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From:
Jill Lipotie

TACs:
MD4255

To:
P. T. Kuo

***** YELLOW *****

For Signature of:
P.T. Kuo

Routing:
Dyer
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Grobe
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Boger
NRR Mailroom

Description:
Request to have the NRC Require the Oyster Creek Licensee to Submit a Drywell Structural Analysis Similar to the Analysis Performed by Sandia National Laboratories

Assigned To:
DLR

Contact:
KUO, PAO-TSIN T

Special Instructions:

Called DLR (sent email because staff was in meeting) at 1:37 p.m. on 2/8 for pick up.

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JON S. CORZINE
Governor

LISA P. JACKSON
Commissioner

January 31, 2007

Dr. Pao-Tsin Kuo
Acting Director Division of License Renewal
U. S. Nuclear Regulatory Agency
One White Flint North (Mail Stop 11-F1)
11555 Rockville Pike
Rockville, MD 20852

Subject: Oyster Creek Drywell Corrosion Analysis

Dear Dr. Kuo:

As you are aware, the Oyster Creek Nuclear Generating Station has applied for a license extension to operate 20 years beyond their current license expiration date of April 9, 2009. The review of this application has generated serious issues of concern from both the State of New Jersey and members of the public. As part of the NRC's license renewal process for Oyster Creek, the Plant License Renewal Subcommittee of the Advisory Committee on Reactor Safeguards (ACRS) conducted a public meeting in Rockville Md., on January 18, 2007, to further discuss one of the issues of concern, drywell corrosion.

At this meeting, the NRC Staff presented the results of a new detailed analysis of the Oyster Creek drywell which was commissioned by the NRC and performed by the Sandia National Laboratory as part of the NRC Staff's license renewal technical review. This Sandia analysis evaluated the degraded configuration of the drywell using a state-of-the-art, full three-dimensional (360 degree), finite element computer model. Also, at this meeting, AmerGen described Oyster Creek's drywell analysis of record that was commissioned by Oyster Creek and done by General Electric in 1991. The GE modeling is less sophisticated than Sandia's and consists of both an axisymmetric and a 36 degree slice model of the drywell. GE used these less sophisticated models due to the computational limits of the day but did consider the results of the analysis to be bounding. The ACRS subcommittee members recognized the Sandia analysis as being more accurate than the GE analysis.

During the subcommittee meeting, the results of the Sandia analysis were compared to the results from the GE analysis. The NRC sponsored Sandia results identified that greater thicknesses were required for the Oyster Creek drywell to meet the required American Society of Mechanical Engineers (ASME) code allowables than predicted by the GE analysis. Specifically, the highly corroded sandbed region would require a minimum thickness of only 0.736 inches using the GE analysis but would require a minimum of 0.844 inches using the more accurate NRC sponsored Sandia analysis.

This difference in required drywell thickness is critical for both Oyster Creek's current licensing requirements and the proposed 20-year license extension. The drywell aging management commitments made to the NRC by AmerGen in Oyster Creek's license renewal application must insure that minimum required drywell thicknesses are maintained during the periods of plant operation between scheduled drywell inspections and thickness monitoring. The drywell inspection and thickness measurement schedule is based upon calculated corrosion rates and the resulting time period to reach minimum thickness. When a greater minimum drywell thickness is required, shorter plant operating periods between drywell inspections and thickness measurements would be necessary.

Based upon these facts, the ACRS subcommittee decided to bring this issue to the attention of the full ACRS for resolution at a meeting to be held on February 1, 2007.

Accordingly, it is the State of New Jersey Department of Environmental Protection's position, since the NRC has sponsored and is in possession of a technically more accurate analysis of the Oyster Creek drywell than that used by Oyster Creek, and such analysis has determined that the current analysis for the Oyster Creek drywell is inaccurate and results in non-conservative required drywell thicknesses, that the NRC require the Oyster Creek licensee to submit equally or more accurate analyses of the drywell to justify both the current continuing operation of Oyster Creek and the proposed 20-year period of extended plant operation. Furthermore, the NRC should withhold a final decision on Oyster Creek's license renewal application pending NRC Staff review and approval of such analysis and any associated aging management changes.

These comments are offered in regard to the issue of the Oyster Creek drywell. Nothing set forth in this letter is intended by the State of New Jersey, Department of Environmental Protection, to waive or limit in any way whatsoever any legal position it has taken on any other issue in this relicensing proceeding concerning Oyster Creek.

Should you have any questions or need additional information, please contact me directly at (609) 633-7964 or Mr. Kent Tosch, Manager of the Bureau of Nuclear Engineering, at (609) 984-7701.

Sincerely yours,

Jill Lipoti

Jill Lipoti, Ph.D.
Director

c: NRC Advisory Committee on Reactor Safeguards Chairman, William J. Shack