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RAM Item No. - C-01

Closed: Y

Description of Issue - Completeness and accuracy of licensee's response to Generic Letter 97-01

Description of Resolution - Based on a request from the Davis-Besse 0350 panel, A. Dunlop reviewed three questions with respect to Davis-Besse's response to Generic Letter 97-01, "Degradation of CRDM/CEDM Nozzle and Other Vessel Closure Head Penetrations." The following is the results of the review, which was verbally discussed with the 0350 Panel on September 19, 2002.

1. Did the licensee's response to the generic letter modify the licensing basis?

The licensee's response to Generic Letter 97-01 should be considered part of the licensing basis based on the following.

In their response dated July 28, 1997, the licensee indicated that Babcock & Wilcox Owners Group (B&WOG) had developed an integrated response, which was documented in B&WOG Topical Report, "B&WOG integrated response to Generic Letter 97-01: Degradation of CRDM/CEDM Nozzle and Other Vessel Closure Head Penetrations," BAW-2301, dated July 1997. The licensee's letter also indicated that Toledo Edison endorses BAW-2301. The Topical Report provided the justification and schedule for an integrated vessel head penetration inspection program for all B&WOG plants. The Topical Report determined that Davis-Besse was not considered at significant risk to require inspections of the reactor vessel nozzles from beneath the head in the near term (1998-2000). The report did state that B&WOG plants continued to comply with 10 CFR 50.55a and meet the intent of Appendix A General Design Criterion 14, based on visual inspections performed at all B&WOG plants during each refueling outage in accordance with utility responses to Generic Letter 88-05 and perform inspections of the required number of control rod housings during each inspection interval per ASME Code requirements. (It was not verified that these ASME Code inspections were conducted or if the licensee was granted relief from the requirement by the NRC.)

After the licensee, through the B&WOG, responded to a Request for Additional Information (RAI), the NRC approved the licensee's response to the generic letter in a letter dated November 29, 1999, which stated the integrated program provides an acceptable basis for evaluating VHPs based on the license endorsing the NEI Submittal of December 11, 1998, (integrated response to RAI) and indicated their participation in the NEI/B&WOG integrated program.

NEI 99-04, "Guidelines for Managing NRC Commitment Changes," defined Regulatory Commitment as "an explicit statement to take a specific action agreed to, or volunteered by, a licensee and submitted in writing on the docket to the NRC." In addition, the guidance states "A Regulatory Commitment is an intentional undertaking by a licensee to ... (2) complete a specific action to address an NRC issue or concern (e.g., generic letter, bulletin, order, etc.)." In discussions with the Region III counsel, it was concluded that to be a regulatory commitment as stated in the NEI guidance, the word "commitment" did not have to be used as part of the 'explicit statement'. The NEI guidance was determined to be acceptable by the NRC in SECY-00-0045, dated February 22, 2000. SECY-98-224 and 10 CFR 54.3 define Current Licensing

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Basis, in part, as including “licensee’s commitments remaining in effect that were made in docketed licensing correspondence such as licensee repossess to NRC Bulletins, generic letters, and enforcement actions.”

As such, based on the definitions included in NEI 99-04 for regulatory commitments and 10 CFR 54.3 for Current Licensing Basis, the licensee’s response to Generic Letter 97-01 meets the conditions to be considered part of the licensing basis.

This regulatory commitment or change to the licensing basis, however, does not appear to require to be included in the FSAR based on the following.

10 CFR 50.71(e) discusses the requirement to update the FSAR. It states that the submittal shall include the effects (Effects of changes includes appropriate revisions of descriptions in the FSAR such that the FSAR (as updated) is complete and accurate) of: ... all analyses of new safety issues performed by or on behalf of the licensee at Commission request. The generic letter requested the licensee to provide the analysis that supports their intended actions. Since the generic letter discussed the recent concerns with the degradation of CRDM nozzles, this would be considered a new safety issue. The generic letter also request the licensee to provide an analysis to support their intended actions. As such this would appear to meet the requirement that this analysis should have been included in an update to the FSAR. However, NEI 98-03, “Guidelines for Updating Final Safety Analysis Reports,” states in section A5, “Removing Unnecessary Information from Updated FSARs, “ that licensees may remove from the UFSAR commitments that are not integral to required UFSAR information, i.e., design bases. SECY-97-036, dated May 20, 1997, supports this by stating “the staff should formulate an approach that would ... allow obsolete or less meaningful information and commitments to be readily removed from the FSAR.” Since the analysis performed in response to the generic letter was in support of an inspection schedule for the CRDMs and not in itself part of the plant’s design bases, the guidance would not require its inclusion into the FSAR.

2. If so, was it recognized?

No. Based on statements by the licensee during the August 15, 2002, meeting, the licensee stated that they did not recognize that their response to Generic Letter 97-01 and also Generic Letter 88-05 on the Boric Acid Control Program, were licensing commitments. As such, the licensee did not recognize the commitments made to these generic letters were regulatory commitments and did not control them as such.

3. Were there false statements (in the August 15, 2002, meeting transcript concerning the generic letter)?

A review of the transcripts was performed to determine if any possible false statements were made with respect to the licensee’s commitment or lack there of to the generic letter. As discussed in item two, the licensee admitted that they did not recognize that their response to Generic Letter 97-01 and also Generic Letter 88-05 on the Boric Acid Control Program, were licensing commitments. Based on a review of the transcript looking for references to the generic letter, there did not appear to be any false statements.

Reference Material - None.

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RAM Item No. - C-02

Closed: Y

Description of Issue - Concerns with EDGs capability to start and carry sequenced and steady state loads.

Description of Resolution - The cause analysis report identified and evaluated all concerns in sufficient detail. All technical concerns were addressed by appropriate licensee corrective actions (CAs 6, 7, 9, 13, 14, 15, 16, and 19 to Condition Reports 02-08482 and 02-05385). The inspectors concluded that the CR process was satisfactory in capturing and bringing to resolution all concerns related to EDG loading.

Reference Material - CR 02-08482, CR 02-05385, and Calculation C-EE-0241.01-006, Rev. 0

RAM Item No. - C-03

Closed: Y

Description of Issue - Self-assessment/ISEG - why not effective: Look at commitments made to justify removal of ISEG from TS and whether they are still meeting those commitments.

Description of Resolution - Of note, the ISEG was eliminated as a requirement for Davis-Besse several years ago. The description into why the licensee's past oversight activities were not effective is contained in the licensee's root cause analyses reports. The NRC has reviewed the reports and determined that they appropriately identified the root causes behind why the head degradation event occurred. Documentation of the NRC's review of the root cause reports is contained in the Management and Human Performance Phase I and II inspection reports (02-15 & 02-18). To provide the equivalent form of review that was in the past required of the ISEG, the licensee has put in place several organizational review processes. These include the utilization of an Engineering Assessment Board, the Corrective Action Review Board, and several management changes to provide specific oversight for self-assessment activities. The adequacy of the licensee's efforts in correcting the root and contributing causes that self-assessment played in the reactor head degradation event was evaluated to address restart checklist item 3.c., "Self-Assessment Programs." The inspection results concluded that the licensee's corrective actions to improve its self-assessment programs were adequate.

Reference Material - NRC Inspection Report Nos. 50-346/2002-015 (ADAMS Accession No. ml0330380037), 50-346/2002-018 (ADAMS Accession No. ml032050528), and 50-346/2003-023 (ADAMS Accession No. ml033421074).

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RAM Item No. - C-04

Closed: Y

Description of Issue: How is soft issue of “people performance” addressed via defense in depth; i.e., Management’s oversight of supervisors, supervisors oversight of workers, and quality assurance’s oversight of the entire process.

Description of Resolution: People performance, beyond normal performance measures, is being addressed by the licensee’s Manager/supervisor observation program. The program has an administrator who monitors numbers of observations and results from the observations. Metrics are used to track both number of observations and whether the observations resulted in an action. Further, the Safety Conscious Work Environment Review Team (SCWERT) is monitoring actions taken for poor performance to ensure the actions are warranted and appropriate, along with assessing the impact on the organization from the proposed action. The Management & Human Performance (M&HP) team reviewed both the SCWERT and management observations program during our inspection. The corrective action program input threshold has been significantly reduced to capture lower level issues including human performance type failures.

Site evaluations and surveys continue to monitor the people contribution to overall site performance and performance indicators are monitored regarding error rates. A better defined set of performance indicators/metrics is being developed to be monitored monthly; however, the final version of the program was not available to the team for review. This RAM item is closed

Reference Material - IR 2003-12

RAM Item No. - C-05

Closed: Y

Description of Issue - Operators - clear understanding of their responsibility to us.

Description of Resolution - Mr. J. Dyer, Regional Administrator, met with all licensee operators on October 9, 2002, and stressed to them the responsibilities of the operators to meeting NRC requirements and ensuring safe operations at the facility.

Reference Material - None.

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RAM Item No. - C-06

Closed: Y

Description of Issue - Review concrete shield building low oxygen content. (NCR # 017).

Restart Checklist Item: 2.b

Description of Resolution - Although the concern is described as "low oxygen" the real issue with the acceptance of the concrete had to do with low air content. The delivery of the initial load of concrete was observed by the NRC inspectors, licensee QA personnel, and contractor QA personnel. The licensee QA personnel questioned the assumptions made by the contractor regarding the reduction in air content as the concrete was pumped from the truck to the point of placement. The concrete used for shield building restoration was required to meet acceptance criteria of Specification 12501-C-321, "Technical Specification for Purchase of Safety Related Ready Mix Concrete," for slump and air content at the point of delivery. After 1/3 of the first concrete truckload was placed inside the forms for the access opening, the licensee contractor made the measurements for slump and air content used to accept the concrete. The contractor measured the air content at 2.8 percent, which was below the required range of 3 to 6 percent. The licensee contractor subsequently resampled the concrete from the same wheelbarrow used for the first sample, and got an acceptable reading of 3.4 percent. The licensee issued nonconformance report number 017 to record the initial out of specification reading. The inspector noted that in accordance with ASTM C 94/C 94M-00, "Standard Specification for Ready-Mix Concrete," paragraph 16.6, if the second sample had been outside specified limits, "the concrete shall be considered failed." Because the second sample passed, the licensee considered the concrete acceptable. However, the licensee conservatively chose to not install the remaining 2/3 of the first truckload of concrete. The inspectors discussed this issue with cognizant NRR staff and no technical concerns were identified with the licensee's acceptance of the already-installed concrete. Additionally, the inspectors reviewed the licensee's vendor report 150-20129-34, "Report of Tests on Cylinder Compressive Strengths," which documented the shear strength of the concrete cylinder samples from concrete used in restoration of the shield building. In this report, the licensee's vendor documented that these concrete cylinder samples had compressive shear strength in excess of 5000 psi after only 7 days. This value exceeded the minimum 4000 psi minimum strength required at 28 days as discussed in Section 3.8.2.7, "Materials," of the UFSAR. Therefore, the inspectors concluded that the strength of the concrete used in the containment shield building restoration exceeded the minimum design requirements.

Reference Material - Inspection Report No. 02-07 (ADAMS Accession No. ml023370100).

RAM Item No. - C-07

Closed: Y

Description of Issue - Ongoing phase 3 observations of management and human performance **following restart**.

Description of Resolution - This item is being deleted from the RAM because it is a post-restart item and not a restart item, whereas the RAM is the "Restart Action Matrix."

Reference Material - None.

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RAM Item No. - C-08

Closed: Y

Description of Issue - Bulletins 2002-01, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzle Inspection Programs," and 2002-02, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity," response and acceptance

Description of Resolution - Bulletin 2002-02 was superceded by Order EA-03-009. The licensee responded to the bulletin by letters dated March 25 and 31, 2003. The NRC staff reviewed the licensee's response letters and concluded that the licensee's response was acceptable. Acceptability of the licensee's response was documented in a letter to the licensee dated June 25, 2003.

Reference Material - Letter to licensee dated June 25, 2003 (ADAMS Accession No. ml031640072).

RAM Item No. - C-09

Closed: Y

Description of Issue - Poll staff for differing opinions

Description of Resolution - This item is already addressed in Section B.5.b.1 of the Process Plan, which states "Determine That No Restart Objections from NRC Staff Exist." In addition, Item 136 of the open "Action Item List" specifies that the NOP/NOT acceptance criteria and methodology will be provided to NRC staff for dissenting views. This item is being removed from the Restart Action Matrix as it is duplicated by the above process plan and action item list entries.

Reference Material - None.

RAM Item No. - C-10

Closed: Y

Description of Issue - Evaluate the need to call back CI regarding Allegation RIII-2002-A-0177 (D-B) after the OI Investigation is complete.

Description of Resolution - This item has been moved to the action item list as item 208, and is being closed on the RAM since it duplicates the Action Item.

Reference Material - None.

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RAM Item No. - C-11

Closed: Y

Description of Issue - Evaluate Containment Integrated Leak Rate Test Results

Description of Resolution - Per inspection report 03-05, the containment passed the Integrated Leak Rate Test and met the criteria specified in Appendix J of 10 CFR Part 50.

Reference Material - Inspection Report No. 03-05 (ADAMS Accession No. ml032230339).

RAM Item No. - C-12

Closed: Y

Description of Issue - Process Code exemption requests for use of the Midland Head at Davis-Besse.

Description of Resolution - NRR has reviewed all of the licensee's requests for code relief and the associated approvals are contained in letters to the licensee, which are in ADAMS as Accession Nos. ml022830831 and ml023050104.

Reference Material - Documented in IR 50-346/02-07 (ADAMS Accession No. ml023370100) and letters to licensee, which are in ADAMS as Accession Nos. ml022830831 and ml023050104.

RAM Item No. - C-13

Closed: Y

Description of Issue - Process Pressure and Temperature Curves for the "New" Vessel Head.

Description of Resolution - By letter dated January 22, 2003 (serial no. 1-1285), the licensee submitted verification that the pressure/temperature curves in the TS are applicable to the new RPV head. The NRC staff has reviewed the submittal and has determined that the information provided is satisfactory. This conclusion is documented in Inspection Report 03-04.

Reference Material - Inspection Report 03-04, which is in ADAMS as Accession Number ml031320705.

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RAM Item No. - C-14

Closed: Y

Description of Issue - Issue letter to the licensee to officially "lift" the Quarantine on the "Old" RPV Head.

Description of Resolution - This is a duplicate of CAL-01 item. As such, this item is being closed and the issue will be tracked via CAL-01.

Reference Material - None.

RAM Item No. - C-15

Closed: Y

Description of Issue - Review TSP Amendment - and Advise Panel on the Need for a TIA - Potential TS Change that may be necessary to process before restart.

Description of Resolution - Both NRR and Region III staff evaluated this issue and no TS change is warranted. As such, there will be no need to process an amendment before restart.

Reference Material - None.

RAM Item No. - C-16

Closed: Y

Description of Issue - Evaluate Adequacy of Lower Incore Guide Tube Penetrations - Review the licensee completed corrective actions for the as-found condition of the reactor vessel (e.g., boron deposits, corrosion stains, and potential for leakage at the in-core penetration tubes). Ref. CR 02-07059 and CR 02-02498.

Description of Resolution - The licensee completed its 7-day pressure test at normal operating pressure. Inspections performed subsequent to completion of the test did not identify any boric acid leakage from any of the lower nozzles. Staff from NRR did not object to the testing methodology, which was reviewed by NRR prior to performance of the test. An NRC inspection of the licensee's examination of the lower nozzles and review of the licensee's results determined that there was no evidence of lower nozzle leakage. To monitor leakage while operating, the licensee has installed an online local leak monitoring system (Fluß) in the area of the lower RPV head, and perform a mid-cycle inspection of the lower head for evidence of leakage that will help to assure prompt identification of any significant RCS pressure boundary leakage should it develop.

Reference Material - Davis-Besse Unit 1 Incore Monitoring Nozzle Inspections (ADAMS Accession No. ML032510339) and NRC Inspection Report No. 50-346/03-23.

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RAM Item No. - C-17

Closed: Y

Description of Issue - Reactor Bottom Head - A public meeting is scheduled for 11/26 in headquarters to discuss the Framatome analysis and the licensee's plans are to perform a test during normal operating pressure and temperature (NOP/NOT) conditions. Evaluate acceptability of licensee's test.

Description of Resolution - In its July 30, 2003, submittal to the NRC, the licensee stated that based on evidence to date, there were four potential sources of the "rust trails" at the bottom of the vessel. While one of these potential sources was refueling cavity seal leakage, the others related to leakage from the refueling canal through the reactor pressure vessel (RPV) nozzle access covers, leakage from cracks found in the RPV flange O-rings monitor lines, and effluent from RPV upper-head decontamination and cleaning activities during the past Davis-Besse outages. The NRC's Office of Nuclear Reactor Regulation reviewed the licensee's submittal and concluded that (1) the results of the chemical analysis do not provide conclusive evidence that the deposits observed at Davis-Besse were from IMI nozzles, and (2) the deposits observed at Davis-Besse were characteristic of deposits left by washdown from higher elevation sources." This conclusion was confirmed by the observations made by the licensee and NRC inspection of the lower vessel head after the conclusion of the NOP test, which was completed in early October 2003. The NRR staff also concluded that the licensee's proposed NOP test was acceptable, in conjunction with other planned activities (installing an online local leak monitoring system (Fluß) in the area of the lower RPV head, and performing a mid-cycle inspection of the lower head for evidence of leakage), to ensure the prompt detection of any pressure boundary leakage from the lower head region.

Reference Material -Davis-Besse Unit 1 Incore Monitoring Nozzle Inspections (ADAMS Accession No. ML032510339) and NRC inspection report No. 50-346/03-23.

RAM Item No. - C-18

Closed: Y

Description of Issue - Reduce Pressurizer high level limit from 305 to 228 inches. The licensee had been operating with an administrative control of 228 inches. This is an open licensing action. Need to inspect the licensee's operating procedures to see that the licensee has appropriately captured the administrative control.

Description of Resolution - License amendment No. 225 was issued on August 12, 2003, closing out this action. The licensee's procedures contained the old administrative limit of 228 inches before this same limit was imposed by the amended TS.

Reference Material - ADAMS Accession No. ml031681426.

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RAM Item No. - C-19

Closed: Y

Description of Issue - Can Technical Specification (TS) 4.5.2.h be met by performing the test at one pressure and then correlating it to the TS pressure value to verify TS flow rate value is achieved?

Description of Resolution - In response to this concern, the licensee requested a change to the TS consistent with Standard Improved TS. The requested change removed the specific test requirements from the TS to the Technical Requirements Manual. The NRC staff approved the TS change by license amendment dated August 12, 2003. Therefore, this item is closed.

Reference Material - License amendment no. 256 dated August 12, 2003 (ADAMS ML031830237)

RAM Item No. - C-20

Closed: Y

Description of Issue - Adequate fire detection capabilities during containment air cooler cleaning utilizing pressure washing. (LLTF Issue)

Description of Resolution - Inspectors discussed control of transient combustibles, hot work procedures, and fire protection/fire watch, related to using pressure washers (which utilized kerosene), with the licensee senior fire protection engineer. This individual was involved in the fire protection aspects of the on-line CAC pressure washing activities. This was not a credible fire source due primarily to the strict control of the volume of kerosene in containment at any one time and the presence of a fire watch during the time the pressure washer was in service. No in-process observations of containment air cooler cleaning were conducted by the inspectors.

Reference Material - DB-FP-00007 (Control of Transient Combustibles) and DB-FP-00009 (Fire Protection Impairment and Fire Watch).

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RAM Item No. - C-21

Closed: Y

Description of Issue - How will the licensee consider the containment radiation monitors operable? (LLTF Issue)

Description of Resolution - The monitors will be considered operable if they pass the surveillance tests specified in Technical Specification 4.3.3.1, "Radiation Monitoring Instrumentation Surveillance Requirements." The TS specifies a shiftly channel check; monthly channel functional test, and a channel calibration every 18 months. Of note, these monitors were never inoperable during the last operating cycle except during the associated surveillance tests. Even while rust built up on the particulate filters, the filters were never allowed to accumulate sufficient rust to result in the monitor being inoperable. Filter change outs were scheduled, sometimes as often as daily, to ensure that the cartridges were not overly clogged and the monitor remained operable.

Reference Material - Licensee Technical Specification 4.3.3.1 and RAM Closure forms associated with the May 27, 2003, Panel Meeting.

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RAM Item No. - C-22

Closed: Y

Description of Issue - Pressurizer safety issue - Safety Evaluation for Temporary Modification 98-0036 did not fully address Updated Safety Analysis Report. (LLTF Issue)

Description of Resolution - The Safety Evaluation for TM 98-0036 (SE 98-0045) does adequately address the impact of the temporary modification on the drain line that runs from the 8" pressurizer relief header to the pressurizer quench tank. SE 98-0045 references USAR Section 5.2.4.7 and addresses the impact of this temporary modification. Specifically:

- **Section 4.0 - Functions Important to Safety of Affected SSCs:** in part, "The function that is not important to safety that is affected by this TM is directing seat leakage from RC13A and RC13B to the Pressurizer Quench Tank via the 3/4" stainless steel tubing drain line for each valve. It should also be noted that USAR 5.2.4.7 describes temperature indication as sensed by RC12-2 and RC12-3 and increasing Quench Tank level as indicators of Pressurizer Code Safety Valve seat leakage. It is noted that this TM defeats the confirmation of indication provided by an increasing Quench Tank Level.
- **Section 5.0 - Effects on Safety:** in part, "The function of indication of seat leakage to control room personnel is degraded by this TM (i.e. the ability to confirm an increasing discharge pipe temperature with a corresponding increase in Quench Tank level has been defeated). As stated, the control room will have indication of seat leakage via computer points T770 and T771 (sensing elements TE RC 12-2 and TE RC 12-3. Also, "After the installation of the TM, pressurizer code safety valve seat leakage will become a portion of the unidentified leakage and will be quantified by the RCS inventory balance."

USAR Section 5.2.4.7.b, states that " Pressurizer relief valves -reactor coolant inventory reduction as a result of seat leakage through the pressurizer pilot-operated relief valve may be identified by either of these indications: 1) high temperature downstream of the relief valve; 2) increased level in the pressurizer quench tank that provides and indication of the magnitude of the leak. Option 1 is still available with the temporary modification installed.

This temporary modification was removed on May 8, 1999.

Reference Material - Safety Evaluation 98-0045, Temporary Modification 98-0036, and the Davis-Besse Nuclear Power Station Updated Safety Analysis Report

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RAM Item No. - C-23

Closed: Y

Description of Issue - Review D-B response to Generic Letter 98-04 regarding sump clogging. [Note: Document determined to be incomplete and inaccurate.]

Description of Resolution - NRC Inspection Report 50-346/03-19 documented the NRC's review and assessment of the licensee's response to Generic Letter 98-04, "Potential for Degradation of the Emergency Core Cooling System and the Containment Spray System After a Loss-of-Coolant-Accident Because of Construction and Protective Coating Deficiencies and Foreign Material in Containment." As indicated in the Inspection Report, the licensee has identified several corrective actions as a result of this issue that have been completed or are planned. The corrective actions and associated condition reports are:

- Update the response to Generic Letter 98-04 (Complete - CA 02-03-1718)¹
- Revise the UFSAR (Complete - CA 03-03-01718)
- Institute a Nuclear Safety-Related Protective Coatings Program (Complete - CA 02-02-03857)
- Institute an inventory of all non-Design Basis Accident (DBA) qualified coating materials (Complete - CA 04-02-02437)
- Removal and re-coating of Core Flood Tanks with DBA-qualified coating material (Complete - CA 03-02-03609)
- Removal and re-coating of Service Water piping with DBA-qualified coating material (Complete - CA 06-02-02108)
- Removal and re-coating of Reactor Vessel Head Service Structure with DBA-qualified coating material (Complete - CA 03-02-03609)

¹The licensee's submitted a revised response to Generic Letter 98-04 on November 26, 2003 (ML033370836).

Reference Material - NRC Inspection Report No. 50-346/03-19 (ADAMS accession number ml040280594) and Generic Letter 98-04 response (ML033370836).

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RAM Item No. - C-24

Closed: Y

Description of Issue - Both Order and Bulletin 2002-01 Boric Acid Corrosion program response to be tracked as RAM items.

Description of Resolution - The licensee responded to the associated Order by letter dated March 1, 2003. The licensee committed to the Order requirements and did not request any exceptions or relaxations. With regard to Bulletin 2002-01, the NRC, in a letter dated June 25, 2003, concluded that the licensee provided an acceptable 15-day response (item 1 of the bulletin). Consistent with the NRC review of the Bulletin responses for the other plants, NRC Bulletin 2002-01 items 2 and 3 remain open for Davis-Besse. Item 2 concerns future inspections and does not need to be closed for restart because the licensee has committed to the requirements of the Order for inspections. Item 3 concerns compliance with GL 88-05, which is addressed by Restart Checklist item 3.d, "Boric Acid Corrosion Control Program Acceptability," which effectively tracks this item.

Reference Material - None.

RAM Item No. - C-25

Closed: Y

Description of Issue - AOV's not properly sized to open against design pressure in the event of an accident. Some will need modifications/resetting.

Description of Resolution - This item is being closed because it is a duplicate of Item LER-10. Specific closure for the issue is documented in the closure for RAM Item LER-10.

Reference Material - None.

RAM Item No. - C-26

Closed: Y

Description of Issue - Electrical Distribution System Analysis (coordination, load flow, degraded voltage, fault protection, and ampacity). Hardware fixes may be required based on calc. results.

Description of Resolution - The Electrical Issues Inspection inspected the issues contained in this RAM item. On site, the team reviewed the following calculations:

1. Revision 0 of the AC distribution system calculations. This calculation was performed using ETAP. (The following calculations were not performed using ETAP: cable ampacity, EDG transient analysis, 120 VAC distribution, protective relaying and coordination, bus fast transfers.) Revision 1 of the ETAP calculation was also subsequently reviewed during the later portions of the CATI.
2. Revision 0 of the EDG steady state analysis.
3. Revision 0 of the EDG transient analysis, performed by MPR not using ETAP

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While a review of the cable ampacity calculations (hand calculations) was not performed, a review of the methodology for the calculation of cable ampacities was performed.

The following calculations were not reviewed:

1. Cable ampacities.
2. Protective relaying and coordination.
3. 120 VAC distribution.
4. DC distribution system calculations.
5. Most recent ETAP calculation (Revisions 2 and 3).
6. EDG Backfeed Loading (Appendix R worst case loading).

The team found that the ETAP calculations generally were adequately performed and that the calculations assumptions were generally well supported and documented. The short circuit and degraded voltage analyses results appeared adequate. These calculations concluded that transformers were not overloaded and that short circuit ratings for equipment important to safety were not exceeded.

As documented in condition reports, the licensee's ETAP analyses determined that if an SFAS level 4 actuation occurred when the plant was operating in Mode 1 at 100 percent power with degraded grid voltage (98.3 percent of nominal) and the electrical distribution systems aligned to a single startup transformer, the resultant reduction in voltage at the essential 4160 V buses would be of such magnitude and duration that the undervoltage relays would have tripped the supply breakers to the essential 4160 V buses. This would have resulted in an unanticipated Loss of Offsite Power. Additionally, if an SFAS level 4 actuation occurred when the plant was operating in Mode 1 at 100 percent power with degraded grid voltage (98.3 percent of nominal) and both startup transformers available, grid voltage would recover; however, voltages on the 480 V essential buses may not recover to the level necessary for the satisfactory operation of some essential loads. These conditions were reported in LER 2003-007 and are being resolved under RAM Item LER-16.

The steady state analysis of the EDGs determined that the loadings during the transient operation of the EDG under LOOP/LOCA conditions were acceptable for proper operation of all safety loads.

The transient analysis of the EDGs determined that the voltage and frequency excursions during the transient loading of the EDG under LOOP/LOCA conditions were acceptable for proper operation of all safety loads. In addition, with the exception of the first load step, all frequency and voltage transient deviations from nominal were in accordance with the requirements of NRC Safety Guide 9 (frequency dip to less than 95% and voltage dip to less than 75%). This frequency and voltage dip is being resolved under RAM Item C-32.

Inspection of the AC Distribution System produced no findings during the Electrical Issues Inspection. Based upon predominantly satisfactory results from the electrical issues inspection, and based upon the licensee's corrective action plan for the electrical distribution system appearing reasonable and adequate, this item is closed.

Reference Material - CR 02-05385.

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RAM Item No. - C-27

Closed: Y

Description of Issue - HPI Pump hydrostatic bearing cooling/lube may be blocked if water source is via piggyback from the sump due to differences in sump strainer size and internal cooling tubing.

Description of Resolution - This item is being closed because it is a duplicate of Item LER-11. Specific closure for the issue is documented in the closure for RAM Item LER-11.

Reference Material - None.

RAM Item No. - C-28

Closed: Y

Description of Issue - Need to ensure unqualified containment coatings (mostly on conduit) are evaluated to ensure they will not lead to any sump blockage.

Description of Resolution - This item is duplicative of Restart Checklist Item 2.c.1, "Containment Sump." The issue is addressed in detail and closed in NRC Inspection Report Number 50-346/03-17.

Reference Material - NRC Inspection Report No. 50-346/03-17 (ADAMS Accession No. ml032721592).

RAM Item No. - C-29

Closed: Y

Description of Issue - Observe and evaluate the control rod drive testing to ensure no leakage and adequate scram times, using the new NRC Inspection Procedure 71007, "Reactor Vessel Head Replacement Inspection," for guidance.

Description of Resolution - Inspection Report 05000346/2003023 documented inspection during reactor coolant system leak testing activities. The inspection included walkdowns of the reactor coolant system while at normal operating pressure as well as detailed evaluation of your inspections of the reactor vessel bottom head and closure head penetrations, and control rod drive mechanism flange connections following the 7 day pressure holding period. As a result of these pressure test activities, we have reasonable assurance that there are no pressure boundary leaks in the reactor coolant system.

Inspection Report 05000346/2004002 documents inspection of DB-SC-03270, "Control Rod Assembly Insertion Time Test." This activity was observed to evaluate proper control rod movement and reactor vessel head alignment. This test was successfully completed on February 10, 2004. The inspection and testing efforts performed for closure of Restart Checklist Item 2.a, "Reactor Pressure Vessel Head Replacement," exceeds guidance provided in NRC Inspection Procedure 71007.

Reference Material - NRC Inspection Report Nos. 05000346/2003023 (ADAMS Accession No. ml033421074); 05000346/2004002.

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RAM Item No. - C-30

Closed: Y

Description of Issue - "Instrument Uncertainty Calculations." Davis-Besse historical setpoint methodology has, for the most part, limited the treatment of uncertainty to Limited Safety System Settings. Other safety related setpoints did not have calculations that factored in uncertainties. This instrumentation included those relied upon in the Technical Specifications (TS), the Technical Requirements Manual (TRM), and the Emergency Operating Procedures (EOP).

Description of Resolution - During the Electrical Issues Inspection conducted July 7 Through July 18, 2003, this issue was reviewed. This item was addressed and dispositioned for resolution primarily under CR 02-06407.

Davis-Besse is not committed to Regulatory Guide (RG) 1.105, "Setpoints for Safety-Related Instrumentation." However, based upon reviews performed for CR 02-06407, the licensee determined that Davis-Besse's treatment of instrument uncertainty was not consistent with current industry codes and standards and the rest of the nuclear industry's current practice. This conclusion led the licensee to conclude that there was a possibility that values recorded in Surveillance Test Procedures (STP) may not comply with the Technical Specification limits if instrument uncertainty were factored into the acceptance criteria.

Additionally, the licensee determined that a more acceptable approach for treating instrument uncertainties. This new approach would be contained in the licensee's Design Criteria Manual for instrumentation. This updated policy would use draft standard ISA-dTR67.04.09, "Graded Approaches to Setpoint Determination." This standard recommends that issues of higher safety significance be treated with greater rigor and issues of lower safety significance be treated with less rigor. This variation in rigor would be based on the safety significance of the instrument function. The changes to the Design Criteria Manual ensured that in the future this graded approach would be applied to the following:

- Setpoints for RPS, SFAS, and SFRCS;
- Instruments required to demonstrate compliance with Technical Specifications and Technical Requirements Manual Surveillances;
- Instrumentation used to demonstrate compliance with high-tier licensing basis documents such as the ODCM and COLR;
- Instrumentation used to demonstrate compliance with design basis documents (but not reflected in the Technical Specifications);
- Instrumentation used for critical decision points in emergency and abnormal operating procedures;
- Instrumentation used to alert operators to degrading plant conditions, e.g., annunciators, computer alarms, etc.;
- Non safety-related instrumentation used to protect major plant equipment and provide for reliable long-term operation.

To address instrumentation in regard to Technical Specification and TRM parameters for the interim period, the licensee performed a review of applicable parameters in the Technical Specifications and the TRM under Corrective Action Number 6 of CR 02-06407. For each evaluated parameter, the affected instruments were identified and the degree of uncertainty associated with the measurement was both qualitatively and quantitatively assessed. These reviews determined with reasonable assurance that, in all but 10 cases, sufficient margin was

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available to ensure operability. In the 10 cases, the licensee determined that since the margin could not be readily demonstrated, detailed calculations or engineering evaluations would have to be performed. The inspectors questioned the licensee in regard to the conclusions drawn by these calculations and/or evaluations. The licensee stated that all had been completed and determined that sufficient margin was available.

Based upon review during the Electrical Issues Inspection, the inspectors concluded that the licensee's resolution of the overall instrumentation uncertainty issue was acceptable. The inspectors determined that both the licensee's interim and long term resolutions were reasonable and properly focused on plant safety.

Reference Material - CR 02-06407, "Instrument Uncertainty in Calibration and Surveillance of Instrumentation," and Inspection Report 03-10.

RAM Item No. - C-31

Closed: Y

Description of Issue - "Appendix R Thermohydraulic calculations and safe shutdown procedure." Based upon the licensee's review of the Fire Protection Program, numerous changes to the Davis-Besse Appendix R Thermal Hydraulic calculations and Appendix R procedures were required. The new calculation and changes to affected procedures were to be reviewed by Region III Technical Staff.

Description of Resolution - During the Electrical Issues Inspection conducted July 7 through July 18, 2003, the new Thermal Hydraulic Calculations as well as the most bounding Appendix R Operations Procedure, "Serious Control Room Fire," were reviewed. Based upon this inspection, the thermal hydraulic calculations appear to be comprehensive and adequate for their application at Davis-Besse. Based upon reviewing a sample of assumptions and conclusions from the thermal hydraulic calculations, the inspection team determined that the "Serious Control Room Fire" procedure adequately incorporated the bounding conditions of the thermal hydraulic calculations. Based upon these inspection results, RAM Item C-31, "Appendix R Thermohydraulic calculations and safe shutdown procedure," can be closed.

Reference Material - C-NSA-064.02-032, Davis-Besse Appendix R Overheating Summary Report, C-NSA-064.02-033, Davis-Besse Appendix R Overcooling Summary Report, and DB-OP-02519, Revision 07, Abnormal Procedure, "Serious Control Room Fire," and Inspection Report 03-10.

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RAM Item No. - C-32

Closed: Y

Description of Issue - Emergency Diesel Generator (EDG) voltage/frequency control and room temperature.

Restart Checklist Item: 5.b

Description of Resolution - The voltage/frequency issue related to the large voltage and frequency dip that would occur on the safety related bus during the first block load following the design basis loss of offsite power in conjunction with a loss of coolant accident (LOOP/LOCA). This issue was reviewed by the Electrical Issues Inspection Team, who found that the licensee's resolution of the issue was adequate. Corrective Actions 14 and 15 of CR 02-05385 addressed Voltage/Frequency dips during EDG block loading. These action items referenced Operability Evaluation 2003-0009, Rev. 1, for CR 03-00949. This Operability Evaluation addressed pertinent operability issues such as the increased time (Caused by the short duration dip in bus voltage and frequency.) required for safety-related motors to develop torque and accelerate their loads during the design basis LOOP/LOCA.

As stated in the Operability Evaluation (OE 2002-0039) for Condition Report (CR) 02-09391, high temperatures in the EDG rooms may have short-term effects that reduce reliability or cause failure of electrical and mechanical components that support the operation of the EDGs, and may have long-term effects that accelerate the aging of components. The original design and licensing basis EDG room temperature was 120 degrees F. It was determined that the temperature of the EDG rooms could potentially exceed 120 degrees F, and, two times in the past, had exceeded this temperature in localized areas of the room.

Based upon this information, in support of OE 2002-0039, the Design Engineering staff determined that an EDG room temperature of 130 degrees Fahrenheit was acceptable for the electrical and controls equipment in the room. Additionally, ECR 02-0858, Installation of New Ventilation Fans, and ECR 03-0170, Installation of Electrical Panel Ventilation Ducts, have been implemented to reduce localized heating in the EDG electrical cabinets. Although these modifications are not yet complete, when finished they will provide additional cooling air to the cabinets to reduce temperatures. Also, ECR 03-0101, Insulation of Diesel Exhaust Manifold and Outlet Piping, has been implemented adding thermal insulation to to the EDG exhaust manifold and components. This modification reduces the heat load in the EDG rooms during EDG operation. ECR 03-0101 has been completed.

Because of the temperature concerns in the EDG room, the licensee has determined that the EDG is operable when the outside temperature is 95 degrees or lower with two EDG room ventilation fans available. With only one fan available, EDG operability can only be assured if the outside temperature is 71 degrees or lower. Based upon discussions with the licensee, final implementation of the associated ECRs will provide an additional margin of approximately 5 degrees. Since operability of the EDGs are ensured by appropriate entry into the Technical Specification LCOs, the temperature issue can be closed.

In the long term, the licensee intends to modify the USAR to address EDG operations. In the interim, the licensee has an Operability Evaluation concluding that the EDGs are operable but degraded because the EDGs do not meet their current USAR description. The Office of Nuclear Reactor Regulation has reviewed this position and determined that even with the licensee concluding that change can not be made under 50.59, the licensee can restart with the

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operable but degraded EDGs (ie, the license amendment does not need to be issued first). The licensee's staff concluded that a license amendment submittal was needed because of the new 50.59. Specifically, they concluded that the USAR change could likely have been done under the old 50.59; however, the question in the new 50.59 is question viii, which says: Result in a departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses.

Because the USAR statement that Davis-Besse does not meet is also in Safety Guide 9, which they are committed to, the licensee concluded that change to USAR did involve a departure from a method of evaluation (e.g., Safety Guide 9) described in FSAR used in establishing design bases, hence the need for a license amendment.

Reference Material - None.

RAM Item No. - C-33

Closed: Y

Description of Issue - Evaluate the licensee's radiation protection management stability given the turnover in radiation protection managers, allegations and employment discrimination cases since February 2002.

Description of Resolution - Discussions with a cross section of radiation protection personnel including technicians, supervisors, health physics staff and managers indicated that radiation protection management had improved, that personnel issues had been or were being resolved, and that the radiation protection organization had a positive attitude. This attitude change was felt to be the result of program ownership by individuals and team building. The inspectors concluded that management stability in the radiation protection organization was not an issue and that the radiation protection organization was capable of supporting plant restart.

Reference Material - NRC Inspection Report No. 50-346/03-017 (ADAMS Accession No. ml032721592).

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RAM Item No. - C-34

Closed: Y

Description of Issue - Fuel damaged due to loss of grid straps. (Formerly listed as an LER, however, no LER will be issued for this item).

Restart Checklist Item: 5.b

Description of Resolution - Based on a review of the licensee's handling of this issue, the NRC inspectors identified a NCV of Criterion XVI because the licensee's initial actions taken in response to the SCAQ CR did not prevent recurrence as yet another new fuel assembly spacer grid strap was damaged during the final reload of the core in May 2003. The inspectors determined that there were issues with human performance, both in regard to causing the damage and in evaluating the consequences.

The inspectors identified a number of weaknesses in the root cause report. However, the most significant issue appeared to be not addressing human performance issues. The team noted that there were more new or lightly burned fuel assemblies damaged more severely during this outage than during RFO 11. (The team didn't have any information on RFO 12, because the evaluator failed to include it as part of the generic implications review.)

The inspectors noted despite one condition report identifying that damage had occurred during reinstallation of a fuel assembly into the spent fuel pool, the report claimed that the damage had to be previously existing. The licensee did not provide sufficient rationale to support the claim that the damage had to be previously existing and had not adequately considered or addressed whether human performance issues played a role in the damage.

The inspectors also evaluated an event which occurred during the final fuel loading in February 2003. The licensee did an apparent cause evaluation on this failure and concluded that it was a "design" problem with the fuel. The inspectors again considered that human performance had played a significant role in the damage occurring, based on the sequence of events documented in the condition report.

The inspectors identified the following specific problems:

- The fuel handlers had spent approximately two hours unsuccessfully trying to load another fuel assembly into place before deciding to load an assembly out of sequence in a potential corner to corner interaction pattern. There was no indication that anyone suggested stopping the process and evaluating the condition, before agreeing to the out of sequence loading.
- Multiple problems were experienced during a three hour attempt to load the fuel assembly, including multiple overload conditions and cable oscillations. The licensee reset the overload setpoints to the least limiting condition at least twice, and even this setpoint was reached. Again, when problems were encountered, the decision was to keep on trying to insert the assembly, rather than stopping and evaluating what was happening.

The inspectors questioned whether schedule pressure to complete the job (especially as it was close to the end of the shift) may have played into the decision making process. Although the licensee personnel did not agree that schedule pressure contributed in any

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way, the inspectors noted that the fuel handlers spent over five hours trying to insert a fuel assembly which ended up being damaged.

The inspectors evaluated the acceptability of this issue for restart. The inspectors concluded that the fuel for Cycle 14 was loaded into the core, such that no recurrences of the event could occur until the next refueling outage. The inspectors also noted that the Phase 1 SDP worksheet stated that all fuel barrier damage should be screened as Green. Therefore, the issue screened out as having very low safety significance or Green and the inspectors thus concluded that this issue was ready for restart.

Reference Material - NRC Report No. 50-346/03-010 and licensee condition reports (CRs) 02-05645, 02-05895, 02-05896, 02-06178, 02-06343, and 02-09829, and associated root cause reports.

RAM Item No. - C-35

Closed: Y

Description of Issue - Requests for Issues: Extent of Condition Reviews for generic implications were inadequate as determined by a Perry review of D-B CRs.

Restart Checklist Item: N/A

Description of Resolution - DRP BC followed up with the licensee to discuss the Perry root cause report that referred to a review of several DB and Perry CR extent of condition reviews. The root cause report documented several problems at both Perry and Davis-Besse. The Davis-Besse staff reviewed the Perry Root Cause Report. In the Root Cause Report done by Perry, the licensee listed several preventive actions that were being taken to address the "generic implications" issue. Licensee staff stated that some of these actions were Corporate level actions. One of the actions was to incorporate the generic implications issue into the Apparent Cause Training the licensee had been giving at Davis-Besse. Also, the licensee will be clarifying the guidance/definition of "generic implications" on a pilot basis and then reevaluating the need to incorporate this into the Corrective Action Program. The NRC's review determined that this level of review by the Davis-Besse licensee and the corrective actions proposed were reasonable.

Reference Material: None.

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RAM Item No. - C-36

Closed: Y

Description of Issue - Requests for Issues: Adequacy of cyclone separator to support HPI operability.

Description of Resolution - The NRR Project Manager reviewed the associated condition report (03-05186) and corrective actions relative to the cyclone separators for the Davis-Besse HPI pumps. The concern was that post-LOCA recirculation fibrous debris could clog a separator. The licensee tested for separator clogging at Wyle labs. and found that debris flow did not clog Model 20 cyclone separators (John Crane Co.), but could clog the inlet/outlet orifice ports. They also found that installing a spacer between the swagelok fitting and the inlet/outlet orifice ports solved the problem and plugging did not then occur. As a result, the licensee replaced the cyclone separators with larger Model 20 separators, and installed spacers between the swagelok fittings and the inlet/outlet orifice ports. In addition, most of the fibrous insulation has been removed from containment. Based on the corrective actions completed, NRR staff concluded that the licensee has adequately addressed the issue.

Reference Material - Licensee CR No. 03-05186.

RAM Item No. - C-37

Closed: Y

Description of Issue - Requests for Issues: Are there any outstanding NRC staff questions concerning the Davis-Besse steam generator tube inspection completed March 9, 2002, specifically with regard to the information provided by the licensee dated November 3, 2003.

Description of Resolution - In accordance with Technical Specification (TS) 4.4.5.5.a, the licensee submitted the 2002 steam generator tube inspection results concerning the number of tubes plugged and repaired by letter dated March 22, 2002. Additionally, in accordance with TSs 4.4.5.5.b and 6.9.1.5.b, the licensee submitted more detailed inspection results by letter dated March 31, 2003. The NRC staff reviewed the inspection results and requested additional information from the licensee. The staff questions were placed on the docket by letter dated September 23, 2003, and the licensee responded to the questions by letter dated November 3, 2003.

Based on its review of the information provided on November 3, 2003, the staff developed additional questions which were provided to the licensee and placed on the docket by letter dated December 11, 2003. The licensee responded to those questions by letters dated December 17, 2003, and January 7, 2004. The NRC staff has reviewed the submittals and determined that the licensee has adequately responded to the staff's questions. This item is closed.

Reference Material - March 22, 2002 letter (ADAMS ML020850568), March 31, 2003 letter (ADAMS ML030930374), September 23, 2003 letter (ADAMS ML032550146), November 3, 2003 letter (ADAMS ML033100370), December 11, 2003 letter (ADAMS ML033421010), December 17, 2003 letter (ADAMS ML033560258), and January 7, 2004 letter (ADAMS ML040090189).

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RAM Item No. - C-38

Closed: Y

Description of Issue - Requests for Issues: Resolve TIA on Fire Protection Issues

Description of Resolution - By memorandum dated December 15, 2003, the Panel requested technical assistance from the Office of Nuclear Reactor Regulation (NRR) regarding procedural allowance permitting reactor coolant level to go to the top of active fuel under certain post-fire safe shutdown scenarios at the Davis-Besse Nuclear Power Station, Unit 1.

The NRR staff has concluded that Davis-Besse Abnormal Procedure DB-OP-02519, "Serious Control Room Fire," continues to provide reasonable assurance that, for anticipated fires in the control room or cable spreading room, the reactor can be safely shut down.

The detailed NRR staff determination is provided in a February 6, 2004, memorandum from E. Leeds to J. Grobe transmitting the response to TIA 2003-006.

Based on the above, the concern regarding procedural allowance permitting reactor coolant level to go to the top of active fuel under certain post-fire safe shutdown scenarios at the Davis-Besse is resolved.

Reference Material - February 6, 2004, memorandum from E. Leeds to J. Grobe transmitting the response to TIA 2003-006.

RAM Item No. - C-39

Closed: Y

Description of Issue - Requests for Issues: Ensure Sufficient Observations of Complex Control Room Evolutions to Provide Effective Assessment of Conduct of Operations

Description of Resolution - The Restart Readiness Assessment Team Inspections included extended shift inspection of complex control room evolutions, as did the resident inspection staff during Mode changes in December 2003 and January 2004. The restart readiness assessment team inspections concluded that specific problem areas and issues observed during the first restart readiness assessment team inspection, such as pre-job briefings, control room team work, shift turnover, self-checking and procedural use and adherence had been adequately resolved, and that corrective actions for deficiencies involving configuration control were acceptable. Around-the-clock observations of complex control room evolutions were observed by the restart readiness assessment team and resident inspectors. No significant problems were observed during these observations.

Region III issued an inspection plan and the resident inspectors conducted expanded coverage to observe plant activities before entry into Mode 4 last December 2003 and through the Christmas weekend. In addition, in early January 2004, the licensee commenced a reactor plant cooldown from Mode 3 to Mode 4 which was observed by the resident inspection staff. The resident staff observed the performance of the cooldown from approximately 533°F until entry into Mode 4 and identified no significant personnel or equipment challenges were observed.

Reference Material - Memorandum, R. Skokowski to J. Grobe, February 6, 2004; NRC Inspection Report Nos. 50-346/04-04, 04-02, 03-25 (ADAMS Accession No. MI040290768) and 03-11 (ADAMS Accession No. MI040360097).

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RAM Item No. - C-40

Closed: Y

Description of Issue - Requests for Issues: From NRR Technical Staff: "Davis-Besse discovered boric acid deposits running down some of the lower head penetration nozzles. They argued that lower head nozzles are not expected to be cracking due to their relatively low temperature during operation. They argued that the deposits could be due to cleaning the deposits from the upper head, even though there were not clear tracks from above to the points on the nozzles where the boric acid deposits began. They also took some samples and, based on analysis results, argued that the deposits were old. Finally, they installed a sensitive humidity detection system and then did their at-pressure/temperature test of the RCS, using that to argue that there are no leaks in the lower head nozzles."

Description of Resolution - The NRR Technical staff member was sent an official memorandum from the vice-chairman of the 0350 Davis-Besse Oversight Panel which is summarized as:

The licensee has taken a number of actions to insure current and continued integrity of the IMI nozzles. The licensee has done chemical analysis, leakage simulation testing, revised the RCS leakage calculation methodology, installed a FLUS system and performed direct visual and remote video lower head inspections. The licensee used a baseline video and digital photographs that provided a reference for comparison to the post-NOP examinations. Currently there is no qualified UT inspection method for the B&W IMI nozzles.

The NRC staff on September 17, 2003, determined that there was not sufficient evidence upon which to conclude that RCS pressure boundary leakage from one or more Davis-Besse IMI nozzles was occurring. As of February 23, 2004, there are no additional information, including the issues raised in your e-mail, obtained through licensee or NRC activities since that time which would change the NRC staff's assessment. Finally, the licensee has committed to a mid-cycle outage, which will include a IMI nozzle inspection, to provide additional assurance that IMI nozzle integrity will be maintained.

The Panel concludes this issue is resolved for the purpose of considering a restart decision.

Reference Material - Memorandum dated 02/20/04 from William Ruland to NRR Technical Staff Member; Subject Davis-Besse Lower Head Leakage Concerns.

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RAM Item No. - C-41

Closed: Y

Description of Issue - Requests for Issues: Document review of licensee's Operational Improvement Plan for operating cycle 14 and subsequent CATI recommendations and comments for required actions prior to restart.

Description of Resolution - The Operational Improvement Plan listed licensee's proposed and planned improvements in various areas including quality of engineering products, human performance and corrective action program. Overall, the plan appears to include appropriate engineering and corrective action related initiatives that should address problem areas identified by the CATI.

Based on a review of the Davis-Besse Operational Improvement Plan (OIP) for Operating Cycle 14, dated December 26, 2003, the following items were identified by the CATI for further consideration:

1. Ask licensee to provide the NRC periodic inside and outside independent assessment reports and performance indicators for the ongoing initiatives so that we can assess/monitor effectiveness and level of success.

Resolution: The Panel is developing an Order to require independent assessments in areas including engineering and corrective action. The licensee will be required to submit those assessment plans and results to the NRC. In addition, expanded engineering inspection effort will periodically evaluate licensee internal assessments. The Panel will periodically conduct public meetings to discuss licensee performance.

2. Issue a Confirmatory Order to include specific conditions and expectations.

Resolution: See Item 1 above.

3. Have periodic meetings with the licensee to determine status of initiatives and licensee's management involvement and commitments.

Resolution: See Item 1 above.

4. Designate an Engineering lead inspector for Davis-Besse to follow up on the ongoing engineering initiatives and to monitor progress and ensure engineering products and performance are improving. Individual could follow up in the inspectable areas and discuss with the licensee progress in the implementation of the OIP, while considering the comments provided in this document.

Resolution: A lead engineering inspector has been assigned to the Davis-Besse Station. That individual will conduct regular assessments of licensee engineering performance and the effectiveness of improvement initiatives. That inspector will be involved in the planning or conduct of major NRC engineering inspections at Davis-Besse.

5. Consider conducting a mini CATI (corrective action and engineering products) in about 6-9 months.

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Resolution: The frequency of the problem identification and resolution inspection (PI&R) has been increased from once every two years to annual and also the size of the team has been increased. In addition, the number of regular annual PI&R samples has been doubled. Engineering modifications and safety evaluation inspections will be conducted in the fall of 2004.

6. Consider revising the goal for licensee performance indicator I-12 from $\leq 5\%$ to 0 %.

Resolution: Routine inspection will include evaluation of the effectiveness of the performance indicators, including the necessity for adjustment of performance indicator goals.

The following areas will be considered for inspection focus in evaluating effectiveness of corrective actions:

1. Evaluate engineering knowledge of design and licensing basis of the plant.
2. Evaluate continuing effectiveness of training of plant engineering staff members on the various changes to the corrective action process and revised procedures for generating engineering products.
3. Evaluate engineering procedure quality and adherence.
4. Evaluate the adequacy of independent engineering product reviewers and the effectiveness of the Engineering Assurance Board.
5. Evaluate adequacy of NQA assessments of the effectiveness of corrective actions including the Engineering Assurance Board.
6. Periodically evaluate the insights provided by the licensee's performance indicators (PIs) in the engineering and corrective action areas, ensure appropriate actions are taken for areas of weakness identified through the PIs, and adjustments made to the performance indicators are appropriate.

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RAM Item No. - C-42

Closed: Y

Description of Issue - Commenter at Restart Meeting on 2/12/04 Asked What Had Happened to Thermo-lag Orders of May and June 1998 for Davis-Besse. Were the Actions Completed?

Description of Resolution - Jon Hopkins researched this issue and found that there was one Confirmatory Order issued to Davis-Besse on Thermo-Lag dated June 22, 1998.

On May 4, 1998, NRR sent the draft Confirmatory Order to the licensee asking them to sign for consent to the Order. Following some negotiation of the Order language, consent was signed on June 11, 1998 and Order was issued June 22, 1998. In summary, the Order said complete Thermo-Lag corrective actions by December 31, 1998.

By letter dated January 25, 1999, the licensee provided written confirmation of a telephone call to the NRC on December 23, 1998, that modifications for Thermo-Lag were completed on December 22, 1998.

Based on discussions with the licensee, they do not take credit for any Thermo-Lag that is remaining in the plant.

Reference Material - May 4, 1998 letter (ADAMS 9805080202), June 11, 1998 letter (ADAMS 9806160029), June 22, 1998 Order (ADAMS 9806250106), and January 25, 1999 letter (ADAMS 9902030029).

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RAM Item No. - C-43

Closed: Y

Description of Issue - Requests for Issues: Review the adequacy of the licensee's Operations procedures in response to a control room fire. Specifically, focus on the stated Operator expected actions and time line for completing those actions as specified in Attachment 14 of procedure DB-OP-02519, Revision 8.

Description of Resolution - The content and intent of the procedure actions was discussed with the licensee representatives. Attachment 14 delineates actions to be completed, the expected time for completing those actions, and the analyzed maximum time for completing those actions. The licensee had previously revised the subject procedure to provide a WARNING to Operations Shift management of the importance of completing the stated actions (e.g., Close the PORV). This information had been previously stated within a NOTE, which is of lesser Operational importance.

The licensee has performed walk-through verifications of the procedure adequacy and conducted classroom training of Operations personnel to ensure understanding of the procedure actions and expected time for completing those actions. Following the change of the procedure to include the WARNING, Operations personnel were required to read and sign the change to the procedure thereby indicating understanding of the change content.

On February 20, 2004, the licensee informed the NRC staff that a Condition Report would be written to perform further reviews of the procedure content to ensure the procedure actions were clear and identify potential enhancements.

Based on the classroom training performed and procedure walk-throughs, this RAM item is closed with the stated actions being acceptable for plant restart.

Reference Material - None.