Docket No. 50-423
B14647

Attachment 1

Millstone Unit No. 3
Proposed Revision to Technical Specifications

Supplementary Leak Collection and Release System
Markup Pages

October 1993

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_a, 0.65% by weight of the containment air per 24 hours at P_a, 53.27 psia (38.57 psig);

b. A combined leakage rate of less than 0.60 L_a for all penetrations and valves subject to Type B and C tests, when pressurized to P_a; and

c. A combined leakage rate of less than or equal to 0.042 L_a for all penetrations identified in Table 3.6-1 as Enclosure Building bypass leakage paths when pressurized to P_a.

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

ACTION:

With the measured overall integrated containment leakage rate exceeding 0.75 L_a, or the measured combined leakage rate for all penetrations and valves subject to Type B and C tests exceeding 0.60 L_a, or the combined bypass leakage rate exceeding 0.042 L_a, restore the overall integrated leakage rate to less than 0.75 L_a, the combined leakage rate for all penetrations subject to Type B and C tests to less than 0.60 L_a, and the combined bypass leakage rate to less than 0.042 L_a 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 40 ± 10 month intervals during shutdown at a pressure not less than P_a, 53.27 psia (38.57 psig) during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection;

b. If any periodic Type A test fails to meet 0.75 L_a, 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_a, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet 0.75 L_a at which time the above test schedule may be resumed;

SURVEILLANCE REQUIREMENTS (Continued)

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,

3) Verifying that each system produces a negative pressure of greater than or equal to 0.25 inch Water Gauge in the annulus within 50 seconds / 150 seconds after a start signal, and

4) Verifying that the heaters dissipate 50 ±5 kW when tested in accordance with ANSI N510-1980.

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.

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

3/4.6.6 SECONDARY CONTAINMENT

3/4.6.6.1 SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM

The OPERABILITY of the Supplementary Leak Collection and Release System (SLCRS) ensures that containment leakage occurring during LOCA conditions into the enclosure building will be filtered through the HEPA filters and charcoal adsorber trains prior to discharge to the atmosphere. Cumulative operation of the system with the 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. This requirement is necessary to meet the assumptions used in the safety analyses and limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during LOCA conditions. ANSI N510-1980 will be used as a procedural guide for surveillance testing.

→ INSERT "A"

3/4.6.6.2 ENCLOSURE BUILDING INTEGRITY

Secondary CONTAINMENT INTEGRITY 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, will limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during accident conditions.

3/4.6.6.3 ENCLOSURE BUILDING STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment enclosure building will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to provide an annulus surrounding the steel vessel that can be maintained at a negative pressure during accident conditions. A visual inspection is sufficient to demonstrate this capability.

INSERT A

The SLCRS is not normally in operation. The SLCRS starts on a SIS signal. With the SLCRS in postaccident configuration, the required negative pressure in the secondary containment boundary (i.e., the annulus) is achieved in 140 seconds from the time of simulated emergency diesel generator breaker closure. Time delays of dampers and logic delays must be accounted for in the 18-month surveillance of Technical Specification 4.6.6.1.d.3. The time to achieve the required negative pressure is 150 seconds, with a loss-of-offsite power coincident with a SIS.

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Attachment 2

Millstone Unit No. 3
Proposed Revision to Technical Specifications

Supplementary Leak Collection and Release System
Retyped Pages

October 1993

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_a, 0.3% by weight of the containment air per 24 hours at P_a, 53.27 psia (39.4 psig);

b. A combined leakage rate of less than 0.60 L_a for all penetrations and valves subject to Type B and C tests, when pressurized to P_a; and

c. A combined leakage rate of less than or equal to 0.042 L_a for all penetrations identified in Table 3.6-1 as Enclosure Building bypass leakage paths when pressurized to P_a.

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

ACTION:

With the measured overall integrated containment leakage rate exceeding 0.75 L_a, or the measured combined leakage rate for all penetrations and valves subject to Type B and C tests exceeding 0.60 L_a, or the combined bypass leakage rate exceeding 0.042 L_a, restore the overall integrated leakage rate to less than 0.75 L_a, the combined leakage rate for all penetrations subject to Type B and C tests to less than 0.60 L_a, and the combined bypass leakage rate to less than 0.042 L_a 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 40 $\pm$ 10 month intervals during shutdown at a pressure not less than P_a, 53.27 psia (38.57 psig) during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection;

b. If any periodic Type A test fails to meet 0.75 L_a, 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_a, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet 0.75 L_a at which time the above test schedule may be resumed;

SURVEILLANCE REQUIREMENTS (Continued)

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,

3) Verifying that each system produces a negative pressure of greater than or equal to 0.25 inch Water Gauge in the annulus within 150 seconds after a start signal, and

4) Verifying that the heaters dissipate 50 $\pm$5 kW when tested in accordance with ANSI N510-1980.

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 98 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.

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

3/4.6.6 SECONDARY CONTAINMENT

3/4.6.6.1 SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM

The OPERABILITY of the Supplementary Leak Collection and Release System (SLCRS) ensures that containment leakage occurring during LOCA conditions into the enclosure building will be filtered through the HEPA filters and charcoal adsorber trains prior to discharge to the atmosphere. Cumulative operation of the system with the 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. This requirement is necessary to meet the assumptions used in the safety analyses and limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during LOCA conditions. ANSI N510-1980 will be used as a procedural guide for surveillance testing.

The SLCRS is not normally in operation. The SLCRS starts on a SIS signal. With the SLCRS in postaccident configuration, the required negative pressure in the secondary containment boundary (i.e. the annulus) is achieved in 140 seconds from the time of simulated emergency diesel generator breaker closure. Time delays of dampers and logic delays must be accounted for in the 18-month surveillance of Technical Specification 4.6.6.1.d.3. The time to achieve the required negative pressure is 150 seconds, with a loss-of-offsite power coincident with a SIS.

3/4.6.6.2 ENCLOSURE BUILDING INTEGRITY

Secondary CONTAINMENT INTEGRITY 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, will limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during accident conditions.

3/4.6.6.3 ENCLOSURE BUILDING STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment enclosure building will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to provide an annulus surrounding the steel vessel that can be maintained at a negative pressure during accident conditions. A visual inspection is sufficient to demonstrate this capability.

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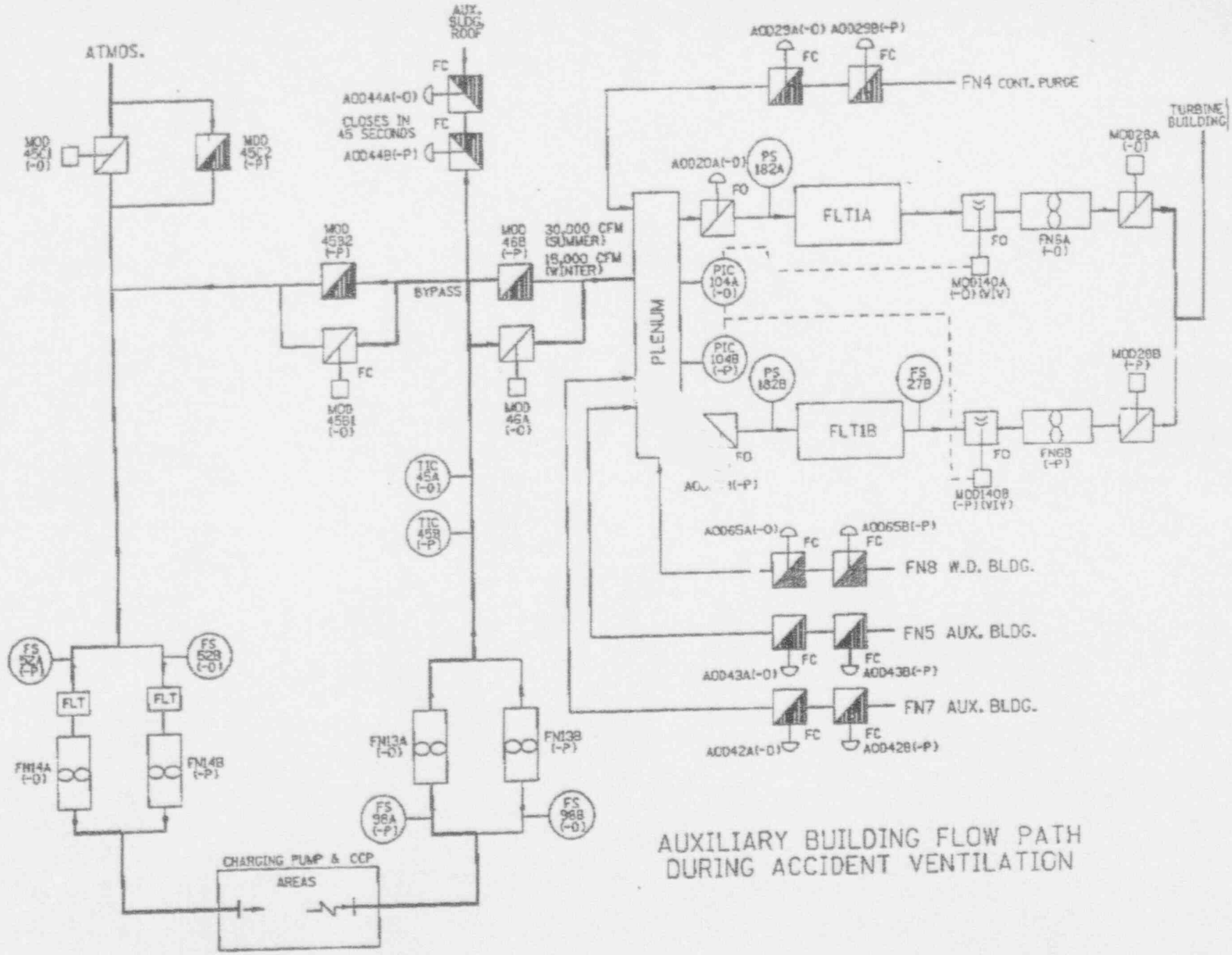
Attachment 3

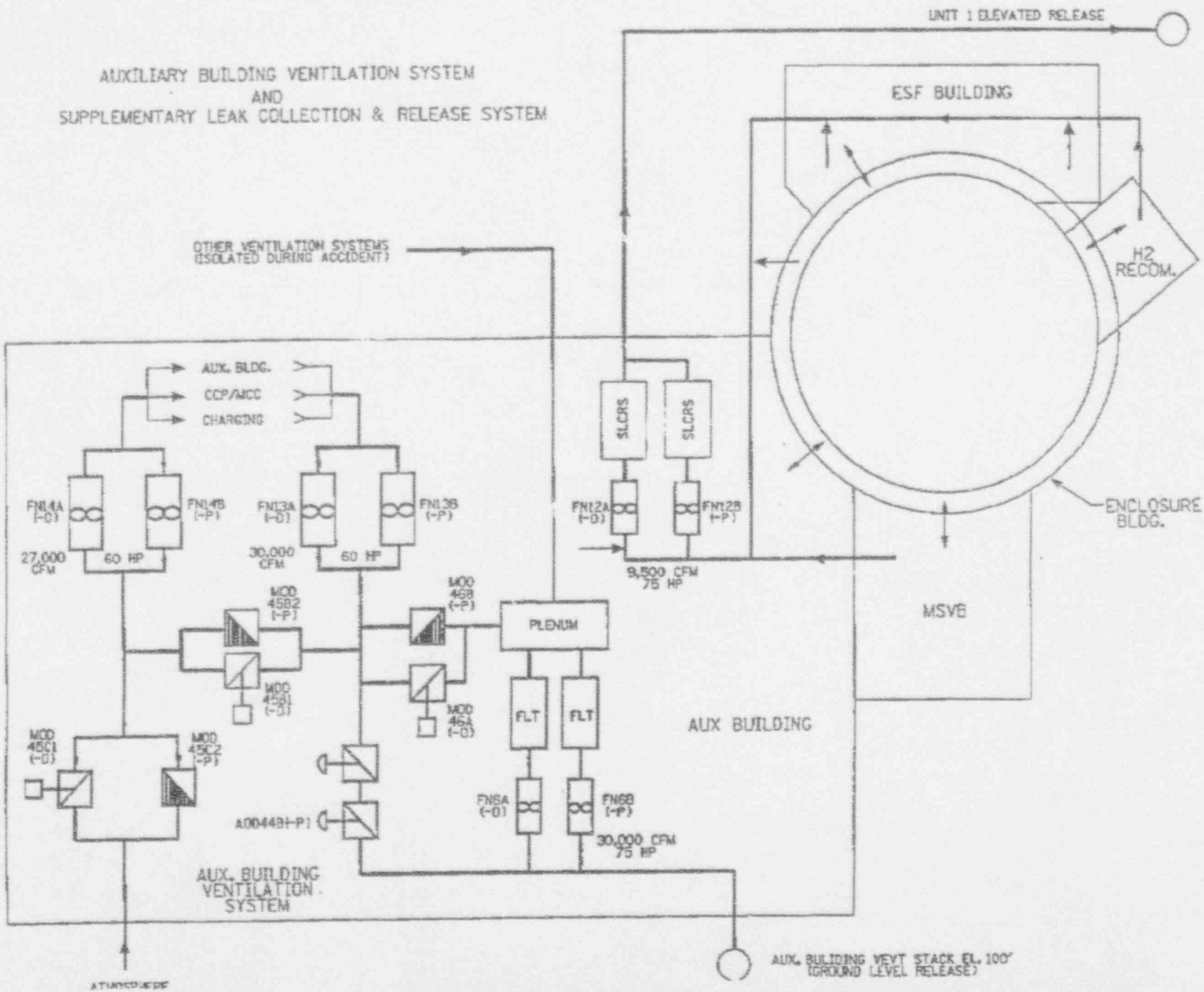
Millstone Unit No. 3
Proposed Revision to Technical Specifications

Supplementary Leak Collection and Release System
Simplified ABVS Drawing

October 1993



AUXILIARY BUILDING FLOW PATH
DURING ACCIDENT VENTILATION


AUXILIARY BUILDING VENTILATION SYSTEM
AND
SUPPLEMENTARY LEAK COLLECTION & RELEASE SYSTEM
UNIT 1 ELEVATED RELEASE
ESF BUILDING
H2 RECOM.
OTHER VENTILATION SYSTEMS (ISOLATED DURING ACCIDENT)
AUX. BLDG.
CCP/NCC
CHARGING
FN14A (-0)
FN14B (-P)
27,000 CFM
60 HP
FN13A (-0)
FN13B (-P)
30,000 CFM
60 HP
SLCRS
SLCRS
FN12A (-0)
FN12B (-P)
9,500 CFM
75 HP
ENCLOSURE BLDG.
MOD 45B2 (-P)
MOD 45B1 (-0)
MOD 46B (-P)
MOD 46A (-0)
PLENUM
MSVB
MOD 45C1 (-0)
MOD 45C2 (-P)
A00443 (-P)
FLT
FLT
FN6A (-0)
FN6B (-P)
30,000 CFM
75 HP
AUX BUILDING
AUX. BUILDING VENTILATION SYSTEM
ATMOSPHERE
AUX. BUILDING VENT STACK EL. 100' (GROUND LEVEL RELEASE)

Docket No. 50-423
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Attachment 4

Millstone Unit No. 3
Proposed Revision to Technical Specifications

Supplementary Leak Collection and Release System
Enforcement Discretion

October 1993

Northeast Nuclear Energy Company (NNECO) hereby acknowledges that an alternative available to the NRC Staff in response to this submittal is to exercise discretion not to enforce compliance with the required actions in Millstone Unit No. 3's Technical Specifications 3.6.6.1 and 3.7.9. Enforcement Discretion is necessary to allow Millstone Unit No. 3 to proceed to Mode 2 following the current refueling outage to avoid a delay in plant start-up. Permitting the plant to enter Modes 4, 3, and 2 includes establishing normal operating temperature and pressure and enables NNECO to commence surveillances and low power physics tests required upon completion of a refueling outage.

Description of Proposed Enforcement Discretion

Technical Specifications 3.6.6.1 and 3.7.9 have applicability in Mode 4. Therefore, Mode 4 cannot be entered until the Limiting Conditions for Operation (LCO) for both of these Technical Specifications are met. NNECO Is requesting enforcement discretion to allow Millstone Unit No. 3 to proceed up to Mode 2 without having to first demonstrate operability of the supplementary leak collection and release system (SLCRS) and auxiliary building filtration system (ABFS). The maximum time that the plant would be allowed to remain in Mode 2 is seven (7) days before the SLCRS and ABFS would have to be demonstrated operable. At that time, the plant would have to proceed to Mode 3 and remain there until the LCOs were met.

Safety Assessment

Drawdown of the Millstone Unit No. 3 secondary containment boundary to a negative pressure of 0.25 inches water gauge is required by Technical Specifications to occur within 60 seconds of receiving a safety injection signal (this time includes the diesel generator start and load time of approximately 10 seconds). For a design basis loss of coolant accident (LOCA), credit is taken for SLCRS and ABFS performance. One hundred percent of core noble gases and fifty percent of core iodines are assumed to be instantaneously released to the containment at the start of the accident. Most of the activity which leaks into the secondary containment boundary is drawn through the ventilation, filtered and reduced by a factor of 20 prior to release. The filters provide no reduction in noble gas activity. Hence, this discussion focuses on the effects on iodine thyroid dose consequences. An assessment of the dose consequences for such an event has concluded that the operation of Millstone Unit No. 3 from Modes 4 through 2 will not produce iodine curies in sufficient quantity to exceed the original filtered dose at 100% power. This assessment assumed that SLCRS and ABFS were unavailable; therefore, the release from the secondary containment boundary was unfiltered.

Millstone Unit No. 3 has been shutdown for over 80 days for refueling. Virtually all iodine in the core has decayed away. Only a small fraction (0.001) of the core iodines present at the end of Cycle 4 operation remain. During Modes 3 and 4, no additional iodine is produced because the reactor remains subcritical. Since the remaining inventory is significantly less than

the 100% power equilibrium inventory, any release during Modes 3 or 4 even without filtration would be bounded by the 100% design basis LOCA assumptions.

The iodine produced in the core from operating Millstone Unit No. 3 in Mode 2 (i.e., 5 % power or 1/20th of normal full power) is dependent upon power and time. Operating in Mode 2 for 1 week will result in core DEQ I-131 to be far below 1/20th of the respective curies of DEQ I-131 at full power based on the fact that equilibrium at this power will not be achieved for approximately 5 half-lives of the longest lived iodine, I-131 of approximately 8 days. Thus, operating in Mode 2 for 1 week will produce resulting iodines dose consequences for the postulated event below what has already been analyzed and accepted. The resulting dose consequences for an accident during this operation (Mode 2 for 1 week) are bounded by the original design basis analysis.

From analysis of the available curies that could be assumed to be released following a design basis accident LOCA by operating Millstone Unit No. 3 through Modes 2, 3, and 4, it is apparent that the resulting dose consequences would be less than those calculated for 100% design basis accident LOCA assumptions. Additional insights into the safety significance of this request was provided in the main body of the letter.

The auxiliary building ventilation system (ABVS) will be capable of supporting the operation of the charging system and the reactor plant component cooling water system.

Therefore, Millstone Unit No. 3 can be operated in Modes 3 and 4 indefinitely before reaching Mode 2, and upon Mode 2 operation can remain there for 1 week. This operation is acceptable for one time only following the current (Cycle 4) refueling outage.

Request for an Enforcement Discretion

NNECO is providing justification for enforcement discretion associated with compliance with the Millstone Unit No. 3 Technical Specifications 3.6.6.1, "Supplementary Leak Collection and Release System" and 3.7.9, "Auxiliary Building Filter System."

1. The Technical Specification Condition that Will Be Violated

   Millstone Unit No. 3 Technical Specification 3.6.6.1 requires the operability of the SLCRS and Technical Specification 3.7.9 requires the operability of the ABFS prior to the plant proceeding to Mode 4. NNECO is requesting enforcement discretion to allow the plant to proceed up to Mode 2 to avoid a delay in plant startup.

2. The Circumstances Surrounding the Situation Including the Need for Prompt Action

This information has been provided in the Background/Sequence of Events Section of the main body of this letter.

3. Safety Basis for the Request

NNECO believes that the safety significance is small and justified. The proposed enforcement discretion would allow Millstone Unit No. 3 to be in Mode 2 for a period not to exceed one week without requiring the SLCRS or ABFS to be operable. Since the unit is starting up from a refueling outage, the inventory of iodines in the core is low, and would not be significantly increased by operation of the core at a maximum of 5% power for a one week period. Therefore, the consequences of a design basis accident LOCA during this period would not exceed those documented in the safety analysis.

Also, the ABVS will be capable of supporting the operation of the charging system and the reactor plant component cooling water.

4. Compensatory Measures

The proposed enforcement discretion would allow NNECO to proceed to Mode 2 following the current refueling outage. During the time enforcement discretion applies, the ABVS system will be capable of providing adequate cooling to the charging pump and the reactor plant component cooling water system.

5. Duration of Requested Waiver

The enforcement discretion is being requested to allow Millstone Unit No. 3 to be operated in Modes 3 and 4 indefinitely before reaching Mode 2, and upon achieving Mode 2 to remain there for the period of one week without SLCRS and ABFS operability.

6. Bases for No Significant Hazards Consideration

NNECO has reviewed the proposed enforcement discretion in accordance with 10CFR50.92 and has concluded it does not involve a significant hazards consideration. The basis for this conclusion is that the three criteria of 10CFR50.92(c) are not compromised. The proposed waiver would not involve a significant hazards consideration because It would not:

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

   The proposed enforcement discretion does not change the way the unit is operated. Therefore, it does not affect the probability

of any design basis events described in the Safety Analysis Report. However, this action would allow entry into Modes 4, 3, and 2 without two safety systems being operable as required by the current Technical Specifications. These systems directly affect the off-site dose consequences of design basis events. As discussed above, the unit is returning to service following a refueling outage. Therefore, the inventory of iodines in the reactor core is very low. This significantly reduces the potential consequences of any design basis events that would occur during startup of the unit.

Also, limiting the unit to 5% power for a maximum of one week will not result in a significant buildup of iodines in the core. Thus, the potential radiological consequences of any design basis accidents will be maintained below those documented in the Safety Analysis Report even without the SLCRS and ABFS in operation.

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

The possibility of an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report is not created. Since there are no changes In the way the plant is operated, the potential for an unanalyzed accident is not created. No new failure modes are introduced.

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

The proposed enforcement discretion does not have any adverse impact on the protective boundaries. The margin of safety, as defined in the basis for any Technical Specification, is not reduced. The reason for this is attributable to the timing and restrictions. Since the unit has been in a refueling outage for over 80 days, the core inventory of iodines is low. Also, limiting the unit to 5% power will not result in a significant buildup of iodines in the core. The proposed enforcement discretion does affect the performance of two safety systems. However, the timing and limitations on operation will more than compensate for this condition.

7. <u>Basis for No Irreversible Environmental Consequences</u>

The proposed enforcement discretion has no environmental impact since the allowance for having the SLCRS and ABFS out of service for the maximum of seven days while in Mode 2 is more than compensated for by the timing of implementation and the restrictions on plant operation.

In summary, the proposed enforcement discretion would permit Millstone Unit No. 3 to enter Mode 2 to avoid a delay in plant startup. This request is safe and does not constitute a significant hazards consideration.

8. Safety Review

The Millstone Unit No. 3 Plant Operations Review Committee and Nuclear Review Board have reviewed and approved this request for enforcement discretion.