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CONTAINMENT SYSTEMS

DRYWELL AND SUPPRESSION CHAMBER PURGE SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.8 The drywell and suppression chamber purge system may be in operation with the drywell and/or suppression chamber purge supply and exhaust butterfly isolation valves open for inerting, deinerting, or pressure control, provided that each butterfly valve is blocked so as not to open more than 70°. PURGING through the Standby Gas Treatment System shall be restricted to less than or equal to 90 (150) hours per 365 days.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

a. With a drywell and/or suppression chamber purge supply and/or exhaust butterfly isolation valve open for other than inerting, deinerting, or pressure control, or not blocked to less than or equal to 70° open, close the butterfly valve(s) within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With a drywell and suppression chamber purge supply and/or exhaust isolation valve(s) with resilient material seals having a measured leakage rate exceeding the limit of Surveillance Requirement 4.6.1.8.2, restore the inoperable valve(s) to OPERABLE status within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.8.1 When being opened, the drywell and suppression chamber purge supply and exhaust butterfly isolation valves shall be verified to be blocked so as to open to less than or equal to 70° open, unless so verified within the previous 31 days.

4.6.1.8.2 At least once per 6 months, on a STAGGERED TEST BASIS, each 24- and 30-inch drywell and suppression chamber purge supply and exhaust isolation valve with resilient material shall be demonstrated OPERABLE by verifying that the measured leakage is:

a. Less than or equal to 0.05 L_a per valve test or,

b. Greater than 4.6.1.8.2.a. provided that: 1) the valves are secured closed and maintenance performed at the next plant cold shutdown to reduce the leakage to within 4.6.1.8.2.a; 2) the leakage added to the previously determined total for all valves and penetrations subject to Type B and C tests per LCO 3/4.6.1.2 shall be less than 0.6 L_a,

c. In the event the valves are to be operated, and 4.6.1.8.2.a. has been exceeded, a leakage test must be performed within 24 hours following operation, to ensure compliance with 0.6 L_a.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.1.8.3 The cumulative time that the drywell and suppression chamber purge system has been in operation PURGING through the Standby Gas Treatment System shall be verified to be less than or equal to ~~90~~ 150 hours per 365 days prior to use in this mode of operation.

3/4.6.1.5 PRIMARY CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment steel vessel will be maintained comparable to the original design standards for the life of the unit. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 34.7 psig in the event of a LOCA. A visual inspection in conjunction with Type A leakage tests is sufficient to demonstrate this capability.

3/4.6.1.6 DRYWELL AND SUPPRESSION CHAMBER INTERNAL PRESSURE

The limitations on drywell and suppression chamber internal pressure ensure that the containment peak pressure of 34.7 psig does not exceed the design pressure of 45 psig during LOCA conditions or that the external pressure differential does not exceed the design maximum external pressure differential of 2 psid. The limit of 1.75 psig for initial positive containment pressure will limit the total pressure to 34.7 psig which is less than the design pressure and is consistent with the safety analysis.

3/4.6.1.7 DRYWELL AVERAGE AIR TEMPERATURE

The limitation on drywell average air temperature ensures that the containment peak air temperature does not exceed the design temperature of 340°F during LOCA conditions and is consistent with the safety analysis.

3/4.6.1.8 DRYWELL AND SUPPRESSION CHAMBER PURGE SYSTEM

~~The 24-inch and 30-inch drywell and suppression chamber purge supply and exhaust isolation valves are required to be sealed closed during plant operation since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Maintaining these valves sealed closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the purge system. To provide assurance that the 24-inch and 30-inch valves cannot be inadvertently opened, they are sealed closed in accordance with Standard Review Plan 6.2.4, which includes mechanical devices to seal or lock the valve closed or prevent power from being supplied to the valve operator.~~

~~The use of the drywell and suppression chamber purge lines is restricted to the 2-inch purge supply and exhaust isolation valves since, unlike the 24-inch and 30-inch valves, the 2-inch valves will close during a LOCA or steam line break accident and therefore the SITE BOUNDARY dose guidelines of 10 CFR Part 100 would not be exceeded in the event of an accident during PURGING operations. The design of the 2-inch purge supply and exhaust isolation valves meets the requirements of Branch Technical Position CSB 6-4, "Containment Purging During Normal Plant Operations."~~

Insert

Leakage integrity tests with a maximum allowable leakage rate for purge supply and exhaust isolation valves will provide early indication of resilient material seal degradation and will allow the opportunity for repair before gross leakage failure develops. The 0.60 L_a leakage limit shall not be exceeded when the leakage rates determined by the leakage integrity tests of those valves are added to the previously determined total for all valves and penetrations subject to Type B and C tests.

Insert to 3/4.6.1.8

The 24-inch and 30-inch drywell and suppression chamber purge supply and exhaust isolation valves are allowed to be opened during plant operation for the purpose of venting or purging. The 24-inch and 30-inch valves automatically close in the event of a DBA LOCA. However, these valves have not been analyzed per SRP 6.2.4 and, therefore, usage of these valves is limited to 150 hours in a year. The use of the valves limit is intended to lessen the concern that a DBA LOCA could occur with the valves open and potentially cause damage to the in-service SGT division. The valves by analyses will close during the postulated LOCA dynamic conditions. However, dynamic tests performed on a similar butterfly-type designed valve indicates relatively large closing torque requirements exist when the disc is from a plane to approximately 20^{0} from plane condition. The 70^{0} opening limit is to ensure conservative closing torque requirements are maintained throughout the valve stroke.

Branch Technical Position CSB 6-4 design requirements for the 2-inch bypass/exhaust isolation valves are satisfied; therefore, usage of these valves during plant operation is not restricted. These 2-inch valves in the exhaust flow path automatically isolate on a DBA LOCA; therefore, the SITE BOUNDARY dose guidelines of 10 CFR Part 100 would not be exceeded in the event of an accident during PURGING or VENTING operations.

ATTACHMENT B

- During the current 365-day period, shutdown for Maintenance outage 3 (M-3) and subsequent startups with Recirculation Pump B investigation and troubleshooting, the containment was de-inerted and inerted four times. This period (5/3/85 through 7/16/85) consumed approximately 36 hours.

  During the period 7/27/85 through 11/12/85 (100 days at power), approximately 6 hours were used to maintain O_2 concentration.

  A reactor scram on 11/13/85 and subsequent de-inerting and inerting operation consumed 8 hours.

  In the period from 12/1/85 to date, approximately 30 more hours have been accumulated; 28 for de-inerting and inerting for Recirculation Pump B vibration testing and 2 hours from inerting to maintain O_2 concentration. This effort was also required to provide for a drywell entry in support of the recirculation pump effort.

  It should be noted that the drywell entries listed above were primarily in support of the recirculation pump effort; however, other component failures were attended to during the entries.