PLANT SYSTEMS

3/4.7.5 CONTROL ROOM VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.1 The control room ventilation system shall be OPERABLE* with two separate trains with each train consisting of one main supply fan, one filter booster fan and one pressurization supply fan, one HEPA filter and charcoal adsorber system.

APPLICABILITY: All MODES.

ACTION:

MODES 1, 2, 3 and 4:

a. With one control room ventilation system train inoperable, restore the inoperable train to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

a. With one control room ventilation system train inoperable, restore the inoperable train to OPERABLE status within 7 days or initiate and maintain operation of the OPERABLE control room ventilation system train in the recirculation mode.

b. With both control room ventilation system trains inoperable, or with the OPERABLE control room ventilation system required to be in the recirculation mode by ACTION a. not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.7.5.1 Each control room ventilation system train shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 120°F.

b. At least once per 31 days by:

1. Initiating flow through the HEPA filter and charcoal adsorber system and verifying that each booster fan and pressurization supply fan operates for at least 15 minutes.

2. Verifying that each ventilation system redundant fan is aligned to receive electrical power from a separate OPERABLE vital bus.

3. Starting (unless already operating) each main supply fan and verifying that it operates for 15 minutes.

*The system may be considered OPERABLE with no chlorine monitors provided no bulk chlorine gas is stored on the plant site.

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housing, 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 ~~testing~~ penetration and bypass leakage acceptance criteria and uses the test procedures ~~of~~ guidance in Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978 (except as shown in Specifications 4.7.5.1f and g), and the filter bank flow rate is 2100 cfm ± 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 ,for a methyl iodide penetration of less than 1.0%.

3. Verifying a filter bank flow rate of 2100 cfm ± 10% during the pressurization mode of 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 of less than 1.0%

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 3.5 inches Water Gauge while operating the filter bank at a flow rate of 2100 cfm ± 10%.

2. Verifying that on a containment Phase A isolation test signal, the system automatically switches into the pressurization mode of operation with approximately 27% (determined by damper position) of the flow through the HEPA filters and charcoal adsorber banks.

3. Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch W.G. relative to the outside atmosphere during the pressurization mode of system operation.

satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1.0%

SURVEILLANCE REQUIREMENTS (Continued)

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks ~~DOP penetration and leakage is less than or equal to 1.0% when they are tested in-place~~ in accordance with ANSI N510-1975 while operating the filter bank at a flow rate of 2100 cfm ± 10%.

for a DOP test aerosol

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorber ~~halogenated hydrocarbon refrigerant test gas penetration and leakage is less than or equal to 0.1% when they are tested in-place~~ in accordance with ANSI N510-1975 while operating the filter bank at a flow rate of 2100 cfm ± 10%.

for a halogenated hydrocarbon test gas

satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1.0%

PLANT SYSTEMS

3.4.7.6 AUXILIARY BUILDING SAFEGUARDS AIR FILTRATION SYSTEM

/

LIMITING CONDITION FOR OPERATION

3.7.6.1 Two auxiliary building safeguards air filtration system exhaust trains with one common HEPA filter and charcoal adsorber bank and at least two exhaust fans shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the HEPA filter and charcoal adsorber bank inoperable, restore the HEPA filter and charcoal adsorber bank 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.

b. With only one exhaust fan OPERABLE, restore at least two exhaust fans 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

4.7.6.1 Each auxiliary building safeguards air filtration system train shall be demonstrated OPERABLE:

a. At least once per 31 days by:

1. Initiating flow through the HEPA filter and charcoal adsorber bank and verifying that the train operates for at least 15 minutes, and

2. Verifying that each exhaust fan is aligned to receive electrical power from a separate OPERABLE vital bus.

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 no detectable leakage through the Auxiliary Building Safeguards Air Filtration System dampers M2A and M2B when subjected to a bubble test at a pressure of greater than or equal to 30 inches W.G.

penetration and bypass leakage

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the system satisfies the in-place testing acceptance criteria of less than 1.0% 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 (except as shown in Specifications 4.7.6.1e and f), and the system flow rate is 73,500 cfm ± 10%. guidance in

3. 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

4. Verifying a system flow rate of 73,500 cfm + 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, for a methyl iodide penetration of less than 10.0%.

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 3.7 inches Water Gauge while operating the system at a flow rate of 73,500 cfm ± 10%.

2. Verifying that flow is established through the filter train on a safety injection test signal.

3. Verifying that the heaters dissipate 50 ± 5 kw when tested in accordance with ANSI N510-1975.

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks ~~DOP penetration and leakage is less than or equal to 1.0% when they are tested in-place~~ in accordance with ANSI N510-1975 while operating the system at a flow rate of 73,500 cfm ± 10%. for a DOP test aerosol

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorber ~~halogenated hydrocarbon refrigerant test gas penetration and leakage is less than or equal to 0.1% when they are tested in-place~~ in accordance with ANSI N510-1975 while operating the system at a flow rate of 73,500 cfm ± 10%. for a halogenated hydrocarbon test gas satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1.0%.

REFUELING OPERATIONS

3/4.9.12 FUEL HANDLING BUILDING VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.12 Two Fuel Handling Building Ventilation Systems shall be OPERABLE.

APPLICABILITY: Whenever irradiated fuel is in the spent fuel pool.

ACTION:

a. With one fuel handling building ventilation system inoperable, fuel movement within the spent fuel pool or crane operation with loads over the spent fuel pool may proceed provided the OPERABLE fuel handling building ventilation system is capable of being powered from an OPERABLE emergency power source and is in operation and discharging through at least one train of HEPA filters and charcoal adsorbers.

b. With no fuel handling building ventilation system OPERABLE, suspend all operations involving movement of fuel within the spent fuel pool or crane operation with loads over the spent fuel pool until at least one fuel handling building ventilation system is restored to OPERABLE status.

c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.12 The above required fuel handling building ventilation systems shall be demonstrated OPERABLE:

a. At least once per 31 days by initiating flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 minutes.

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 communicati with the system by:

1. Visually verifying that with the system operating at a flow rate of 35,750 cfm ± 10% and exhausting through the HEPA filters and charcoal adsorbers, that the damper valve M-29 is closed.

penetration and bypass leakage

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the 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 (except as shown in Specifications 4.9.12e and f), and the system flow rate is 35,750 cfm ± 10%.

of less than 1.0%

guidance in

3. 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.

4. Verifying a system flow rate of 35,750 cfm ± 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, for a methyl iodide penetration of less than 10.0%.

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 4.1 inches Water Gauge while operating the system at a flow rate of 35,750 cfm ± 10%.

2. Verifying that on a high radiation test signal, the system automatically starts (unless already operating) and directs its exhaust flow through the HEPA filters and charcoal adsorber banks.

3. Verifying that the system maintains the spent fuel storage pool area at a negative pressure of greater than or equal to 1/8 inches Water Gauge relative to the outside atmosphere during system operation.

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks ~~DOP penetration and leakage is less than or equal to 1.0% when they are tested in-place~~ in accordance with ANSI N510-1975 while operating the system at a flow rate of 35,750 cfm ± 10%.

for a DOP test aerosol

satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1.0%.

SURVEILLANCE REQUIREMENTS (Continued)

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers ~~halogenated hydrocarbon refrigerant test gas penetration and leakage is less than or equal to 0.1% when they are tested in-place~~ in accordance with ANSI N510-1975 while operating the system at a flow rate of 35,750 cfm ± 10%.

for a halogenated hydrocarbon test gas

satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1.0%

ANSI N510-1975 will be used as a procedural guide for surveillance testing.

BASES

3/4.7.5 CONTROL ROOM VENTILATION SYSTEM

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

3/4.7.6 AUXILIARY BUILDING SAFEGUARDS AIR FILTRATION SYSTEM

The OPERABILITY of the auxiliary building safeguards air filtration system ensures that radioactive materials leaking from the ECCS equipment within the auxiliary building following a LOCA are filtered prior to reaching the environment. The operation of this system and the resultant effect on offsite dosage calculations was assumed in the accident analyses.

3/4.7.7 SNUBBERS

All snubbers are required OPERABLE to ensure that the structural integrity of the reactor coolant system and all other safety related systems is maintained during and following a seismic or other event initiating dynamic loads. Snubbers excluded from this inspection program are those installed on nonsafety related systems and then only if their failure or failure of the system on which they are installed, would have no adverse effect on any safety related system.

The visual inspection frequency is based upon maintaining a constant level of snubber protection to systems. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule.

When the cause of the rejection of a snubber is clearly established and remedied for that snubber and for any other snubbers that may be generically susceptible, and verified by inservice functional testing, that snubber may be excepted from being counted as inoperable. Generically susceptible snubbers are those which are of a specific make or model and have the same design features directly related to rejection of the snubber by visual inspection or are similarly located or exposed to the same enviornmental conditions, such as temperature, radiation, and vibration.

3/4.9.10 and 3/4.9.11 WATER LEVEL - REACTOR VESSEL and SPENT FUEL POOL

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed 10% iodine gap activity released from the rupture of an irradiated fuel assembly. The minimum water depth is consistent with the assumptions of the accident analysis.

3/4.9.12 FUEL HANDLING BUILDING VENTILATION SYSTEM

The limitations on the fuel handling building ventilation system ensure 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. Transfer of system operation into the iodine removal mode (exhaust through HEPA filters and charcoal absorbers) is initiated automatically by either the new fuel storage or spent fuel pool area radiation monitors required by Specification 3.3.3.

3/4.9.13 SPENT FUEL SHIPPING CASK MOVEMENT

The restriction on spent fuel shipping cask movement ensure that the contents of no more than twenty fuel assemblies with at least 1000 hour decay time will be ruptured in the event of a spent fuel shipping cask accident. The dose consequences of this accident are within the guideline values of 10 CFR Part 100.

ANSI N510-1975 will be used as a procedural guide for surveillance testing.