

3.7 PLANT SYSTEMS

3.7.4 Standby Filter Unit (SFU) System

LCO 3.7.4 Two SFU subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.
During movement of irradiated fuel assemblies in the secondary containment.
During CORE ALTERATIONS.
During Operations with a Potential for Draining the Reactor Vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SFU subsystem inoperable.	A.1 Restore SFU subsystem to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, or 3. <i>(C)</i>	B.1 Be in MODE 3. <i>(C)</i>	12 hours
	AND B.2 Be in MODE 4. <i>(C)</i>	36 hours

(continued)

B. Two SFU subsystems inoperable due to inoperable control building boundary in MODES 1, 2 and 3.
B.1 Restore control building boundary to OPERABLE status
24 hours

----- NOTE -----
The control building boundary may be opened intermittently under administrative control.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<div> <div> <div></div> <div>D</div> </div> <p>Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p> </div>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p> <div> <div> <div></div> <div>D</div> </div> <p>1 Place OPERABLE SFU subsystem in the isolation mode.</p> <p>OR</p> <div> <div> <div></div> <div>D</div> </div> <p>2.1 Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p>AND</p> <div> <div> <div></div> <div>D</div> </div> <p>2.2 Suspend CORE ALTERATIONS.</p> <p>AND</p> <div> <div> <div></div> <div>D</div> </div> <p>2.3 Initiate action to suspend OPDRVs.</p> </div> </div> </div></div>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p> <p>Immediately</p>
<div> <div> <div></div> <div>E</div> </div> <p>Both SFU subsystems inoperable in MODE 1, 2, or 3.</p> </div>	<div> <div> <div></div> <div>E</div> </div> <p>1.1 Enter LCO 3.0.3.</p> </div>	<p>Immediately</p>

(continued)

for reasons other than CONDITION B.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">E</div> <div style="border: 1px solid black; border-radius: 50%; padding: 2px; display: inline-block;">F</div> </div> <div> Both SFU subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs. </div> </div>	-----NOTE----- LCO 3.0.3 is not applicable. -----	
	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">E</div> <div style="border: 1px solid black; border-radius: 50%; padding: 2px; display: inline-block;">F</div> </div> <div> 1 Suspend movement of irradiated fuel assemblies in the secondary containment. </div> </div>	Immediately
	AND <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">E</div> <div style="border: 1px solid black; border-radius: 50%; padding: 2px; display: inline-block;">F</div> </div> <div> 2 Suspend CORE ALTERATIONS. </div> </div>	Immediately
	AND <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">E</div> <div style="border: 1px solid black; border-radius: 50%; padding: 2px; display: inline-block;">F</div> </div> <div> 3 Initiate action to suspend OPDRVs. </div> </div>	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.4.1 Operate each SFU subsystem for ≥ 15 minutes.	31 days
SR 3.7.4.2 Perform required SFU filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP

(continued)

BASES

LCO
(continued)

- b. HEPA filter and charcoal adsorbers are not excessively restricting flow and are capable of performing their filtration functions; and
- c. Heater, demister, ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

In addition, the control room boundary must be maintained in a condition sufficiently leak-tight such that the pressurization limit of SR 3.7.4.4 can be met. However, it is acceptable for access doors to be open for normal control room entry and exit and not consider it to be a failure to meet the LCO.

INSERT
LCO NOTE
Bases

APPLICABILITY

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

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 SFU 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 SFU subsystem inoperable, the inoperable SFU subsystem must be restored to OPERABLE status within 7 days. With the unit in this condition, the remaining OPERABLE SFU subsystem is adequate to perform control room radiation protection. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced SFU System capability. The 7 day

(continued)

INSERT

LCO NOTE Bases

The LCO is modified by a Note allowing the control building boundary to be opened intermittently under administrative controls. For entry and exit through the 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 building isolation is indicated.

BASES

ACTIONS

A.1 (continued)

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.

INSERT 1

(C) 1.1 and 1.2 (C)

or control building boundary

In MODE 1, 2, or 3, if the inoperable SFU subsystem 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) 1.1, 1.2.1, 1.2.2, and 1.2.3

(D)

LCO 3.0.3 is not applicable in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, the Required Actions of Condition 1 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 a reactor shutdown.

During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs, if the inoperable SFU subsystem cannot be restored to OPERABLE status within the required Completion Time, the OPERABLE SFU subsystem may be placed in the isolation mode (i.e., one SFU subsystem in operation with the control building isolated). 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.

(D)

An alternative to Required Action 1.1 is to immediately suspend activities that present a potential for releasing radioactivity that might require isolation of the control

(continued)

INSERT 1

B.1

If the control building boundary is inoperable in MODES 1, 2 and 3 such that the SFU subsystems can not establish or maintain the required pressure, action must be taken to restore an OPERABLE control building boundary within 24 hours. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the availability of the SFU system to provide a filtered environment (albeit with potential control building in-leakage).

BASES

ACTIONS

① 1. ② 2.1. ③ 2.2. and ④ 2.3 (continued)

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, action must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Action must continue until the OPDRVs are suspended.

⑤ 1

for reasons other than an inoperable control building boundary (i.e., Condition B)

If both SFU subsystems are inoperable in MODE 1, 2, or 3, the SFU 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.

⑥ 1. ⑦ 2. and ⑧ 3

⑨

LCO 3.0.3 is not applicable in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, the Required Actions of Condition ⑤ 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 a reactor shutdown.

During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs, with two SFU subsystems inoperable, action must be taken immediately to 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

(continued)

BASES

ACTIONS

(F) 1, (F) 2, and (F) 3 (continued)

suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. If applicable, action must be initiated immediately to suspend OPDVRs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Action must continue until the OPDVRs are suspended.

SURVEILLANCE
REQUIREMENTS

SR 3.7.4.1

Operating each SFU subsystem for ≥ 15 minutes ensures that both subsystems are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage or fan or motor failure, can be detected for corrective action. Since the SFU subsystems do not take credit for the heaters that are installed, each subsystem need only be operated for ≥ 15 minutes to demonstrate the function of each subsystem. The 31 day Frequency was developed in consideration of the known reliability of fan motors and controls and the redundancy available in the system.

SR 3.7.4.2

This SR verifies that the required SFU 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 3.7.4.3

This SR verifies that on an actual or simulated initiation signal, each SFU subsystem starts and operates. This SR also ensures that the control room isolates. The LOGIC SYSTEM FUNCTIONAL TEST in LCO 3.3.7.1, "Standby Filter Unit Instrumentation," overlaps this SR to provide complete

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SAFETY ASSESSMENT

By letter dated May 10, 1999, IES Utilities, Inc. submitted a request for revision of Technical Specifications for the Duane Arnold Energy Center (DAEC). The proposed change is consistent with Revision 2 to Traveler TSTF-287 for the Improved Standard Technical Specifications for General Electric BWR/4 plants (NUREG-1433). This traveler is currently in the TSTF review process.

Evaluation:

This change provides specific Conditions and Required Actions for control building barrier degradation (as opposed to ventilation train degradation). The Surveillances that test the integrity of the control room barrier require a positive pressure limit to be satisfied for the control room with one required ventilation train operating. While other Surveillances in the same specification test the operability of the ventilation train, these barrier surveillances ensure the control building envelope leak tightness is adequate to meet the design assumptions. However, there are no corresponding Conditions, Required Actions, or Completion Times associated with failure of these barrier Surveillances. Under existing specifications, LCO 3.0.3 must be entered (for two train inoperability). The proposed change would allow 24 hours (during operating MODES) to restore the capability to maintain proper control room pressure before requiring the unit to perform an orderly shutdown. Requiring the plant to enter LCO 3.0.3 when the ventilation envelope is not intact is excessively restrictive. The proposed change is acceptable because of the low probability (less than 3.04×10^{-8}) of a DBA occurring during the 24 hour Completion Time, and the availability of the SFU system to provide a filtered environment (albeit with potential control building in-leakage).

An LCO Note is being added to allow intermittent opening of the control building barrier (e.g. as for entering and exiting) under administrative control without entering the Actions. This change allows for intermittent opening of control building doors and other readily closable control building boundaries. For entry and exit through the 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 building isolation is indicated.

Therefore, based on the above, we have concluded that the proposed revision to the DAEC Technical Specifications is acceptable.

ENVIRONMENTAL CONSIDERATION

10 CFR Section 51.22(c)(9) identifies certain licensing and regulatory actions which are eligible for categorical exclusion from the requirement to perform an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released off site; and (3) result in a significant increase in individual or cumulative occupational radiation exposure. IES Utilities Inc. has reviewed this request and determined that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 51.22(c)(9). Pursuant to 10 CFR Section 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the amendment. The basis for this determination follows:

Basis

The change meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 51.22(c)(9) for the following reasons:

1. As demonstrated in Attachment 1 to this letter, the proposed amendment does not involve a significant hazards consideration.
2. This change provides specific Conditions and Required Actions for control building barrier degradation (as opposed to ventilation train degradation). The Surveillances that test the integrity of the control room barrier require a positive pressure limit to be satisfied for the control room with one required ventilation train operating. While other Surveillances in the same specification test the operability of the ventilation train, these barrier Surveillances ensure the control building envelope leak tightness is adequate to meet the design assumptions. However, there are no corresponding Conditions, Required Actions, or Completion Times associated with failure of these barrier Surveillances. Under existing specifications, LCO 3.0.3 must be entered (for two train inoperability). The proposed change would allow 24 hours (during operating MODES) to restore the capability to maintain proper control room pressure before requiring the unit to perform an orderly shutdown and also allows intermittent opening of the control building barrier under administrative control. Requiring the plant to enter LCO 3.0.3 when the ventilation envelope is not intact is excessively restrictive. The proposed change is acceptable because of the low probability (less than 3.04×10^{-8}) of a DBA occurring during the 24 hour Completion Time, and the availability of the SFU system to provide a filtered environment (albeit with potential control building in-leakage).

An LCO Note is being added to allow intermittent opening of the control building (e.g. as for entering and exiting) without entering the Actions. This change allows

for intermittent opening of doors and other readily closable control building boundaries. For entry and exit through the 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 building isolation is indicated.

Thus, there will be no significant change in the types or significant increase in the amounts of any effluents that may be released off site.

3. This change provides specific Conditions and Required Actions for control building barrier degradation (as opposed to ventilation train degradation). The Surveillances that test the integrity of the control room require a positive pressure limit to be satisfied in the control room with one required ventilation train operating. While other Surveillances in the same specification test the operability of the ventilation train, these barrier Surveillances ensure the control building envelope leak tightness is adequate to meet the design assumptions. However, there are no corresponding Conditions, Required Actions, or Completion Times associated with failure of these barrier Surveillances. Under existing specifications, LCO 3.0.3 must be entered (for two train inoperability). The proposed change would allow 24 hours (during operating MODES) to restore the capability to maintain proper control room pressure before requiring the unit to perform an orderly shutdown and also allows intermittent opening of the control building barrier under administrative control. Requiring the plant to enter LCO 3.0.3 when the control building envelope is not intact is excessively restrictive. The proposed change is acceptable because of the low probability (less than 3.04×10^{-8}) of a DBA occurring during the 24 hour Completion Time, and the availability of the SFU system to provide a filtered environment (albeit with potential control room in-leakage).

An LCO Note is being added to allow intermittent opening of the control building (e.g. as for entering and exiting) without entering the Actions. This change allows for intermittent opening of doors and other readily closable control building boundaries. For entry and exit through the 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 building isolation is indicated.

Thus, there will be no significant increase in either individual or cumulative occupational radiation exposure.