January 31, 2002

Mr. Oliver D. Kingsley, President
and Chief Nuclear Officer
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION - REQUEST FOR ADDITIONAL INFORMATION ON TORUS-TO-DRYWELL VACUUM BREAKERS (TAC NO. MB2958)

Dear Mr. Kingsley:

In reviewing your September 19, 2001, submittal, the U.S. Nuclear Regulatory Commission staff has determined that it will need additional information to continue its review. The request for additional information (RAI) is enclosed. Because of your interest in receiving this proposed amendment, please respond to this RAI as soon as it is convenient for you.

If you have any questions regarding this correspondence, please contact me at (301) 415-1261.

Sincerely,

/RA/

Helen N. Pastis, Senior Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-219

Enclosure: As stated

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION

TORUS-TO-DRYWELL VACUUM BREAKERS

OYSTER CREEK NUCLEAR GENERATING STATION

FACILITY OPERATING LICENSE NO. DPR-16

DOCKET NO. 50-219

1. Please provide a brief description of the analytical methods of NEDE 24802. In particular, describe any empirical correlations and how they were derived and discuss any comparisons with experimental data and the methods of NEDE 24802.

2. Why is it assumed that only one train of containment spray is activated for Case1: Inadvertent drywell spray activation during normal operation? Explain why two drywell spray trains can not be inadvertently actuated? What would be the effect? Would it be more limiting than the drywell spray actuation after a loss-of-coolant accident?

3. What is the basis for the 45 °F spray water temperature for Case 1? What would the expected water temperature be? How can the suppression pool temperature be 95 °F and the spray temperature be 45 °F? Isn't the water source for drywell spray the suppression pool?

4. What is the basis for 6.75-ft in the torus to prevent water from being drawn into the vent header. What is the consequence of water in the vent header?

5. The discussion for Case 1 states that the initial drywell air temperature is assumed to be 150 °F which is the design maximum for normal operation. It further states that "the code input initial drywell temperature and pressure conditions were determined to be 115 °F and 15.6 psia, respectively." Please explain the two initial drywell temperatures.

6. Describe how the 115 °F and 15.6 psia values referred to in Question 5 were determined.

7. For Case 2, why is the analysis done for both a single loop and two loops of drywell spray? Isn't the two-loop case always limiting?

8. What is the basis for the assumption of a suppression pool water temperature following blowdown of 105 °F. Why is this conservative?

9. For the three cases considered, provide results of calculations showing the wetwell to drywell pressure as a function of the number of operable vacuum breakers and the peak vent water level as a function of the number of vacuum breakers.

   Also provide the results of calculations for eight vacuum breakers, showing the drywell and wetwell temperature versus time, the drywell and wetwell pressure versus time, the differential pressure between the wetwell and the drywell as a function of time and vent water level as a function of time.

Enclosure

10. Page 4/9: The description for Case 3 states that "a spray effect is assumed when the reactor vessel is reflooded with emergency core cooling injection *until* the injection flows out the break." Shouldn't this be *after* the injection flows out the break?

11. Page 4/9: Why is the assumption of a single failure beyond the existing licensing basis?

12. Page 2/9: If Bodega Bay tests, which "established the Oyster Creek design," are the basis for requiring 12 vacuum breakers to be operable, justify the validity of calculations that predict that the differential pressure and downcomer level criteria can be satisfied with six vacuum breakers.

cc:
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