

October 29, 2007

Mr. David Lochbaum
Union of Concerned Scientists
1707 H Street, NW, Suite 600
Washington, DC 20006

Dear Mr. Lochbaum:

I am responding to your letter of July 18, 2007, in which you asked a number of questions related to the Oyster Creek Nuclear Generating Station (Oyster Creek) plant trip on July 17, 2007. The NRC conducted an event follow up inspection, and the results of this inspection are contained in the attached inspection report. Now that this report has been issued, I am writing this letter to ensure your questions are addressed. Specifically your questions were:

1) Did the Oyster Creek operators enter ABN-17 and perform a rapid power reduction following the loss of a single feedwater pump?

a. If so:

- i. What was reactor power at the time of the scram?
- ii. Why wasn't the power reduction coupled with increased flow from feedwater pumps A and B sufficient to prevent the automatic scram?

b. If not:

- i. How long after feedwater pump C tripped did the operator realize it?
- ii. How much time elapsed between the trip of feedwater pump C and the automatic reactor scram and why wasn't this period sufficient for the operators to enter ABN-17?

2) Does the company's plant-specific probabilistic risk assessment and the NRC's SPAR model expect or predict such a consequence (e.g. main steam line isolation valve closure, extended operation of the electromagnetic relief valves, and manual initiation of containment spray) for such a seemingly benign initiating event (loss of a single feedwater pump with all other components available)?

3) Is it routine for the loss of a single feedwater pump to result in the manual initiation of containment spray to limit temperature rise inside containment?

We have assessed the licensee's actions, performed an event follow up inspection, and identified a non cited violation of very low safety significance due to operator performance issues noted during the event which resulted in a plant reactor scram with complications. The event follow up inspection is documented in NRC Inspection Report 05000219/2007004 and provides answers to your questions. In addition, I want to provide the following additional information.

In response to question 1, the operators did enter ABN-17 upon receipt of indication of a loss of the feedwater pump. Oyster Creek and other BWR-2 vintage plants do not have an automatic recirculation pump runback feature in the event of a partial loss of feed flow, as most later vintage BWRs have.

In response to your second question, the plant response to the initial transient was consistent with Chapter 15 of the Oyster Creek Final Safety Analysis Report (FSAR), analysis of a loss of feedwater casualty with no operator actions. It is expected that the plant would scram, and main steam valve isolation would occur. The use of electromagnetic relief valves (EMRVs) and containment spray (in the torus cooling mode) appear to have been properly initiated by the operators in accordance with the procedural guidance and the conditions seen during the transient.

In response to your third question, the use of containment spray in the torus cooling mode is the normal suppression pool cooling method for a BWR-2. When suppression pool cooling is required (as expected when using EMRVs to control a plant cooldown), manual initiation of containment spray in the torus cooling mode would be the response. A BWR-2 design is different from most other BWR designs. As described in Chapter 6 of the Oyster Creek FSAR, the suppression pool cooling function during normal operation and post accident is a design function of the containment spray system. When in the torus cooling mode, water is circulated from the torus to the containment spray heat exchangers, which are cooled by Emergency Service Water, and sprayed back only into the torus header. In the control room, the operator can select the mode of containment spray (drywell spray or torus cooling) via the system mode select switches. As you noted, most other BWR designs use a suppression pool cooling system which is a sub-function of the Residual Heat Removal (RHR) system. Because Oyster Creek does not have a safety-related RHR system (a BWR-2 design has 2 safety related isolation condensers), this required safety function is performed by the safety-related containment spray system. In this event, the operators initiated containment spray in the torus cooling mode as directed by procedures due to torus bulk temperature.

I trust that this letter has been responsive to your concerns. If you have any further questions or concerns in this matter, please contact Ronald Bellamy at 610-337-5200.

Sincerely,

/RA/

David C. Lew, Director
Division of Reactor Projects

Enclosure: NRC Inspection Report 05000219/2007004

Docket No. 50-219
License No. DPR-16

cc w/encl:

D. McKeon, Planning Director, Ocean County Planning Board

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David C. Lew, Director
Division of Reactor Projects

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cc w/encl:
D. McKeon, Planning Director, Ocean County Planning Board

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