

service will be removed from service by plugging rather than being repaired. The plugging limit is unchanged by the proposed amendment. These changes will not introduce any adverse changes to the facilities' design bases or postulated accidents resulting from potential tube degradation. The proposed amendment does not affect the design of SGs, their method of operation, or primary coolant chemistry controls. In addition, the proposed amendment does not impact any other SSC. Surveillance requirements for the current SGs will not change prior to their removal from service as a result of the proposed changes. Therefore, the proposed changes do not create the possibility of a new or different type of accident from any accident previously evaluated.

Third Standard

The proposed amendment would not involve a significant reduction in the margin of safety.

Margin of safety is related to the confidence in the ability of the fission product barriers to perform their design functions during and following an accident situation. These barriers include the fuel cladding, the reactor coolant system, and the containment system. These barriers are unaffected by the changes proposed in this LAR. The steam generator tubes are an integral part of the reactor coolant pressure boundary. Repairing SG tubes by previously approved methods of sleeving or rerolling are considered to be an equivalent boundary to plugging a steam generator tube as has also been previously approved. Therefore, the margin of safety is not reduced by the changes proposed in this license amendment request.

Conclusion

Based upon the proceeding evaluation, performed pursuant to 10 CFR 50.92, Duke Energy Corporation has concluded that approval and implementation of this license amendment request at the Oconee Nuclear Station will not involve a significant hazards consideration. The proposed changes revise the steam generator surveillance requirements to be consistent with the replacement steam generators. Following implementation of the changes proposed in this license amendment request, the Oconee steam generators will continue to be operated in a safe and conservative manner.

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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Entergy Operations, Inc., Docket No. 50-368, Arkansas Nuclear One, Unit No. 2, Pope County, Arkansas

Date of amendment request: January 29, 2003.

Description of amendment request: The proposed amendment would change the spent fuel pool loading restrictions by redefining the regions, inserting Metamic® poison panels in a portion of the spent fuel pool, and increasing the minimum boron concentration.

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.

Most accident conditions will not result in an increase in K-effective (K_{eff}) of the fuel stored in the rack. However, there are accidents that can be postulated to increase reactivity. For these accident conditions, the double contingency principle of ANS [American Nuclear Society] N16.1-1975 is applied. This states that it is unnecessary to assume two unlikely, independent, concurrent events to ensure protection against a criticality accident. Therefore, for accident conditions, the presence of soluble boron in the storage pool water can be assumed as a realistic initial condition since its absence would be a second unlikely event.

A vertical drop accident condition directly upon a cell will cause damage to the racks in the active fuel region. The proposed >2000 ppm [parts per million] TS [technical specification] limit will insure that K_{eff} does not exceed 0.95. A fuel assembly dropped on top of the rack will not deform the rack structure such that criticality assumptions are invalidated. The rack structure is such that [after rack deformation] an assembly positioned horizontally on top of the rack is more than eight inches away from the upper end of the active fuel region of the stored assemblies. This distance precludes interaction between the dropped assembly and the stored fuel. An inadvertent drop of an assembly between the outside periphery of the rack and the pool wall is bounded by the worst case fuel misplacement accident condition of 825 ppm. The distance between all the rack modules and the pool walls is [nominally] less than the width of a fuel assembly.

The fuel assembly misplacement accident was considered for all storage configurations. An assembly with high reactivity is assumed to be placed in a storage location which requires restricted storage based on initial U-235 [Uranium-235] loading and burnup. The presence of boron in the pool water assumed

in the analysis has been shown to substantially offset the worst case reactivity effect of a misplaced fuel assembly for any configuration. The boron requirement of 825 ppm is less than the proposed >2000 ppm minimum boron TS limit. Therefore, a five percent subcriticality margin can be easily met for postulated accidents since any reactivity increase will be much less than the negative worth of the dissolved boron.

For fuel storage applications, water is present. An "optimum moderation" accident is not a concern in spent fuel pool storage racks because the rack design prevents the preferential reduction of water density between the cells of a rack (e.g., boiling between cells).

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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 changes will define a portion of the current Region 2 as Region 3. The new region will contain Metamic® poison panel inserts and will allow unrestricted storage of fuel assemblies with various enrichments and burnup. To support the proposed change, a new criticality analysis was performed. The analysis resulted in new loading restrictions in Region 1 and Region 2. The presence of boron in the pool water assumed in the analysis is less than the proposed ANO-2 [Arkansas Nuclear One, Unit 2] TS minimum concentration of >2000 ppm. Therefore, a five percent subcriticality margin can be easily met for postulated accidents since any reactivity increase will be much less than the negative worth of the dissolved boron.

No new or different types of fuel assembly drop scenarios are created by the proposed change. During the installation of the Metamic® panels, the possible drop of a panel is bounded by the current fuel assembly drop analysis. No new or different fuel assembly misplacement accidents will be created. Administrative controls currently exist to assist in assuring that fuel misplacement does not occur.

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

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

Response: No.

With the presence of a nominal boron concentration, the SFP [spent fuel pool] storage racks are designed to assure that fuel assemblies of less than or equal to five weight percent U-235 enrichment when loaded in accordance with the proposed loading restrictions will be maintained within a subcritical array with a subcritical margin of