

PLANT SYSTEMS

3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

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3.7.6.1 Two independent control room emergency ventilation systems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With one control room emergency ventilation 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.
- b. With one channel of Station Vent Normal Range Radiation Monitoring instrumentation inoperable, restore the inoperable channel to OPERABLE status, or isolate the control room normal ventilation system and place at least one control room emergency ventilation system train in operation within 7 days.
- c. With both channels of Station Vent Normal Range Radiation Monitoring instrumentation inoperable, within 1 hour, isolate the control room normal ventilation system and place at least one control room emergency ventilation system train in operation.

SURVEILLANCE REQUIREMENTS

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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 less than or equal to 110°F when the control room emergency ventilation system is operating.
- b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 minutes.
- c. At least once each REFUELING INTERVAL or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

DAVIS-BESSE, UNIT 1

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PLANT SYSTEMSSURVEILLANCE REQUIREMENTS (Continued)

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1. Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% 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 3300 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, for a methyl iodide penetration of less than 1%; and
  3. Verifying a system flow rate of 3300 cfm  $\pm 10\%$  during system operation when tested in accordance with ANSI N510-1980.
- d. After every 720 hours of charcoal adsorber operation by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a\* of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%.
- e. At least once each REFUELING INTERVAL by:
1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 4.4 inches Water Gauge while operating the system at a flow rate of 3300 cfm  $\pm 10\%$ ;
  2. Verifying that the control room normal ventilation system is isolated by a SFAS test signal and a Station Vent Normal Range Radiation Monitoring ~~Radiation~~ High-test signal; and

\* The test is performed in accordance with ASTM D 3803-1979 with the following conditions: 1) equilibrate for 16 hours at 30°C/70% relative humidity (RH), 2) challenge for 2 hours at 30°C/70% RH, 3) elution for 2 hours at 30°C/70% RH.

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PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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3. Verifying that the makeup flow of the system is 300 cfm  $\pm$  10% when supplying the control room with outside air.
- f. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 3300 cfm  $\pm$  10%.
- g. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 3300 cfm  $\pm$  10%.

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## PLANT SYSTEMS

### BASES

the flow path can be established. The ability for local, manual operation is demonstrated by verifying the presence of the handwheels for all manual valves and the presence of either handwheels or available power supply for motor operated valves.

#### 3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on steam generator pressure and temperature ensures that the pressure induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations of 110°F and 237 psig are based on a steam generator RT<sub>NDT</sub> of 40°F and are sufficient to prevent brittle fracture.

#### 3/4.7.3 COMPONENT COOLING WATER SYSTEM

The OPERABILITY of the component cooling water system ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

#### 3/4.7.4 SERVICE WATER SYSTEM

The OPERABILITY of the service water system ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

#### 3/4.7.5 ULTIMATE HEAT SINK

The limitations on the ultimate heat sink level and temperature ensure that sufficient cooling capacity is available to either 1) provide normal cooldown of the facility, or 2) to mitigate the effects of accident conditions within acceptable limits.

The limitations on minimum water level and maximum temperature are based on providing a 30 day cooling water supply to safety related equipment without exceeding their design basis temperature and is consistent with the recommendations of Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Plants" March 1974.

#### 3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

The OPERABILITY of the control room emergency ventilation system ensures that 1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system and 2) the control room will remain habitable for operations personnel during and following all credible accident conditions. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 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.

PLANT SYSTEMSBASES

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The Station Vent Normal Range Radiation Monitoring isolation function provides that under the required conditions, an isolation signal will be given. The Station Vent Normal Range Radiation Monitors provide isolation and shutdown of the control room normal ventilation system.

With one or both channels of Station Vent Normal Range Radiation Monitoring instrumentation inoperable, the provisions of Action statements b or c, respectively, are applicable. The provisions of Action statement a are not applicable.

Under the Action statements for inoperable Station Vent Normal Range Radiation Monitoring instrumentation, should the control room normal ventilation system be isolated and at least one train of the control room emergency ventilation system be placed in operation, these systems would be in a state equivalent to that which they would be in following an actual high radiation condition. Plant operation can continue indefinitely in this state, provided that control room temperature can be maintained in an acceptable range, with the control room emergency ventilation system obtaining fresh-air makeup as described in the Updated Safety Analysis Report Section 9.4.1, "Control Room."

Surveillance Requirement 4.7.6.1.e.2 requires verification that the control room normal ventilation system can be isolated by a Station Vent Normal Range Radiation Monitoring test signal.

Additional testing requirements for the Station Vent Normal Range Radiation Monitoring instrumentation are provided in the ODCM for gaseous effluent releases.