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Nuclear Energy

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The Northeast Utilities System

FEB - 1 2000

Docket No. 50-423
B17946

Re: 10 CFR 50.90

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

Millstone Nuclear Power Station, Unit No. 3
Proposed Revision to Technical Specifications
Cable Spreading Room Pressurization Testing (TSCR 3-16-99)

Pursuant to 10 CFR 50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend Operating License NPF-49 by incorporating the attached proposed changes into the Technical Specifications of Millstone Unit No. 3. NNECO is proposing to change Technical Specifications 3.7.7, "Plant Systems - Control Room Emergency Ventilation System," and 3.7.8, "Plant Systems - Control Room Envelope Pressurization System." The Bases for these Technical Specifications will be modified to address the proposed changes.

The proposed Technical Specification changes are necessary to perform testing of the Cable Spreading Room (CSR) that will pressurize this area to a pressure that exceeds the pressure of the adjacent Control Room envelope area.

Attachment 1 provides a discussion of the proposed changes and the Safety Summary. Attachment 2 provides the Significant Hazards Consideration. Attachment 3 provides the marked-up version of the appropriate pages of the current Technical Specifications. Attachment 4 provides the retyped pages of the Technical Specifications.

A001

Environmental Considerations

NNECO has reviewed the proposed License Amendment Request against the criteria of 10 CFR 51.22 for environmental considerations. The proposed changes will modify the operability requirements for the Control Room Emergency Air Filtration System and Control Room Envelope Pressurization System to allow pressure testing of the CSR. These changes do not significantly increase the type and amounts of effluents that may be released off site. In addition, this amendment request will not significantly increase individual or cumulative occupational radiation exposures. Therefore, NNECO has determined the proposed changes will not have a significant effect on the quality of the human environment.

Conclusions

The proposed changes do not involve a significant impact on public health and safety (see the Safety Summary provided in Attachment 1) and do not involve a Significant Hazards Consideration pursuant to the provisions of 10 CFR 50.92 (see the Significant Hazards Consideration provided in Attachment 2). In addition, we have concluded the proposed changes are safe.

Plant Operations Review Committee and Nuclear Safety Assessment Board

The Plant Operations Review Committee and Nuclear Safety Assessment Board have reviewed and concurred with the determinations.

Schedule

We request issuance of this amendment for Millstone Unit No. 3 prior to July 31, 2000, with the amendment to be implemented within 30 days of issuance.

State Notification

In accordance with 10 CFR 50.91(b), a copy of this License Amendment Request is being provided to the State of Connecticut.

There are no regulatory commitments contained within this letter.

If you should have any questions on the above, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

M. H. Brothers
Vice President - Nuclear Operations

Sworn to and subscribed before me

this 1ST day of February, 2000

Notary Public

My Commission expires Jun 30 2004

Attachments (4)

cc: H. J. Miller, Region I Administrator
V. Nerses, NRC Senior Project Manager, Millstone Unit No. 3
A. C. Cerne, Senior Resident Inspector, Millstone Unit No. 3

Director
Bureau of Air Management
Monitoring and Radiation Division
Department of Environmental Protection
79 Elm Street
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Attachment 1

Millstone Nuclear Power Station, Unit No. 3

Proposed Revision to Technical Specifications
Cable Spreading Room Pressurization Testing (TSCR 3-16-99)
Discussion of Proposed Changes

February 2000

Proposed Revision to Technical Specifications
Cable Spreading Room Pressurization Testing (TSCR 3-16-99)
Discussion of Proposed Changes

Northeast Nuclear Energy Company (NNECO) hereby proposes to amend Operating License NPF-49 by incorporating the attached proposed changes into the Technical Specifications of Millstone Unit No. 3. NNECO is proposing to change Technical Specifications 3.7.7, "Plant Systems - Control Room Emergency Ventilation System," and 3.7.8, "Plant Systems - Control Room Envelope Pressurization System." The Bases for these Technical Specifications will be modified to address the proposed changes.

The proposed Technical Specification changes will temporarily suspend the Technical Specification requirements for the Control Room Emergency Air Filtration System and Control Room Envelope Pressurization System to be able to maintain the Control Room envelope at a positive pressure of at least 1/8 inch water gauge (wg) with respect to adjacent areas or outside atmosphere. These changes are necessary to perform testing of the Cable Spreading Room (CSR) that will pressurize this area to a pressure that exceeds the pressure of the adjacent Control Room envelope area. During the performance of this testing, dedicated personnel will be stationed to depressurize the CSR, if necessary, so that the Control Room Emergency Air Filtration System and Control Room Envelope Pressurization System will be able to function as assumed to mitigate design basis events.

Background

On January 15, 1999, with Millstone Unit No. 3 operating at 100 percent power, an inadvertent actuation of the CSR automatic fire suppression system occurred resulting in a discharge of carbon dioxide (CO_2) into the CSR. Purging operations occurred over the next several hours. During this time period, higher than expected concentrations of CO_2 were found in contiguous areas outside the CSR, i.e., the East and West Switchgear Rooms, and some areas within the Control Room envelope.

This event was reported by Licensee Event Report (LER) 99-002-00, "Inadvertent Carbon Dioxide Fire Suppression System Actuation In The Cable Spreading Room," dated February 16, 1999.

A task force was formed to address issues arising from this event. One of the postulated contributors to the higher than expected CO_2 concentrations found in the East and West Switchgear Rooms and areas within the Control Room envelope was leakage from the CSR. A fan pressurization test of the CSR performed during the sixth Refueling Outage (3R6), with the core off-loaded, provided preliminary information to identify gross leakage paths that have been subsequently repaired. Additional actions that have been taken include replacing various door seals, repairing leaks on the CO_2

header, and locking out the CSR CO_2 suppression system to prevent automatic actuation. This has required a fire watch to be posted.

In order to further evaluate leakage pathways, identify any additional CSR leakage pathways, perform any required repairs, and reinstate the CSR CO_2 suppression system, it will be necessary to perform additional pressurization testing, and ultimately, confirmatory tracer gas testing of the CSR. During testing, the CSR will be pressurized by a fan connected to temporary ducting run to a test connection installed in a CSR door frame. The temporary fan, which will be powered from a local non-safety-related welding receptacle, will be located outside the Control Building. This temporary fan will be controlled by a dedicated individual in constant communication with the Millstone Unit No. 3 Control Room. In the event of a radiological event, the fan will be secured. This action will depressurize the CSR. While pressurized, sensing devices such as smoke pencils or a tracer gas will be used to identify leakage through penetrations from the CSR.

The CSR pressurization test is expected to be performed only once. However, additional testing may be necessary to verify the adequacy of repairs performed to reduce leakage. As a result, this exception is proposed to remain in effect until the first entry into Mode 4 following the completion of refueling operations associated with the next refueling outage (3R7).

Description of the Cable Spreading Room and Control Room Habitability Boundary

The CSR is located in the Control Building (24 foot 6 inch elevation) directly below the Control Room complex (43 foot elevation). The Control Room complex includes the Control Room, Instrument Rack Room, Computer Room, Mechanical Equipment Space (64 foot elevation), and the stairwell. These areas make up the Control Room envelope, which is designed to be pressurized above adjacent areas to maintain habitability following a design basis accident (DBA). Directly below the CSR are the East and West Switchgear Rooms (4 foot 6 inch elevation).

The CSR is designed for pressures up to 75 pounds per square foot (psf). This is equivalent to approximately 0.52 pounds per square inch (psi), or 14.4 inches wg. A maximum pressure of 10 inches wg will be maintained by personnel at the temporary fan using an installed gauge, and by a limit on the maximum pressure that the portable fan can generate (stall point). In addition, the fan discharge bypass damper will be blocked from completely closing, if necessary, to ensure the 10 inch wg CSR pressure limit is not exceeded.

Control Room System Operation

The Control Room Envelope Pressurization System (Technical Specification 3.7.8) and the Control Room Emergency Air Filtration System (Technical Specification 3.7.7) are normally maintained in a standby mode of operation. 60 seconds after receipt of a

Control Building Isolation (CBI) Signal, pressurization of the Control Room envelope to 1/8 inch wg by the Control Room Envelope Pressurization System is automatically initiated. The Control Room Envelope Pressurization System will maintain the Control Room envelope pressurized for 60 minutes. After 60 minutes, the Control Room Emergency Air Filtration System will be manually aligned in either the 100% recirculation mode (isolated from the outside environment) or the filtered pressurization mode (outside air is manually diverted through the filters to the Control Room envelope to maintain a positive pressure). The mode of operation selected will be based on the radiological conditions that exist outside the Control Room.

A CBI Signal is automatically generated by a manual Safety Injection Signal, High Containment Pressure Signal, or a High Inlet Ventilation Radiation Signal. A CBI Signal can also be manually generated.

Description of Technical Specification Changes

The proposed changes will add exceptions to the Limiting Condition of Operation (LCO) for Technical Specifications 3.7.7 and 3.7.8. These exceptions, which will only apply when performing CSR pressurization testing, are necessary since the CSR pressurization tests will cause the CSR pressure to be approximately 10 inches wg above the pressure in the Control Room envelope. As a result, the Control Room Emergency Air Filtration Control Room Envelope Pressurization Systems would not be able to maintain the Control Room envelope at a positive pressure of at least 1/8 inch water gauge with respect to adjacent areas or outside atmosphere. This requirement is specified in Surveillance Requirements (SRs) 4.7.7.e.2, 4.7.8.c.2 and 4.7.8.c.3.

The proposed exceptions will allow for pressurization testing of the CSR such that leakage paths can be identified and repaired. The pressurization testing can be performed with the plant in any mode. However, the exceptions will only remain valid until Millstone Unit No. 3 enters Mode 4 following the completion of refueling operations associated with the next refueling outage (3R7).

A discussion of the proposed exceptions will be added to the Bases of Technical Specifications 3.7.7 and 3.7.8.

An additional change to SR 4.7.7.e.2 and the associated Bases will be made by adding the words "positive pressure." This change will clarify that the requirement to maintain the Control Room envelope at a positive pressure of at least 1/8 inch wg is applicable only when the Control Room Emergency Air Filtration System is operating in the filtered pressurization mode as described above. This clarification will not result in any change in system operation, or any technical change to this SR.

Safety Summary

Pressurization testing of the CSR is necessary to identify any CO_2 leakage paths into the Control Room envelope, and to confirm that CO_2 will not leak past penetrations or door seals in a quantity sufficient to prevent access to important control areas within the Control Building envelope (e.g., Control Room, Auxiliary Shutdown Panel, and Fire Transfer Panel). When the CSR is pressurized, the Control Room Emergency Air Filtration and Control Room Envelope Pressurization Systems would not be able to maintain the Control Room envelope at a positive pressure of at least 1/8 inch wg with respect to adjacent areas or outside atmosphere following a DBA. Therefore, administrative controls will be implemented during CSR pressurization testing to rapidly depressurize the CSR area if a DBA occurs. This will minimize the adverse impact of this testing on these accident mitigation systems.

Ducting and a specially constructed duct connection will be located at the inside frame of the CSR doorway and will be attached to a portable fan. The fan will force air through a connection to the CSR, thereby pressurizing the CSR. CSR dampers that are normally available to provide a release path for CO_2 will be blocked, so the only leakage paths will be via room penetrations or door seals. Pressurization of the CSR will be maintained at levels that will not exceed the maximum design pressure of the CSR (14.4 inches wg). Since the maximum design pressure will not be exceeded, reasonable assurance exists that the Control Room envelope will not be degraded by the proposed testing. If potential degradation of the Control Room envelope is indicated during test performance, the test will be terminated, the degradation evaluated for impact on the operability of the Control Room envelope, and appropriate repairs performed.

Overpressurization of the CSR will be prevented by mechanical controls and administrative controls contained in the test procedure. Personnel will be located at the temporary fan to monitor CSR pressure via an installed pressure gauge. Limits will be placed on the maximum pressure that the portable fan can generate (stall point or fan speed), in combination with a fan discharge bypass damper blocked from completely closing, if necessary, to ensure the CSR pressurization limit will not be exceeded. In addition, once the temporary fan is turned off, pressure will rapidly decay within the CSR and return to atmospheric pressure (estimated to be less than one minute), restoring the ability of the Control Room Emergency Air Filtration and Control Room Envelope Pressurization Systems to perform their safety functions.

Preliminary CSR pressurization testing was conducted during the last refueling outage (3R6), with the reactor defueled. This testing, which was used to perform an initial assessment of the area, pressurized the CSR area to approximately 2 inches wg. During this testing, the temporary pump was stopped numerous times resulting in a rapid depressurization of the CSR to atmospheric pressure in approximately 20 seconds. Based on these preliminary results, it is reasonable to assume the CSR area can be manually depressurized within approximately 45 seconds of receipt of a CBI

Signal, which is within the 60 second time delay before the Control Room envelope is pressurized by the Control Room Envelope Pressurization System. Prerequisite testing will be performed to demonstrate that the CSR could be depressurized within approximately 60 seconds of a CBI Signal before performance of the actual CSR pressurization test.

The CSR pressurization test is expected to be performed only once. However, additional testing may be necessary to address issues (e.g., penetration leaks) identified during performance of the initial test. Any additional testing will only be performed to confirm specific repairs are satisfactory.

Based on the low probability of the occurrence of a DBA, it is unlikely that Control Building isolation will be necessary during the performance of CSR pressurization testing. If Control Building isolation is necessary during CSR pressurization testing, a dedicated individual in the Millstone Unit No. 3 Control Room that is in constant communication with personnel at the temporary fan, will direct the temporary fan to be stopped and the CSR depressurized. The CSR area should be depressurized within approximately 60 seconds of an accident, which would be before the Control Room Envelope Pressurization System has actuated to establish the required 1/8 inch wg pressure differential. Furthermore, even if a positive pressure remains in the CSR for slightly longer than 60 seconds after a DBA accident, there should be no adverse impact for two reasons. Although the accident analysis assumes instantaneous arrival of the radioactive plume at the Control Building, the plume is not expected to reach the Control Building until 72 seconds after a release. In addition, once the temporary fan is stopped, the radioactive plume cannot enter the CSR because the residual pressure will be higher than the outside atmospheric pressure. In effect, the Control Room envelope will be extended temporarily to the CSR until the room is completely depressurized. CSR pressurization testing should not affect the ability of the Control Room Emergency Air Filtration System to pressurize the Control Room envelope, if required, approximately one hour after an accident.

The CSR pressurization testing will include the use of smoke pencils and/or tracer gases to identify leakage paths. The use of smoke pencils has been proven to not be hazardous to personnel and equipment, and the minimal concentrations and application methods should not result in spurious fire detection alarms. The tracer gas, sulfur hexafluoride (or an equivalent), poses no threat to personnel and equipment in the concentrations and duration expected for the pressure test. It is a standard specialty gas used by industry for leak detection, and is used to test the Millstone Unit No. 2 Control Room Ventilation System.

The additional change to SR 4.7.7.e.2 will clarify the mode of system operation when the pressurization requirement applies. This will not result in any change in system operation or any technical change to this SR.

The proposed changes to the Bases of Technical Specifications 3.7.7 and 3.7.8 are consistent with the proposed changes previously discussed.

The proposed changes to the Technical Specifications and associated Bases will not adversely affect the availability or operation of the equipment used to mitigate design basis accidents. The administrative controls that will be implemented during CSR pressurization testing will provide reasonable assurance that the integrity of the Control Room envelope will be maintained to allow the mitigation of the design basis accidents. There will be no adverse effect on plant operation. The plant response to the design basis accidents will not change. Therefore, there will be no adverse impact on public health and safety. Thus, the proposed changes are safe.

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Attachment 2

Millstone Nuclear Power Station, Unit No. 3

Proposed Revision to Technical Specifications
Cable Spreading Room Pressurization Testing (TSCR 3-16-99)
Significant Hazards Consideration

February 2000

Proposed Revision to Technical Specifications
Cable Spreading Room Pressurization Testing (TSCR 3-16-99)
Significant Hazards Consideration

Significant Hazards Consideration

In accordance with 10 CFR 50.92, NNECO has reviewed the proposed changes and has concluded that they do not involve a significant hazards consideration (SHC). The basis for this conclusion is that the three criteria of 10 CFR 50.92(c) are not compromised. The proposed changes do not involve an SHC because the changes would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed Technical Specification and Bases changes to exclude the requirements of Surveillance Requirements (SRs) 4.7.7.e.2, 4.7.8.c.2, and 4.7.8.c.3 during pressurization testing of the Cable Spreading Room (CSR) will not increase the probability of an accident previously evaluated. Operation of the Control Room Emergency Air Filtration System and the Control Room Envelope Pressurization System cannot cause an accident to occur.

   The proposed Technical Specification and Bases changes to exclude the requirements of SRs 4.7.7.e.2, 4.7.8.c.2, and 4.7.8.c.3 during pressurization testing of the CSR may adversely impact the consequences of previously evaluated accidents. During CSR pressurization testing, the Control Room Emergency Air Filtration and the Control Room Envelope Pressurization Systems may not be able to pressurize and maintain the Control Room envelope at a positive pressure with respect to adjacent areas and the outside atmosphere. As a result, radioactivity released from a design basis accident may enter the Control Room envelope. However, since the CSR area will actually be at a higher pressure than the outside atmosphere (during CSR pressurization testing), radioactive leakage into the CSR area, and subsequently into the Control Room envelope, should not occur after the temporary fan has been stopped. Administrative controls will be established to immediately stop the temporary fan and rapidly depressurize the CSR area in the event Control Building isolation is necessary. Once the CSR area is depressurized, the Control Room Emergency Air Filtration System and the Control Room Envelope Pressurization System will be able to function as designed to mitigate the consequences of the accident. In addition, the probability of a design basis accident (DBA) occurring while the CSR is pressurized is low. Therefore, exempting the requirements of SRs 4.7.7.e.2, 4.7.8.c.2, and 4.7.8.c.3 during CSR pressurization testing will not result in a significant increase in the consequences of an accident previously evaluated.

   The proposed Technical Specification and Bases change to clarify the mode of operation of the Control Room Emergency Air Filtration System when the

pressurization requirement of SR 4.7.7.e.2 applies, will have no adverse effect on plant operation, or the availability or operation of any accident mitigation equipment. The plant response to the design basis accidents will not change. In addition, the proposed change can not cause an accident. Therefore, there will be no significant increase in the probability or consequences of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

   The proposed Technical Specification and Bases changes to exclude the requirements of SRs 4.7.7.e.2, 4.7.8.c.2, and 4.7.8.c.3 during pressurization testing of the CSR, and to clarify the mode of operation of the Control Room Emergency Air Filtration System when the pressurization requirement of SR 4.7.7.e.2 applies, will not alter the plant configuration (no new or different type of permanent equipment will be installed) or require any new or unusual operator actions. Temporary equipment will be utilized to pressurize the CSR, and administrative controls, using additional personnel beyond the normal shift complement, will be implemented to restore the CSR to a configuration that will allow the Control Room Emergency Air Filtration System and the Control Room Envelope Pressurization System to function as designed to mitigate the consequences of an accident. The temporary equipment and administrative controls that will be implemented to perform the CSR pressurization testing will not introduce any new failure modes that could result in a new accident. Also, the response of the plant and the operators following these accidents is unaffected by the changes. Therefore, the proposed changes will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Involve a significant reduction in a margin of safety.

   The proposed Technical Specification and Bases changes to exclude the requirements of SRs 4.7.7.e.2, 4.7.8.c.2, and 4.7.8.c.3 during pressurization testing of the CSR may adversely impact the ability of the Control Room Emergency Air Filtration System and the Control Room Envelope Pressurization System to function as designed to protect the Control Room Operators following a DBA, and to use other accident mitigation equipment contained within the Control Room envelope. However, the administrative controls that will be established to immediately stop the temporary fan and rapidly depressurize the CSR area if Control Building isolation is necessary will provide reasonable assurance that the habitability of the Control Room envelope will be maintained. Therefore, exempting the requirements of SRs 4.7.7.e.2, 4.7.8.c.2, and 4.7.8.c.3 during CSR pressurization testing will not result in a significant reduction in a margin of safety.

   The proposed Technical Specification and Bases change to clarify the mode of operation of the Control Room Emergency Air Filtration System when the pressurization requirement of SR 4.7.7.e.2 applies will have no adverse effect on

plant operation, or the availability or operation of any accident mitigation equipment. The plant response to the design basis accidents will not change. Therefore, there will be no significant reduction in a margin of safety.

The proposed changes do not alter the design, function, or operation of the equipment involved. The impact of the proposed changes has been analyzed, and it has been determined they do not involve a significant increase in the probability or consequences of an accident previously evaluated, do not create the possibility of a new or different kind of accident from any accident previously evaluated, and do not involve a significant reduction in a margin of safety. Therefore, NNECO has concluded the proposed changes do not involve an SHC.

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Attachment 3

Millstone Nuclear Power Station, Unit No. 3

Proposed Revision to Technical Specifications
Cable Spreading Room Pressurization Testing (TSCR 3-16-99)
Marked Up Pages

February 2000

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 +20% and that the system operates for at least 10 continuous hours with the heaters operating;

INSERT A

INSERT A - Page 3/4 7-15

* 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.

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 ±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 ±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 ±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 system operation; and

positive pressure

3) Verifying that the heaters dissipate 9.4 ±1 kW when tested in accordance with ANSI N510-1980.

NO CHANGE
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JAN 31 1980

SURVEILLANCE REQUIREMENTS (Continued)

f. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 1120 cfm ± 20%; and

g. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 1120 cfm ± 20%.

*ANSI N510-1980 shall be used in place of ANSI N510-1975 referenced in Regulatory Guide 1.52, Revision 2, March 1978.

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

INSERT B

INSERT B - Page 3/4 7-18

* 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.

NO CHANGE
FOR INFORMATION
ONLY

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once each REFUELING INTERVAL or following a major alteration of the control room envelope pressure boundary by:

1. Verifying that the control room envelope is isolated in response to a Control Building Isolation test signal,

2. Verifying that after a 60 second time delay following a Control Building Isolation test signal, the control room envelope pressurizes to greater than or equal to 1/8 inch W.G. relative to the outside atmosphere, and

3. Verifying that the positive pressure of Specification 4.7.8.c.2 is maintained for greater than or equal to 60 minutes.

7/28/97
NO CHANGE
FOR INFORMATION ONLY

SURVEILLANCE REQUIREMENTS

For the surveillance requirements, the UHS temperature is measured at the locations described in the LCO write-up provided in this section.

Surveillance Requirement 4.7.5.a verifies that the UHS is capable of providing a 30-day cooling water supply to safety-related equipment without exceeding its design basis temperature. The 24-hour frequency is based on operating experience related to trending of the parameter variations during the applicable modes. This surveillance requirement verifies that the average water temperature of the UHS is less than or equal to 75°F.

Surveillance Requirement 4.7.5.b requires that the UHS temperature be monitored on an increased frequency whenever the UHS temperature is greater than 70°F during the applicable modes. The intent of this Surveillance Requirement is to increase the awareness of plant personnel regarding UHS temperature trends above 70°F. The frequency is based on operating experience related to trending of the parameter variations during the applicable modes.

3/4.7.6 FLOOD PROTECTION

The limitation on flood protection ensures that the service water pump cubicle watertight doors will be closed and the pump cubicle sump drain valves will be closed before the water level reaches the critical elevation of 14.5 feet Mean Sea Level. Elevation 14.5 feet MSL is the floor elevation of the service water pump cubicle.

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

BACKGROUND

The control room emergency ventilation system provides a protected environment from which operators can control the unit following an uncontrolled release of radioactivity. Additionally, the system provides temperature control for the control room during normal and post-accident operations.

The control room emergency ventilation system is comprised of the control room emergency air filtration system and a temperature control system.

The control room emergency air filtration system consists of two redundant systems that recirculate and filter the control room air. Each control room emergency air filtration system consists of a moisture separator, electric heater, prefilter, upstream high efficiency particulate air (HEPA) filter, charcoal adsorber, downstream HEPA filter, and fan. Additionally, ductwork, valves or dampers, and instrumentation form part of the system.

Normal Operation

A portion of the control room emergency ventilation system is required to operate during normal operations to ensure the temperature of the control room is maintained at or below 95°F.

NO CHANGE
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4/10/97

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

BACKGROUND (Continued)

Post Accident Operation

The control room emergency ventilation system is required to operate during post-accident operations to ensure the temperature of the control room is maintained and to ensure the control room will remain habitable during and following accident conditions.

The following sequence of events occurs upon receipt of a control building isolation (CBI) signal or a signal indicating high radiation in the air supply duct to the control room envelope.

1. The control room boundary is isolated to prevent outside air from entering the control room to prevent the operators from being exposed to the radiological conditions that may exist outside the control room. The analysis for a loss of coolant accident assumes that the highest releases occur in the first hour after a loss of coolant accident.

2. After 60 seconds, the control room envelope pressurizes to 1/8 inch water gauge by the control room emergency pressurization system. This action provides a continuous purge of the control room envelope and prevents inleakage from the outside environment. Technical Specification 3/4.7.8 provides the requirements for the control room envelope pressurization system.

3. Control room pressurization continues for the first hour.

4. After one hour, the control room emergency ventilation system will be placed in service in either the 100% recirculation mode (isolated from the outside environment) or filtered pressurization mode (outside air is diverted through the filters to the control room envelope to maintain a positive pressure). The mode of service for the filtration will be based on the radiological conditions that exist outside the control room. To run the control room emergency air filtration system in the filtered pressurization mode, the air supply line must be manually opened.

APPLICABLE SAFETY ANALYSIS

The OPERABILITY of the Control Room Emergency Ventilation System ensures that: (1) the ambient air temperature does not exceed the allowable temperature for continuous-duty rating for the equipment and instrumentation cooled by this system, and (2) the control room will remain habitable for operations personnel during and following all credible accident conditions. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rems or less whole body, or its equivalent for the duration of the accident. This limitation is consistent with the requirements of General Design Criterion 19 of Appendix A, 10 CFR Part 50.

NO CHANGE
FOR INFORMATION ONLY 6/24/99

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

LIMITING CONDITION FOR OPERATION

Two independent control room emergency air filtration systems are required to be operable to ensure that at least one is available in the event the other system is disabled.

A control room emergency air filtration system is OPERABLE when the associated:

a. Fan is OPERABLE;

b. HEPA filters and charcoal adsorbers are not excessively restricting flow and are capable of performing their filtration functions; and

c. moisture separator, heater, ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

The integrity of the control room habitability boundary (i.e., walls, floors, ceilings, ductwork, and access doors) must be maintained such that the control building habitability zone can be maintained at its design positive pressure if required to be aligned in the filtration pressurization mode.

APPLICABILITY

In MODES 1, 2, 3, 4, 5, and 6.

ACTIONS

Modes 1, 2, 3, and 4

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. In this condition, the remaining control room emergency air filtration system is adequate to perform the control room protection function. However, the overall reliability is reduced because a single failure in the OPERABLE train could result in a loss of the control room emergency air filtration system function. The 7-day completion time is based on the low probability of a DBA occurring during this time period, and the ability of the remaining train to provide the required capability.

If the inoperable train cannot be restored to an OPERABLE status within 7 days, the unit must be placed in at least HOT STANDBY within the next 6 hours and within COLD SHUTDOWN within the following 30 hours. These 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.

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

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.

SURVEILLANCE REQUIREMENTS

INSERT C

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 ± 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.

INSERT C - Page B 3/4 7-13

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 CO_2 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 CO_2 Suppression System, CO_2 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.

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

SURVEILLANCE REQUIREMENTS (Continued)

4.7.7.c

The performance of the control room emergency filtration systems should be checked periodically by verifying the HEPA filter efficiency, charcoal adsorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. The frequency is at least once per 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.

ANSI N510-1980 will be used as a procedural guide for surveillance testing.

4.7.7.c.1

This surveillance verifies that the system satisfies the in-place penetration and bypass leakage testing acceptance criterion of less than 0.05% in accordance with Regulatory Position C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, while operating the system at a flow rate of 1,120 cfm ± 20%. ANSI N510-1980 is used in lieu of ANSI N510-1975 referenced in the regulatory guide.

4.7.7.c.2

This surveillance requires that a representative carbon sample be obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978 and that a laboratory analysis verify that the representative carbon sample meets the criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978 (Ref. 1) and MP3 UFSAR, Table 1.8-1, NRC Regulatory Guide 1.52 (Ref. 2), for a methyl 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.

4.7.7.c.3

This surveillance verifies that a system flow rate of 1,120 cfm ± 20%, during system operation when testing in accordance with ANSI N510-1980.

4.7.7.d

After 720 hours of charcoal adsorber operation, a representative carbon sample must be obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, and a laboratory analysis must verify that the representative carbon sample meets the criteria of Regulatory position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl

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 ± 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 system operation. The frequency is at least once per REFUELING INTERVAL.

Positive Pressure

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.

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

SURVEILLANCE REQUIREMENTS (Continued)

During the first hour, the control room pressurization system creates and maintains the positive pressure in the control room. This capability is verified by Surveillance Requirement 4.7.8.C, independent of Surveillance Requirement 4.7.7.e.2. Furthermore, ACTIONS A.2 and B.1 of Limiting Condition for Operation 3.7.8 requires that an OPERABLE control room emergency air filtration system be initiated and maintained in the recirculation mode following both control room envelope pressurization systems becoming inoperable (e.g., a breech in the control room envelope). Running the control room air filtration system in the recirculation mode with the control room emergency pressurization inoperable would prohibit the ability to create and maintain a positive pressure in the control room envelope, because no source of air would be available to pressurize the control room envelope. A CBI signal will automatically align an operating filtration system into the recirculation mode of operation due to the isolation of the air supply line to the filter.

After the first hour of an event with the potential for a radiological release, the control room emergency ventilation system will be placed in service in either the recirculation mode (isolated from the outside environment) or filtered pressurization mode (outside air is diverted through the filters to the control room envelope to maintain a positive pressure). The mode of service for the control room emergency air filtration system will be based on the radiological conditions that exist outside the control room. Alignment to the filtered pressurization mode requires manual operator action to open the air supply line.

4.7.7.e.3

This surveillance verifies that the heaters can dissipate 9.4 ± 1 kW at 480V when tested in accordance with ANSI N510-1980. The frequency is at least once per REFUELING INTERVAL. The heater kW measured must be corrected to its nameplate rating. Variations in system voltage can lead to measurements of kW which cannot be compared to the nameplate rating because the output kW is proportional to the square of the voltage.

4.7.7.f

Following the complete or partial replacement of a HEPA filter bank, the operability of the cleanup system should be confirmed. This is accomplished by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criterion of less than 0.05% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 1,120 cfm ± 20%.

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NO CHANGE
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3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

SURVEILLANCE REQUIREMENTS (Continued)

4.7.7.g

Following the complete or partial replacement of a charcoal adsorber bank, the operability of the cleanup system should be confirmed. This is accomplished by verifying that the cleanup system satisfied the in-place penetration and bypass leakage testing acceptance criterion of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow of 1,120 cfm ± 20%.

References:

(1) Nuclear Regulatory Guide 1.52, Revision 2
(2) MP3 UFSAR, Table 1.8-1, NRC Regulatory Guide 1.52
(3) NRC Generic Letter 91-04
(4) Condition Report (CR) #M3-99-0271

3/4.7.8 CONTROL ROOM ENVELOPE PRESSURIZATION SYSTEM

BACKGROUND

The control room envelope pressurization system provides a protected environment from which operators can control the unit following an uncontrolled release of radioactivity.

The control room envelope pressurization system consists of two banks of air bottles with its associated piping, instrumentation, and controls. Each bank is capable of providing the control room area with one-hour of air following any event with the potential for radioactive releases.

Normal Operation

During normal operations, the control room envelope pressurization system is required to be on standby.

Post Accident Operation

The control room envelope pressurization system is required to operate during post-accident operations to ensure the control room will remain habitable during and following accident conditions.

The sequence of events which occurs upon receipt of a control building isolation (CBI) signal or a signal indicating high radiation in the air supply duct to the control room envelope is described in Bases Section 3/4.7.7.

3/4.7.8 CONTROL ROOM ENVELOPE PRESSURIZATION SYSTEM (Continued)

APPLICABLE SAFETY ANALYSIS

The OPERABILITY of the control room envelope pressurization system ensures that: (1) breathable air is supplied to the control room, instrumentation rack room, and computer room, and (2) a positive pressure is created and maintained within the control room envelope during control building isolation for the first hour following any event with the potential for radioactive releases. Each system is capable of providing an adequate air supply to the control room for one hour following an initiation of a control building isolation signal. After one hour, operation of the control room emergency ventilation system would be initiated.

LIMITING CONDITION FOR OPERATION

Two independent control room envelope pressurization systems are required to be operable to ensure that at least one is available in the event the other system is disabled.

A control room envelope pressurization system is OPERABLE when the associated:

a. air storage bottles are OPERABLE; and

b. piping and valves are OPERABLE.

The integrity of the control room habitability boundary (i.e., walls, floors, ceilings, ductwork, and access doors) must be maintained.

APPLICABILITY

In MODES 1, 2, 3, 4, 5, and 6.

ACTIONS

a. With one control room envelope pressurization system inoperable, action must be taken either: (1) to restore the inoperable system to an OPERABLE status within 7 days, or (2) to initiate and maintain operation of an OPERABLE control room emergency air filtration system in the recirculation mode, or (3) to place the unit in HOT STANDBY within six hours and COLD SHUTDOWN within the next 30 hours and suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

For ACTION 3.7.8.a.1, the remaining control room envelope pressurization system is adequate to perform the control room protection function. However, the overall reliability is reduced because a single failure in

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3/4.7.8 CONTROL ROOM ENVELOPE PRESSURIZATION SYSTEM (Continued)

ACTIONS (Continued)

the OPERABLE train could result in a loss of the control room envelope pressurization system. The 7-day completion time is based on the low probability of a design basis accident occurring during this time period and the ability of the remaining train to provide the required capability.

For ACTION 3.7.8.a.2, initiating and maintaining operation of an OPERABLE train of the control room emergency air filtration system in the recirculation mode ensures that (i) any inleakage, as a result of loss pressurization, will be filtered from the initiation of the event, and (ii) active failures of that train will be readily detected. To meet the requirements of this action statement, the control room emergency air filtration system could be manually placed in either the 100% recirculation mode or the recirculation with makeup air mode. The recirculation with makeup air mode is used to refresh the control room air supply. While in the recirculation with makeup air mode, if a CBI signal is received, the fresh air makeup would be automatically isolated and the filters aligned to the 100% recirculation mode.

For ACTION 3.7.8.a.3, the completion times for the unit to be placed in HOT STANDBY and COLD SHUTDOWN are reasonable. They are based on operating experience, and they permit the unit to be placed in the required conditions from full power conditions in an orderly manner and without challenging unit systems.

Stud tensioning may continue in MODE 6 and a MODE change to MODE 5 is permitted with a control room envelope pressurization system inoperable (Reference 1).

b. With both control room envelope pressurization systems inoperable, action must be initiated within one hour to restore one inoperable system to an OPERABLE status and either (1) initiate and maintain operation of an OPERABLE control room emergency air filtration system in the recirculation mode, or (2) place the unit in HOT STANDBY within six hours and COLD SHUTDOWN within the next 30 hours and suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

The rationale for ACTIONS 3.7.8.b.1 and 3.7.8.b.2 are the same as those for ACTIONS 3.7.8.a.2 and 3.7.8.a.3, respectively.

Inoperability of both trains of the control room envelope pressurization system is independent from the requirements regarding the control room emergency ventilation system contained in LCO 3.7.7.

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.

INSERT D

SURVEILLANCE REQUIREMENTS

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.

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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 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 CO_2 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 CO_2 Suppression System, CO_2 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.

3/4.7.8 CONTROL ROOM ENVELOPE PRESSURIZATION SYSTEM (Continued)

SURVEILLANCE REQUIREMENTS (Continued)

4.7.8.c

The performance of the control room envelope pressurization system should be checked periodically. The frequency is at least once per REFUELING INTERVAL and following any major alteration of the control room envelope pressure boundary.

A major alteration is a change to the control room envelope pressure boundary that: (1) results in a breach greater than analyzed for acceptable pressurization and requires nonroutine work evolutions to restore the boundary. A nonroutine work evolution is one which makes it difficult to determine As-Found and As-Left conditions. Examples of routine work evolution include: (1) opening and closing a door, and (2) repairing cable and pipe penetrations because the repairs are conducted in accordance with procedures and are verified via inspections. For these two examples, there is a high level of assurance that the boundary is restored to the As-Found condition.

This surveillance requires at least once per REFUELING INTERVAL or following a major alteration of the control room envelope pressure boundary by:

- Verifying the control room envelope is isolated in response to a Control Building Isolation Test signal,
- Verifying, after a 60 second time delay following a Control Building Isolation Test signal, the control room envelope pressurizes to greater than or equal to 0.125 inch water gauge relative to outside atmosphere; and
- Verifying the positive pressure of Technical Specification 4.7.8.c.2 is maintained for greater than or equal to 60 minutes.

Changes in conditions outside the control room envelope cause pressure spikes which are reflected on the differential pressure indicator, 3HVC-PDI 113.

Pressure spikes or fluctuations which result in the differential pressure momentarily dropped below the 0.125 inch water gauge acceptance criteria are acceptable providing the following conditions are met:

1. Differential pressure remains positive at all times.
2. Differential pressure is only transitorily below the acceptance criteria.
3. Differential pressure returns to a value above the acceptance criteria.

April 10, 1997

NO CHANGE
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3/4.7.8 CONTROL ROOM ENVELOPE PRESSURIZATION SYSTEM (Continued)

SURVEILLANCE REQUIREMENTS (Continued)

The control room envelope pressurization system design basis criteria is set at ≥ 0.125 inch water gauge criteria to account for wind effects, thermal column effects, and barometric pressure changes. Pressurizing the control room envelope of 0.125 inch water gauge above the initial atmospheric pressure ensures it will remain at a positive pressure during subsequent changes in outside conditions over the next 60 minutes. Since the surveillance requirement is verified by actual reference to outside pressure, allowances are provided for differential pressure fluctuations caused by external forces. The 0.125 inch water gauge acceptance criteria provides the margin for these fluctuations. This meets the requirements of Regulatory Guide 1.78 and NUREG-800, Section 6.4 and is consistent with the assumptions in the Control Room Operator DBA dose calculation.

4.7.8.c.1

This surveillance verifies that the control room envelope is isolated following a control building isolation (CBI) test signal.

4.7.8.c.2

This surveillance verifies that the control room envelope pressurizes to greater than or equal to 1/8 inch water gauge, relative to the outside atmosphere, after 60 seconds following receipt of a CBI test signal.

4.7.8.c.3

This surveillance verifies that the positive pressure developed in accordance with Surveillance Requirement 4.7.8.c.2 is maintained for greater than or equal to 60 minutes. This capability is independent from the requirements regarding the control room emergency filtration system contained in Technical Specification 3/4.7.7. Also, following the first hour, the control room emergency ventilation system is responsible for ensuring that the control room envelope remains habitable.

References:

(1) NRC Routine Inspection Report 50-423/87-33, dated February 10, 1988.

(2) NRC Generic Letter 91-04.

Docket No. 50-423
B17946

Attachment 4

Millstone Nuclear Power Station, Unit No. 3

Proposed Revision to Technical Specifications
Cable Spreading Room Pressurization Testing (TSCR 3-16-99)
Retyped Pages

February 2000

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 ±20% and that the system operates for at least 10 continuous hours with the heaters operating;

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* 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.

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 ±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 ±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 ±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.

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

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* 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.

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 CO_2 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 CO_2 Suppression System, CO_2 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.

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 ± 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.

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 ± 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.

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 CO_2 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 CO_2 Suppression System, CO_2 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.

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.