

PLANT SYSTEMS

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7 Two independent Control Room Emergency Air Filtration Systems shall be OPERABLE.*

APPLICABILITY: All MODES.

ACTION:

MODES 1, 2, 3 and 4:

With one Control Room Emergency Air Filtration System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

- a. With one Control Room Emergency Air Filtration System inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE Control Room Emergency Air Filtration System in the recirculation mode.
- b. With both Control Room Emergency Air Filtration Systems inoperable, or with the OPERABLE Control Room Emergency Air Filtration System required to be in the recirculation mode by ACTION a. not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.7.7 Each Control Room Emergency Air Filtration System shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 95°F;
- b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying a system flow rate of 1,120 cfm \pm 20% and that the system operates for at least 10 continuous hours with the heaters operating;

* The requirements of Surveillance Requirement 4.7.7.e.2 do not apply during pressure testing of the Cable Spreading Room. This exception is valid until the first entry into MODE 4 following the completion of refueling operations associated with the seventh Refueling Outage.

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SURVEILLANCE REQUIREMENTS (Continued)

- c. At least once each REFUELING INTERVAL or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
- 1) Verifying that the system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Position C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revisions 2, March 1978,* and the system flow rate is 1,120 cfm $\pm 20\%$;
 - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,* meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978,* for a methyl iodide penetration of less than 0.175%; and
 - 3) Verifying a system flow rate of 1,120 cfm $\pm 20\%$ during system operation when tested in accordance with ANSI N510-1980.
- d. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,* meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978,* for a methyl iodide penetration of less than 0.175%;
- e. At least once each REFUELING INTERVAL by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.75 inches Water Gauge while operating the system at a flow rate of 1,120 cfm $\pm 20\%$;
 - 2) Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch Water Gauge at less than or equal to a pressurization flow of 230 cfm relative to adjacent areas during positive pressure system operation; and
 - 3) Verifying that the heaters dissipate 9.4 ± 1 kW when tested in accordance with ANSI N510-1980.

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3/4.7.8 CONTROL ROOM ENVELOPE PRESSURIZATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.8 Two independent Control Room Envelope Pressurization Systems shall be OPERABLE.

APPLICABILITY: ALL MODES.

ACTION:

- a. With one Control Room Envelope Pressurization System inoperable either:
 1. Restore the inoperable system to OPERABLE status within 7 days, or
 2. Initiate and maintain operation of an OPERABLE Control Room Emergency Air Filtration System in the recirculation mode, or
 3. Be in HOT STANDBY within 6 hours and COLD SHUTDOWN within the next 30 hours and suspend all operations involving CORE ALTERATIONS or positive reactivity changes.
- b. With both Control Room Envelope Pressurization Systems inoperable, within one hour initiate action to restore one inoperable system to OPERABLE status and either:
 1. Initiate and maintain operation of an OPERABLE Control Room Emergency Air Filtration System in the recirculation mode, or
 2. Be in HOT STANDBY within 6 hours and COLD SHUTDOWN within the next 30 hours and suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.7.8 Each Control Room Envelope Pressurization System shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that the storage air bottles are pressurized to greater than or equal to 2200 psig,
- b. At least once per 31 days on a STAGGERED TEST BASIS by verifying that each valve (manual, power operated or automatic) in the flow path not locked, sealed or otherwise secured in position, is in its correct position, and

* The requirements of Surveillance Requirements 4.7.8.c.2 and 4.7.8.c.3 do not apply during pressure testing of the Cable Spreading Room. This exception is valid until the first entry into MODE 4 following the completion of refueling operations associated with the seventh Refueling Outage.

PLANT SYSTEMS

BASES

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

ACTIONS (Continued)

Modes 5 and 6

- a. With one control room emergency air filtration system inoperable, action must be taken to restore the inoperable system to an OPERABLE status within 7 days, or to initiate and maintain operation of the remaining OPERABLE control room emergency air filtration system in the recirculation mode. Initiating and maintaining operation of the OPERABLE train in the recirculation mode ensures: (i) operability of the train will not be compromised by a failure of the automatic actuation logic; and (ii) active failures will be readily detected.
- b. With both control room emergency air filtration systems inoperable, or with the train required by ACTION 'a' not capable of being powered by an OPERABLE emergency power source, actions must be taken to suspend all operations involving CORE ALTERATIONS or positive reactivity changes. This action places the unit in a condition that minimizes risk. This action does not preclude the movement of fuel to a safe position.

One Time Exception to Surveillance Requirements

The capability of maintaining a positive Control Room envelope pressure equal to or greater than 1/8 inch water gauge relative to adjacent areas as required by Technical Specification Surveillance Requirement 4.7.7.e.2 will be suspended during pressure testing of the Cable Spreading Room (CSR). The CSR pressure test is being performed in support of the corrective actions identified in Millstone Unit No. 3 Licensee Event Report (LER) 99-002-00, "Inadvertent Carbon Dioxide Fire Suppression System Actuation In The Cable Spreading Room," dated February 16, 1999. This LER documents an inadvertent CO₂ actuation in the CSR on January 15, 1999.

The purpose of the CSR pressure test is to identify leakage pathways from the CSR to adjacent areas. Once identified, these leakage pathways will be repaired and tested in order to ensure that in the event of a fire in the CSR requiring actuation of the CO₂ Suppression System, CO₂ concentrations outside the CSR will not preclude the Unit from being safely shut down from the Remote Shutdown Panel if an evacuation of the Control Room is required. This exception to Technical Specifications will allow pressure testing of the CSR to be performed in any MODE of operation. It is intended that the CSR pressure test be performed as required to verify the adequacy of repairs performed to reduce leakage. The exception will expire upon the first entry into MODE 4 following the completion of refueling operations associated with the seventh Refueling Outage.

A dedicated operator will be stationed in the Control Room, in constant communication with a dedicated operator at the temporary fan during pressure testing of the CSR. This will allow rapid depressurization of the CSR in the event a Control Building Isolation signal is received.

PLANT SYSTEMS

BASES

SURVEILLANCE REQUIREMENTS

4.7.7.a

The control room environment should be checked periodically to ensure that the control room temperature control system is functioning properly. Verifying that the control room air temperature is less than or equal to 95°F at least once

per 12 hours is sufficient. It is not necessary to cycle the control room ventilation chillers. The control room is manned during operations covered by the technical specifications. Typically, temperature aberrations will be readily apparent.

4.7.7.b

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 the trains once every 31 days on a STAGGERED TEST BASIS provides an adequate check of this system. This surveillance requirement verifies a system flow rate of 1,120 cfm \pm 20%. Additionally, the system is required to operate for at least 10 continuous hours with the heaters energized. These operations are sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters due to the humidity in the ambient air.

PLANT SYSTEMS

BASES

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

SURVEILLANCE REQUIREMENTS (Continued)

iodide penetration of less than 0.175%. The laboratory analysis is required to be performed within 31 days after removal of the sample. ANSI N510-1980 is used in lieu of ANSI N510-1975 referenced in Revision 2 of Regulatory Guide 1.52.

The maximum surveillance interval is 900 hours, per Surveillance Requirement 4.0.2. The 720 hours of operation requirement originates from Nuclear Regulatory Guide 1.52, Table 2, Note C. This testing ensures that the charcoal adsorbency capacity has not degraded below acceptable limits as well as providing trending data.

4.7.7.e.1

This surveillance verifies that the pressure drop across the combined HEPA filters and charcoal adsorbers banks at less than 6.75 inches water gauge when the system is operated at a flow rate of 1,120 cfm \pm 20%. The frequency is at least once per REFUELING INTERVAL.

4.7.7.e.2

This surveillance verifies that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch water gauge at less than or equal to a pressurization flow of 230 cfm relative to adjacent areas during positive pressure system operation. The frequency is at least once per REFUELING INTERVAL.

The intent of this surveillance is to verify the ability of the control room emergency air filtration system to maintain a positive pressure while running in the filtered pressurization mode.

PLANT SYSTEMS

BASES

3/4.7.8 CONTROL ROOM ENVELOPE PRESSURIZATION SYSTEM (Continued)

ACTIONS (Continued)

ACTIONS a.2 and b.1 of Limiting Condition for Operation 3.7.8 require that an OPERABLE control room emergency filtration system be placed in the recirculation mode. Under normal plant conditions to meet this requirement, the system would be placed in service in the recirculation with makeup air. This makeup air is used to refresh the control room envelope. In the event of a design basis accident (including control building isolation), with the filtration system operating in the recirculation with makeup air mode, the makeup air is automatically isolated and the filtration system goes into a 100% recirculation mode. Although no positive pressure is maintained in this alignment, it ensures that unfilterable noble gases are not forced into the envelope. The recirculation mode ensures that radioiodines introduced to the envelope are continuously filtered out. After one hour, the filters could be manually placed in the pressurization mode if radiological conditions permit.

With the control room habitability boundary not intact in accordance with design requirements, both trains of the Control Room Envelope Pressurization System are inoperable and entry into 3.0.3 is required.

One Time Exception to Surveillance Requirements

The capability of maintaining a positive Control Room envelope pressure equal to or greater than 1/8 inch water gauge relative to the outside atmosphere as required by Technical Specification Surveillance Requirements 4.7.8.c.2 and 4.7.8.c.3 will be suspended during pressure testing of the Cable Spreading Room (CSR). The CSR test is being performed in support of the corrective actions identified in Millstone Unit No. 3 Licensee Event Report (LER) 99-002-00, "Inadvertent Carbon Dioxide Fire Suppression System Actuation In The Cable Spreading Room," dated February 16, 1999. This LER documents an inadvertent CO₂ actuation in the CSR on January 15, 1999.

The purpose of the CSR pressure test is to identify leakage pathways from the CSR to adjacent areas. Once identified, these leakage pathways will be repaired and tested in order to ensure that in the event of a fire in the CSR requiring actuation of the CO₂ Suppression System, CO₂ concentrations outside the CSR will not preclude the Unit from being safely shut down from the Remote Shutdown Panel if an evacuation of the Control Room is required. This exception to Technical Specifications will allow pressure testing of the CSR to be performed in any MODE of operation. It is intended that the CSR pressure test be performed as required to verify the adequacy of repairs performed to reduce leakage. The exception will expire upon the first entry into MODE 4 following the completion of refueling operations associated with the seventh Refueling Outage.

A dedicated operator will be stationed in the Control Room, in constant communication with a dedicated operator at the temporary fan during pressure testing of the CSR. This will allow rapid depressurization of the CSR in the event a Control Building Isolation signal is received.

PLANT SYSTEMS

BASES

SURVEILLANCE REQUIREMENTS (Continued)

4.7.8.a

This surveillance requires verification that the air bottles are properly pressurized. Verifying that the air bottles are pressurized to greater than or equal to 2200 psig will ensure that a control room envelope pressurization system will be capable of supplying the required flow rate. The frequency of the surveillance is at least once per 7 days. It is based on engineering judgment and has been shown to be appropriate through operating experience.

4.7.8.b

This surveillance requires verification of the correct position of each valve (manual, power operated, or automatic) in the control room envelope pressurization system flow path. It helps ensure that the control room envelope pressurization system is capable of performing its intended safety function by verifying that an appropriate flow path will exist. The surveillance applies to those valves that could be mispositioned. This surveillance does not apply to valves that have been locked, sealed, or secured in position, because these positions are verified prior to locking, sealing, or securing.

The frequency of the surveillance is at least once per 31 days on a STAGGERED TEST BASIS. It is based on engineering judgment and has been shown to be appropriate through operating experience.