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Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station 0-P1-17
Washington, DC 20555-0001

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49

References: 1. NG-99-0276, dated May 10, 1999, J. Franz (IES) to NRC, Technical Specification Change Request (TSCR-011): "Control Building Envelope Allowed Outage Time"
2. NG-00-0431, dated April 6, 2000, D. Wilson (IES) to NRC, Revision to Technical Specification Change Request TSCR-011 (TSCR-011A): "Control Building Envelope Allowed Outage Time"

File: A-117

Reference 1 submitted a proposed amendment to the Duane Arnold Energy Center (DAEC) Technical Specifications (TS). This proposed amendment revises the DAEC TS Section 3.7.4 based upon Generic Traveler #TSTF-287, Revision 2 (Ventilation System Envelope Allowed Outage Time). Reference 2 revises this proposed amendment to be consistent with Generic Traveler #TSTF-287, Revision 5.

The referenced submittals provided "marked-up" copies of the TS and Bases showing the proposed changes. The attachment to this letter contains "clean typed" pages of the revised TS and Bases pages.

A copy of this submittal is being forwarded to our appointed state official pursuant to 10 CFR Section 50.91. Should you have any questions regarding this matter, please contact this office.

A001

This letter is true and accurate to the best of my knowledge and belief.

IES UTILITIES INC.

By Gary D. Van Middlesworth for DLW
David L. Wilson
Vice President, Nuclear

State of Iowa
(County) of Linn

Signed and sworn to before me on this 5 day of June, 2000,

by Gary D. Van Middlesworth

Kathryn Dunlap
Notary Public in and for the State of Iowa

7-24-2002 Commission Expires

cc: D. Barta
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CTS Project

3.7 PLANT SYSTEMS

3.7.4 Standby Filter Unit (SFU) System

LCO 3.7.4 Two SFU subsystems shall be OPERABLE.

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

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. 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
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	12 hours 36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. 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.	----------NOTE---------- LCO 3.0.3 is not applicable. ----------	
	D.1 Place OPERABLE SFU subsystem in the isolation mode.	Immediately
	OR	
	D.2.1 Suspend movement of irradiated fuel assemblies in the secondary containment.	Immediately
	AND	
	D.2.2 Suspend CORE ALTERATIONS.	Immediately
	AND	
	D.2.3 Initiate action to suspend OPDRVs.	Immediately
E. Both SFU subsystems inoperable in MODE 1, 2, or 3 for reasons other than CONDITION B.	E.1 Enter LCO 3.0.3.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Both SFU subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	----------NOTE---------- LCO 3.0.3 is not applicable. ----------	
	F.1 Suspend movement of irradiated fuel assemblies in the secondary containment.	Immediately
	AND	
	F.2 Suspend CORE ALTERATIONS.	Immediately
	AND	
	F.3 Initiate action to suspend OPDRVs.	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.

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 commununication with the control room. This individual will have a method to rapidly close the opening when a need for control building isolation is indicated.

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.

(continued)

BASES (continued)

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 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 main control building boundary is inoperable in MODES 1, 2, and 3, the SFU trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE control building boundary within 24 hours. During the period that the control building 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 contaimination, toxic chemicals, smoke, temperature and relative humidity, and to ensure 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 building boundary.

C.1 and C.2

In MODE 1, 2, or 3, if the inoperable SFU subsystem or control building 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.

(continued)

BASES

ACTIONS (continued)

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

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 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 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.

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, 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.

E.1

If both SFU subsystems are inoperable in MODE 1, 2, or 3 for reasons other than an inoperable control building boundary (i.e., Condition B), 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.

(continued)

BASES

ACTIONS (continued)

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

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 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 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 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 OPDRVs 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 charcoal is tested at a Relative Humidity ≥ 95%, extended operation of the electric heaters is not required. Thus, each subsystem need only be operated for ≥ 15 minutes to demonstrate the function of each subsystem. The function of the SFU electric heaters is to pre-heat incoming air to above 40°F to ensure adsorption occurs within the temperature range that charcoal testing is performed. The 31 day Frequency was developed in consideration of the known reliability of fan motors and controls and the redundancy available in the system.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

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 testing of the safety function. While this Surveillance can be performed with the reactor at power, operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency. Therefore, the Frequency was found to be acceptable from a reliability standpoint.

SR 3.7.4.4

This SR verifies the integrity of the control room enclosure and the assumed inleakage rates of potentially contaminated air. The control room positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify proper function of the SFU System. During the emergency mode of operation, the SFU System is designed to slightly pressurize the control room ≥ 0.1 inches water gauge above atmospheric pressure, under calm wind conditions (i.e. less than 5 mph wind speed) to prevent unfiltered inleakage. The SFU System is designed to maintain this positive pressure at a flow rate of 1000 cfm ± 10% to the control room in the isolation mode. The Frequency of 24 months on a STAGGERED TEST BASIS is consistent with industry practice and other filtration systems SRs.

REFERENCES

1. UFSAR, Section 6.4.
2. UFSAR, Section 9.4.4.
3. UFSAR, Chapter 15.