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SUBJECT: Provides comments on areas listed in ltr, namely accuracy of staff understanding of plant design & safety significance of design features.

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L-96-247

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Resolution of Spent Fuel Storage Pool Safety Issues: Turkey Point Response

This letter is in response to NRC letter dated September 16, 1996, titled "Resolution of Spent Fuel Storage Pool Safety Issues: Issuance of Final Staff Report and Notification of Staff Plans to Perform Plant-specific, Safety Enhancement Backfit Analyses, Turkey Point Units 3 and 4." The NRC staff stated that comments received before November 15, 1996, would be considered in developing plans for inspections and other activities associated with the planned regulatory analysis.

The attachment to this letter provides Turkey Point's comments on each of the four areas listed in your letter, namely, (1) the accuracy of the staff's understanding of the plant design, (2) the safety significance of the design features, (3) the cost of potential modifications, and (4) the existing protection from the design concerns.

Should there be any questions on this subject, please contact us.

Very truly yours,

Robert J. Hovey
Vice President
Turkey Point Plant

CLM

cc: S. D. Ebnetter, Regional Administrator, Region II, USNRC
T. P. Johnson, Senior Resident Inspector, USNRC, Turkey Point Plant

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(1) The staff's understanding of the plant design is essentially correct, with the following addition; a single act of mispositioning the normally locked-closed valve on the lower suction line (3/4-797) would not result in draining the Spent Fuel Storage Pool (SFP). The still-open upper suction line (8" diameter open pipe) would break the siphon as soon as the SFP level drops about 4 feet below normal level (still 22 feet above the top of the spent fuel storage racks). In other words, the "mispositioning" would require the closing of the normally open upper suction valve 3/4-796 and the opening of 3/4-797, in order to leave the SFP without siphon protection.

(2) As discussed in the enclosure to your letter of September 16 (Attachment, page 6), the low probability of the necessary coincident events, the long time period necessary for significant inventory loss, and the many opportunities afforded operators to identify the inventory loss are factors which greatly reduce the probability, and therefore the safety significance, of the design concern.

There are other factors which reduce the probability of the postulated scenario even further. You have postulated that scenario as follows: "mispositioning of the normally locked-closed valve coincident with a pipe break or refueling water transfer operation...."

First, unlike many other U.S. operating reactors, Turkey Point does not use the SFP cooling system for bulk refueling water transfer operations. The refueling cavity is drained using the Residual Heat Removal and Reactor Coolant Drain Tank systems; the transfer canal is drained using the SFP cooling system, but the keyway gate is in place. SFP/transfer canal/refueling cavity filling operations are not precursors to an inadvertent draindown.

Second, as you are aware, Turkey Point is in an area of very low seismicity, so the probability of a seismically induced break in a seismically qualified pipe is extremely low. In addition, the environment inside the valve and pipe in question is benign: the water inside is low temperature and low pressure, the boric acid concentration in the water is too low to negatively affect stainless steel, and water impurities are maintained at a very low level. The outside environment is equally benign: there is no significant vibration, no rotating machinery or other potential missile hazard, and rarely any industrial or personnel traffic in the vicinity.

Third, the valve (3/4-797) is located above a catwalk, about twenty feet above ground level, not in close proximity to any other normally operated device, so inadvertent operation (bumping, etc.) is unlikely. Additionally, the valve is not near any similar valves; indeed there are very few valves of any type in the vicinity, so mispositioning as a result of confusion is also implausible.

Finally, there is no procedure at Turkey Point which directs this valve to be manipulated. The only time it appears in procedures is to verify the valve closed. In light of these factors, Turkey Point has concluded that each of the three assumptions in the postulated scenario are individually unlikely, and therefore the probability of its occurrence is minimal.

(3) Turkey Point has evaluated the cost of a potential modification to add a passive anti-siphon device. The modification would require underwater drilling, more than 30 feet under water inside the spent fuel pool, with attendant concerns for metal debris, temporary rigging, alignment accuracy of the drilling rig, and personnel exposure, among others. Turkey Point has concluded that the cost to implement such a modification would be greater than \$50,000.00. This cost would place the modification under the criteria normally applied to backfits in accordance with 10CFR50.109.

(4) Turkey Point believes that the existing protection from the design concern described, is sufficient; the piping is very unlikely to break, the valve is locked closed, and there is no procedure or process at the plant which directs the valve to be manipulated. Nevertheless, since Turkey Point does not expect to use the valve, we have strengthened the administrative control as follows:

The cable and lock have been replaced with a stainless steel chain whose ends have been welded together. Procedure 0-OSP-205, "Verification of Administratively Controlled Valves, Locks, and Switches," has been revised to list the valve as "permanently locked closed." Administrative procedure 0-ADM-205, "Administrative Control of Valves, Locks, and Switches," has been revised to define the term "permanently locked closed;" the term is applicable only to 3-797 and 4-797. Both procedures will reference this letter as a commitment document. A new label has been affixed to the valve operator which states, "This valve is permanently locked closed. Do not open this valve without prior approval of the Plant General Manager and the Licensing Manager (Reference L-96-247)."