

**DAVIS-BESSE NUCLEAR POWER STATION
CONTAINMENT SHIELD BUILDING ISSUE
11/10/2011**

PURPOSE: To inform NRR senior management of situation at Davis-Besse with the Containment Shield Building cracks identified¹, and licensee response.

EXPECTED OUTCOMES: NRR management to understand the status of Davis-Besse's Containment Shield Building (SB).

PROCESS:

Background

While creating an access hole for Reactor Pressure Vessel head replacement, three issues were identified: (#1) Extensive cracking in the shoulder region, (#2) Cracking in the structural region outside the flange shoulder region near the main steam piping penetrations, (#3) Cracking indications via IR mapping in the cylindrical portion of the building near the top of the building at the interface between the domed roof and the cylindrical wall. Items 2 and 3 are being evaluated separately. The licensee believes the cracks are limited to the shoulder region and do not extend into the region of the analyzed SB concrete. As of 11/4/11, IR mapping and core boring was suspended.

Discussion

- On 11/9/11, the Licensee gave a presentation to Region 3 and NRR technical staff. The purpose of the meeting was not to answer NRC technical questions, but to give the licensee an opportunity to present.
- NRC Tech staff plans to have questions about the final calculations to the Licensee by COB Thursday, Nov 10, 2011. The licensee has committed to a 24hr turnaround with the answers.
- The two Mode 6 holds have been cleared and refueling has been completed. Mode 5 will occur Nov. 10, 2011, and Mode 4 is scheduled for Friday Nov. 19, 2011.
- Analysis of conditions #2 and #3 are lacking in the evaluations provided.
- To determine if NRC has any technical basis for the licensee to not startup, 2 teleconferences are set up for this weekend. An internal technical call will be held on Saturday to discuss the response and a call with the licensee will be held on Sunday to provide feedback.

Decision:

- Office-centered licensee, meeting time on Sunday, name of bridge line licensee 1 for NRC*
- Goal is for the decision to be made about our technical basis on Monday.
 - A decision about the regulatory footprint also needs to be made, whether it is a CAL, or PN or other mechanism.

NRC questions:

- Does the licensee's extent of condition provide an acceptable sample that characterizes the SB condition?
- Does the licensee's analysis provide reasonable assurance that the SB will perform its design function? Why or why not?
- Has the licensee provided reasonable assurance that the SB will remain capable of performing its design function in the near and distant future (i.e. the condition will not worsen)? Why or why not?

¹ The issue is not similar to Crystal River. In the case of Davis-Besse, the concrete structure forms the containment building along with the steel liner. The steel containment is a separate structure approximately 5 feet inside the SB (see Picture 2 for a cross-section). There is actually an access area between the containment building and the SB. The SB functions as a portion of the Containment system and is Nuclear Safety-Related, Seismic Category I, and serves 3 main purposes.

- During operations it provides shielding from radiation originating at the reactor vessel and the primary coolant loop
- During operation it provides environmental and tornado missile protection for the containment vessel
- Following a LOCA, the SB serves as a negative pressure boundary for the Emergency Ventilation System.

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