

From: Neil Sheehan *NI*
To: William Outlaw
Date: 4/23/04 8:45AM
Subject: Fwd: Re: Reactor Vessel Cladding Cracking - Talking Points

Bill,

Here are some talking points put together on the Vermont Yankee reactor vessel cladding cracking issue.

Regards,
Neil
Public Affairs

C-116

From: Raymond Lorson
To: Barry Elliot; Bill Bateman; Edwin Gray; Rick Ennis; Stephanie Coffin
Date: 4/22/04 6:11PM
Subject: Re: Reactor Vessel Cladding Cracking - Talking Points

Rick:

Edited version attached. Pls contact me if you have any questions.

Ray

>>> Rick Ennis 04/22/04 05:29PM >>>

Based on my discussion this afternoon with Bill Bateman and Barry Elliot, I developed the attached talking points regarding the reactor vessel cladding cracking at Vermont Yankee. Please review and let me know if the information is technically correct and is consistent with the NRC's position on this issue.

Once we have internal consensus, we will need to evaluate the appropriate communications that should be made to inform the public of this issue. It is unknown at this time if the licensee plans to make the issue known, since at present, it appears that this is not a technical concern, but more of a concern regarding the politics related to the power uprate.

Thanks,

Rick
415-1420

CC: A. Randolph Blough; Allen Howe; Brian Holian; Brian Sheron; Cliff Anderson; Cornelius Holden; David Pelton; Diane Screnci; Donald Florek; Donna Skay; Eric Leeds; James Clifford; Jim Dyer; John Craig; John Jolicoeur; Neil Sheehan; Richard Borchardt; Richard Crlenjak; Robert Jasinski; Rosetta Virgilio; Tad Marsh; Thomas Madden; Wayne Lanning

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From: Neil Sheehan

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Talking Points on Reactor Vessel Cladding Cracking

- 1) As part of the required periodic inspections performed at nuclear power plants, the inside of the reactor vessel is examined.
- 2) The reactor vessel is primarily constructed of carbon steel. The inside surface of the reactor vessel has a thin layer of stainless steel, called cladding, that provides a corrosion resistant surface. The carbon steel portion is relied on for the structural integrity of the vessel.
- 3) Vermont Yankee previously identified cracks in their reactor vessel cladding surfaces. These cracks were observed visually and have been identified at numerous plants throughout the US.
- 4) During the 2002 refueling outage, Vermont Yankee examined the surface of their reactor vessel cladding iaw industry guidance (GE RICSIL 539, dated November 5, 1991), and determined that none of the cladding cracks had propagated into the carbon steel pressure retaining portion of the reactor vessel. Reactor vessel weld ultrasonic examinations performed during the Spring 2004 refueling outage at Vermont Yankee again indicated that none of the examined cladding cracks had propagated into the carbon steel portion of the reactor vessel.
- 5) The primary mechanism believed responsible for the cracking of the cladding is known as stress corrosion cracking, an aging mechanism that affects stainless steel materials. Cracking of the cladding is not expected to propagate into the carbon steel reactor vessel since carbon steel is resistant to stress corrosion cracking.
- 6) The American Society of Mechanical Engineers (ASME) Code states that flaws that lie entirely in the cladding do not need to be evaluated. The NRC staff believes that the current condition of the cladding does not represent a problem with respect to integrity of the reactor vessel for plant startup after completion of Spring 2004 refueling outage.
- 7) It is noted that reactor vessel cladding cracking is not unusual, however, due to the current political situation associated with the Vermont Yankee power uprate, the NRC staff wants to ensure that the public is kept informed of issues that would be of potential interest.