March 25, 2004

Mr. Lew W. Myers
Chief Operating Officer
FirstEnergy Nuclear Operating Company
Davis-Besse Nuclear Power Station
5501 North State Route 2
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION
NRC SPECIAL INSPECTION - RESTART READINESS ASSESSMENT TEAM
FOLLOW-UP INSPECTION REPORT NO. 05000346/2004004 (DRP)

Dear Mr. Myers:

On February 12, 2004, the U.S. Nuclear Regulatory Commission (NRC) completed a Restart Readiness Assessment Team Follow-up Inspection at your Davis-Besse Nuclear Power Station. The enclosed inspection report documents the inspection findings which were discussed with you and other members of your staff. The purpose of the inspection was to evaluate the readiness of plant hardware, plant staff, and management programs to support a safe restart and continued operation of the Davis-Besse Nuclear Power Station. Included in this inspection was a review of your actions to resolve Restart Checklist Items 5.b. associated with system readiness and 5.c. associated with operations readiness.

The team focused on those processes and programs which could affect safe reactor startup, and included the areas of operations, equipment status, maintenance, surveillance testing, and engineering. In addition, the team assessed your evaluation and corrective actions for operational issues identified during the September 2003 normal operating pressure/temperature test, the December 2003 Restart Readiness Assessment Team Inspection, and subsequent operations-related events.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. For the entire inspection period, the Davis-Besse Nuclear Power Station was under the Inspection Manual Chapter (IMC) 0350 Process. The Davis-Besse Oversight Panel assessed inspection findings and other performance data to determine the required level and focus of followup inspection activities and any other appropriate regulatory actions.

The inspection was performed using an inspection plan that was approved by the Davis-Besse Oversight Panel. This inspection was associated with Restart Checklist Items 5.b, "Systems Readiness for Restart," and 5.c, "Operations Readiness for Restart." Based on the review by the team, the Davis-Besse Oversight Panel considers Restart Checklist Items 5.b. and 5.c. closed.

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Based on the results of this inspection two findings of very low safety significance (Green) were identified in the report. Both findings were determined to involve violations of NRC requirements. However, because of the very low safety significance of these findings, and because they were entered into your corrective action program, the NRC is treating the issues as Non-Cited Violations consistent with Section VI.A of the NRC Enforcement Policy.

If you contest the Non-Cited Violations in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III, 801 Warrenville Road, Lisle, IL 60532-4351; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington DC 20555-001; and the NRC Resident Inspector at Davis-Besse.

In accordance with 10 CFR Part 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

John A. Grobe, Chairman
Davis-Besse Oversight Panel

Docket No. 50-346
License No. NPF-3

Enclosure: Inspection Report No. 05000346/2004004

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-346
License No:	NPF-3
Report No:	05000346/2004004
Licensee:	FirstEnergy Nuclear Operating Company (FENOC)
Facility:	Davis-Besse Nuclear Power Station
Location:	5501 North State Route 2 Oak Harbor, OH 43449-9760
Dates:	February 2 - 12, 2004
Inspectors:	R. Skokowski, Senior Resident Inspector, Byron, Team Leader T. Hoeg, Senior Resident Inspector, Grand Gulf G. Wilson, Senior Resident Inspector, Duane Arnold J. Zeiler, Senior Resident Inspector, Vogtle J. Rutkowski, Resident Inspector, Davis-Besse
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Approved by:	Christine A. Lipa, Chief Branch 4 Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000346/2004004(DRP); FirstEnergy Nuclear Operating Company; on 2/2-12/2004; Davis-Besse Nuclear Power Station. Restart Readiness Assessment Team Follow-up Inspection.

The report covers a special inspection by five resident and senior resident inspectors. The inspection assessed the readiness of the plant hardware, plant staff, and management programs to support a safe restart and continued safe operation of the Davis-Besse Nuclear Power Station. The inspection focused on a review of control room operations, equipment status, maintenance activities, surveillance testing, engineering technical support, and corrective actions to previous operational events. Two Green findings and associated Non-Cited Violations (NCVs) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be "Green" or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. Inspector-Identified and Self-Revealed Findings

Cornerstone: Mitigating Systems

- Green. The team identified a finding of very low safety significance associated with an NCV of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for the failure to implement adequate post-maintenance testing prior to entering Mode 3 (Hot Standby) to demonstrate operability of auxiliary feedwater (AFW) Train 1 and Train 2 following turbine casing leak repairs. The primary cause of this finding was related to the cross-cutting area of Human Performance, in that, operations personnel decided to defer post-maintenance testing prescribed in maintenance work order instructions until after Mode 3 entry based on incorrectly assuming that the surveillance requirement provisions of Technical Specification 4.0.4 applied to post-maintenance testing.

  The finding was more than minor because it involved the equipment performance and configuration control attribute of the Mitigating System cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding was of very low safety significance because there was no design deficiency, no actual loss of safety function, no single train loss of safety function for greater than the Technical Specification allowed outage time, and no risk due to external events. This issue was an NCV of 10 CFR 50, Appendix B, Criterion XI, "Test Control." (Section 4OA5.B.1)

- Green. The team identified a finding of very low safety significance associated with an NCV of 10 CFR 50.65(a)(4) for the failure to properly assess and manage the increase in risk during AFW Train 1 surveillance testing as a result of incorrectly considering the AFW Train 1 available when it was actually unavailable while an AFW turbine steam supply drain valve was open. The primary cause of this finding was associated with the cross-cutting area of Human Performance, in that, personnel failed to properly

recognize that testing rendered the pump unavailable when the steam supply drain valve was opened.

The finding was more than minor because it involved the equipment performance attribute of the Mitigating System cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding was of very low safety significance because there was no design deficiency, no actual loss of safety function, no single train loss of safety function for greater than the Technical Specification allowed outage time, and no risk due to external events. This issue was an NCV of 10 CFR 50.65(a)(4) for the failure to properly assess and manage the increase in risk during AFW Train 1 surveillance testing. (Section 4OA5.B.2)

B. Licensee-Identified Violations

No findings of significance were identified.

REPORT DETAILS

Summary of Plant Status

The Davis-Besse Station remained shutdown and in Mode 3 during this inspection period. The licensee was completing system readiness activities and returning systems to service following an extended outage in preparation for entering Mode 2.

4. OTHER ACTIVITIES

4OA5 Other Activities (93812)

The purpose of this inspection was to evaluate the readiness of Davis-Besse plant hardware, plant staff and management programs to support restart. The team specifically followed up on weaknesses identified during the Restart Readiness Assessment Team Inspection in December 2003 (IR 05000346/2003011). Based on the team's review, the team noted improved performance and concluded that there was reasonable assurance that the operating staff were ready to make the transition to power operations.

The details associated with these issues were described below.

A. OPERATIONS

A.1 Control Room Operations Activities

1. Control Room Operations

a. Inspection Scope

The team evaluated the effectiveness of the licensee's operations department and their ability to support safe plant operations. The evaluation was performed through direct observations, documentation reviews, and interviews with operations personnel. Licensee's documents reviewed during this inspection are listed in the Attachment to this report.

The team evaluated the operators' performance in the following areas:

- shift turnover;
- control room documentation and operator logs;
- clarity and formality of communications;
- interdepartmental interactions;
- procedural adequacy and implementation;
- operator professionalism;
- group dynamics;
- annunciator response;
- control board manipulations;
- plant and equipment awareness;

- control and prioritization of support activities;
- identification, prioritization, and resolution of plant deficiencies;
- pre-job briefings; and
- managerial oversight.

The performance was compared to licensee management expectations and guidelines as presented in the following documents:

- Davis-Besse (DB) - Operations Procedure (OP) -00000, “Conduct of Operations,” Revision 6;
- DB-OP-00100, “Shift Turnover,” Revision 6;
- DB-OP-00005, “Operator Logs and Rounds,” Revision 10;
- DB-OP-00006, “Night Orders and Standing Order Log,” Revision 6;
- DB-OP-01003, “Operations Procedure Use Instructions,” Revision 2;
- DB-OP-01002, “Component Operation and Verification,” Revision 00; and
- DB- Departmental Procedure (DP) -00007, “Control of Work,” Revision 5.

b. Observations and Findings

No findings of significance were identified by the team.

The team had the following observations:

- Shift turnovers were conducted professionally, clearly conveying status changes for important plant equipment, and addressing planned/ongoing evolutions.

- Operator logs and rounds were being performed appropriately. In general, the control room documentation was accurate and up to date. There were minor deficiencies noted by the team for attention to detail items associated with the monthly activity log, turnover sheets, and log entries. The items included missed dates/times, missed entries, and incorrectly logged action statements. These issues were appropriately addressed in the licensee’s corrective action program. In addition, in response to these deficiencies, the team noted that the operations department management took swift actions to reinforce their expectations and standards.

- Three-way communication was consistently and effectively used by operations department personnel.

- Proper interdepartmental interactions were observed and adequate support was provided to operations from maintenance, engineering, and other support groups.

- Procedures were adequately implemented by operations personnel.

- Personnel in the control room performed their assigned duties in a professional manner.

- Operators responded to annunciators and alarms in accordance with applicable standards and procedures.

- Operators performed control board manipulations in accordance with applicable procedures.

- Operators frequently monitored significant plant parameters and knew the status of plant equipment.

- Adequate controls for the identification and prioritization of work and deficiencies were in place. The team noted proper operations department and station response to emergent issues, including the identification of an oil leak on a startup transformer bushing, an inoperable snubber associated with the auxiliary feedwater (AFW) system and a failure of backup power supply for AFW system control circuits.

- Pre-evolution and pre-job briefs were appropriately performed, and the associated checklists were always utilized. The team noted an overall improvement in the quality of pre-job briefings as compared to those observed during the initial Restart Readiness Assessment Team Inspection (RRATI) completed December 2003 (NRC Inspection Report (IR) 05000346/2003011).

- Proper command and control by shift management was observed in the control room.

c. Conclusions

Based on the team's observations of control room operations there was reasonable assurance that the operating staff could safely restart and operate the Davis-Besse Station.

2. Control Room Operators' Equipment Control

a. Inspection Scope

The team evaluated the effectiveness of the licensee's operations department to properly control plant equipment to ensure safe plant operations. The evaluation was performed through direct observations, documentation reviews, plant walkdowns, and interviews with operations personnel. In addition, particular emphasis was placed on the operation of the service water system to ensure proper operation in accordance with its design. Licensee's documents reviewed during this inspection are listed in the Attachment to this report.

The team evaluated the operators' control of equipment in the following areas:

- configuration control, especially equipment required by Technical Specifications (TSs);

- operator work-arounds, control room deficiencies and compensatory measures;
- procedural adequacy and implementation;
- pre-job briefings; and
- managerial oversight.

The performance was compared to licensee management expectations and guidelines as presented in the following documents:

- DB-OP-00000, “Conduct of Operations,” Revision 6;
- DB-OP-01003, “Operations Procedure Use Instructions,” Revision 2;
- DB-OP-01002, “Component Operation and Verification,” Revision 00;
- DB-DP-00007, “Control of Work,” Revision 5;
- DB-OP-06261, “Service Water System Operating Procedure,“ Revision 12; and
- various system operating instructions and drawings were used to ensure proper equipment lineups.

b. Observations and Findings

No findings of significance were identified by the team.

The team had the following observations:

- The required plant equipment that was necessary for present conditions was operable or the associated technical specification was entered.

- Adequate controls for tracking and evaluating control room deficiencies were in effect. The licensee also incorporated the appropriate compensatory measures when necessary due to degraded equipment or indications.

- The service water system was properly operated in accordance with system design.

c. Conclusions

Based on the team’s observations there was reasonable assurance that equipment controls in place were adequate to support safe restart and operation of the Davis-Besse Station.

A.2 Equipment Status

1. Adequacy of System Lineups

a. Inspection Scope

The team assessed the adequacy of the equipment lineups for the following five systems:

- Auxiliary Feedwater;
- Diesel Generator/Emergency AC;
- High Pressure Injection;
- Low Pressure Injection; and
- Service Water.

The assessment included a review of system operating procedures, valve and breaker lineups, and a review of log entries that documented operability of equipment covered by the TS. The team reviewed equipment tagouts for appropriateness of the tags and that licensee verification of tag placement was adequate. With those documents and with plant drawings the inspection team walked down the selected systems and sampled for the correct positioning of components including root valves, transmitters, and indicators. The team also reviewed the appropriateness of post maintenance testing and surveillance testing for verifying operability of equipment.

To verify that the service water system was being operated consistent with the design and licensing documents, the team also reviewed the status of the system flow balance and compared relevant flows to the design criteria listed in the Update Safety Analysis Report (USAR) and other TS requirements. The team also reviewed other licensee processes, such as open operability evaluations and operator work-arounds for other issues that could potentially impact the operability of the service water system.

b. Observations and Findings

No findings of significance were identified.

The team verified that the existing lineups for the auxiliary feedwater system, low and high pressure injection, service water, and emergency power distribution systems were in accordance with the licensee's procedures and drawings. Additionally, the team's review of the service water system determined that the licensee was properly operating it in accordance with the system design.

c. Conclusions

Based on the team's review there was reasonable assurance that the system lineups and associated controls were adequate to support the safe restart and operation of the Davis-Besse Station.

2. General Plant Conditions

a. Inspection Scope

During tours of the auxiliary, turbine and other support buildings, the team assessed the general plant condition. This included material condition as well as housekeeping conditions. The team compared the conditions to standards established in the licensee's procedures. The licensee's documents reviewed during this inspection were listed in the Attachment to this report.

b. Observations and Findings

No findings of significance were identified.

In general material condition and housekeeping were found to be adequate. However, during the inspections, the team noted the following minor deficiencies:

- Debris, such as old tape, tie wraps, insulation, nuts and bolts, were identified under two of the emergency core cooling system room coolers. The licensee documented this issue in their corrective action program as Condition Reports (CRs) 04-00901 and 04-00905.

- Four radiation protection barrier stanchions were placed on the safety-related decay heat removal pump base, with the associated ropes close to the open face of the shaft. The licensee documented this issue in their corrective action program as CR 04-00912 and 04-00914.

- A temporary plastic sheet hanging between service water pump #3 and the adjacent motor control cabinet was installed to deflect water leaking through an overhead rigging plug installed in the roof structure. The licensee documented this issue in their corrective action program as CR 04-00932.

- The bearing oil reservoir for the AFW train 2 was missing the oil fill cap. The licensee documented this issue in their corrective action program as CR 04-00954 and 04-00992.

- A plastic insulating strip was found detached from the associated horizontal steel structural support rack for Battery 2P. The licensee documented this issue in their corrective action program as CR 04-01018.

These deficiencies did not impact the operability of any safety-related equipment and were minor in nature. However, they indicated the need for more thorough tours and walkdowns completed by the licensee, including the auxiliary operators, system engineers, field supervisors, technicians and management.

c. Conclusions

The team found the material condition and general housekeeping at the Davis-Besse Station adequate to support safe restart and operations. However, based on the minor deficiencies identified during plant tours, the team noted that there was a need for continued licensee management attention in the areas of material conditions, and housekeeping.

A.3 Operations Corrective Actions

a. Inspection Scope

The team reviewed corrective actions associated with previous corrective actions which were ineffective in correcting causes of performance deficiencies identified during the September 2003 Mode 3 normal operating pressure/temperature testing. In addition the team reviewed the licensee's corrective actions to performance issues identified during the initial RRATI and other subsequent operations-related events. The team reviewed applicable CRs and root cause analysis reports, and interviewed licensee staff personnel.

b. Observations and Findings

No findings of significance were identified.

On December 19, 2003, the NRC RRATI (IR 05000346/2003011) identified that corrective actions to address licensee performance deficiencies, which took place in September 2003, had not been effective. As a result, the licensee wrote CR 03-11314 to document that corrective actions identified in CR 03-08418 had not been effective. In addition, the licensee did an extent of condition review which included the following CRs:

- CR 03-08418, Operations Events Collective Significance Review;
- CR 03-11033, Failure to Meet Expectations and Standards;
- CR 03-11414, Missed TS (associated with Component Cooling Water); and
- CR 04-00181, Missed Technical Specification Action Statement (associated with Steam Feedwater Rupture Control System Logic Channel 4 Pressure Differential Switch).

Based on the series of operational events described by these CRs, the licensee completed a root cause evaluation as part of the evaluation of CR 04-00181. This root cause report evaluated all the corrective actions for the CRs listed above to determine why they were ineffective. The inspection team reviewed the associated root cause analysis report and determined it to be thorough in addressing the concerns relative to inadequate corrective actions. The licensee determined that their assessments of past performance, events, and associated corrective actions were ineffective because the operations department leadership did not adequately implement the prescribed corrective actions. Furthermore, the licensee determined that had corrective actions been implemented as prescribed they would have been effective.

Based on the results of the root cause, the licensee took actions to properly implement the past corrective actions. Although many of the proposed corrective actions have been implemented, several of the corrective actions associated with some of the subject CRs remained open and were scheduled to be closed in the near future. In addition to the specified corrective actions, changes were made within the operations department management ranks. The inspection team observed that the newly assigned operations department management team held the department to established standards, which promoted more consistent performance. The team also noted more thorough

management oversight throughout the Davis-Besse organization. The oversight combined with daily review and assessment of observations, CRs, and other indications have allowed management to identify problem areas.

c. Conclusions

Based on the team's review of the licensee's evaluation of past operational concerns, the team found that the implemented and planned corrective actions were adequate. These corrective actions, along with the newly assigned operations department management team, provided reasonable assurance that the operating staff could safely restart and operate the Davis-Besse Station.

B. MAINTENANCE AND SURVEILLANCE TESTING

B.1 Maintenance

a. Inspection Scope

The team observed several ongoing maintenance activities on safety-related equipment. The team verified that the activities were properly planned and controlled in accordance with licensee procedures for ensuring safe plant operation during the conduct of the activities. The team reviewed the following maintenance work order (WO) packages and observed portions of the associated maintenance activities:

- WO 200082259: Replace Oil in Pump Outboard Bearing in Auxiliary Feedwater Pump 1-2; and,
- WO 200056968: Clean, Inspect, and Test Containment Isolation Valve MV624B.

In addition, the team reviewed the following WO packages involving recently completed work activities associated with the AFW system:

- WO 200078405: Disassemble and Repair Turbine Casing Leak on AFW Pump Turbine 1-1; and,
- WO 200069324: Disassemble and Repair Turbine Casing Leak on AFW Pump Turbine 1-2.

The licensee's documents reviewed during this inspection are listed in the Attachment to this report.

b. Observations and Findings

No findings of significance were identified.

b.1 General Observations

The observed maintenance activities were properly planned and controlled in accordance with licensee work control procedures. Prior to starting work, detailed pre-job briefings were conducted by the work supervisor with the work crews. Good

communications and coordination between maintenance and operations were noted during preparation and implementation of the work activities. The work packages were complete and work activities were controlled and implemented using approved procedures of sufficient level of detail. Personnel performing the tasks were knowledgeable and qualified.

b.2 Inadequate Post-Maintenance Testing of AFW Train 1 and Train 2 Prior to Mode 3 Entry

Introduction: The team identified a finding of very low safety significance (Green) and an associated NCV of Title 10 Part 50 of the Code of Federal Regulations (CFR), Appendix B, Criterion XI, "Test Control," for the failure to complete adequate post-maintenance testing (PMT) of AFW Train 1 and Train 2 prior to considering the equipment operable and the plant changing from Mode 4 (Hot Shutdown) to Mode 3 (Hot Standby).

Description: WOs 200078405 and 200069324 were associated with turbine casing leak repairs to AFW Train 1 and Train 2. This work involved disassembly of each turbine casing and outboard bearing assembly, removing the drive coupling between the turbine and pump, removing the turbine rotating element, and repairing the turbine casing seal. Work activities were completed on both trains of AFW on January 17, 2004, with the plant shutdown in Mode 4. After completing repairs, the turbines were reassembled and run uncoupled several hours to verify there was no casing leakage and to conduct turbine overspeed tests. Following this testing, the turbines were realigned and coupled to their pumps. The team noted that each WO had prescribed additional PMT that involved performance of the AFW pump Inservice Testing (IST) procedures used to satisfy the quarterly required surveillance requirement of TS 4.7.1.2.1.a.1. However, the prescribed PMT was not performed, nor any other testing that operated the AFW turbines coupled with their pumps, prior to the plant entering Mode 3 on January 26, 2004. In accordance with TS 3.7.1.2, both trains of AFW were required to be operable in Mode 3.

The licensee provided the team with CR 04-000701, which was initiated on January 27, 2004, to address the failure to clearly document in the Unit Log that either train of AFW had been declared operable following the casing leak repairs. This CR also provided insights into the licensee's justification for deferring the PMT prescribed in the WO until after Mode 3 entry. Specifically, the CR stated that since the outstanding PMT specified in the WOs involved the surveillance requirement of TS 4.7.1.2.1.a.1, and this TS included the statement that, "The provisions of Specification 4.0.4 are not applicable for entry into Mode 3," it was permissible to defer the PMT until after Mode 3. The team determined that it was not permissible to invoke the provision of TS 4.0.4 in this case since the licensee had self imposed the need to perform the surveillance as part of a specified PMT. This determination was based on the fact that the purpose of the test was to demonstrate operability of the equipment following maintenance, rather than a routinely scheduled surveillance interval where operability had not been challenged by any maintenance. Furthermore, based on review of this CR, the team determined that the licensee failed to adequately consider the impact the maintenance could have on the IST pump (bearing) vibration reference values. Since the turbine/pump coupling was removed and had to be realigned as part of the reassembly,

operation of the turbine coupled with the pump would be necessary to demonstrate this realignment was adequate and that the pump inboard bearing vibration IST reference values were not affected.

The licensee subsequently tested both trains of AFW using the quarterly pump IST procedures on February 2 (Train 1) and February 5 (Train 2). The team observed portions of this testing and reviewed the results which adequately demonstrated that the turbine/pump couplings were reinstalled correctly. Based on this, the team concluded that both trains of AFW had been functional prior to the plant entry into Mode 3 on January 26.

Analysis: The team determined that a performance deficiency existed because the licensee failed to perform adequate PMT prior to entering Mode 3. This PMT was necessary to demonstrate operability of AFW Train 1 and Train 2 following maintenance that uncoupled the turbines from their associated pumps. The team reviewed this finding using the guidance contained in Appendix B, “Issue Dispositioning Screening,” of Inspection Manual Chapter (IMC) 0612, “Power Reactor Inspection Reports.” In particular, the team compared this issue to the findings identified in Appendix E, “Examples of Minor Issues,” of IMC 0612 to determine whether the finding was minor. Based on this review, the team determined that the guidance in Appendix E was not applicable. As a result, the team compared this performance deficiency to the minor questions contained in Section 3, “Minor Questions,” to Appendix B of IMC 0612. The team concluded that the finding was more than minor because it involved the equipment performance and configuration control attribute of the Mitigating System cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. It was important that following maintenance, all necessary and appropriate PMT to demonstrate the ability of equipment to perform its intended function be completed prior to entering a mode requiring the equipment to be operable. The primary cause of this finding was related to the cross-cutting area of Human Performance, in that, operations personnel decided to defer the post-maintenance testing prescribed in the Work Order instructions following Mode 3 entry based, in part, on the incorrect assumption that the surveillance requirement provisions of TS 4.0.4 applied to post-maintenance testing.

The team reviewed this finding in accordance with IMC 0609, “Significance Determination Process (SDP)," Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The team determined that the finding affected the Mitigation Systems Cornerstone; however, the finding was not a design or qualification deficiency, did not represent an actual loss of safety function of a system or the loss of safety function of single train TS equipment for greater than the allowed outage time, or the loss of safety function of non-TS equipment, nor was there risk due to external events. Furthermore, both pumps were ultimately demonstrated to have been operable when properly tested. Therefore, the finding was considered to be of very low safety significance (Green).

Enforcement: 10 CFR 50, Appendix B, Criterion XI, “Test Control,” requires that a test program be established to assure that all testing required to demonstrate that

structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents. Contrary to the above, the licensee performed turbine casing steam leak repairs on AFW Train 1 and Train 2 while in Mode 4 and failed to implement adequate post-maintenance testing to demonstrate operability of either train of AFW (specifically, to address the impact of uncoupling the turbines from the pumps) prior to considering AFW Train 1 and Train 2 operable and subsequently entering Mode 3 on January 26, 2004. Because this violation was of very low safety significance and because it was entered into the licensee's corrective action program (CR 04-00988) it was being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy (NCV 05000346/2004004-01).

c. Conclusions

Maintenance activities were generally conducted in a controlled and safe manner and implemented by competent personnel using approved procedures of sufficient detail to ensure proper conduct of the intended activities. Maintenance activities were appropriately prioritized, planned, and coordinated with operations to ensure proper plant conditions supported the work. A finding of very low safety significance (Green) associated with an NCV of 10 CFR 50, Appendix B, Criterion XI, "Test Control," was identified involving the failure to implement adequate post-maintenance testing prior to entering Mode 3 in order to demonstrate operability of AFW Train 1 and Train 2 following turbine casing leak repairs.

B.2 Surveillance Testing

a. Inspection Scope

The team observed several ongoing surveillance test activities on safety-related equipment and components to determine whether the activities were conducted in accordance with licensee and NRC regulatory requirements. The team observed portions and evaluated the results of the following ongoing surveillance test activities:

- DB-SP-03157, "AFP 1 Response Time Test," Revision 7; and,
- DB-SP-03160, "AFP 2 Quarterly Test," Revision 11.

The licensee's documents reviewed during this inspection are listed in the Attachment to this report.

b. Observations and Findings

No findings of significance were identified.

b.1 General Observations

The team determined that surveillance test activities were conducted by approved procedures that adequately met TS requirements. The procedures contained adequate

administrative controls such as: delineating initial test conditions and prerequisites; providing adequate limits and precautions; and, providing adequate test acceptance criteria. The team observed improvement in the quality and effectiveness of pre-test briefings from those observed during the RRATI (NRC IR 05000346/2003011) that was conducted in early December 2003. With one exception, identified below, the licensee adequately established the proper plant configuration necessary to support testing and understood the impact the test configurations had on equipment availability. All entries into TS actions statements, when necessary, were adequately performed and documented. The team verified that testing was accomplished by appropriately qualified personnel. The team verified that instrumentation necessary for conducting the tests was calibrated and properly used. The team verified that test results met the acceptance criteria. The team observed that when problems or discrepancies were encountered, the licensee took appropriate actions to resolve the issues.

b.2 Inadequate Risk Assessment for Auxiliary Feedwater Surveillance Testing

Introduction: The team identified a finding of very low safety significance (Green) and an associated NCV of 10 CFR 50.65(a)(4), related to the inadequate assessment and management of risk during AFW Pump 1 surveillance testing.

Description: While observing surveillance testing of AFW Pump 1 per DB-SP-03157, the licensee publicized the overall plant risk as Yellow (elevated risk condition) when the AFW Pump 1 was rendered unavailable as a result of opening the breaker for the pump discharge valve to Steam Generator 1. When power was restored to the discharge valve, the surveillance procedure indicated that AFW Pump 1 was again available, and a plant page announcement was made advertising that the overall plant risk was back to Green (normal risk condition). Following these actions, the team noted that the procedure had the local operator open a one-inch turbine steam supply drain valve (MS750) located between the AFW Pump 1 Trip Throttle Valve and steam supply admission valve in order to relieve trapped high pressure steam between the valves. After opening this steam drain valve, the Trip Throttle Valve was exercised and the steam drain valve was subsequently closed. The total time that the steam drain valve was open was about 15-20 minutes. The team was concerned that while this steam drain valve was open, the licensee considered AFW Pump 1 capable of performing its safety function by crediting operator action to re-close the steam drain valve if an automatic AFW start actuation occurred during the activity.

Guidance for crediting operator actions when considering equipment availability during testing is contained in NUMARC 93-01, “Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants,” dated February 22, 2000. This guidance allows equipment to be considered available with dedicated operator restoration action when these actions are “uncomplicated, and involve single action or few simple actions.” The intent is to allow licensees to take credit for restoration actions that are virtually certain to be successful during accident conditions. In this situation, the team did not consider it appropriate to credit local operator action (i.e., closing the steam drain valve) had an automatic AFW actuation signal occurred since the steam drain valve discharged to an open-ended pipe in close proximity to the steam drain valve handwheel. Had an actuation occurred, high pressure steam would have discharged at

the valve, making it difficult, if not impossible, for the operator to safely complete the action of closing the valve. Additional complications involved the difficulty in communicating with the control room with high pressure steam discharging in the room. Also, if the AFW start actuation occurred while the Trip Throttle Valve was being exercised, it would have been necessary to reopen it in addition to closing the steam drain valve in order to restore the AFW Train to an available condition. Based on this, the team determined that AFW Pump 1 was actually unavailable during the period that the steam drain valve was open, therefore, overall plant risk would have been Yellow during this period versus the licensee's advertised Green.

Analysis: The team determined that a performance deficiency existed, because the licensee failed to adequately assess and manage the increase in risk that resulted from the unavailability of AFW Pump 1 during the performance of the surveillance testing. The team reviewed this finding using the guidance contained in Appendix B, "Issue Dispositioning Screening," of IMC 0612, "Power Reactor Inspection Reports." In particular, the team compared this issue to the findings identified in Appendix E, "Examples of Minor Issues," of IMC 0612 to determine whether the finding was minor. Based on this review, the team determined that the guidance in Appendix E was not applicable. As a result, the team compared this performance deficiency to the minor questions contained in Section 3, "Minor Questions," to Appendix B of IMC 0612. The team concluded that the finding was more than minor because it involved the equipment performance attribute of the Mitigating System cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In addition, the finding involved a change in overall plant risk level from Green to Yellow, and if left uncorrected, could become a more significant safety concern. The finding also affected the cross-cutting area of Human Performance due to the failure to recognize the unavailability of AFW equipment during surveillance testing.

The team reviewed this finding in accordance with IMC 0609, "Significance Determination Process (SDP)," Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The team determined that the finding affected the Mitigation Systems Cornerstone; however, the finding was not a design or qualification deficiency, did not represent an actual loss of safety function of a system or the loss of safety function of a single train of TS equipment for greater than the allowed outage time, or the loss of safety function of a non-TS equipment, nor was there risk due to external events. In addition, the duration that the steam drain valve was open was short, and no other work was initiated during the period the valve was open that caused further increase in the overall plant risk condition. As a result, this finding was determined to be of very low safety significance (Green).

Enforcement: 10 CFR 50.65(a)(4) requires, in part, that before performing maintenance activities (including, but not limited to surveillances, post-maintenance testing, and corrective and preventive maintenance), the licensee shall assess and manage the increase in risk that may result from proposed maintenance. Contrary to the above, the licensee failed to perform an adequate risk assessment when AFW Pump 1 surveillance testing was performed on February 2, 2004. The failure to perform an adequate risk assessment resulted in the licensee inappropriately assigning an overall Green risk

condition for the plant when actual plant conditions warranted a Yellow risk condition. Because this violation was of very low safety significance and because it was entered into the licensee's corrective action program (CR 04-00927) it was being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy (NCV 05000346/2004004-02).

c. Conclusions

Observed surveillance test activities were adequately planned and controlled in accordance with licensee approved procedures and TS requirements. Surveillance activities were conducted by knowledgeable and properly trained personnel using approved procedures of appropriate detail. Improvement was noted in the quality of pre-test briefings from the performance observed in a December 2003 restart readiness inspection. A finding of very low safety significance (Green) associated with an NCV of 10 CFR 50.65(a)(4) was identified for the failure to properly assess and manage risk during surveillance testing that rendered the AFW Pump 1 unavailable while a turbine steam supply drain valve was open.

C. ENGINEERING AND TECHNICAL SUPPORT

a. Inspection Scope

The team evaluated the effectiveness of the licensee's technical staff and their ability to support safe plant operations. The team interviewed technical staff members in the plant and design engineering departments and observed their participation in pre-job briefings, morning status meetings, and problem solving team meetings. The team reviewed documents related to equipment performance problems, engineering training program records, system health reports, organizational charts, and system assignments in order to evaluate the effectiveness of the technical staff and the appropriate qualification of the system engineers. Other licensee's documents reviewed during this inspection are listed in the Attachment of this report.

b. Observations and Findings

No findings of significance were identified.

The team noted that the system engineering training and certification process was administratively controlled by engineering department management personnel. Engineering management personnel were appropriately engaged in engineering training programs and assignments of personnel. The team observed engineering staff members participating in daily problem solving teams, surveillance testing, and emergent work activities. In general, the engineering staff appeared to be effective in supporting the safe operation of the plant.

c. Conclusions

Based on the team's observations, there was reasonable assurance that the engineering staff would provide adequate support for the safe restart and operation of the Davis-Besse Station.

D. RESTART CHECKLIST ITEMS

D.1 Restart Checklist Item 5.b. Systems Readiness for Restart

a. Inspection Scope

The NRC's evaluation of this Restart Checklist Item was based on the results of the following inspection activities:

- System Health Assurance Inspections;
- Backlog Inspection;
- Biennial Maintenance Rule Inspection;
- Corrective Action Team Inspection; and
- Restart Readiness Assessment Team Inspections.

Included in this evaluation was information provided in the licensee's System Health Assurance Plan.

b. Observations and Findings

The licensee established a System Health Assurance Plan which was one of the building blocks identified as part of the licensee's Return to Service Plan. The intent of the System Health Assurance Plan was to provide assurance that important plant systems were able to perform their safety functions and support plant restart and operation. An operational readiness review was incorporated into the System Health Assurance Plan to ensure that findings were retained and properly documented, and that appropriate corrective actions were specified. The licensee performed detailed reviews of five systems under this Plan which were categorized as risk-significant under the licensee's Maintenance Rule program to provide reasonable assurance that the five systems (Reactor Coolant, Auxiliary Feedwater, Component Cooling, Emergency Diesel Generator, and Service Water) could perform their safety and accident mitigation functions.

The licensee's efforts initially revealed a number of problem areas common to all five system reviews. Among these problems areas were design basis validation, environmental qualification, high energy line break, missing or flawed calculations, calculation control, accident analysis, system descriptions, and configuration management. As a result, the licensee performed expanded reviews of systems. The licensee identified systems where either significant deficiencies, or a large number of deficiencies, existed such that these systems were not in a condition to support restart and operation and that corrective action was needed to restore these systems. The

most significant deficiencies were found in vital systems such as service water, emergency core cooling, diesel generator, and electrical distribution.

The licensee developed a program to resolve the deficiencies, that included determining extent of condition of the deficiencies identified and resolving these deficiencies using the station's corrective action program. The NRC conducted several inspections to assess the licensee's activities in these areas. These inspections included system health assurance inspections, a backlog inspection, a biennial maintenance rule inspection, a corrective action team inspection, and restart readiness assessment team inspections. The NRC found that the licensee's extent of condition reviews were conducted in an appropriate manner and that resolution of identified deficiencies was acceptable to support restart.

Taken collectively, the results of NRC inspections and evaluations provide reasonable assurance that the licensee has taken appropriate actions to ensure that plant systems can perform their design basis functions and were ready to support safe restart and operation of Davis-Besse. The following is a summary of important inspections providing the basis for the NRC Davis-Besse Oversight Panel's conclusion.

System Health Assurance Inspections: These inspections were documented in NRC IRs 05000346/2002013, 2002014, and 20003003 and examined system design issues. The initial inspection identified several issues related to engineering design concerns, including engineering calculations, licensee event report resolution, modification implementation, and resolution of issues. The final inspection, NRC IR 05000346/2003003, concluded that the licensee's system health assurance plan met its intent to review plant systems prior to restart to ensure that the systems were in a condition that would support safe and reliable plant operation and that the discovery phase of the program was conducted in a thorough and methodical manner in accordance with the procedures established for these reviews. The program for resolution of open design questions involved determining extent of condition of the deficiencies identified during the discovery phase. NRC inspectors examined this area and concluded that the extent of condition reviews were conducted in an appropriate manner with acceptable results.

Backlog Inspection: This inspection was documented in NRC IR 05000346/2003024 and focused on the backlog of engineering and maintenance work that would not be performed until after restart of the plant. The inspection focused on a review of the licensee's process for tracking open backlog items, a review of the effectiveness of the process in justifying deferral of activities, an evaluation of the licensee's use of probabilistic risk assessment insights in deferring items to a post-restart status, and an evaluation of the potential risk implications of deferred items. The inspectors concluded that the restart scoping process was satisfactory and that the deferred actions did not individually or collectively have a risk significant impact on plant restart. However, the inspection did conclude that continued management attention is needed to assure resources are committed to the post-restart backlog. No findings of significance were identified during this inspection.

Biennial Maintenance Rule Inspection: This inspection was documented in NRC IR 05000346/2003022 and had no findings. The inspectors reviewed the maintenance rule periodic evaluation report per 10 CFR 50.65(a)(3). The periodic evaluation report for Cycle 13, which included the time frame of May 2000 through April 2002, evaluated the effectiveness of 10 CFR 50.65(a)(1) and 10 CFR 50.65(a)(2) activities. Licensees monitor safety-related structures, systems, and components (SSCs) under (a)(1) to ensure appropriate attention is paid to correct deficiencies. Licensees monitor reliability and/or availability of SSCs under (a)(2) to ensure that SSCs will be able to perform their intended function. The inspectors examined (a)(1) action plans, justifications for returning safety-related structures, systems, and components from (a)(1) to (a)(2), and a number of CRs to evaluate functional failure determinations. In addition, CRs were reviewed to verify that the threshold for identification of problems was at an appropriate level and the associated corrective actions were appropriate. The inspectors focused the inspection on the following systems:

- Auxiliary Feedwater;
- Component Cooling Water;
- Containment;
- Control Room Emergency Ventilation;
- Service Water; and
- 480 Vac [volt alternating current].

Corrective Action Team Inspection: This inspection was documented in NRC IR 05000346/2003010 and evaluated the adequacy of the licensee's corrective actions implemented to assess and resolve the numerous plant design deficiencies identified during system reviews conducted under the Davis-Besse System Health Assurance Plan, and during NRC follow-up inspections.

In review of the implementation of the program, the corrective action inspection team initially identified numerous weaknesses, which collectively revealed ineffective implementation of the corrective action program. The weaknesses were categorized into three primary areas of concern: (1) a fundamental weakness in the ability of the Davis-Besse engineering organization and management to identify and evaluate intricate system design issues; (2) ineffective implementation of corrective actions associated with these design issues revealing a general lack of engineering scrutiny, or technical curiosity, in the development of analyses and calculations to ensure problems are thoroughly understood and resolved; and (3) an overall weakness in the implementation of various foundation elements of the corrective program. Furthermore, the team identified program implementation weaknesses in the areas of adequacy of apparent cause evaluations, trending and self evaluation activities to identify potential equipment, human performance and programmatic adverse trends; adherence to procedures, and adequacy of closure for corrective action items.

The licensee developed program implementation improvements since the commencement of the inspection, and the team concluded that program implementation was acceptable for restart.

Restart Readiness Assessment Team Inspections: The initial inspection was conducted in early December 2003 and the results were documented in NRC IR 05000346/2003011. At the time the team concluded that the licensee was not ready to start up the plant because of several problems, including operators' lack of awareness of plant equipment status, concerns regarding the traceability of test equipment, and examples of procedure quality and adherence inadequacies. As a result, the operations department implemented corrective actions and performed internal assessments.

A followup restart assessment team inspection was conducted during the week of February 2, 2004. The results from the follow-up inspection, documented in this report indicated a substantial improvement in performance as compared to the performance observed in December 2003. The team noted more consistent implementation of their standards and expectations.

During both of the restart readiness inspections, the teams completed independent alignment checks of safety significant systems. The team confirmed that the service water system was operated consistent with design and licensing documents. In addition, the teams also reviewed the systems for other aspects that could impact the operability, such as open operability evaluations and operator work-arounds, with no substantive concerns identified.

c. Conclusions

The Davis-Besse Oversight Panel considers Restart Checklist Item 5.b. closed. The Panel approved closure of this item on February 20, 2004.

D.2 Restart Checklist Item 5.c. Operations Readiness for Restart

a. Inspection Scope

The NRC's evaluation of this Restart Checklist Item was based on the results of the NRC's December 2003 RRATI (NRC IR 05000346/2003011), this restart readiness assessment followup team inspection (and associated Memo from the team to the Davis-Besse Oversight Panel), resident inspections (NRC IRs 05000346/2003025 and 2004002), and information in the licensee's Integrated Report to Support Restart of the Davis-Besse Nuclear Power Station.

b. Observations and Findings

In its November 24, 2003, "Integrated Report to Support Restart of the Davis-Besse Nuclear Power Station," and its supplement dated February 6, 2004, the licensee described in detail its corrective actions, including long-term corrective actions, to address problems in the conduct of operations. The corrective actions include new leadership in the operations department, establishment of peer evaluators, and increasing accountability of individuals in adhering to management standards and expectations.

The restart readiness assessment follow-up inspection team verified that specific problem areas and issues observed during the first restart readiness assessment team inspection, such as pre-job briefings, operator awareness, 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 the resident inspectors. No significant problems were observed during these observations.

Observations from the resident inspectors as documented in NRC IRs 05000346/2003025 and 2004002 supported the conclusions of the restart readiness assessment team inspectors. Taken collectively, the results of NRC inspections and evaluations provide reasonable assurance that the licensee has taken appropriate actions to ensure that the plant can be started and operated safely and in conformance with license and design requirements.

c. Conclusions

The Davis-Besse Oversight Panel considers Restart Checklist Item 5.c. closed. The Panel approved closure of this item on February 18, 2004.

4OA4 Cross-Cutting Aspects and Findings

.1 A finding identified in Section 4OA5.B.1 of this report had as its primary cause a human performance deficiency due to operations personnel decision to defer AFW post-maintenance testing following Mode 3 entry.

.2 A finding identified in Section 4OA5.B.2 of this report had as its primary cause a human performance deficiency due to the licensee's failure to recognize the unavailability of AFW equipment during surveillance testing.

4OA6 Meetings

.1 Exit Meeting

The inspection team leader presented the inspection results to Mr. Lew Myers, and other members of licensee management at the conclusion of the inspection during a public exit on February 12, 2004. The NRC inspectors asked the licensee whether any materials discussed as potential report material should be considered proprietary. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

G. Leidich, President, FENOC
L. Myers, Chief Operating Officer, FENOC
J. Hagan, Senior Vice President, FENOC
M. Bezilla, Site Vice President
B. Allen, Plant Manager
G. Becker, Engineer, Regulatory Affairs
B. Boles, Manager, Plant Engineering
K. Byrd, Supervisor, Design Engineering
G. Dunn, Manager, Work Management
J. Grabnar, Manager, Design Engineering
D. Gudger, Supervisor, Regulatory Affairs
B. Hennessy, Supervisor, Nuclear Compliance
H. Hopkins, Supervisor, Mechanical Systems
R. Hovland, Supervisor, Electrical Systems
S. Loehlein, Manager, Nuclear Quality Assurance
W. Marini, Regulatory Affairs
W. McLeod, System Engineer
K. Ostrowski, Manager, Regulatory Affairs
J. Powers, Director, Nuclear Engineering
J. Reddington, Manager, Operations Department Training
M. Ross, Director Restart
R. Schrauder, Director, Support Services
R. Smith, System Engineer
A. Stallard, Operating Support Superintendent
M. Stevens, Director, Maintenance
J. Sturdavant, Senior Engineer, Regulatory Affairs
D. Williams, Supervisor, Maintenance
D. Woodfin, Supervisor, Engineering

NRC
J. Grobe, Chairman, Davis-Besse Oversight Panel, RIII
C. Lipa, Branch Chief, Division of Reactor Projects, RIII
W. Ruland, Assistant Chairman, Davis-Besse Oversight Panel, NRR
M. Salter-Williams, Resident Inspector, Davis-Besse
S. Thomas, Senior Resident Inspector, Davis-Besse

State of Ohio
S. Eischen, Radiological Analyst, Emergency Management Agency

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000346/2004004-01	NCV	Failure to Complete Adequate Post-Maintenance Testing on Auxiliary Feedwater Train 1 and Train 2 Prior to Mode 3 Entry. (Section 4OA5.B.1)
05000346/2004004-02	NCV	Failure to Adequately Assess Overall Plant Risk During Auxiliary Feedwater Surveillance Testing. (Section 4OA5.B.2)

Discussed

None

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC team reviewed the documents in their entirety but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

Procedures

DBBP-OPS-0001; Conduct for Excellence; Revision 4

DBBP-OPS-0001; Conduct for Excellence; Revision 5

DBBP-OPS-0003; On-Line Risk Management Process; Revision 1

DBBP-OPS-0004; Operations Continuous Improvement; Revision 2

DB-DP-00007; Control of Work; Revision 5

DB-DP-00013; Surveillance and Periodic Test Program; Revision 8

DB-MN-00001; Conduct of Maintenance; Revision 10

DB-OP-00000; Conduct of Operations; Revision 6

DB-OP-00005; Operator Logs and Rounds; Revision 10

DB-OP-00006; Night Orders and Standing Order Log; Revision 6

DB-OP-00100; Shift Turnover; Revision 6

DB-OP-01003; Operations Procedure Use Instructions; Revision 2

DB-OP-06011; High Pressure Injection; Revision 08

DB-OP-0612; Decay Heat and Low Pressure Injection System Operating Procedure; Revision 16

DB-OP-06261; Service Water System Operating Procedure; Revision 12

DB-OP-06233; Auxiliary Feedwater System; Revision 14

DB-OP-06316; Diesel Generator Operating Procedure; Revision 11

DB-PF-00203; Acceptance Test Program; Revision 1

DB-PF-05064; Electrical Machine Testing Using PdMA Motor Tester; Revision 102

GP-03; Conduct of Pre-Job Briefs and Post-Job Reviews; Revision 5

NG-DB-00201; Conduct of Infrequently Performed Tests and Evolutions; Revision 2

NG-DB-00202; Test Control; Revision 4

NOP-LP-2001; CR Process; Revision 4

Condition Reports

CR 02-08254; Battery Discharge Alarm Setpoint Changed Under a Voided FCR

CR 03-08418; Operations Action Improvement Plan

CR 03-10023; Restart Readiness Review Safety Culture Assessment

CR 03-10800; FW1008 Found Out of Required Test Position

CR 03-11033; Operations Failure to Meet Standards and Expectations

CR 03-11232; Procedure Use and Adherence Procedures

CR 03-11314; Corrective Actions Taken to Improve Operational Deficiencies

CR 03-11414; Missed Technical Specification Entry

CR 04-00181; Missed Technical Specification

CR 04-00697; Procedure Changes that Determine Maintenance Rule Equipment Availability

CR 04-00701; AFW Pump 1 and 2 Never Declared Operable Following Maintenance

CR 04-00870; AC Power Cord to JY6547A Was Inadvertently Bumped

CR 04-00871; X01 A Phase Bushing Oil Leak

CR 04-00879; Door 302 Found Open

CR04-00881; RRATI: Improperly Secured Step Ladder Found in Low Voltage Switch Gear Room #1 (NRC Identified)

CR 04-00910; NRC Question on SW Strainer Spray Shields (NRC Identified)

CR 04-00913; PCR: DB-MM-03006, Inspection of TS Hydraulic Snubbers

CR 04-00901; Debris Found Under Emergency Core Cooling System Room Cooler (NRC Identified)

CR 04-00903; Monthly Activity Items Identified by NRC Inspection Team (NRC Identified)

CR 04-00905; Emergency Core Cooling System Room Sump Strainers (NRC Identified)

CR 04-00909; Snubber Has Inadequate Fluid Level (NRC Identified)

CR 04-00912; Radiation Protection Boundary/Hardware for Decay Heat Pumps (NRC Identified)

CR 04-00914; Effects of Radiation Protection Posting on Operability of Pumps (NRC Identified)

CR 04-00922; Impact of Removed PASS Sample Tubing Insulation (NRC Identified)

CR 04-00927; CR PCR for DB-SP-03157, 03166 AFP #1, #2 Response Time Test (NRC Identified)

CR 04-00930; PCR DB-SP-03157 and DB-SP-03166 to Add Allowance to Throttle Discharge Pressure Gauge Isolation Valves (NRC Identified)

CR 04-00932; NRC RRATI - Plastic Sheet Could Foul Service Water Pump #3 Motor Vents (NRC Identified)

CR 04-00933; PCR for DB-SP-03160 and DB-SP-03151 for Bearing Stabilization Changes (NRC Identified)

CR 04-00954; AFP #2 P14-2 Oil Fill Cap Found Removed (NRC Identified)

CR 04-00981; Operations Section Attention to Detail (NRC Identified)

CR 04-00987; NG-DB-00800 Risk Determination (Threat to Safe, Reliable Operation) (NRC Identified)

CR 04-00988; AFW Post-Maintenance Testing Question Entering Mode 3 (NRC Identified)

CR 04-00992; Uninstalled Oil Fill Cap, AFW Pump 2 Bearing Reservoir 88, (NRC Identified)

CR 04-01010; Location of the Control Room Filters (NRC Identified)

CR 04-01013; CR-PCR DB-MM-09062 to Provide Additional Oil Addition Guidance

CR 04-01015; RRATI PCR: DB-PF09301

CR 04-01017; Slip and Step During Last Half of Stroke of Valve MS5889B (NRC Identified)

CR 04-01018; Battery Rack Insulator Detached (NRC Identified)

CR 04-01020; AFP #2 Oil Level Low Following Initial Start During DB-SP-03160

CR 04-01026; Improvement Opportunity - Work Around Administration

CR 04-01031; RRATI - AFP 2 Quarterly and C1 Undervoltage Testing Scheduled Concurrently

CR 04-01034; Admin. Controls for CV624B MOV Testing Were Not Clear To Technician (NRC Identified)

Drawings

OS-003; High Pressure Injection System; Revision 23

OS-004 Sheet 1; Decay Heat Removal/Low Pressure Injection System; Revision 36

OS-017A Sheet 1; Auxiliary Feedwater System; Revision 18

OS-017B Sheet 1; Auxiliary Feedwater Pumps and Turbines; Revision 22

OS-58 Sheet 1; 4.15KV System; Revision 05

OS-58 Sheet 2; 4.15KV System; Revision 05

OS-59 Sheet 1 ; 480/240/120 V AC System; Revision 08

OS-59 Sheet 2; 480/240/120 V AC System; Revision 02

OS-59 Sheet 3; 480/240/120 V AC System; Revision 07

OS-59 Sheet 4; 480/240/120 V AC System; Revision 11

OS-60 Sheet 1; 250/125V DC and 120V Instrument AC System; Revision 12

OS-60 Sheet 2; 250/125V DC and 120V Instrument AC System; Revision 11

Other Documents

Davis-Besse Nuclear Power Station Operational Improvement Plan, Operating Cycle 14; Revision 2

Davis-Besse Operations Improvement Implementation Action Assessment Plan; February 4, 2004

DB-2002-01; NDB-SUB001-01-015; Tagout for Startup Transformer X01

Operability Evaluation 03-032; Service Water Flow Balance; Revision 02

Operations Observations, January 23 - February 5, 2004

Operations Section Monthly Activity Log; Revision 2

Operator Work-Around - Identification Form for SW 1358

Post Maintenance Test Manual; Revision 24

Problem Solving Plan; CR 04-00870; AC Power Cord to JY6547A Was Inadvertently Bumped

USAR Section 9.2.1 Service Water System

Work Management Process; Revision 2

LIST OF ABBREVIATIONS

AC	Alternating Current
ADAMS	Agency Wide Documents Access and Management System
AFW	Auxiliary Feedwater
CFR	Code of Federal Regulations
CR	Condition Report
DB	Davis-Besse
DBBP	Davis-Besse Business Practice
DP	Departmental Procedure
DRP	Division of Reactor Projects
FCR	Field Change Request
FENOC	FirstEnergy Nuclear Operating Company
FW	Feedwater
GP	General Procedure
IMC	Inspection Manual Chapter
IR	Inspection Report
IST	Inservice Testing
NCV	Non-Cited Violation
NOP	Normal Operating Pressure
NRC	Nuclear Regulatory Commission

NUMARC	Nuclear Management and Resources Council
OP	Operations Procedure
PARS	Publicly Available Records
PCR	Procedure Change Request
PMT	Post Maintenance Testing
RRATI	Restart Readiness Assessment Team Inspection
SSC	Systems, Structures, and Components
SDP	Significance Determination Process
SW	Service Water
TS	Technical Specification
USAR	Update Safety Analysis Report
WO	Work Order