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1

DEFINITIONS

SECONDARY CONTAINMENT BOUNDARY

deleted.

1.12 The SECONDARY CONTAINMENT BOUNDARY is comprised of the containment enclosure building and all contiguous buildings (main steam valve building [partially], engineering safety features building [partially], hydrogen recombiner building [partially], and auxiliary building). The SECONDARY CONTAINMENT BOUNDARY shall exist when:

- a. Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit,
- b. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

ENGINEERED SAFETY FEATURES RESPONSE TIME

1.13 The ENGINEERED SAFETY FEATURES (ESF) RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ESF Actuation Setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays where applicable.

1.14 Deleted

FREQUENCY NOTATION

1.15 The FREQUENCY NOTATION specified for the performance of Surveillance Requirements shall correspond to the intervals defined in Table 1.1.

IDENTIFIED LEAKAGE

1.1 IDENTIFIED LEAKAGE shall be:

- a. Leakage (except CONTROLLED LEAKAGE) into closed systems, such as pump seal or valve packing leaks that are captured and conducted to a sump or collecting tank, or
- b. Leakage into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of Leakage Detection Systems or not to be PRESSURE BOUNDARY LEAKAGE, or
- c. Reactor Coolant System leakage through a steam generator to the Secondary Coolant System.

MASTER RELAY TEST

1.17 A MASTER RELAY TEST shall be the energization of each master relay and verification of OPERABILITY of each relay. The MASTER RELAY TEST shall include a continuity check of each associated slave relay.

CONTAINMENT SYSTEMS

May 8, 1995

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of less than or equal to L_0 , 0.3% by weight of the containment air per 24 hours at P_0 , 53.27 psia (38.57 psig);
- b. A combined leakage rate of less than 0.60 L_0 for all penetrations and valves subject to Type B and C tests, when pressurized to P_0 ; and
- c. A combined leakage rate of less than or equal to 0.042 L_0 for all penetrations that are ~~SECONDARY CONTAINMENT BOUNDARY~~ bypass leakage paths when pressurized to P_0 .

Secondary Containment

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With the measured overall integrated containment leakage rate exceeding 0.75 L_0 , or the measured combined leakage rate for all penetrations and valves subject to Type B and C tests exceeding 0.60 L_0 , or the combined bypass leakage rate exceeding 0.042 L_0 , restore the overall integrated leakage rate to less than 0.75 L_0 , the combined leakage rate for all penetrations subject to Type B and C tests to less than 0.60 L_0 , and the combined bypass leakage rate to less than 0.042 L_0 prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR Part 50 using methods and provisions of ANSI N45.4-1972 (Total Time Method) and/or ANSI/ANS 56.8-1981 (Mass Point Method):

- a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at approximately equal intervals during shutdown at a pressure not less than P_0 , 53.27 psia (38.57 psig), during each 10-year service period.*
- b. If any periodic Type A test fails to meet 0.75 L_0 , the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet 0.75 L_0 , a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet 0.75 L_0 at which time the above test schedule may be resumed;

*The third Type A test will be conducted during the sixth refueling outage. As a result, the duration of the first 10-year service period will be extended to the end of the sixth refueling outage.

January 3, 1995

CONTAINMENT SYSTEMS

3/4.6.6 SECONDARY CONTAINMENT

SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.6.1 Two independent Supplementary Leak Collection and Release Systems shall be OPERABLE with each system comprised of:

- a. one OPERABLE filter and fan, and
- b. one OPERABLE Auxiliary Building Filter System as defined in Specification 3.7.9.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one Supplementary Leak Collection and Release 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.

SURVEILLANCE REQUIREMENTS

4.6.6.1 Each Supplementary Leak Collection and Release System shall be demonstrated OPERABLE:

- a. 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 7600 cfm to 9800 cfm and that the system operates for at least 10 continuous hours with the heaters operating.
- b. At least once per 18 months 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 Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978,* and the system flow rate is 7600 cfm to 9800 cfm;

2 January 3, 1995

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 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 7600 cfm to 9800 cfm during system operation when tested in accordance with ANSI N510-1980.
- c. 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%:
- d. At least once per 18 months by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.25 inches Water Gauge while operating the system at a flow rate of 7600 cfm to 9800 cfm,
 - 2) Verifying that the system starts on a Safety Injection test signal, and
 - 3) Verifying that each system produces a negative pressure of greater than or equal to 0.4 inch Water Gauge in the Auxiliary Building at 24'6" elevation within 120 seconds after a start signal, and
- 3 A) Verifying that the heaters dissipate 50 ± 5 kW when tested in accordance with ANSI N510-1980.

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

NO Change
INFO ONLY
January 3, 1995

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- e. 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 7600 cfm to 9800 cfm; and
- f. 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 7600 cfm to 9800 cfm.

CONTAINMENT SYSTEMS

SECONDARY CONTAINMENT BOUNDARY

LIMITING CONDITION FOR OPERATION

3.6.6.2 SECONDARY CONTAINMENT BOUNDARY shall be maintained:
Secondary Containment shall be OPERABLE

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION: *Secondary Containment inoperable*

Without SECONDARY CONTAINMENT BOUNDARY, restore SECONDARY CONTAINMENT BOUNDARY within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Secondary Containment to OPERABLE Status

SURVEILLANCE REQUIREMENT

4.6.6.2.1 SECONDARY CONTAINMENT BOUNDARY shall be demonstrated at least once per 31 days by verifying that each door in each access opening is closed except when the access opening is being used for normal transit entry and exit.

Operability of Secondary Containment

4.6.6.2.2. At least once per 18 months, verify each Supplementary Leak Collection and Release System produces a negative pressure of greater than or equal to 0.4 ^{inch} Water gauge in the Auxiliary Building at 24'-6" elevation within 120 seconds after a start signal.

January 9, 1995

CONTAINMENT SYSTEMS

SECONDARY CONTAINMENT BOUNDARY STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.6.3 The structural integrity of the ^{Secondary Containment} ~~SECONDARY CONTAINMENT BOUNDARY~~ shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.6.3.

APPLICABILITY: NODES 1, 2, 3, and 4.

ACTION:

With the structural integrity of the ^{Secondary Containment} ~~SECONDARY CONTAINMENT BOUNDARY~~ not conforming to the above requirements, restore the structural integrity to within the limits within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENT

4.6.6.3 The structural integrity of the ^{Secondary Containment} ~~SECONDARY CONTAINMENT BOUNDARY~~ shall be determined during the shutdown for each Type A containment leakage rate test (reference Specification 4.6.1.2) by a visual inspection of the exposed accessible interior and exterior surfaces of the ~~SECONDARY CONTAINMENT BOUNDARY~~ and verifying no apparent changes in appearance of the concrete surfaces or other abnormal degradation. Any abnormal degradation of the ~~SECONDARY CONTAINMENT BOUNDARY~~ detected during the above required inspections shall be reported to the Commission in a Special Report pursuant to Specification 6.9.2 within 15 days.

CONTAINMENT SYSTEMS

BASES

3/4.6.6 SECONDARY CONTAINMENT

3/4.6.6.1 SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM

Background

The OPERABILITY of the Supplementary Leak Collection and Release System (SLCRS) ensures that radioactive materials that leak from the primary containment into the secondary containment following a Design Basis Accident (DBA) are filtered out and adsorbed prior to any release to the environment. The design of the SLCRS is to achieve a negative pressure within the secondary containment boundary within 120 seconds of a DBA.

Delete

In order to ensure a negative pressure in all areas within the secondary containment boundary under most meteorological conditions, the negative pressure acceptance criteria at the measured location (i.e., 24'6" elevation in the auxiliary building) is 0.4 inches water gauge.

The secondary containment boundary is comprised of the containment enclosure building and all contiguous buildings (main steam valve building (partially), engineered safety features building (partially), hydrogen recombiner building (partially) and auxiliary building). To accomplish this, the SLCRS works in conjunction with the Auxiliary Building Filter (ABF) system (see Section 3/4.7.9). The SLCRS and the ABF fans and filtration units are located in the auxiliary building. The SLCRS is described in the Millstone Unit No. 3 FSAR, Section 6.2.3.

Applicable Safety Analyses

The SLCRS design basis is established by the consequences of the Limiting DBA, which is a LOCA. The accident analysis assumes that only one train of the SLCRS and one train of the auxiliary building filter system is functional due to a single failure that disables the other train. The accident analysis accounts for the reduction of the airborne radioactive material provided by the remaining one train of this filtration system. The amount of fission products available for release from the containment is determined for a LOCA.

The SLCRS is not normally in operation. The SLCRS starts on a SIS signal. The modeled SLCRS actuation in the safety analysis (the Millstone 3 FSAR Chapter 15, Section 15.6) is based upon a worst-case response time following an SI initiated at the limiting setpoint. One train of the SLCRS in conjunction with the ABF system is capable of drawing a negative pressure (0.4 inches water gauge at the auxiliary building 24'6" elevation) within 120 seconds after a LOCA. This time includes diesel generator startup and sequencing time, system startup time, and time for the system to attain the required negative pressure after starting.

CONTAINMENT SYSTEMS

BASES

3/4.6.6.1 SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM (Continued)

LCO

In the event of a DBA, one SLCRS is required to provide the minimum postulated iodine removal assumed in the safety analysis. Two trains of the SLCRS must be OPERABLE to ensure that at least one train will operate, assuming that the other train is disabled by a single-active failure. The SLCRS works in conjunction with the ABF system. Inoperability of one train of the ABF system also results in inoperability of the corresponding train of the SLCRS. Therefore, whenever LCO 3.7.9 is entered due to the ABF train A (B) being inoperable, LCO 3.6.6.1 must be entered due to the SLCRS train A (B) being inoperable.

→ INSERT B

Applicability

In MODES 1, 2, 3, and 4, a DBA could lead to a fission product release to containment that leaks to the secondary containment boundary. The large break LOCA, on which this system's design is based, is a full-power event. Less severe LOCAs and leakage still require the system to be OPERABLE throughout these MODES. The probability and severity of a LOCA decrease as core power and reactor coolant system pressure decrease. With the reactor shut down, the probability of release of radioactivity resulting from such an accident is low.

In MODES 5 and 6, the probability and consequences of a DBA are low due to the pressure and temperature limitations in these MODES. Under these conditions, the SLCRS is not required to be OPERABLE.

ACTIONS

With one SLCRS train inoperable, the inoperable train must be restored to OPERABLE status within 7 days. The operable train is capable of providing 100 percent of the iodine removal needs for a DBA. The 7-day Completion Time is based on consideration of such factors as the reliability of the OPERABLE redundant SLCRS train and the low probability of a DBA occurring during this period. The Completion Time is adequate to make most repairs. If the SLCRS cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and MODE 5 within the following 30 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full-power conditions in an orderly manner and without challenging plant systems.

Insert 'B' to
Page B 3/4 6-5

LCO

When a Supplementary Leak Collection and Release System LCO is not met, it is not necessary to declare the secondary containment inoperable. However, in this event, it is necessary to determine that a loss of safety function does not exist. A loss of safety function exists when, assuming no concurrent single failure, a safety function assumed in the accident analysis cannot be performed.

CONTAINMENT SYSTEMS

BASES

3/4.6.6.1 SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM (Continued)

Surveillance Requirements

a

Cumulative operation of the SLCRS with heaters operating for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The 31-day frequency was developed in consideration of the known reliability of fan motors and controls. This test is performed on a STAGGERED TEST BASIS once per 31-days.

b, c, e, and f

These surveillances verify that the required SLCRS filter testing is performed in accordance with Regulatory Guide 1.52, Revision 2. ANSI N510-1980 shall be used in place of ANSI N510-1975 referenced in Regulatory Guide 1.52, Revision 2. The surveillances include testing HEPA filter performance, charcoal adsorber efficiency, system flow rate, and the physical properties of the activated charcoal (general use and following specific operations).

d

The automatic startup ensures that each SLCRS train responds properly. The 18-month frequency is based on the need to perform this surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the surveillance was performed with the reactor at power. The surveillance verifies that the SLCRS starts on a SIS test signal. It also includes the automatic functions to isolate the other ventilation systems that are not part of the safety-related postaccident operating configuration and to start up and to align the ventilation systems that flow through the secondary containment to the accident condition.

- The main steam valve building ventilation system isolates.
- Auxiliary building ventilation (normal) system isolates.
- Charging pump/reactor plant component cooling water pump area cooling subsystem aligns and discharges to the auxiliary building filters and a filter fan starts.
- Hydrogen recombiner ventilation system aligns to the postaccident configuration.
- The engineered safety features building ventilation system aligns to the postaccident configuration.

CONTAINMENT SYSTEMSBASES3/4.6.6.1 SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM (Continued)

With the SLCRS in postaccident configuration, the required negative pressure in the secondary containment boundary is achieved in 110 seconds from the time of simulated emergency diesel generator breaker closure. Time delays of dampers and logic delays must be accounted for in this surveillance. The time to achieve the required negative pressure is 120 seconds, with a loss-of-offsite power coincident with a SIS. The surveillance verifies that one train of SLCRS in conjunction with the ABF system will produce a negative pressure of 0.4 inches water gauge at the auxiliary building 24'6" elevation relative to the outside atmosphere in the secondary containment boundary. For the purpose of this surveillance, pressure measurements will be made at the 24'6" elevation in the auxiliary building. This single location is considered to be adequate and representative of the entire secondary containment due to the large cross-section of the air passages which interconnect the various buildings within the boundary. In order to ensure a negative pressure in all areas inside the secondary containment boundary under most meteorological conditions, the negative pressure acceptance criteria at the measured location is 0.4 inches water gauge. It is recognized that there will be an occasional meteorological condition under which slightly positive pressure may exist at some localized portions of the boundary (e.g., the upper elevations on the down wind side of a building). For example, a very low outside temperature combined with a moderate wind speed could cause a slightly positive pressure at the upper elevations of the containment enclosure building on the leeward face. The probability of occurrence of meteorological conditions which could result in such a positive differential pressure condition in the upper levels of the enclosure building has been estimated to be less than 2% of the time.

The probability of wind speed within the necessary moderate band, combined with the probability of extreme low temperature, combined with the small portion of the boundary affected, combined with the low probability of airborne radioactive material migrating to the upper levels ensure that the overall effect on the design basis dose calculations is insignificant.

3/4.6.6.2 SECONDARY CONTAINMENT BOUNDARY

SECONDARY CONTAINMENT BOUNDARY ensures that the release of radioactive materials from the primary containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety analyses. This restriction, in conjunction with operation of the Supplementary Leak Collection and Release System, and Auxiliary Building Filter System will limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during accident conditions.

← Delete and INSERT 'A'

CONTAINMENT SYSTEMS

~~December 8, 1993~~

BASES

3/4.6.6.3 SECONDARY CONTAINMENT BOUNDARY STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the SECONDARY CONTAINMENT BOUNDARY will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to provide a secondary boundary surrounding the primary containment that can be maintained at a negative pressure during accident conditions. A visual inspection is sufficient to demonstrate this capability.

← Delete

3/4.6.6.2 SECONDARY CONTAINMENT

The Secondary Containment is comprised of the containment enclosure building and all contiguous buildings (main steam valve building [partially], engineering safety features building [partially], hydrogen recombiner building [partially], and auxiliary building). The Secondary Containment shall exist when:

- a. Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit,
- b. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

Secondary Containment ensures that the release of radioactive materials from the primary containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety analyses. This restriction, in conjunction with operation of the Supplementary Leak Collection and Release System, and Auxiliary Building Filter System will limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during accident conditions.

The SLCRS and the ABF fans and filtration units are located in the auxiliary building. The SLCRS is described in the Millstone Unit No. 3 FSAR, Section 6.2.3.

In order to ensure a negative pressure in all areas within the Secondary Containment under most meteorological conditions, the negative pressure acceptance criterion at the measured location (i.e., 24'6" elevation in the auxiliary building) is 0.4 inches water gauge.

LCO

The Secondary Containment OPERABILITY must be maintained to ensure proper operation of the SLCRS and the auxiliary building filter system and to limit radioactive leakage from the containment to those paths and leakage rates assumed in the accident analyses.

Applicability

Maintaining Secondary Containment OPERABILITY prevents leakage of radioactive material from the Secondary Containment. Radioactive material may enter the Secondary Containment from the containment following a LOCA. Therefore, Secondary Containment is required in MODES 1, 2, 3, and 4 when a design basis accident such as a LOCA could release radioactive material to the containment atmosphere.

In MODES 5 and 6, the probability and consequences of a DBA are low due to the RCS temperature and pressure limitation in these MODES. Therefore, Secondary Containment is not required in MODES 5 and 6.

ACTIONS

In the event Secondary Containment OPERABILITY is not maintained, Secondary Containment OPERABILITY must be restored within 24 hours. Twenty-four hours is a reasonable Completion Time considering the limited leakage design of containment and the low probability of a DBA occurring during this time period. Therefore, it is considered that there exists no loss of safety function while in the ACTION Statement.

Inoperability of the Secondary Containment does not make the SLCRS fans and filters inoperable. Therefore, while in this Action Statement solely due to inoperability of the Secondary Containment, the conditions and required actions associated with Specification 3.6.6.1 (i.e., Supplementary Leak Collection and Release System) are not required to be entered. If the Secondary Containment OPERABILITY cannot be restored to OPERABLE status within the required completion time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within the following 30 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full-power conditions in an orderly manner and without challenging plant systems.

Surveillance Requirements

4.6.6.2.1

Maintaining Secondary Containment OPERABILITY requires maintaining each door in each access opening in a closed position except when the access opening is being used for normal entry and exit. The normal time allowed for passage of equipment and personnel through each access opening at a time is defined as no more than 5 minutes. The access opening shall not be blocked open. During this time, it is not considered necessary to enter the action statement. A 5-minute time is considered acceptable since the access opening can be quickly closed without special provisions and the probability of occurrence of a DBA concurrent with equipment and/or personnel transit time of 5 minutes is low.

The 31-day frequency for this surveillance is based on engineering judgment and is considered adequate in view of the other indications of access opening status that are available to the operator.

4.6.6.2.2

The ability of a SLCRS to produce the required negative pressure during the test operation within the required time provides assurance that the Secondary Containment is adequately sealed.

With the SLCRS in postaccident configuration, the required negative pressure in the Secondary Containment is achieved in 110 seconds from the time of simulated emergency diesel generator breaker closure. Time delays of dampers and logic delays must be accounted for in this surveillance. The time to achieve the required negative pressure is 120 seconds, with a loss-of-offsite power coincident with a SIS. The surveillance verifies that one train of SLCRS in

conjunction with the ABF system will produce a negative pressure of 0.4 inches water gauge at the auxiliary building 24'6" elevation relative to the outside atmosphere in the Secondary Containment. For the purpose of this surveillance, pressure measurements will be made at the 24'6" elevation in the auxiliary building. This single location is considered to be adequate and representative of the entire Secondary Containment due to the large cross-section of the air passages which interconnect the various buildings within the Secondary Containment. In order to ensure a negative pressure in all areas inside the Secondary Containment under most meteorological conditions, the negative pressure acceptance criterion at the measured location is 0.4 inch water gauge. It is recognized that there will be an occasional meteorological condition under which slightly positive pressure may exist at some localized portions of the boundary (e.g., the upper elevations on the down-wind side of a building). For example, a very low outside temperature combined with a moderate wind speed could cause a slightly positive pressure at the upper elevations of the containment enclosure building on the leeward face. The probability of occurrence of meteorological conditions which could result in such a positive differential pressure condition in the upper levels of the enclosure building has been estimated to be less than 2% of the time.

The probability of wind speed within the necessary moderate band, combined with the probability of extreme low temperature, combined with the small portion of the boundary affected, combined with the low probability of airborne radioactive material migrating to the upper levels ensures that the overall effect on the design basis dose calculations is insignificant.

The SLCRS system and fan sizing was based on an estimated infiltration rate. The fan flow rates are verified within a minimum and maximum on a monthly basis. Initial testing verified that the drawdown criterion was met at the lowest acceptable flow rate. The new standard Technical Specification (NUREG-1431) 3.6.6.2 surveillance requirement requires that the drawdown criterion be met while not exceeding a maximum flow rate. It is assumed that the purpose of this flow limit is to ensure that adequate attention is given to maintain the SLCRS boundary integrity and not using excess system capacity to cover for boundary degradation.

The SLCRS system was designed with minimal margin and, therefore, does not have excess capacity that can be substituted for boundary integrity. Additionally, since SLCRS fan flow rates are verified to be acceptable on a more frequent basis than the drawdown test surveillance, and by means of previous testing the minimum flow rate is acceptable, verifying a flow rate during the drawdown test would not provide an added benefit. Historical SLCRS flow measurements show a lack of repeatability associated with the inaccuracies of air flow measurement. As a result, the more reliable verification of system performance is the actual negative pressure generated by the drawdown test and a measured flow rate would add little.

3/4.6.6.3 SECONDARY CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the Secondary Containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to provide a

secondary boundary surrounding the primary containment that can be maintained at a negative pressure during accident conditions. A visual inspection is sufficient to demonstrate this capability.

Attachment 2

Millstone Nuclear Power Station, Unit No. 3

Proposed Revision to Technical Specifications
Secondary Containment - Additional Information

Retyped Pages

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DEFINITIONS

1.12 DELETED

ENGINEERED SAFETY FEATURES RESPONSE TIME

1.13 The ENGINEERED SAFETY FEATURES (ESF) RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ESF Actuation Setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays where applicable.

1.14 Deleted

FREQUENCY NOTATION

1.15 The FREQUENCY NOTATION specified for the performance of Surveillance Requirements shall correspond to the intervals defined in Table 1.1.

IDENTIFIED LEAKAGE

1.1 IDENTIFIED LEAKAGE shall be:

- a. Leakage (except CONTROLLED LEAKAGE) into closed systems, such as pump seal or valve packing leaks that are captured and conducted to a sump or collecting tank, or
- b. Leakage into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of Leakage Detection Systems or not to be PRESSURE BOUNDARY LEAKAGE, or
- c. Reactor Coolant System leakage through a steam generator to the Secondary Coolant System.

MASTER RELAY TEST

1.17 A MASTER RELAY TEST shall be the energization of each master relay and verification of OPERABILITY of each relay. The MASTER RELAY TEST shall include continuity check of each associated slave relay.

CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of less than or equal to L_o , 0.3% by weight of the containment air per 24 hours at P_o , 53.27 psia (38.57 psig);
- b. A combined leakage rate of less than $0.60 L_o$ for all penetrations and valves subject to Type B and C tests, when pressurized to P_o ; and
- c. A combined leakage rate of less than or equal to $0.042 L_o$ for all penetrations that are Secondary Containment bypass leakage paths when pressurized to P_o .

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With the measured overall integrated containment leakage rate exceeding $0.75 L_o$, or the measured combined leakage rate for all penetrations and valves subject to Type B and C tests exceeding $0.60 L_o$, or the combined bypass leakage rate exceeding $0.042 L_o$, restore the overall integrated leakage rate to less than $0.75 L_o$, the combined leakage rate for all penetrations subject to Type B and C tests to less than $0.60 L_o$, and the combined bypass leakage rate to less than $0.042 L_o$ prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR Part 50 using methods and provisions of ANSI N45.4-1972 (Total Time Method) and/or ANSI/ANS 56.8-1981 (Mass Point Method):

- a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at approximately equal intervals during shutdown at a pressure not less than P_o , 53.27 psia (38.57 psig), during each 10-year service period.*
- b. If any periodic Type A test fails to meet $0.75 L_o$, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet $0.75 L_o$, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet $0.75 L_o$ at which time the above test schedule may be resumed;

*The third Type A test will be conducted during the sixth refueling outage. As a result, the duration of the first 10-year service period will be extended to the end of the sixth refueling outage.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 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 7600 cfm to 9800 cfm during system operation when tested in accordance with ANSI N510-1980.
- c. 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%:
- d. At least once per 18 months by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.25 inches Water Gauge while operating the system at a flow rate of 7600 cfm to 9800 cfm,
 - 2) Verifying that the system starts on a Safety Injection test signal, and
 - 3) Verifying that the heaters dissipate 50 ± 5 kW when tested in accordance with ANSI N510-1980.

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

CONTAINMENT SYSTEMS

SECONDARY CONTAINMENT

LIMITING CONDITION FOR OPERATION

3.6.6.2 Secondary Containment shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With Secondary Containment inoperable, restore Secondary Containment to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENT

4.6.6.2.1 OPERABILITY of Secondary Containment shall be demonstrated at least once per 31 days by verifying that each door in each access opening is closed except when the access opening is being used for normal transit entry and exit.

4.6.6.2.2 At least once per 18 months, verify each Supplementary Leak Collection and Release System produces a negative pressure of greater than or equal to 0.4 inch water gauge in the Auxiliary Building at 24'-6" elevation within 120 seconds after a start signal.

CONTAINMENT SYSTEMS

SECONDARY CONTAINMENT STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.6.3 The structural integrity of the Secondary Containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.6.3.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With the structural integrity of the Secondary Containment not conforming to the above requirements, restore the structural integrity to within the limits within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENT

4.6.6.3 The structural integrity of the Secondary Containment shall be determined during the shutdown for each Type A containment leakage rate test (reference Specification 4.6.1.2) by a visual inspection of the exposed accessible interior and exterior surfaces of the Secondary Containment and verifying no apparent changes in appearance of the concrete surfaces or other abnormal degradation. Any abnormal degradation of the Secondary Containment detected during the above required inspections shall be reported to the Commission in a Special Report pursuant to Specification 6.9.2 within 15 days.

CONTAINMENT SYSTEMS

BASES

3/4.6.6 SECONDARY CONTAINMENT

3/4.6.6.1 SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM

Background

The OPERABILITY of the Supplementary Leak Collection and Release System (SLCRS) ensures that radioactive materials that leak from the primary containment into the Secondary Containment following a Design Basis Accident (DBA) are filtered out and adsorbed prior to any release to the environment.

Applicable Safety Analyses

The SLCRS design basis is established by the consequences of the limiting DBA, which is a LOCA. The accident analysis assumes that only one train of the SLCRS and one train of the auxiliary building filter system is functional due to a single failure that disables the other train. The accident analysis accounts for the reduction of the airborne radioactive material provided by the remaining one train of this filtration system. The amount of fission products available for release from the containment is determined for a LOCA.

The SLCRS is not normally in operation. The SLCRS starts on a SIS signal. The modeled SLCRS actuation in the safety analysis (the Millstone 3 FSAR Chapter 15, Section 15.6) is based upon a worst-case response time following an SI initiated at the limiting setpoint. One train of the SLCRS in conjunction with the Auxiliary Building Filter (ABF) system is capable of drawing a negative pressure (0.4 inches water gauge at the auxiliary building 24'6" elevation) within 120 seconds after a LOCA. This time includes diesel generator startup and sequencing time, system startup time, and time for the system to attain the required negative pressure after starting.

CONTAINMENT SYSTEMS

BASES

3/4.6.6.1 SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM (Continued)

LCO

In the event of a DBA, one SLCRS is required to provide the minimum postulated iodine removal assumed in the safety analysis. Two trains of the SLCRS must be OPERABLE to ensure that at least one train will operate, assuming that the other train is disabled by a single-active failure. The SLCRS works in conjunction with the ABF system. Inoperability of one train of the ABF system also results in inoperability of the corresponding train of the SLCRS. Therefore, whenever LCO 3.7.9 is entered due to the ABF train A (B) being inoperable, LCO 3.6.6.1 must be entered due to the SLCRS train A (B) being inoperable.

When a SLCRS LCO is not met, it is not necessary to declare the secondary containment inoperable. However, in this event, it is necessary to determine that a loss of safety function does not exist. A loss of safety function exists when, assuming no concurrent single failure, a safety function assumed in the accident analysis cannot be performed.

Applicability

In MODES 1, 2, 3, and 4, a DBA could lead to a fission product release to containment that leaks to the secondary containment. The large break LOCA, on which this system's design is based, is a full-power event. Less severe LOCAs and leakage still require the system to be OPERABLE throughout these MODES. The probability and severity of a LOCA decrease as core power and reactor coolant system pressure decrease. With the reactor shut down, the probability of release of radioactivity resulting from such an accident is low.

In MODES 5 and 6, the probability and consequences of a DBA are low due to the pressure and temperature limitations in these MODES. Under these conditions, the SLCRS is not required to be OPERABLE.

ACTIONS

With one SLCRS train inoperable, the inoperable train must be restored to OPERABLE status within 7 days. The operable train is capable of providing 100 percent of the iodine removal needs for a DBA. The 7-day Completion Time is based on consideration of such factors as the reliability of the OPERABLE redundant SLCRS train and the low probability of a DBA occurring during this period. The Completion Time is adequate to make most repairs. If the SLCRS cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and MODE 5 within the following 30 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full-power conditions in an orderly manner and without challenging plant systems.

CONTAINMENT SYSTEMS

BASES

3/4.6.6.2 SECONDARY CONTAINMENT

The Secondary Containment is comprised of the containment enclosure building and all contiguous buildings (main steam valve building [partially], engineering safety features building [partially], hydrogen recombiner building [partially], and auxiliary building). The Secondary Containment shall exist when:

- a. Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit,
- b. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

Secondary Containment ensures that the release of radioactive materials from the primary containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety analyses. This restriction, in conjunction with operation of the Supplementary Leak Collection and Release System, and Auxiliary Building Filter System will limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during accident conditions.

The SLCRS and the ABF fans and filtration units are located in the auxiliary building. The SLCRS is described in the Millstone Unit No. 3 FSAR, Section 6.2.3.

In order to ensure a negative pressure in all areas within the Secondary Containment under most meteorological conditions, the negative pressure acceptance criterion at the measured location (i.e., 24'6" elevation in the auxiliary building) is 0.4 inches water gauge.

LCO

The Secondary Containment OPERABILITY must be maintained to ensure proper operation of the SLCRS and the auxiliary building filter system and to limit radioactive leakage from the containment to those paths and leakage rates assumed in the accident analyses.

Applicability

Maintaining Secondary Containment OPERABILITY prevents leakage of radioactive material from the Secondary Containment. Radioactive material may enter the Secondary Containment from the containment following a LOCA. Therefore, Secondary Containment is required in MODES 1, 2, 3, and 4 when a design basis accident such as a LOCA could release radioactive material to the containment atmosphere.

CONTAINMENT SYSTEMS

LASES

3/4.6.6.2 SECONDARY CONTAINMENT (continued)

In MODES 5 and 6, the probability and consequences of a DBA are low due to the RCS temperature and pressure limitation in these MODES. Therefore, Secondary Containment is not required in MODES 5 and 6.

ACTIONS

In the event Secondary Containment OPERABILITY is not maintained, Secondary Containment OPERABILITY must be restored within 24 hours. Twenty-four hours is a reasonable Completion Time considering the limited leakage design of containment and the low probability of a DBA occurring during this time period. Therefore, it is considered that there exists no loss of safety function while in the ACTION Statement.

Inoperability of the Secondary Containment does not make the SLCRS fans and filters inoperable. Therefore, while in this Action Statement solely due to inoperability of the Secondary Containment, the conditions and required actions associated with Specification 3.6.6.1 (i.e., Supplementary Leak Collection and Release System) are not required to be entered. If the Secondary Containment OPERABILITY cannot be restored to OPERABLE status within the required completion time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within the following 30 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full-power conditions in an orderly manner and without challenging plant systems.

Surveillance Requirements

4.6.6.2.1

Maintaining Secondary Containment OPERABILITY requires maintaining each door in each access opening in a closed position except when the access opening is being used for normal entry and exit. The normal time allowed for passage of equipment and personnel through each access opening at a time is defined as no more than 5 minutes. The access opening shall not be blocked open. During this time, it is not considered necessary to enter the action statement. A 5-minute time is considered acceptable since the access opening can be quickly closed without special provisions and the probability of occurrence of a DBA concurrent with equipment and/or personnel transit time of 5 minutes is low.

The 31-day frequency for this surveillance is based on engineering judgment and is considered adequate in view of the other indications of access opening status that are available to the operator.

CONTAINMENT SYSTEMS

BASES

3/4.6.6.2 SECONDARY CONTAINMENT (continued)

4.6.6.2.2

The ability of a SLCRS to produce the required negative pressure during the test operation within the required time provides assurance that the Secondary Containment is adequately sealed.

With the SLCRS in postaccident configuration, the required negative pressure in the Secondary Containment is achieved in 110 seconds from the time of simulated emergency diesel generator breaker closure. Time delays of dampers and logic delays must be accounted for in this surveillance. The time to achieve the required negative pressure is 120 seconds, with a loss-of-offsite power coincident with a SIS. The surveillance verifies that one train of SLCRS in conjunction with the ABF system will produce a negative pressure of 0.4 inches water gauge at the auxiliary building 24'6" elevation relative to the outside atmosphere in the Secondary Containment. For the purpose of this surveillance, pressure measurements will be made at the 24'6" elevation in the auxiliary building. This single location is considered to be adequate and representative of the entire Secondary Containment due to the large cross-section of the air passages which interconnect the various buildings within the Secondary Containment. In order to ensure a negative pressure in all areas inside the Secondary Containment under most meteorological conditions, the negative pressure acceptance criterion at the measured location is 0.4 inch water gauge. It is recognized that there will be an occasional meteorological condition under which slightly positive pressure may exist at some localized portions of the boundary (e.g., the upper elevations on the down-wind side of a building). For example, a very low outside temperature combined with a moderate wind speed could cause a slightly positive pressure at the upper elevations of the containment enclosure building on the leeward face. The probability of occurrence of meteorological conditions which could result in such a positive differential pressure condition in the upper levels of the enclosure building has been estimated to be less than 2% of the time.

The probability of wind speed within the necessary moderate band, combined with the probability of extreme low temperature, combined with the small portion of the boundary affected, combined with the low probability of airborne radioactive material migrating to the upper levels ensures that the overall effect on the design basis dose calculations is insignificant.

The SLCRS system and fan sizing was based on an estimated infiltration rate. The fan flow rates are verified within a minimum and maximum on a monthly basis. Initial testing verified that the drawdown criterion was met at the lowest acceptable flow rate. The new standard Technical Specification (NUREG-1431) 3.6.6.2 surveillance requirement requires that the drawdown

CONTAINMENT SYSTEMS

BASES

3/4.6.6.2 SECONDARY CONTAINMENT (continued)

criterion be met while not exceeding a maximum flow rate. It is assumed that the purpose of this flow limit is to ensure that adequate attention is given to maintain the SLCRS boundary integrity and not using excess system capacity to cover for boundary degradation.

The SLCRS system was designed with minimal margin and, therefore, does not have excess capacity that can be substituted for boundary integrity. Additionally, since SLCRS fan flow rates are verified to be acceptable on a more frequent basis than the drawdown test surveillance, and by means of previous testing the minimum flow rate is acceptable, verifying a flow rate during the drawdown test would not provide an added benefit. Historical SLCRS flow measurements show a lack of repeatability associated with the inaccuracies of air flow measurement. As a result, the more reliable verification of system performance is the actual negative pressure generated by the drawdown test and a measured flow rate would add little.

3/4.6.6.3 SECONDARY CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the Secondary Containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to provide a secondary boundary surrounding the primary containment that can be maintained at a negative pressure during accident conditions. A visual inspection is sufficient to demonstrate this capability.