

consequences of an accident previously evaluated?

Response: No.

The proposed one-time extension of the Technical Specification inspection interval does not involve changing any structure, system or component or affect plant operations. It is not an initiator of any accident and does not change any FSAR [Final Safety Analysis Report] safety analyses. As such, the proposed change does not involve a significant increase in the probability of an accident previously evaluated.

Probability of an Accident

The VCSNS Steam Generator Management Program includes provisions that are more rigorous than existing Technical Specification requirements. The topics addressed by the program include:

- Steam generator performance criteria, including a reduced operational leakage limit.
- Steam generator repair criteria and repair methods.
- Steam generator inspections that include Degradation Assessments, Condition Monitoring Assessments, and Operational Assessments.
- NDE [nondestructive examination] technique requirements.

The results of the above program requirements demonstrated that all performance requirements were met during Refuel 12.

Consequences of an Accident

The consequences of design basis accidents are, in part, functions of the specific activity in the primary coolant and the primary to secondary leakage rates resulting from an accident. Therefore, limits are included in the Technical Specifications for operational leakage and for specific activity in the reactor coolant to ensure the plant is operated in its analyzed condition.

The VCSNS program requires a 150-gallon per day per steam generator limit for leakage prior to an accident. This limit is a reduction in the current Technical Specification value. The post accident leak rate remains at the same value assumed by the accident analysis (1 gallon per minute). Since the new operational leakage limit is more conservative than the existing value, it will not increase the likelihood or consequences of an accident.

In consideration of the above, past 100% eddy current results after 5.4 EFPY [effective full-power years] of operation, and the current leak free condition of the steam generators, extending the tube inspection frequency does not involve a significant increase in the consequences of a previously evaluated accident.

Summary

The proposed change does not affect the design of the steam generators, their method of operation, or primary coolant chemistry controls. The change does not adversely impact any other previously evaluated design basis accident.

Therefore, the change does not affect the consequences of a SGTR [steam generator tube rupture] or any other accident.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed one-time extension of the Technical Specification inspection interval does not involve changing any structure, system or component or affect plant operations. It is not an initiator of any accident and does not change any FSAR safety analyses.

Primary to secondary leakage that may be experienced during plant conditions is expected to remain within current accident analysis assumptions.

The proposed change does not affect the design of the steam generators, their method of operation, or primary coolant chemistry controls. In addition, the change does not impact any other plant system or component.

Therefore, the change does not create the possibility of a new or different type of accident or malfunction from any accident previously evaluated.

3. Does this change involve a significant reduction in margin of safety?

Response: No.

The steam generator tubes are an integral part of the reactor coolant pressure boundary and, as such, are relied upon to maintain the primary system pressure and inventory. As part of the RCS [reactor coolant system] boundary, the tubes are unique in that they are also relied upon as a heat transfer medium between the primary and secondary systems such that heat may be removed from the primary system. Additionally, the steam generator tubes also isolate the radioactive fission products in the primary coolant from the secondary system. In summary, the safety function of the steam generator is maintained by ensuring the integrity of its tubes.

Steam generator tube integrity is a function of the design, environment, and the physical condition of the tube. Extending the tube inspection frequency will not alter the design function of the steam generators. Previous inspections conducted during Refuel 12 demonstrate that there is no active tube damage mechanism. The improved design of the Model Delta 75 generator also provides reasonable assurance that leakage is not likely to occur over the next operating period.

For the above reasons, the margin of safety is unchanged and overall plant safety will be maintained by the proposed Technical Specification revision.

Pursuant to 10 CFR 50.91, the preceding analyses provide a determination that the proposed Technical Specification change poses no significant hazard as delineated by 10 CFR 50.92.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

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Date of amendment request: January 14, 2003.

Description of amendment request:

The proposed change will exclude the Charging/Safety Injection (SI) pumps and the Residual Heat Removal pumps from the requirement to vent emergency core cooling system pump casings located in Technical Specification (TS) Section 4.5.2.b.2, eliminate the 31-day venting surveillance for the SI pumps, and add discussion for this exclusion in the Technical Basis of TS Section B 3/4.5.2.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed changes to Technical Specification 4.5.2.b.2 and its associated bases do not contribute to the initiation of any accident previously evaluated. Supporting factors are as follows:

- The safety function of the Charging/SI system, which is related to accident mitigation, has not been altered. Therefore, the probability of an accident is not increased by the exclusion of the Charging/SI system discharge venting requirements.

- The exclusion of the Charging/SI system venting requirements does not affect the integrity of the Charging/SI system such that its function in the control of radiological consequences is affected. In addition, the exclusion of the Charging/SI system venting requirements does not alter any fission product barrier. The exclusion of the Charging/SI system venting requirements does not change, degrade, or prevent the response of the Charging/SI system to accident scenarios, as described in FSAR [Final Safety Analysis Report] Chapter 15. In addition, the exclusion of the Charging/SI system venting requirements does not alter any assumptions previously made in the radiological consequence evaluations nor affect the mitigation of the radiological consequences of an accident described in the FSAR. Therefore, the consequences of an accident previously evaluated in the FSAR will not be increased.

- The clarification of the RHR [residual heat removal] pump piping venting does not affect the integrity of the RHR system such that its function in the control of radiological consequences is affected. In addition, the