

June 26, 2002

MEMORANDUM TO: File (Davis-Besse)

FROM: Douglas V. Pickett, Senior Project Manager, Section 2 /RA/
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION - SUMMARY OF
NUCLEAR REGULATORY COMMISSION ACTIVITIES FOR THE WEEK
OF MAY 6, 2002, RE: CONTROL ROD DRIVE MECHANISM (CRDM)
NOZZLE PROJECT (TAC NO. MB4479)

May 6:

Telecon was conducted with licensee (Bob Schrauder, head of replacement team) to better understand licensee's plans for reactor pressure vessel (RPV) head replacement. Items discussed included:

- Licensee considered procurement of RPV heads at Rancho Seco, TMI-2, & Midland 2.
- Midland RPV is Babcock & Wilcox Model 177 which is similar to Davis-Besse. Midland head is considered compatible with the Davis-Besse vessel.
- Licensee making measurements concerning keyway indexing pins. O-ring head flange considered compatible. Service structure is custom built. No physical show-stoppers identified.
- Midland head has not been controlled in quality environment since plant canceled. Containment not heated. Some rust on RPV head.
- American Society of Mechanical Engineers Code data package needed. Framatome to purchase head "as-is" and prepare paperwork and restore original N-stamp. Chemical swipes to be performed to verify no chemical contaminants.
- Licensee to perform nondestructive examination (NDE) work including: 100 percent visual examination; verify no physical degradation; verify no uncontrolled welding; examine for cracks in ferritic metal; CRDM examinations; dye penetrant exams; eddy current or ultrasonic test (UT) exams on nozzle welds.
- Biggest area of concern is lack of original radiographs of flange to head vessel welds.
- Licensee would not replace CRDM nozzles, but would use existing Midland nozzles.
- Licensee anticipates using the replacement Midland RPV head for about 10 years and then replace both the RPV head and steam generators in the same outage.
- Licensee talks of newer edition of Code permitting UT exams in lieu of radiographs. They also argue that radiographs are not required to be maintained. We inform licensee that they must either find the original radiographs or perform new ones.

Participants included:

Jim Davis	Bill Cullen	Allen Hiser	Steve Bloom
Keith Wichman	Susan Chidakel	Dale Thatcher	Rich McIntyre
Andrea Lee	Tony Mendiola	Jon Hopkins	Singh Bajwa
Doug Pickett			

May 6:

Attachment 1 documents concerns regarding the use of personnel with limited certifications to perform extent of condition walkdowns required by the confirmatory action letter (CAL).

May 6:

Attachment 2 is an email describing the first qualified test cut on the mock-up when the nozzle broke.

May 7:

Attachment 3 documents a white paper regarding use of the Midland head replacement option.

May 7:

Attachment 4 includes copy of handouts from the public meeting of May 7 concerning root cause analyses.

May 7:

Attachment 5 is an email providing the licensee's explanation of how a through-wall crack on Nozzle 2 was not initially identified. The new crack was discussed during the public meeting of May 7, 2002.

May 8:

Attachment 6 is an email from the licensee providing photos of the test mock-up.

May 8:

Attachment 7 is the licensee daily status summary, which is used as the agenda for the daily status call. Items discussed included the following:

- The licensee requested a conference call to discuss Simon Sheng's comments on the repair plan.
- Addendum to Safety Significance Assessment due June 7.
- Control rod drive relocation analyses due May 22.
- Licensee revising repair plan for Nozzle 46.
- Discussed cavity extraction and preservation plan. First mock-up cut is satisfactory. Second mock-up cut scheduled for tomorrow. Reactor cavity cut scheduled for Monday, May 13. Cutting process estimated to last 6 hours.
- Nozzle 2 flaw discrepancy. Top-down UT exam identified crack.

Participants included:

Bill Cullen	Stephen Sands	Simon Sheng	Keith Wichman
Tony Mendiola	Andrea Lee	Bill Bateman	Allen Hiser
Ed Andruszkiewicz	Stephanie Coffin	Tim Steingass	Jim Davis
Steve Long	Steve Bloom	Doug Pickett	

May 10:

Attachment 8 is the licensee daily status summary, which is used as the agenda for the daily status call.

The licensee submitted a number of letters dated April 25, 2002. Included were the following:

- Repair Plan for Nozzles 2, 3, & 11 (Partial response to CAL)
- 10 CFR 50.55a Relief Requests (RR) A21 & A22 (Also modifies A20)
- 10 CFR 50.55a Relief Requests (RR) A23 & A24
- 10 CFR 50.55a Relief Request (RR) A25

In each of the above letters, the licensee requested staff approval by May 16, 2002. RR-A20 & A21 are referred to as the standard Framatome repair. The licensee indicated that Nozzles 1, 5, and 47 have been repaired using these relief requests although the staff has not provided verbal or written authorization. The licensee sought staff approval for repairing Nozzle 46 using the same method.

The staff informed the licensee that we will not be able to provide written approval by May 16. Further discussion revealed that the licensee was requesting piecemeal approval, or a "phased" approach in the overall repair plan. Bill Bateman informed the licensee that we insist on an integrated repair plan and that the actual repairs should not begin until after the licensee has the staff's safety evaluation formally approving the repair plan. The licensee plans to cut the RPV head using the abrasive water jet on Monday, May 13. We do not consider this the start of the repair plan. We consider start of the repair plan when the licensee first arcs the cut to begin buttering.

The licensee provided the following schedule:

- RPV head cut using abrasive water jet on Monday, May 13.
- Buttering of the first mock-up to take place in Lynchburg on or about May 14.
- Following NDE, the first mock-up will be sent to Atlanta for welding on or about May 31.
- WSI is scheduled to perform welding on the first mock-up on or about June 15.
- The second mockup will be done in series following completion of the first mock-up.
- FirstEnergy planning to weld actual RPV head plug in mid-June.

Bill Bateman was under the impression that the staff had previously provided its approval of RR-A20 & A21 for Nozzles 1,5 & 47. The Nuclear Reactor Regulation reviewer had not received a copy of the licensee's April 25 letter addressing his concerns. We committed to issue our safety evaluation on RR-A20 & A21 in the next 2-3 weeks.

Simon Sheng has prepared comments on RR-A23, A24, and A25 concerning the head repair plan. He prepared comments and they were emailed to the licensee on May 10.

Mel Holmberg of Region 3 questioned why the licensee had not performed 100 percent UT examinations of Nozzles 2 & 8. The licensee agreed to address this.

The licensee announced that a letter of intent had been signed to obtain the Midland Unit 2 RPV head. The licensee intends to perform radiographs between the RPV head and flange next week prior to making a formal commitment to purchase the head.

Participants included:

Mike Marshall	Stephanie Coffin	Tim Steingass	Terence Chan
Bill Bateman	Tony Mendiola	Andrea Lee	Simon Sheng
Ken Chang	Doug Pickett		

May 10:

Attachment 9 includes comments from Simon Sheng regarding the licensee's proposed repair plan for Nozzles 2, 3 and 11. These comments were forwarded to the licensee on May 10, 2002.

Docket No. 50-346

- Attachments:
1. May 6 email from TSteingass to MHolmberg et. al RE: Davis-Besse Appendix B Concerns on Extent of Condition (3 pages)
 2. May 6 email from DSimpkins to LCollins RE: Davis-Besse 0350 Panel Information Request (1 page)
 3. May 7 email from JHopkins to DPickett RE: Davis-Besse White Paper on Midland head replacement option (47 pages)
 4. Meeting handouts for May 7, 2002, Root Cause Analysis Meeting
 5. May 7 email from MHolmberg to CLipa RE: Additional Flaw on Nozzle 2 (3 pages)
 6. May 8 email from MKleisure to DPickett et. al., RE: Qualification Mockup#1 Photos (4 pages)
 7. May 8 licensee daily status summary (2 pages)
 8. May 10 licensee daily status summary and plan for inspection and repair of Nozzle 46 (7 pages)
 9. May 10 email from CSheng to DPickett, et. al., RE: comments on repair plans for Nozzles 2, 3, and 11 (4 pages)

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DISTRIBUTION:

SSands THarris
PUBLIC PD3-2 r/f
AMendiola
DPickett

ADAMS ACCESSION NOS: ML021570516 (Letter) ML021930270 (Attachment)
ML021930272 (Package)

OFFICE	PDIII-2/PM	PDIII-2/LA	PDIII-2/SC
NAME	DPickett	THarris*	AMendiola
DATE	06/22/02	06/18/02	06/26/02

*See previous concurrence OFFICIAL RECORD COPY