

From: Jacob Zimmerman - NRR
 To: Rosenberg, Stacey - EDO
 Date: 10/30/01 10:46AM
 Subject: Status of Bulletin 2001-01 Issues

Stacey,

The 1st attached file contains the current plant status for orders on Surry 2, Davis-Besse, & DC Cook 2. It doesn't appear that an order is necessary for Robinson. The 2nd attached file contains the updated color tables for the high & moderate susceptibility plants.

If you need more information to support the C-note, please let me know.

Jake

CC: Bateman, Bill; Burkhart, Lawrence; Eltawila, Farouk; Hackett, Edwin; Hiser, Allen; Sheron, Brian; Strosnider, Jack; Wichman, Keith; Zwolinski, John

Information in this record was deleted
 in accordance with the Freedom of Information
 Act, exemptions 4
 FOIA- 2002-229

R-28

CURRENT STATUS OF HIGH SUSCEPTIBILITY PLANTS THAT MAY RECEIVE ORDERS

Davis Besse

On September 28, 2001, NRR senior management called FirstEnergy Nuclear Operating Company (FENOC), the licensee for Davis-Besse, regarding the staff's initial assessment of the Bulletin response for the Davis-Besse plant. NRR senior management indicated that the Davis-Besse bulletin response did not provide sufficient basis for delaying their inspection schedule until April 2002, and therefore, the staff's position was that Davis-Besse should perform a 100% inspection of VHP nozzles by December 31, 2001. This position was reiterated on a conference call between the staff and FENOC on October 3, 2001.

On October 11, 2001, a drop-in meeting was held between NRR management and FENOC. During this meeting FENOC indicated that they had new information that had not previously been submitted for staff review. In addition, FENOC requested that the staff document its acceptance criteria used to develop the staff position relative to the Davis-Besse plant. The staff agreed to provide FENOC with such documentation once it was available. FENOC provided additional information (a finite element analysis to demonstrate the presence of leakage paths for the CRDM penetrations at the operating conditions, and a Framatome risk assessment) to the NRR Project Manager on Friday, October 12, 2001, committed to provide docketed information, and requested a meeting with the NRC staff.

On October 18, 2001, the staff issued a request for additional information (RAI) via e-mail to FENOC regarding the April 2000 Davis Besse nozzle inspection, the finite element analysis of CRDM penetrations, and the Framatome risk assessment. The licensee met with the NRC staff on October 24, 2001, at NRC headquarters. The Project Manager informed the licensee that the RAIs were being finalized for formal issuance. In the Bulletin 2001-01 response, the licensee characterized their prior inspections as a qualified visual inspection. However, four nozzles could not be demonstrated to have annular gaps in the licensee's finite element analysis. In addition, the scope of the prior visual inspection did not cover 100% of the VHP nozzles due to boric acid deposits from other sources (e.g., canopy seal and Conoseal leaks). The licensee plans to perform a qualified visual examination at the next refueling outage scheduled for April 2002. The prior inspection, even if qualified, was more than 18 months from the planned inspection in April 2002. The staff's technical assessment provides the justification for the maximum of 18 months between prior and planned inspections.

Surry Unit 2

During their previous outage in Fall 2000, Virginia Electric and Power Company completed a visual inspection of Surry Unit 2, in accordance with Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants." The inspection was performed with the insulation on the head (e.g., not a bare metal inspection as described in Bulletin 2001-01), and would not have been effective in detecting boric acid deposits from VHP nozzle leaks. The licensee plans to perform a qualified visual examination at the next refueling outage scheduled for March 2002. The licensee has not submitted supplemental plant-specific information to demonstrate that their future inspection will be a qualified visual examination. The staff has had numerous conference calls with this licensee to discuss the North Anna Unit 1 inspection results and inspection plans for the remaining North Anna and Surry Units in an attempt to achieve resolution of the relevant technical issues. Since this plant has not been inspected previously using a "qualified visual examination," the unit should be shut-down in the near term to facilitate such an examination.

D.C. Cook Unit 2

Indiana Michigan Power Company's original Bulletin response stated that DC Cook Unit 2 intends to perform a remote visual examination of all accessible VHPs under the reactor vessel head insulation during the next (2001) Unit 2 refueling outage. The response also stated that eddy current (ECT) and ultrasonic (UT) examination will also be used. However, due to a recent forced outage, the licensee has decided to delay its outage until January 19, 2002, as confirmed per a conference call on October 9, 2001. During this conference call, the licensee appeared to be unaware that the unit's VHP nozzle cracking history placed them in Bin 1 with the Oconee units and Arkansas Nuclear One Unit, although their Bulletin response was unambiguous on this fact.

During their previous outage in Fall 1994, the licensee completed an eddy current examination of the inner diameter of 71 of the 78 VHPs. The results showed three axial indications in one penetration that were subsequently repaired in 1996. The licensee plans to perform a remote visual inspection with ECT and UT at the next refueling outage scheduled for January 2002. The planned inspection in January 2002 is more than 7 years from the prior inspection.

H. B. Robinson

The NRC staff had a conference call with Carolina Power & Light regarding H.B. Robinson's response to Bulletin 2001-01. The staff requested clarification on the chronology of the April 2001 vessel head examination, and confirmation on the chronology of the VHP nozzle inspection and head cleaning, in particular whether the VHP nozzles were inspected prior to head cleaning. The licensee submitted a supplemental Bulletin response on October 2, 2001, and requested a meeting with the staff. On October 4, 2001, the licensee (via conference call) stated that the April 2001 visual examination was not able to access the entire circumference of all nozzles. Since this is not well-defined, the licensee was asked to provide a semi-quantitative assessment of the coverage of the visual examination. In addition, the licensee stated that they do not have "as-built" dimensions for the plant-specific analyses to qualify the Robinson head for visual examination. The staff told the licensee that it would need to justify the use of design drawing dimensions. One method suggested by the staff was to use data from RPV heads of a similar vintage and from the same manufacturer as the Robinson RPV head to demonstrate reasonable assurance that the Robinson VHP nozzles were installed in accordance with the design drawing dimensions. During a teleconference on October 11, 2001, the licensee committed to provide a shutdown schedule to permit inspections as a contingency should efforts to qualify the visual examination prove unsuccessful.

On October 20, 2001, the licensee provided the staff with two finite element analyses to demonstrate that the Robinson VHP nozzles would have leakage paths at the operating conditions, and a summary of information related to the conformance of the Robinson VHP nozzles with design drawing tolerances. On October 24, 2001, the staff issued a RAI via e-mail to the licensee regarding the finite element analysis. The licensee met with the NRC staff on October 24, 2001, at NRC headquarters. The licensee provided the staff with a summary of information to support conformance with the design drawing tolerances. However, the staff had additional questions regarding the conclusions from the finite element analyses. The licensee committed to provide a revised submittal which summarizes their information to support conformance with the design drawing tolerances, and to reconcile the finite element analyses with relevant fabrication and installation details. The licensee plans to perform a qualified visual examination at the next refueling outage scheduled for [REDACTED]. Acceptability of the licensee's approach is predicated on the acceptability of the pending supplemental response to demonstrate qualification of the prior visual examination.

ex 1

4

PLANTS WITH CRACKING/LEAKAGE HISTORY (BIN 1) AND HIGH SUSCEPTIBILITY PLANTS (BIN 2)

Plants	Last Inspection		Next Inspection			CCDP* (IPE)	Response Acceptable ?	
	Date	Method	Date	Method	Method			
Oconee 1	11/2000	Qual. Visual - 100%	03/2002	OK	Qual. Visual - 100%	OK	1E-2 3.5E-3 (Response)	YES
Oconee 2	04/2001	Qual. Visual - 100%	[REDACTED]	OK	Qual. Visual - 100%	OK	1E-2 3.5E-3 (Response)	YES
Oconee 3	2/2001	Qual. Visual - 100%	11/2001	OK	Qual. Visual - 100%	OK	1E-2 3.5E-3 (Response)	YES
ANO-1	03/2001	Qual. Visual - 100%	[REDACTED]	OK	Qual. Visual - 100%	OK	3E-3	YES
TMI-1	09/1999	Eff. Visual - 100%	10/2001	OK	Qual. Visual - 100%	OK	7.5E-3	YES
Robinson	04/2001	Qual. Visual - 100%**	[REDACTED]	OK	Qual. Visual - 100%***	OK	2E-2	YES
Surry 1	Spr 2000	GL 88-05 & GL 97-01	10/2001	OK	Qual. Visual - 100%***	OK	5.3E-3	YES
North Anna 1	02/1996	ID NDE - 31%	08/01 (completed)	OK	Qual. Visual (100%) & ECT/UT**	OK	6.6E-3	YES
North Anna 2	Spr 2001	GL 88-05 & GL 97-01	Prior to 12/31/01****	OK	Qual. Visual - 100%***	OK	6.6E-3	YES
Davis-Besse	03/2000	Qual. Visual (< 100% and > 18 months from next planned Insp.)	04/2002	NO	Qual. Visual - 100%	OK	6.9E-3	NO
D.C. Cook 2	09/1994	ID NDE - 91%	1/19/2002	NO	Remote Visual & ECT/UT	OK	4.7E-3	NO
Surry 2	Fall 2000	GL 88-05 & GL 97-01	03/2002	NO	Qual. Visual - 100%***	OK	5.3E-3	NO

* Conditional core damage probability.
 ** Licensee stated its intention to submit information to "qualify" the inspection.
 *** Licensee stated its intention to shutdown and perform "qualified" inspection if it could not "qualify" previous inspection.
 **** Licensee stated its intention to perform "qualified" inspection of 100% of VHP nozzles prior to 12/31/01.
 □ Pending acceptability of licensee's supplemental response. As of 10/22/01

PLANTS HAVING MODERATE SUSCEPTIBILITY TO PWSCC AS OF 10/22/2001

Plant	Ranking (EFPY)	Next Inspection			Response Acceptable?
		Date	Method		
Beaver Valley 1	11.5	Sept. 2001	Eff. Visual (100%) in Sept. 2001	OK	YES
Beaver Valley 2	16.5	Feb. 2002	Eff. Visual (100%) in Feb. 2002	OK	YES
Calvert Cliffs 1	9.8	Feb. 2002	Eff. Visual (100%) or Qual. Vol., Feb. 2002	OK	YES
Calvert Cliffs 2	10.2		Eff. Visual (100%) or Qual. Vol.	OK	YES
Crystal River 3	5.9	Oct. 2001	Eff. Visual (100%) in Fall 2001	OK	YES
Diablo Canyon 1	20.8	May 2002	Eff. Visual (% not specified) in May 2002	OK	YES
Diablo Canyon 2	16.1		Eff. Visual (% not specified)	OK	YES
Farley 1	6.9	Oct. 2001	Eff. Visual (All) in Oct. 2001	OK	YES
Farley 2	8.3		Eff. Visual (All) or Qual Vol.	OK	YES
Fort Calhoun	17.9	Apr./May 2002	Eff. Visual (100%) in Spring 2002	OK	YES
Kewaunee	21.9	Oct. 2001	Eff. Visual (100%) in Fall 2001	OK	YES
Point Beach 1	11.5		Eff. Visual (100%) in	OK	YES
Point Beach 2	9.6	April 2002	Eff. Visual (100%) in Spring 2002**	OK	YES
Prairie Island 1	26.7		Eff. Visual (All) in	OK	YES
Prairie Island 2	26.8	Feb. 2002	Eff. Visual (All) in Feb. 2002	OK	YES
Salem 1	13.8		Eff. Visual (All) in	OK	YES
Salem 2	17.4	Apr. 2002	Eff. Visual (All) in Apr. 2002	OK	YES
San Onofre 2	10.7	May 2002	Eff. Visual (All) or Qual Vol., May 2002**	OK	YES
San Onofre 3	10.8		Eff. Visual (All) or Qual Vol.	OK	YES
St. Lucie 1	10.3		Eff. Visual (100%) in	OK	YES
St. Lucie 2	11.3	Nov. 2001	Eff. Visual (100%) in Nov. 2001*	OK	YES
Turkey Point 3	6.3	Oct. 2001	Eff. Visual (100%) in October 2001	OK	YES
Turkey Point 4	6.4	Mar. 2002	Eff. Visual (100%) in Spring 2002	OK	YES
Waterford 3	7.8	Mar. 2002	Eff. Visual (% not specified) in Spring 2002	OK	YES
Ginna	15.0	Mar. 2002	Not Specified (notify 1/02)***	?	?
Millstone 2	14.3	Feb. 2002	Not Specified (notify 1/02)***	?	?
ANO-2	17.1	April 2002	Surface or Vol. of 25% in Spring 2002****	NO	NO
Indian Point 2	26.6		GLs 88-05 & 97-01****	NO	NO
Indian Point 3	14.5		GLs 88-05 & 97-01****	NO	NO
Palo Verde 1	17.0		None (Vol. in)****	NO	NO
Palo Verde 2	17.7	May 2002	None (Vol. in)****	NO	NO
Palo Verde 3	17.3	Sept. 2001	None (Vol. in)****	NO	NO

* In a telecon on 10/23/01 the licensee stated its intention to perform a 100% eff. visual insp to be accomplished by a combination of under insulation visual, removal of insulation and performing visual and UT.

** Documented reservations regarding achieving 100% inspection.

*** Licensee stated its intention to provide more information to the staff regarding the scope and schedule of inspection.

**** Licensee stated that it would reconsider its position re: scope of inspection and would provide feedback to the staff.

□ Pending acceptability of licensee's supplemental response.

As of 10/22/01

4