

Teaching Notes

Operational Reactor Safety Course

Lecture: 21 – Davis Besse - Near Miss 2002

Objective:

Despite the well known problem with Alloy 600 cracking for over 10 years, Davis Besse had a near miss that almost failed the reactor vessel in a non-isolable leak. The objective of this lecture is to appreciate the circumstances of that led to event and how management's failure to have a questioning attitude almost created an event that could have created another meltdown. It also points out the failures of NRC, INPO and the utility's own oversight board.

Key Points to Bring Out:

<u>Slide number</u>	<u>Points</u>
3-7	Review history of Davis Besse pointing out good operations (which can lead to complacency) and the history of primary water stress corrosion cracking of vessel head penetrations (Inconel 600). The timeline chart is important particularly since it sets the stage for a discussion of why Davis Besse management did not respond to their indicators.
8-18	Review design of Babcock and Wilcox design of the reactor vessel head and the control rod penetrations pointing out weld locations. Photos graphically indicate extent of corrosion.
19-21	Point out the many indicators the plant had and experiences with primary water leaks and specific DB indicators. Discuss why such obvious indicators were ignored or dismissed.
22	Discuss breakdowns in each of the major players that should have asked the questions and focused on the problem. Utility made efforts to delay the inspection - why?
23-25	These slides deserve a class discuss of lessons learned to impress upon the students that what they do matters. The importance of a questioning attitude and a proper safety culture are vital to safe operations. Not allowing unacceptable conditions is vital to safety

even if the function is not perceived as critical at the time. Be aware of group think affecting good decision making. Why did NRC and INPO not catch this?

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Discuss the consequences to the utility and possible to the industry should DB's vessel fail? Point out the restart decision was not based on technical readiness but culture readiness which is hard to measure.

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