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ITSB1 - IMPROVED TECHNICAL SPECIFICATIONS MANUAL BASES UNIT 1

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# TSB

**APPROVED AMENDMENT TO THE**
**UNIT 1 TECHNICAL SPECIFICATIONS BASES MANUAL**
**REVISION 34**

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Replace the following pages of the Technical Specifications Bases Manual with the enclosed pages. The revised pages are identified by Revision Number and contain vertical lines indicating the area of change.

| REMOVE PAGES | REV. # | INSERT PAGES | REV. # |
|---|---|---|---|
| TS / B LOES | 33 | TS / B LOES | 34 |
| TS / B 3.7-14 through TS / B 3.7-18 | 1 | TS / B 3.7-14 through TS / B 3.7-18 | 2 |
| N/A | --- | TS / B 3.7-18a | 0 |
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SUSQUEHANNA STEAM ELECTRIC STATION
***LIST OF EFFECTIVE SECTIONS*** (TECHNICAL SPECIFICATIONS BASES)



| Section | Title | Revision |
|---|---|---|
| B 2.0 | SAFETY LIMITS BASES | |
| | Page B 2.0-1 | 0 |
| | Page TS/B 2.0-2 | 1 |
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| | Page TS/B 2.0-6 | 1 |
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| B 3.0 | LCO AND SR APPLICABILITY BASES | |
| | Pages B 3.0-1 through B 3.0-15 | 0 |
| B 3.1 | REACTIVITY CONTROL BASES | |
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| B 3.2 | POWER DISTRIBUTION LIMITS BASES | |
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| | Pages B 3.3-76 through B 3.3-106 | 0 |

BASES

LCO (continued)

One subsystem is considered OPERABLE when:

a. One filter train consisting of a CREOAS fan, heater, a HEPA filter, and charcoal adsorber which is not excessively restricting flow is OPERABLE; and

b. The 'A' Control Structure Heating and Ventilation fan (0V103A) and the 'A' Computer Room Floor Cooling fan (0V115A) and the 'A' Control Room Floor Cooling fan (0V117A) are OPERABLE

OR

The 'B' Control Structure Heating and Ventilaiton fan (0V103B) and the 'B' Computer Room Floor Cooling fan (0V115B) and the 'B' Control Room Floor Cooling fan (0V117B) are OPERABLE

(These fans are not dedicated to either CREOAS subsystem. As a result when any one set of fans is not OPERABLE, one arbitrarily determined CREOAS subsystem is not OPERABLE): and

c. Ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

d. Neither Smoke Removal Fan (0V104A/B) is in operation.

In addition, the habitability envelope must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors to maintain a positive pressure. Note the habitability envelope can not be maintained with a smoke removal fan (0V104A or 0V104B) in operation.

The LCO is modified by a Note allowing the control room habitability envelope boundary to be opened intermittently under administrative controls. For entry and exit through doors the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room habitability envelope isolation is indicated.

APPLICABILITY

In MODES 1, 2, and 3, the CREOAS System must be OPERABLE to control operator exposure during and following a DBA, since the DBA could lead to a fission product release.

(continued)

BASES

APPLICABILITY (continued)

In MODES 4 and 5, the probability and consequences of a DBA are reduced because of the pressure and temperature limitations in these MODES. Therefore, maintaining the CREOAS System OPERABLE is not required in MODE 4 or 5, except for the following situations under which significant radioactive releases can be postulated:

a. During operations with potential for draining the reactor vessel (OPDRVs);

b. During CORE ALTERATIONS; and

c. During movement of irradiated fuel assemblies in the secondary containment.

ACTIONS

A.1

With one CREOAS subsystem inoperable, the inoperable CREOAS subsystem must be restored to OPERABLE status within 7 days. With the unit in this condition, the remaining OPERABLE CREOAS subsystem is adequate to perform its radiation protection function. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced CREOAS System capability. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and that the remaining subsystem can provide the required capabilities.

B.1

If the control room habitability envelope boundary is inoperable in MODES 1, 2, and 3, the CREOAS trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE control room habitability envelope boundary within 24 hours. During the period that the control room habitability envelope boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity, and physical security. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the Condition. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of compensatory measures. The 24 hour Completion Time is a typically reasonable time to diagnose, plan and possibly repair, and test most problems with the control room habitability envelope boundary.

(continued)

BASES

ACTIONS (continued)

C.1 and C.2

In MODE 1, 2, or 3, if the inoperable CREOAS subsystem or control room habitability envelope boundary cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE that minimizes risk. To achieve this status, the unit must be placed in at least MODE 3 within 12 hours and in MODE 4 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.

D.1, D.2.1, D.2.2, and D.2.3

The Required Actions of Condition D are modified by a Note indicating that LCO 3.0.3 does not apply. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of irradiated fuel assemblies is not sufficient reason to require either an entry into LCO 3.0.3 or a reactor shutdown in accordance with LCO 3.0.3.

During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs, if the inoperable CREOAS subsystem cannot be restored to OPERABLE status within the required Completion Time, the OPERABLE CREOAS subsystem may be placed in the pressurization/filtration mode. This action ensures that the remaining subsystem is OPERABLE, that no failures that would prevent automatic actuation will occur, and that any active failure will be readily detected.

An alternative to Required Action D.1 is to immediately suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes risk.

If applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in the secondary containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

(continued)

BASES

ACTIONS (continued)

E.1

If both CREOAS subsystems are inoperable in MODE 1, 2, or 3, for reasons other than an inoperable control room habitability envelope boundary (i. e., Condition B) the CREOAS System may not be capable of performing the intended function and the unit is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

F.1, F.2, and F.3

The Required Actions of Condition F are modified by a Note indicating that LCO 3.0.3 does not apply. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of irradiated fuel assemblies is not sufficient reason to require either an entry into LCO 3.0.3 or a reactor shutdown in accordance with LCO 3.0.3.

During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs, with two CREOAS subsystems inoperable, action must be taken immediately to suspend activities that present a potential for releasing radioactivity that might require pressurization of the habitability envelope. This places the unit in a condition that minimizes risk.

If applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in the secondary containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. If applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

SURVEILLANCE REQUIREMENTS

SR 3.7.3.1

This SR verifies that a CREOAS fan in a standby mode starts on demand from the control room and continues to operate with flow through the HEPA filters and charcoal adsorbers. Standby systems should be checked periodically to ensure that they start and function properly. As the environmental and normal operating conditions of this system are not severe, testing each subsystem once every month provides an adequate check on this system. Monthly heater operation dries out any moisture that

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.3.1 (continued)

has accumulated in the charcoal as a result of humidity in the ambient air. Systems with heaters must be operated for $\geq$ 10 continuous hours with the heaters energized. Furthermore, the 31 day Frequency is based on the known reliability of the equipment and the availability of two redundant subsystems.

SR 3.7.3.2

This SR verifies that the required CREOAS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.3.3

This SR verifies that on an actual or simulated initiation signal, each CREOAS subsystem starts and operates. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.7.1.5 overlaps this SR to provide complete testing of the safety function. The 24 month Frequency is consistent with industry practice and other filtration systems SRs.

SR 3.7.3.4

This SR verifies the integrity of the habitability envelope and the assumed inleakage rates of potentially contaminated air. The habitability envelope positive pressure, with respect to potentially contaminated adjacent areas (the turbine building), is periodically tested to verify proper function of the CREOAS System and the integrity of the habitability envelope. During the emergency mode of operation, the CREOAS System is designed to slightly pressurize the control structure $\geq$ 0.125 inches water gauge positive pressure with respect to the outside atmosphere to prevent unfiltered inleakage. The CREOAS System is designed to maintain this positive pressure at a flow rate of $\leq$ 5810 cfm to the control structure in the pressurization/filtration mode. The control structure habitability envelope is maintained when the control structure habitability envelope can be pressurized to $\geq$0.125 inches water gage positive pressure with respect to outside atmosphere. The Frequency of 24 months on a STAGGERED TEST BASIS is consistent with industry practice and other filtration systems SRs.

(continued)

BASES

REFERENCES

1. FSAR, Chapter 6.
2. FSAR, Chapter 9.
3. FSAR, Chapter 15.
4. Final Policy Statement on Technical Specifications Improvements, July 22, 1993 (58 FR 39132).