

Docket No. 50-336
B14826

Attachment 1

Millstone Nuclear Power Station, Unit No. 2
Proposed Revision to Technical Specifications

Carbon Sample Testing
Marked-up Pages

April 1994

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CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of 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 9000 cfm \pm 10%.
 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. *
 3. Verifying a system flow rate of 9000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1975.
- 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. *
- d. At least once per 18 months by:
1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is \leq 6 inches Water Gauge while operating the system at a flow rate of 9000 cfm \pm 10%.
 2. Verifying that the system starts on an Enclosure Building Filtration Actuation Signal (EBFAS).
 3. Verifying that each system produces a negative pressure of greater than or equal to 0.25 inches W.G. in the Enclosure Building Filtration Region within (1) minute after an EBFAS.
- e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 9000 cfm \pm 10%.

* ASTM D3803-89 shall be used in place of ANSI NS09-1976 as referenced in table 2 of Regulatory Guide 1.52. The laboratory test of charcoal should be conducted at a temperature of 30°C and a relative humidity of 95% within the tolerances specified by ASTM D3803-89. Additionally, the charcoal sample shall have a removal efficiency of \geq 95%.

MILLSTONE - UNIT 2

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Amendment No. 78, 77,

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.6.1 Each control room emergency ventilation system shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the control room air temperature is $\leq 100^{\circ}\text{F}$.
- 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 absorber train and verifying that the system operates for at least 15 minutes.
- c. 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 cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of 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 2500 cfm $\pm 10\%$.
 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. * The carbon sample shall have a removal efficiency of ≥ 95 percent.
 3. Verifying a system flow rate of 2500 cfm $\pm 10\%$ during system operation when tested in accordance with ANSI N510-1975.
- 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. *
- e. 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 inches Water Gauge while operating the system at a flow rate of 2500 cfm $\pm 10\%$.
 2. Verifying that on a recirculation signal, the system automatically switches into a recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks.

* ASTM D3803 shall be used in place of ANSI N509-1976 as referenced in table 2 of Regulatory Guide 1.52. The laboratory test of charcoal should be conducted at a temperature of 30°C and a relative humidity of 95% within the tolerances specified by ASTM D3803-89.

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

- 1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of 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 9000 cfm \pm 10%.
- 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.5.a of Regulatory Guide 1.52, Revision 2, March 1978.*
- 3. Verifying a system flow rate of 9000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1975.
- 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.*
- d. At least once per 18 months by:
 - 1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is \leq 6 inches Water Gauge while operating the system at a flow rate of 9000 cfm \pm 10%.
 - 2. Verifying that on a Spent Fuel Storage Pool Area high radiation signal, the system automatically starts (unless already operating) and directs its exhaust flow through the HEPA filters and charcoal adsorber banks.
- e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 9000 cfm \pm 10%.

* ASTM D3803-89 shall be used in place of ANSI N509-1976 as referenced in table 2 of Regulatory Guide 1.52. The laboratory test of charcoal should be conducted at a temperature of 30°C and a relative humidity of \approx 95% within the tolerances specified by ASTM D3803-89. Additionally, the charcoal sample shall have a removal efficiency of \geq 95%.

~~2 August 1, 1975~~

CONTAINMENT SYSTEMS

BASES

3/4.6.5 SECONDARY CONTAINMENT

3/4.6.5.1 ENCLOSURE BUILDING VENTILATION SYSTEM

The OPERABILITY of the enclosure building ventilation systems ensures that containment leakage occurring during LOCA conditions into the annulus will be filtered through the HEPA filters and charcoal absorber trains prior to discharge to the atmosphere. This requirement is necessary to meet the assumptions used in the accident analyses and limit the site boundary radiation doses to within the limits of 10 CFR 100 during LOCA conditions.

3/4.6.5.2 ENCLOSURE BUILDING INTEGRITY

ENCLOSURE BUILDING INTEGRITY ensures that the releases of radioactive materials from the primary containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with operation of the enclosure building ventilation system, will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions.

The laboratory testing requirement for the charcoal sample to have a removal efficiency of $\geq 95\%$ is more conservative than the value assumed in the accident analyses described in the Millstone Unit No. 2 Final Safety Analysis Report of 90%. A removal efficiency acceptance criterion of $\geq 95\%$ will ensure that the charcoal has the capability to perform its intended safety function throughout the length of an operating cycle.

REFUELING OPERATIONSBASES3/4.9.13 STORAGE POOL RADIATION MONITORING

The OPERABILITY of the storage pool radiation monitors ensures that sufficient radiation monitoring capability is available to detect excessive radiation levels resulting from 1) the inadvertent lowering of the storage pool water level or 2) the release of activity from an irradiated fuel assembly.

3/4.9.14 & 3/4.9.15 STORAGE POOL AREA VENTILATION SYSTEM

The limitations on the storage pool area ventilation system ensures that all radioactive material released from an irradiated fuel assembly will be filtered through the HEPA filters and charcoal adsorber prior to discharge to the atmosphere. The OPERABILITY of this system and the resulting iodine removal capacity are consistent with the assumptions of the accident analyses.

3/4.9.16 SHIELDED CASK

The limitations of this specification ensure that in an event of a cask tilt accident 1) the doses from ruptured fuel assemblies will be within the assumptions of the safety analyses, 2) K_{eff} will remain $\leq .95$.

3/4.9.17 MOVEMENT OF FUEL IN SPENT FUEL POOL

The limitations of this specification ensure that, in the event of a fuel assembly or a consolidated fuel storage box drop accident into a Region B or C rack location completing a 4-out-of-4 fuel assembly geometry, K_{eff} will remain ≤ 0.95 .

3/4.9.18 SPENT FUEL POOL - REACTIVITY CONDITION

The limitations described by Figures 3.9-1a, 3.9-1b, and 3.9-3 ensure that the reactivity of fuel assemblies and consolidated fuel storage boxes, introduced into the Region C spent fuel racks, are conservatively within the assumptions of the safety analysis.

The limitations described by Figure 3.9-4 ensure that the reactivity of the fuel assemblies, introduced into the Region A spent fuel racks, are conservatively within the assumptions of the safety analysis.

The laboratory testing requirement for the charcoal sample to have a removal efficiency of $\geq 95\%$ is more conservative than the value assumed in the accident analyses described in the Millstone Unit No. 2 Final Safety Analysis Report of 90%. A removal efficiency acceptance criterion of $\geq 95\%$ will ensure that the charcoal has the capability to perform its intended safety function throughout the length of an operating cycle.

Docket No. 50-336
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Attachment 2

Millstone Nuclear Power Station, Unit No. 2
Proposed Revision to Technical Specifications

Carbon Sample Testing
Retyped Pages

April 1994

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of 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 9000 cfm \pm 10%.
 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.*
 3. Verifying a system flow rate of 9000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1975.
- 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.*
- d. At least once per 18 months by:
1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is \leq 6 inches Water Gauge while operating the system at a flow rate of 9000 cfm \pm 10%.
 2. Verifying that the system starts on an Enclosure Building Filtration Actuation Signal (EBFAS).
 3. Verifying that each system produces a negative pressure of greater than or equal to 0.25 inches W.G. in the Enclosure Building Filtration Region within (1) minute after an EBFAS.
- e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 9000 cfm \pm 10%.

* ASTM D3803-89 shall be used in place of ANSI N509-1976 as referenced in table 2 of Regulatory Guide 1.52. The laboratory test of charcoal should be conducted at a temperature of 30°C and a relative humidity of 95% within the tolerances specified by ASTM D3803-89. Additionally, the charcoal sample shall have a removal efficiency of \geq 95%.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.6.1 Each control room emergency ventilation system shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the control room air temperature is $\leq 100^{\circ}\text{F}$.
- 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 absorber train and verifying that the system operates for at least 15 minutes.
- c. 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 cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of 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 2500 cfm $\pm 10\%$.
 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.* The carbon sample shall have a removal efficiency of ≥ 95 percent.
 3. Verifying a system flow rate of 2500 cfm $\pm 10\%$ during system operation when tested in accordance with ANSI N510-1975.
- 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.*

* ASTM D3803-89 shall be used in place of ANSI N509-1976 as referenced in table 2 of Regulatory Guide 1.52. The laboratory test of charcoal should be conducted at a temperature of 30°C and a relative humidity of 90% within the tolerances specified by ASTM D3803-89.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- e. 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 inches Water Gauge while operating the system at a flow rate of 2500 cfm \pm 10%.
 2. Verifying that on a recirculation signal, the system automatically switches into a recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks.

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of 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 9000 cfm \pm 10%.
 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.*
 3. Verifying a system flow rate of 9000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1975.
- 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.*
- d. At least once per 18 months by:
1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is \leq 6 inches Water Gauge while operating the system at a flow rate of 9000 cfm \pm 10%.
 2. Verifying that on a Spent Fuel Storage Pool Area high radiation signal, the system automatically starts (unless already operating) and directs its exhaust flow through the HEPA filters and charcoal adsorber banks.
- e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 9000 cfm \pm 10%.

* ASTM D3803-89 shall be used in place of ANSI N509-1976 as referenced in table 2 of Regulatory Guide 1.52. The laboratory test of charcoal should be conducted at a temperature of 30°C and a relative humidity of 95% within the tolerances specified by ASTM D3803-89. Additionally, the charcoal sample shall have a removal efficiency of \geq 95%.

CONTAINMENT SYSTEMS

BASES

3/4.6.5 SECONDARY CONTAINMENT

3/4.6.5.1 ENCLOSURE BUILDING VENTILATION SYSTEM

The OPERABILITY of the enclosure building ventilation systems ensures that containment leakage occurring during LOCA conditions into the annulus will be filtered through the HEPA filters and charcoal absorber trains prior to discharge to the atmosphere. This requirement is necessary to meet the assumptions used in the accident analyses and limit the site boundary radiation doses to within the limits of 10 CFR 100 during LOCA conditions.

The laboratory testing requirement for the charcoal sample to have a removal efficiency of $\geq 95\%$ is more conservative than the value assumed in the accident analyses described in the Millstone Unit No. 2 Final Safety Analysis Report of 90%. A removal efficiency acceptance criterion of $\geq 95\%$ will ensure that the charcoal has the capability to perform its intended safety function throughout the length of an operating cycle.

3/4.6.5.2 ENCLOSURE BUILDING INTEGRITY

ENCLOSURE BUILDING INTEGRITY ensures that the releases of radioactive materials from the primary containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with operation of the enclosure building ventilation system, will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions.

REFUELING OPERATIONS

BASES

3/4.9.13 STORAGE POOL RADIATION MONITORING

The OPERABILITY of the storage pool radiation monitors ensures that sufficient radiation monitoring capability is available to detect excessive radiation levels resulting from 1) the inadvertent lowering of the storage pool water level or 2) the release of activity from an irradiated fuel assembly.

3/4.9.14 & 3/4.9.15 STORAGE POOL AREA VENTILATION SYSTEM

The limitations on the storage pool area ventilation system ensures that all radioactive material released from an irradiated fuel assembly will be filtered through the HEPA filters and charcoal adsorber prior to discharge to the atmosphere. The OPERABILITY of this system and the resulting iodine removal capacity are consistent with the assumptions of the accident analyses.

The laboratory testing requirement for the charcoal sample to have a removal efficiency of $\geq 95\%$ is more conservative than the value assumed in the accident analyses described in the Millstone Unit No. 2 Final Safety Analysis Report of 90%. A removal efficiency acceptance criterion of $\geq 95\%$ will ensure that the charcoal has the capability to perform its intended safety function throughout the length of an operating cycle.

3/4.9.16 SHIELDED CASK

The limitations of this specification ensure that in an event of a cask tilt accident 1) the doses from ruptured fuel assemblies will be within the assumptions of the safety analyses, 2) K_{eff} will remain $\leq .95$.

3/4.9.17 MOVEMENT OF FUEL IN SPENT FUEL POOL

The limitations of this specification ensure that, in the event of a fuel assembly or a consolidated fuel storage box drop accident into a Region B or C rack location completing a 4-out-of-4 fuel assembly geometry, K_{eff} will remain ≤ 0.95 .

3/4.9.18 SPENT FUEL POOL - REACTIVITY CONDITION

The limitations described by Figures 3.9-1a, 3.9-1b, and 3.9-3 ensure that the reactivity of fuel assemblies and consolidated fuel storage boxes, introduced into the Region C spent fuel racks, are conservatively within the assumptions of the safety analysis.

The limitations described by Figure 3.9-4 ensure that the reactivity of the fuel assemblies, introduced into the Region A spent fuel racks, are conservatively within the assumptions of the safety analysis.