary Feedwater and Service Water Systems), for the unit in MODE 1, 2, 3, or 4 are OPERABLE; and

c. For a unit in MODE 5 or MODE 6, Two residual heat removal loops are OPERABLE with reactor cavity water level < 23 ft above the top of reactor vessel flange; or one residual heat removal loop is OPERABLE when the unit is in MODE 6 with reactor cavity water level $\geq$ 23 ft above the top of reactor vessel flange.