March 8, 2004

CAL No. 3-02-001
EA-03-214

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: APPROVAL TO RESTART THE DAVIS-BESSE NUCLEAR POWER STATION, CLOSURE OF CONFIRMATORY ACTION LETTER, AND ISSUANCE OF CONFIRMATORY ORDER

Dear Mr. Myers:

This letter removes the restriction the NRC has placed on the restart of the Davis-Besse Nuclear Power Station. The U. S. Nuclear Regulatory Commission (NRC) staff has completed the necessary inspection, assessment, and licensing activities to resolve the issues identified as contributors to the Davis-Besse reactor vessel head degradation event. This letter also confirms the commitments in the November 23, 2003, FirstEnergy Nuclear Operating Company (FENOC) "Integrated Report to Support Restart of the Davis-Besse Nuclear Power Station and Request for Restart Approval," and its subsequent updates and transmits an immediately effective Confirmatory Order. That order requires annual independent assessments for five years, in the areas of operations, engineering, corrective actions and safety culture and requires inspection of key reactor coolant system pressure boundary components during a mid-cycle outage to ensure effective assessment and sustained safe performance.

This letter specifically addresses the following areas: Confirmatory Action Letter closure, Restart Checklist closure, confirmation of the commitments made to the NRC in the FENOC "Integrated Report to Support Restart of the Davis-Besse Nuclear Power Station and Request for Restart Approval," coordination of the restart decision with other federal agencies, issuance of the Confirmatory Order, and continuation of enhanced NRC regulatory oversight of Davis-Besse activities after restart.

Confirmatory Action Letter Closure

On February 16, 2002, the Davis-Besse Station was shut down for its 13th refueling outage. One activity to be accomplished during the outage was inspection of control rod drive penetrations through the reactor pressure vessel (RPV) head pursuant to NRC Bulletin 2001-01. During outage activities, the licensee identified significant wastage of the carbon steel RPV head material near Penetration No. 3. The NRC was notified of the condition

and, on March 12, 2002, initiated an Augmented Inspection Team (AIT) to review the facts surrounding the degraded vessel head. Also, on March 13, 2002, the NRC issued Confirmatory Action Letter Number 3-02-001 to Davis-Besse documenting six commitments required to be accomplished prior to restarting the reactor. On May 15, 2002, the NRC revised the Confirmatory Action Letter to address the option of replacing the RPV head.

The NRC letter dated December 24, 2002, documented the status of each item in the Confirmatory Action Letter including closure of item 6. NRC letters dated January 21, 2003, and July 17, 2003, clarified the status of Confirmatory Action Letter item 1. NRC letter dated September 19, 2003, documented closure of Confirmatory Action Letter items 1 and 2. The basis for resolution of the remaining Confirmatory Action Letter items not previously documented in public documents, items 3, 4, and 5, is included in Enclosure 1. The licensee requested closure of the Confirmatory Action Letter in a letter to the NRC dated February 23, 2004. All commitments contained in Confirmatory Action Letter No. 3-02-001 are closed.

Restart Checklist Closure

As a result of the findings from the AIT, on April 29, 2002, pursuant to NRC Inspection Manual Chapter (IMC) 0350, "Oversight of Operating Reactor Facilities in an Extended Shutdown as a Result of Significant Performance Problems," the NRC Davis-Besse Oversight Panel (Panel) was chartered to coordinate and oversee NRC activities needed to verify proper licensee safety performance. The Panel also ensured appropriate focus was provided and resources were allocated with regard to reviewing Davis-Besse improvement initiatives. On August 16, 2002, the Davis-Besse Oversight Panel issued a Restart Checklist, which was developed in accordance with NRC IMC 0350. This Checklist includes issues that required resolution prior to NRC consideration of restart approval. These issues were identified based on insights from routine inspections and performance indicators; results from the AIT and AIT Follow-up inspections; insights gained from Panel evaluation of ongoing licensee assessments; and items in the Return to Service Plan and subordinate Building Block Plans that the licensee originally submitted to the NRC by letter dated May 21, 2002.

The Restart Checklist was updated on October 30, 2002, January 28, 2003, and July 2, 2003, in response to NRC assessment of ongoing activities at the Davis-Besse Station. The updates addressed issues that needed to be resolved prior to the NRC consideration of restart approval.

The NRC staff has completed its inspection, assessment and licensing activities and has evaluated the effectiveness of the licensee's actions to address the issues that resulted in the plant shutdown. These items are listed in the Restart Checklist. The Panel's assessment of the licensee's actions was based on resident and region-based inspections, NRR staff reviews, baseline inspections, and a number of special inspections, including:

- Augmented Inspection Team (AIT) of RPV Head Degradation Event and AIT Follow-Up Inspections (Inspection Reports (IRs) 02-03 and 02-08)
- Boric Acid Corrosion Extent of Condition Inspection Parts I and II (IRs 02-09 and 02-12)
- Program Effectiveness Inspection Parts I and II (IRs 02-11 and 03-09)
- System Health Assurance Inspection, Safety System Design and Performance Capability Inspection, and Design Issues Inspection - Paths A, B, and C (IRs 02-13, 02-14 and 03-03)
- Uncontrolled Radioactive Material Release and Substantial Potential for Overexposure Special Inspections and Radiation Protection Supplemental (95002) Inspection (IRs 02-06, 02-16 and 03-08)
- Reactor Pressure Vessel Head Replacement Inspection (IR 02-07)
- Containment Integrated Leak Rate Test Inspection (IR 03-05)
- Emergency Core Cooling System and Containment Spray System Sump Inspection (IR 03-06)
- Completeness and Accuracy of Information Inspection (IR 03-19)
- Reactor Coolant System Integrity Inspection (IR 03-23)
- Corrective Action Team Inspection (IR 03-10)
- Engineering and Maintenance Backlog Assessment Inspection (IR 03-24)
- Management and Human Performance Inspection Phases I, II, and III and Management and Human Performance Follow-Up Inspection (IRs 02-15, 02-18, 03-12, and IR 04-03)
- Restart Readiness Assessment Team and Restart Readiness Assessment Team Followup Inspections (IRs 03-11 and 04-04)

Additional significant inspections accomplished during the outage included NRC evaluation of licensee actions to implement security orders and NRC and Federal Emergency Management Agency (FEMA) evaluation of the biennial emergency preparedness exercise.

The Panel has also conducted frequent public meetings with the licensee to discuss licensee performance and NRC inspection and assessment results. The results of these meetings were documented in public meeting summaries and internal Panel meeting minutes, all of which have been or will be placed in the NRC Public Electronic Reading Room.

Enclosure 2 to this letter documents the basis for resolution of all checklist items. In many instances, the basis consists of a reference to a previous public document that closed the item. For those items that have not been previously closed in public documents, the basis for resolution of those items is described.

Confirmation of Commitments in the "Integrated Report to Support Restart of the Davis-Besse Nuclear Power Station and Request for Restart Approval"

FENOC submitted the "Integrated Report to Support Restart of the Davis-Besse Nuclear Power Station and Request for Restart Approval" on November 23, 2003. The report was updated on February 6, 2004, and February 19, 2004. Appendices A and D of that report provide commitments to sustain performance improvement at Davis-Besse. 10 CFR 50, Appendix B, Criterion XVI requires that actions be taken to prevent recurrence of significant conditions adverse to quality. FENOC categorized the occurrence of the RPV head degradation as a significant condition adverse to quality. The actions described in Appendices A and D are intended by FENOC to ensure the improvements realized during the extended outage remain in place. Please provide written notification to the NRC Regional III Administrator should FENOC determine that any of those actions cannot be accomplished consistent with the schedule in Appendices A and D, or should FENOC determine that revision to the commitments in Appendices A and D is necessary.

Coordination of Restart Authorization with other Federal Agencies

In accordance with IMC 0350, the NRC staff has coordinated with the Federal Emergency Management Agency and determined that there are no offsite emergency preparedness issues that would impact a decision to approve restart of the Davis-Besse facility.

In addition, the Panel and NRC management have been regularly briefed on the results of the NRC Office of Investigations (OI) investigation. The federal investigation of possible wrongdoing is continuing as a joint effort of the United States Attorneys Office, Cleveland, Ohio; U. S. Department of Justice; and NRC's OI. An NRC manager has been assigned to monitor the continuing federal investigation and identify any emerging potential safety issues. In accordance with the NRC's Enforcement Manual, the NRC staff has reviewed the investigative results and concluded that no immediate enforcement action is necessary at this time. These matters will continue to be monitored and will be appropriately handled consistent with NRC policies for enforcement and interface with the U.S. Department of Justice, and any enforcement related to the events surrounding the reactor head degradation event will be issued in accordance with NRC policies.

Issuance of Confirmatory Order

To ensure effective assessment and sustained safe performance at Davis-Besse, the NRC has determined that additional measures are needed. Therefore, the NRC is issuing a Confirmatory Order to FirstEnergy Nuclear Operating Company modifying License No. NPF-3 requiring annual independent assessments for five years in the areas of operations, engineering, corrective actions and safety culture and requiring inspections of key reactor coolant system pressure boundary components during a mid-cycle outage. Enclosure 3 contains the Confirmatory Order.

Continuation of Oversight Panel after Restart Approval

As discussed during several public meetings, implementation of the routine reactor oversight and assessment processes will continue to be suspended. The Davis-Besse Oversight Panel will continue to provide NRC regulatory oversight at Davis-Besse until the Panel confirms sustained safe operating performance at Davis-Besse. The Panel will continue to monitor licensee startup activities through resident and region-based special inspections, including a period of continuous observation during restart of the station. In addition, enhanced inspection oversight will be provided utilizing the additional resident inspector at the station, and other focused special inspections of areas the Panel determines warrant additional oversight. By separate correspondence the licensee will be provided a copy of the NRC's inspection plans for the Davis-Besse Nuclear Power Station during the upcoming 18-month period.

In summary, the matters contained in the NRC's Confirmatory Action Letter and Restart Checklist, required to be addressed before NRC consideration of restart approval have been adequately resolved and the NRC has reasonable assurance that the Davis-Besse facility can be restarted and operated safely. Therefore, the NRC is removing the restriction placed on restart of the Davis-Besse Nuclear Power Station in the Confirmatory Action Letter. You remain accountable to comply with all requirements in NRC regulations and the Davis-Besse operating license as applicable before the plant can restart. Further, the NRC acknowledges your commitments to take action to prevent recurrence of significant performance deficiencies at Davis-Besse and is issuing an immediately effective Confirmatory Order requiring future assessments and inspections.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response if you choose to respond, will be placed in the NRC Public Electronic Reading Room (PERR) link at the NRC website, namely http://www.nrc.gov/NRC/ADAMS/index.html.

Sincerely,

/RA/

James L. Caldwell
Regional Administrator

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

Enclosures:
1. CAL Closure Summary
2. Restart Checklist
3. Order Modifying License

See Attached Distribution

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cc w/encl: The Honorable Dennis Kucinich
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Enclosure 1

Confirmatory Action Letter Item Closure

Item 1

"Quarantine components or other material from the RPV [Reactor Pressure Vessel] head and CRDM [Control Rod Drive Mechanism] nozzle penetrations that are deemed necessary to fully address the root cause of the occurrence of degradation of the leaking penetrations. Prior to implementation, plans for further inspection and data gathering to support determination of the root cause will be provided to the NRC for review and comment."

Basis for Closure

Applicable components and material were adequately quarantined and plans for inspection and data gathering to support root cause determination were provided to the NRC for review and comment. Following discussions between Mr. R. Schrauder of the licensee's staff and Mr. W. Dean of the Nuclear Regulatory Commission (NRC) staff, the following additional specimens not initially described in the licensee's letter were removed from the damaged reactor vessel head:

1) Approximately 8 inches diameter of head material unaffected by heat around CRDM penetration Nozzles 2 and 46,

2) Nozzle base material from any two of Nozzles 1, 2, 4, or 5 (heat no. M3935),

3) Nozzle base material from Nozzle 47 (heat no. C2649-1), and

4) Nozzle base material from any two of Nozzles 7, 12, 16, 20, 22-25, 27-29, 38-44, 48-55, 57, 64, 68, or 69 (heat no. C2649-1).

With respect to the specimen materials sent to Lynchburg, Virginia, and to Canada, the quarantine on those specimens was lifted because the test plan for that material had been completed.

The additional specimens described above were subsequently obtained by the licensee and shipped to Battelle Northwest Laboratory (BNL) shortly after issuance of the July 17, 2003, CAL update. The materials received at BNL were inventoried and NRC staff confirmed that the specimens identified in the July 17, 2003, CAL update had been received. The quarantine of the old reactor head was released based on BNL receipt of those specimens, and the head was shipped for disposal on August 26, 2003. This item was closed on September 19, 2003.

Item 2

"Determine the root cause of the degradation around the RPV head penetrations, and promptly meet with the NRC to discuss this information after you have reasonable confidence in your determination."

Basis for Closure

By letter dated April 18, 2002, FirstEnergy Nuclear Operating Company (FENOC) submitted its Root Cause Analysis Report of the reactor pressure vessel (RPV) head degradation in accordance with the Confirmatory Action Letter dated March 13, 2002. On May 7, 2002, the NRC staff held a public meeting with FENOC representatives to discuss the technical aspects of the root cause analysis. Revision 1 of the Report was submitted by letter dated September 23, 2002.

The Davis-Besse Root Cause Analysis Report provided a broad scope assessment of the "root cause," covering various programmatic, implementation and managerial issues, along with a description of the technical sequence of events from the initiation of cracking in the control rod drive mechanism (CRDM) nozzles to the formation of the cavity identified in March 2002.

The NRC staff reviewed the report and based on the information available, the NRC staff concluded that the licensee's analysis presented a plausible scenario of the degradation at Davis-Besse. In the absence of direct physical evidence, the basis for the staff's conclusion is experience with past boric acid corrosion events and the extension of that knowledge to the extreme Davis-Besse case. Uncertainties with regard to the technical details of the RPV head degradation (including the sequence, rate and nature of the mechanisms that resulted in the degradation) preclude a definitive conclusion to the technical Root Cause Analysis Report. However, the level of understanding of the root cause is sufficient for this licensee to proceed with use of the replacement head from the canceled Midland plant.

In addition to the technical root cause reviews, the licensee also conducted seven individual assessments in the Management & Human Performance area as follows:

1) "Root Cause Analysis, Failure to Identify Significant Degradation to the Reactor Pressure Vessel Head," dated August 13, 2002;

2) "Root Cause Analysis, Failure in Quality Assurance Oversight to Prevent Significant Degradation of the Reactor Vessel Head," dated September 10, 2002;

3) "Root Cause Analysis, Lack of Operations Centrality in Maintaining, Assuring, and Communicating the Operational Safety Focus of Davis-Besse and Lack of Accountability of Other Groups to Operations in Fulfilling that Role," dated November 22, 2002;

4) "Root Cause Analysis, Assessment of Engineering Capabilities," dated January 3, 2003;

5) "Evaluation of FENOC Company Nuclear Safety Review Board," dated August 13, 2002;

6) "Evaluation of Corporate Management Issues," dated December 18, 2002; and

7) "Collective Significance Review of the Causal Factors Associated with the Reactor Pressure Vessel Head Degradation at Davis-Besse," dated March 17, 2003.

These reports were reviewed as part of the NRC's Management and Human Performance special inspections, and the results of those reviews are documented in NRC Inspection Report Nos. 50-346/02-15 (ADAMS Accession No. ML030380037) and 50-346/02-18 (ADAMS Accession No. ML032050528) dated February 6, 2003, and July 24, 2003, respectively. As stated in the July 24, 2003, letter to FENOC, the overall assessment was of appropriate depth and breadth to develop actions to correct and prevent recurrence of the management and human performance deficiencies associated with the reactor head degradation. This item was closed on September 19, 2003.

Item 3

"Evaluate and disposition the extent of condition throughout the reactor coolant system relative to the degradation mechanisms that occurred on the RPV head."

Basis for Closure

On April 15, 2002, FENOC began implementation of its "Davis-Besse Containment Health Assurance Plan". The scope of this plan was increased to encompass the overall health of all systems inside the Containment that could have been exposed to boric acid, as well as all systems that contained boric acid. NRC Inspection Report No. 50-346/02-09 (ADAMS Accession No. ML022560237) reviewed the licensee's efforts, including inspection methods, control of walkdown boundaries, resolution of obstructed examinations, and control of inspection records. The inspection identified a lack of acceptance criteria and inadequate training and certification of inspection personnel. Subsequently, NRC Inspection Report No. 50-346/02-12 (ADAMS Accession No. ML023370132) focused on evaluating the licensee's corrective actions to address the two issues identified in the previous inspection. This inspection concluded that the licensee had established appropriate acceptance criteria and inspection personnel had been properly trained and certified. In addition, three focused unresolved technical issues were identified associated with corrective actions for corrosion of electrical conduit, the bottom nozzles on the reactor vessel, and the containment air coolers. Additionally, at that time, the licensee had completed apparent cause determinations with designated corrective actions for only a small number of the components potentially affected by boric acid corrosion.

Subsequently, inspections were performed to evaluate the effectiveness of the licensee's corrective actions to address the remaining components potentially affected by boric acid corrosion and resolve the three open unresolved items. The NRC's inspections noted that the three unresolved items related to the corrosion of electrical conduit, the bottom nozzles on the reactor vessel, and the containment air coolers had been effectively addressed to ensure that these components were operable and capable of performing their safety-related functions. The inspections also determined that all of the components potentially affected by boric acid corrosion had been appropriately addressed in the corrective action process and that the schedules for completion of the planned corrective actions were acceptable. The results of these follow up inspections are documented in NRC Inspection Report Nos. 50-346/03-22 (ADAMS Accession No. ML033570081), and 50-346/03-23 (ADAMS Accession No. ML033421074) with additional information to be documented in NRC Inspection Report

No. 50-346/03-10. The licensee requested closure of this item in a letter to the NRC dated November 26, 2003. This item is closed.

Item 4

"Obtain NRC review and approval of the repair or modification and testing plans for the existing RPV head, prior to implementation of those activities. Prior to restart of the reactor, obtain NRC review and approval of any modification and testing activity related to the reactor core or reactivity control systems. If the reactor vessel head is replaced in lieu of repair or modification, the replacement must comply with appropriate Commission rules and industry requirements."

Basis for Closure

NRC Inspection Report No. 50-346/02-07 (ADAMS Accession No. ML023370100) documented review of the non-destructive examinations performed at the Midland, Michigan site on the replacement head and the American Society of Mechanical Engineers (ASME) Code data packages for the replacement head. Based on this inspection, NRC verified that the replacement head was designed and fabricated in conformance with ASME Code requirements and that the original ASME Code Section III N-stamp remained valid. This inspection also reviewed activities associated with the temporary containment access opening and restoration. NRC Inspection Report No. 50-346/03-05 (ADAMS Accession No. ML032230339) documented NRC review of the containment integrated leak rate test. This inspection concluded that containment integrity had been restored following replacement of the reactor head.

Leakage testing of the replacement head was evaluated in NRC Inspection Report No. 50-346/03-23 (ADAMS Accession No. ML033421074) and found acceptable. NRC Inspection Report No. 50-346/04-02 will document inspection of DB-SC-03270, “Control Rod Assembly Insertion Time Test.” This activity was observed to evaluate proper control rod movement and alignment. This test was successfully completed on February 10, 2003. The licensee requested closure of this item in a letter to the NRC dated February 23, 2004. This item is closed.

Item 5

"Prior to the restart of the unit, meet with the NRC to obtain restart approval. During that meeting, we expect you will discuss your root cause determination, extent of condition evaluations, and corrective actions completed and planned to repair the damage and prevent recurrence."

Basis for Closure

To support the request to restart the Davis-Besse Station, the licensee submitted its “Integrated Report to Support Restart of the Davis-Besse Nuclear Power Station” to the NRC on November 23, 2003. The report was updated by submittals dated January 27, 2004 and February 6 and 19, 2004. The licensee met with NRC management on February 12, 2004 to request approval for restart of the Davis-Besse facility. The licensee summarized completion of their Return to Service Plan, including root cause determination, extent of condition, and corrective actions taken to prevent recurrence. Upon submittal of the “Integrated Report to Support Restart of the Davis-Besse Nuclear Power Station and Request for Restart Approval”

and presentation at the February 12, 2004, meeting, the licensee completed its actions to address this item. The licensee requested closure of this item in a letter to the NRC dated February 23, 2004. This item is closed upon NRC's approval to restart the Davis-Besse Nuclear Power Station.

Item 6

"Provide a plan and schedule to the NRC, within 15 days of the date of this letter, for completing and submitting to the NRC your ongoing assessment of the safety significance for the RPV head degradation."

Basis for Closure

The FENOC plan and schedule for completing and submitting their assessment of the safety significance of the RPV degradation was submitted to the NRC on March 27, 2002. FENOC submitted the Safety Significance Assessment to the NRC on April 8, 2002, and responded to NRC staff requests for additional information by letters dated June 12, 2002, July 12, 2002, and July 20, 2002. This item was closed on December 24, 2002.

Enclosure 2

Davis-Besse Restart Checklist

1. Adequacy of Root Cause Determinations

1.a Penetration Cracking and Reactor Pressure Vessel Corrosion - Closure documented in NRC Inspection Report No. 50-346/03-04 (ADAMS Accession No. ML031320705).

1.b Organizational, Programmatic and Human Performance Issues - NRC Inspection Report 50-346/02-15 (ADAMS Accession No. ML030380037) documents the initial inspections of the root cause assessments. Final NRC review and closure is documented in NRC Inspection Report No. 50-346/02-18 (ADAMS Accession No. ML032050528).

2. Adequacy of Safety-Significant Structures, Systems, and Components

2.a Reactor Pressure Vessel Head Replacement

Basis For Closure: NRC Inspection Report Nos. 50-346/02-10 (ADAMS Accession No. ML023030585) and 50-346/03-17 (ADAMS Accession No. ML032721592) documented radiological inspections associated with head replacement activities, and concluded that the licensee's efforts to replace the head were appropriately performed. NRC Inspection Report No. 50-346/02-07 (ADAMS Accession No. ML023370100) documented that the engineering and installation activities were appropriately performed for head replacement. NRC Inspection Report No. 50-346/03-23 (ADAMS Accession No. ML033421074) documented that the licensee's leak checks of the head at normal operating pressure and temperature were acceptably performed with no leakage detected. Finally, inspection of the licensee's implementation of procedure DB-SC-03270, "Control Rod Assembly Insertion Time Test" was performed by the NRC resident inspection staff. The inspectors observed the test and concluded that the test was performed in accordance with the procedure, control rod movement was proper, and reactor vessel head alignment was acceptable. The results of this last inspection will be documented in Inspection Report No. 50-346/04-02. This item is closed.

2.b Containment Vessel Restoration Following Reactor Pressure Vessel Head Replacement - Opening and restoration of containment is documented in NRC Inspection Report No. 50-346/02-07 (ADAMS Accession No. ML023370100). Inspection of the containment Integrated Leak Rate Test and final item closure is documented in NRC Inspection Report No. 50-346/03-05 (ADAMS Accession No. ML032230339).

2.c Structures, Systems, and Components Inside Containment

Basis for Closure: The licensee's "Containment Extent of Condition Program" evaluated and dispositioned the extent of condition throughout the reactor coolant system and containment systems, structures, and components relative to the degradation mechanisms that occurred on the reactor vessel head. NRC Inspection Report No. 50-346/02-09 (ADAMS Accession No. ML022560237) reviewed the licensee's plan for inspections, including methods, control of walkdown boundaries, resolution of obstructed examinations, and control of inspection records. Based on the results of the NRC inspection and licensee walkdowns, NRC Inspection Report

No. 50-346/02-12 (ADAMS Accession No. ML023370132) focused on evaluating corrective actions for the issues previously identified. This inspection concluded that the issues were adequately resolved and that the inspections were effectively implemented. Three unresolved items associated with corrective actions for corrosion of electrical conduit, failure to follow the procedure for Raychem splice removal on electrical cable, and potential leakage of reactor vessel bottom head incore instrumentation penetrations were identified. The last item was reviewed and concluded to have been acceptably resolved as documented in NRC Inspection Report No. 50-346/03-23 (ADAMS Accession No. ML033421074). The remaining two issues were evaluated by the Corrective Action Team Inspection (CATI), and the inspectors concluded that these issues had been effectively resolved. The conclusions of the CATI will be documented in NRC Inspection Report No. 50-346/03-10. This item is closed.

2.c.1 **Emergency Core Cooling System and Containment Spray System Sump** - Closure documented in NRC Inspection Report No. 50-346/03-17 (ADAMS Accession No. ML032721592). Additional information is contained in NRC Inspection Report No. 50-346/03-06 (ADAMS Accession No. ML031710897).

2.d **Extent-of-Condition of Systems Outside Containment -** Closure documented in NRC Inspection Report No. 50-346/03-22 (ADAMS Accession No. ML033570081). Additional information is contained in NRC Inspection Report Nos. 50-346/02-09 (ADAMS Accession No. ML022560237), 50-346/02-14 (ADAMS Accession No. ML030630314), and 50-346/03-13 (ADAMS Accession No. ML031680985).

2.e High Pressure Injection Pump Internal Clearance/Debris Resolution

Basis for Closure: NRC inspection of the issue was discussed in NRC Inspection Report No. 50-346/03-15 (ADAMS Accession No. ML032120360). The NRC staff evaluated the Davis-Besse high-pressure injection (HPI) pump modifications performed to address concerns identified by the licensee associated with the potential for debris to damage the pump during recirculation phase operation. In addition, the NRC staff evaluated a concern with the adequacy of the minimum flow capability provided for the pumps to prevent pump failure if the pumps were operated when no injection was occurring. The NRC review included evaluating the validity of the licensee's mock-up tests approach, determining whether the testing demonstrated acceptable pump performance under design-basis conditions, and evaluating the test performed on pump operation at minimum flow. The NRC staff concluded in the Task Interface Agreement (TIA) 2003-04 response dated February 11, 2004, that the licensee's overall approach to the modification of its HPI pumps and its testing, is acceptable and provides reasonable assurance that the HPI pumps will perform their required functions when called upon. This conclusion will be documented in NRC Inspection Report No. 50-346/04-02. In addition, NRC inspectors agreed with the licensee's determination that the pumps would be able to perform their safety function at the minimum flow based on the results of a minimum flow test performed with one of the pumps. The results of the last inspection will be documented in NRC Inspection Report No. 50-346/03-10. This item is closed.

3. Adequacy of Safety-Significant Programs

3.a Corrective Action Program

Basis for Closure: As part of the corrective actions resulting from the reactor vessel head degradation, the licensee established a return to service plan to identify, monitor, and control all actions necessary for the safe and reliable return to service of Davis-Besse. A key element of

the return to service plan was for the licensee to reestablish the Corrective Action Program (CAP) to ensure that future conditions adverse to quality were properly identified, evaluated and corrected. The NRC performed a review of the CAP which was documented in NRC Inspection Report Nos. 50-346/02-11 (ADAMS Accession No. ML03188044) and 50-346/03-09 (ADAMS Accession No. ML031880844.

The NRC also performed a comprehensive Corrective Action Team Inspection (CATI), whose main function was to evaluate the licensee's effectiveness in correcting the deficiencies in the CAP. While the CATI identified deficiencies still existing within the CAP, the team concluded that the licensee's corrective actions were acceptable to support plant restart. The deficiencies identified by the CATI were discussed with the licensee during two public meetings, on November 12 and December 10, 2003. As part of these meetings, the licensee made a number of commitments to further improve the CAP as part of its Operational Improvement Plan for Cycle 14. The conclusions of the CATI will be documented in NRC Inspection Report No. 50-346/03-10. This item is closed.

3.b **Operating Experience Program -** NRC inspection of the program was initially discussed in NRC Inspection Report No. 50-346/02-11 (ADAMS Accession No. ML031880844). Closure documented in NRC Inspection Report No. 50-346/03-09 (ADAMS Accession No. ML031880844).

3.c **Quality Audits and Self-Assessments of Programs -** Closure documented in NRC Inspection Report No. 50-346/03-23 (ADAMS Accession No. ML033421074). Additional information is contained in NRC Inspection Report Nos. 50-346/02-11 (ADAMS Accession No. ML031880844) and 50-346/03-09 (ADAMS Accession No. ML031880844).

3.d **Boric Acid Corrosion Management Program** - The NRC conducted two special inspections associated with identifying and evaluating the effects of boric acid corrosion of components and systems within containment. The inspections are documented in NRC Inspection Reports 50/346/02-09 (ADAMS Accession No. ML022560237) and 50-346/02-12 (ADAMS Accession No. ML023370132). The NRC performed inspections of the Boric Acid Corrosion Management Program which were documented in NRC Inspection Report Nos. 50-346/02-11 (ADAMS Accession No. ML031880844) and 50-346/03-09 (ADAMS Accession No. ML031880844). Final item closure was documented in NRC Inspection Report No. 50-346/03-17 (ADAMS Accession No. ML032721592).

3.e **RCS Unidentified Leakage Monitoring Program** - NRC inspection of the program was initially reviewed as documented in NRC Inspection Report No. 50-346/02-11 (ADAMS Accession No. ML031880844). Closure documented in NRC Inspection Report No. 50-346/03-09 (ADAMS Accession No. ML031880844).

3.f **In-Service Inspection Program** - NRC inspection of the program was initially reviewed as documented in NRC Inspection Report Nos. 50-346/02-11 (ADAMS Accession No. ML031880844) and 50-346/03-09 (ADAMS Accession No. ML031880844). Closure documented in NRC Inspection Report No. 50-346/03-09 (ADAMS Accession No. ML031880844).

3.g **Modification Control Program** - NRC inspection of the program was initially reviewed in NRC Inspection Report No. 50-346/02-11 (ADAMS Accession No. ML031880844). Closure

documented in NRC Inspection Report No. 50-346/03-09 (ADAMS Accession No. ML031880844).

3.h **Radiation Protection Program** - NRC inspection of the program was initially reviewed as documented in NRC Inspection Report Nos. 50-346/02-06 (ADAMS Accession No. ML030070606), 50-346/02-16 (ADAMS Accession No. ML030070606), and 50-346/03-08 (ADAMS Accession No. ML031500693). Closure documented in NRC Inspection Report No. 50-346/03-17 (ADAMS Accession No. ML032721592).

3.i **Process for Ensuring Completeness and Accuracy of Required Records and Submittals to the NRC** - Closure documented in NRC Inspection Report No. 50-346/03-19 (ADAMS Accession No. ML040280594).

4. Adequacy of Organizational Effectiveness and Human Performance

4.a **Adequacy of Corrective Action Plan in the Organizational Effectiveness and Human Performance Area** - NRC inspection of issue was initially reviewed in NRC Inspection Report No. 50-346/02-15 (ADAMS Accession No. ML030380037). Closure documented in NRC Inspection Report No. 50-346/02-18 (ADAMS Accession No. ML032050528).

4.b **Effectiveness of Corrective Actions in the Organizational Effectiveness and Human Performance Area**

Basis for Closure: To assess this item, the NRC performed a Management and Human Performance team inspection. The inspection was designed to evaluate the licensee's actions in response to the degraded reactor vessel head issue. Specifically, the inspection was to evaluate the following areas: the licensee's root cause assessments, the licensee's corrective actions and their implementation, and the licensee's tools for monitoring the effectiveness of the corrective actions. Because of concerns which developed following the root cause analyses, the inspection also included an evaluation of the licensee's actions regarding safety conscious work environment and the employee concerns program (ECP). The inspection was performed in several phases, with a separate inspection report issued for each phase. The NRC inspection report numbers addressing this item are 50-346/02-15 (ADAMS Accession No. ML030380037), 50-346/02-18 (ADAMS Accession No. ML032050528), and 50-346/03-12 (ADAMS Accession No. ML040580673), with additional information to be documented in NRC Inspection Report No. 50-346/04-03. The Management and Human Performance inspection concluded that the licensee's root causes analyses were appropriate, that the corrective actions were appropriate, and that the corrective actions have been sufficiently effective to provide reasonable assurance to preclude recurrence of the conditions which led to the degradation of Davis-Besse's reactor vessel head. While additional actions are planned to further improve the safety culture at Davis-Besse as documented in the licensee's Cycle 14 Operational Improvement Plan, no issues were identified that would preclude unit restart. This item is closed.

5. Readiness for Restart

5.a **Review of Licensee's Restart Action Plan** - Closure documented in NRC Inspection Report No. 50-346/03-22 (ADAMS Accession No. ML033570081).

5.b Systems Readiness for Restart

Basis for Closure: The licensee established a System Health Assurance Plan which consisted of several reviews of each safety-related system to ensure that it was capable of meeting its design requirements and procedures for operation were adequate. The licensee completed activities under this plan to review systems' readiness for restart. The NRC conducted several inspections to assess the licensee's activities and obtain reasonable assurance that the safety-systems at the plant were capable of performing their design functions. The results of these inspections are documented in NRC Inspection Report Nos. 50-346/02-13 (ADAMS Accession No. ML030630314), 50-346/02-14 (ADAMS Accession No. ML030630314), 50-346/03-03 (ADAMS Accession No. ML032950012), 50-346/03-11 (ADAMS Accession No. ML040360097), 50-346/03-22 (ADAMS Accession No. ML033570081), and 50-346/03-24 (ADAMS Accession No. ML040060504), with additional information to be documented in NRC Inspection Report Nos. 50-346/03-10 and 50-346/04-04. Throughout the extended shutdown the NRC identified a number of discrepancies which affected past operability of safety systems. For conditions affecting operability, the NRC has confirmed that adequate corrective actions have been taken to restore the operability of those safety systems. 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 are ready to support safe restart and operation of Davis-Besse. This item is closed.

5.c Operations Readiness for Restart

Basis for Closure: The NRC's evaluation of this Restart Checklist Item was based on the results of the NRC's December 2003 restart readiness assessment team inspection (Inspection Report No. 50-346/03-11 (ADAMS Accession No. ML040360097)) with additional information from a follow-up restart readiness assessment team inspection to be documented in NRC Inspection Report No. 50-346/04-04, information in the licensee's "Integrated Report to Support Restart of the Davis-Besse Nuclear Power Station," and the licensee's Operational Improvement Plan for Cycle 14. In its November 23, 2003, "Integrated Report to Support Restart of the Davis-Besse Nuclear Power Station and Request for Restart Approval," and its supplements dated February 6 and 19, 2004, Davis-Besse described in detail its corrective actions, including long-term actions to prevent recurrence, to address problems from its conduct of operations. The Operational Improvement Plan for Cycle 14 identified several initiatives to improve and measure operational performance, including organizational effectiveness improvement, operations improvement, maintenance improvement, engineering improvement, training improvement, work management improvement, safety culture improvement, oversight improvement, corrective action improvement, and procedure improvement. The restart readiness assessment team inspections concluded that systems were operated consistent with the design and licensing documents, that specific problem areas and issues observed during the first restart readiness assessment team inspection had been adequately resolved, and that corrective actions for deficiencies involving configuration control were acceptable. The inspectors did not observe any significant problems during round-the-clock observations of licensee activities. Taken collectively, the results of NRC inspections and evaluations provide reasonable assurance that the licensee has taken appropriate actions to ensure that the station can be started and operated safely and in conformance license and design requirements. This item is closed.

5.d Test Program Development and Implementation - Closure documented in NRC Inspection Report No. 50-346/03-25 (ADAMS Accession No. ML040290768).

6. Licensing Issue Resolution

6.a Verification that Relief Requests A8 and A12 regarding the Shell to Flange Weld (previously submitted by letter dated September 19, 2000) is not Impacted by the Midland RPV Head - Closure documented in NRC Inspection Report No. 50-346/03-04 (ADAMS Accession No. ML031320705).

6.b American Society of Mechanical Engineers (ASME) Code Relief Request for Failure to Maintain Original Radiographic Tests of the Midland Head to Flange Weld (Planned Relief Request A26) - Closure documented in NRC Inspection Report No. 50-346/03-04 (ADAMS Accession No. ML031320705).

6.c ASME Code Relief Request for Inability to Radiographically Test 100% of the Midland Reactor Pressure Vessel Head to Flange Weld (Planned Relief Request A27) - Closure documented in NRC Inspection Report No. 50-346/03-04 (ADAMS Accession No. ML031320705).

6.d Resubmit Relief Request A2 (previously submitted by letter dated September 19, 2000) for ASME Code for Inability to Perform 100% volumetric and surface examination of Head to Flange Weld - Closure documented in NRC Inspection Report No. 50-346/03-04 (ADAMS Accession No. ML031320705).

6.e Reconciliation Letter that Demonstrates How the New Reactor Pressure Vessel Head Correlates With the ASME Code and QA Index for Section III and Section XI - Commitments - Closure documented in NRC Inspection Report No. 50-346/03-04 (ADAMS Accession No. ML031320705).

6.f Verification Letter of Technical Specification Pressure/Temperature Curves for New Vessel Head - Commitment - Closure documented in NRC Inspection Report No. 50-346/03-04 (ADAMS Accession No. ML031320705).

6.g Request to relocate High Pressure Injection and Low Pressure Injection Subsystems Flow Balance Testing from Technical Specifications 4.5.2.h to Updated Safety Analysis Report Technical Requirements Manual - Closure documented in NRC Inspection Report No. 50-346/03-17 (ADAMS Accession No. ML032721592).

7. Confirmatory Action Letter Resolution

7.a Verification that Confirmatory Action Letter Items are Resolved, Including a Public Meeting to Discuss Readiness for Restart - Closed in Enclosure 1 to the cover letter to this enclosure.

7590-01-P

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	Docket No. 50-346
FirstEnergy Nuclear Operating Company	)	License No. NPF-3
(Davis-Besse Nuclear Power Station, Unit 1)	)	EA-03-214

CONFIRMATORY ORDER MODIFYING LICENSE (EFFECTIVE IMMEDIATELY)

I.

FirstEnergy Nuclear Operating Company (FENOC, or the Licensee) is the holder of Facility Operating License No. NPF-3 issued on April 22, 1977, by the Nuclear Regulatory Commission (NRC or Commission) pursuant to 10 CFR Part 50. The license authorizes the operation of Davis-Besse Nuclear Power Station, Unit 1 (Davis-Besse), in accordance with conditions specified therein. The facility is located on the Licensee's site in Ottawa County, Ohio.

II.

The discovery of circumferential cracking in some of the control rod drive mechanism (CRDM) nozzles that penetrate the reactor pressure vessel (RPV) head at Oconee Nuclear Station, Unit 3, in February 2001, and Oconee Nuclear Station, Unit 2, in April 2001, raised concerns about the potential safety implications and prevalence of cracking in RPV head penetration nozzles in pressurized-water reactors (PWRs). In response to these concerns, the NRC issued NRC Bulletin 2001-01 on August 3, 2001. The bulletin required all PWR operators to report to the NRC on the structural integrity of the CRDM nozzles, including their plans to ensure that future inspections would verify structural integrity of the reactor vessel boundary.

Davis-Besse was shut down on February 16, 2002, when it began its 13th refueling outage, which included an inspection of CRDM nozzles. On March 6, 2002, FENOC employees discovered a cavity in the RPV head. The cavity was the result of corrosion caused by long-term leakage of reactor coolant, which contains boric acid, from small cracks in one of the CRDM nozzles.

The NRC staff subsequently determined that FENOC's failure to properly implement its boric acid corrosion control and corrective action programs was a performance deficiency that allowed reactor coolant system pressure boundary leakage to occur undetected for a prolonged time, resulting in RPV upper head degradation. The NRC determined that the Licensee's performance deficiency had high safety significance, in the Red range, as documented in a letter to the Licensee dated May 29, 2003 (ADAMS Accession No. ML031490778).

The NRC took a series of actions in response to the discovery of the cavity in the Davis-Besse RPV head. An Augmented Inspection Team was sent to Davis-Besse on March 12, 2002, to collect facts regarding the conditions that led to the head degradation. Additionally, the NRC issued a Confirmatory Action Letter (CAL) to the Licensee on March 13, 2002 (ML020730225), confirming the Licensee's agreement that NRC approval is required for restart of Davis-Besse. The CAL also documented a number of actions that the Licensee must implement before restart. By letter dated April 29, 2002 (ML021190661), the NRC informed FENOC that its corrective actions at Davis-Besse would receive enhanced NRC oversight, as described in NRC Inspection Manual Chapter 0350, "Oversight of Operating Reactor Facilities in a Shutdown Condition With Performance Problems." That enhanced monitoring began on May 3, 2002, and included the creation of a panel to provide the required oversight during the plant shutdown and during and after any future restart until a determination is made that the plant is ready for return to the NRC's normal reactor oversight process.

By letter dated April 18, 2002 (ML021130029), “Confirmatory Action Letter Response - Root Cause Analysis Report,” the Licensee submitted to the NRC its technical root cause analysis report for the RPV head degradation, as revised by letter dated September 23, 2002 (ML022750125), “Revision 1 to Root Cause Analysis Report Regarding Reactor Pressure Vessel Head Degradation.” The Licensee concluded that the probable cause of the degradation was primary water stress corrosion cracking of the nozzle. The physical factors that caused corrosion of the RPV head were the CRDM nozzle leakage associated with through-wall cracking, followed by boric acid corrosion of the RPV low-alloy steel. The Licensee further concluded that the large-scale corrosion occurred as a result of a failure to detect and arrest the leakage until advanced symptoms had appeared.

The Licensee submitted to the NRC its nontechnical root cause analysis by letter dated August 21, 2002 (ML022750405), “Management and Human Performance Root Cause Analysis Report on Failure to Identify Reactor Pressure Vessel Head Degradation.” In this analysis, the Licensee concluded that “there was a lack of sensitivity to nuclear safety and the focus was to justify existing conditions. The overall conclusion is that Management ineffectively implemented processes and thus failed to detect and address plant problems as opportunities arose.” The Licensee identified a number of root causes for the failure to identify boric acid corrosion of the RPV head, including:

1. Less-than-adequate nuclear safety focus - A production focus established by management, combined with minimum action to meet regulatory requirements, resulted in acceptance of degraded conditions on the RPV head and other components affected by boric acid.
2. Less-than-adequate implementation of the corrective action program, as indicated by the following:
    a. Addressing symptoms rather than causes

b. Low categorization of conditions

c. Less-than-adequate cause determinations

d. Less-than-adequate corrective actions

e. Less-than-adequate trending

3. Less-than-adequate analyses of safety implications - Failure to integrate and apply key industry information and site knowledge/experience, effectively use vendor expertise, and compare new information to baseline knowledge led to less-than-adequate analyses and decisionmaking with respect to the nuclear safety implications of boric acid on the reactor vessel head and in the containment.

4. Less-than-adequate compliance with the boric acid corrosion control and inservice test programs - Contrary to these programs, boric acid was not completely removed from the RPV head. The affected areas were not inspected for corrosion and leakage from nozzles and the sources of the leakage were not determined.

As documented in NRC Inspection Report No. 50-346/02-15 (ML030380037), dated February 6, 2003, the NRC concluded that the Licensee's management and human performance initial root cause analyses were not sufficiently broad to identify potential contributors in the engineering and corporate support areas and were not developed in an integrated manner to identify potentially systemic issues. Additional analyses were performed by the Licensee, including assessments in the areas of operations, engineering, oversight, and corporate support, and were evaluated by the NRC, as documented in NRC Inspection Report No. 50-346/02-18 (ML032050528), dated July 24, 2003. Following review of the additional FENOC analyses, the NRC concluded that the Licensee's overall nontechnical root cause assessment was of appropriate depth and breadth to develop actions to correct and prevent recurrence of the management and human performance deficiencies associated with the RPV head degradation.

Corrective actions taken by the Licensee included the development of a Return-to-Service Plan, which described FENOC's actions for Davis-Besse's safe and reliable return to service. The Return-to-Service Plan was initially submitted to the NRC on May 21, 2002 (ML021430429), and has been revised several times, most recently on April 6, 2003 (ML031000739).

The NRC Davis-Besse Oversight Panel established a Restart Checklist, which lists the essential issues requiring disposition prior to restart. The Restart Checklist was originally issued on August 16, 2002 (ML022310034), and has been revised as necessary by the Oversight Panel based on the results of NRC inspections and the Licensee's assessments. The Restart Checklist addresses those issues necessary to resolve the causes of the RPV head degradation so that the Licensee can safely restart and operate the plant. For example, issues requiring resolution before the Oversight Panel can consider a recommendation for restart include (1) the adequacy of safety-significant structures, systems, and components inside containment, (2) the adequacy of safety-significant programs, such as the corrective action program, self-assessment programs, and the boric acid corrosion management program, and (3) the adequacy of organizational effectiveness and human performance, including the effectiveness of corrective actions.

While the Restart Checklist establishes those essential actions necessary for safe restart and operation, a key element in preventing recurrence of a safety-significant event such as the RPV head degradation is effective Licensee self-assessment. Given the magnitude, scope, and duration of problems found at Davis-Besse, and that the Licensee's own self-assessments were not effective in preventing risk-significant performance deficiencies, additional assurance that the Licensee's self-assessment programs remain effective is essential.

III.

To address the issues identified above and ensure sustained safe performance in plant operation, the Licensee developed the Davis-Besse Nuclear Power Station Operational Improvement Plan - Operating Cycle 14, which was submitted to the NRC by letter dated November 23, 2003, “Integrated Report to Support Restart of the Davis-Besse Nuclear Power Station and Request for Restart Approval” (ML033360251) and most recently revised on January 27, 2004 (ML040280597). The Operational Improvement Plan provides for a managed transition from the Return-to-Service Plan to normal plant operations and refueling outages. The purpose of the Operational Improvement Plan is to ensure that improvements realized during the extended outage remain in place and are further built upon to improve performance in the future.

On November 12, December 3, and December 10, 2003, the Licensee met with the NRC staff regarding the Davis-Besse Nuclear Power Station Operational Improvement Plan for Operating Cycle 14. Among other long-term corrective actions, the Operational Improvement Plan focuses on Licensee initiatives to measure and sustain achievements in the areas of management and human performance at Davis-Besse. The Operational Improvement Plan contains a number of key improvement initiatives, including continuing actions in the areas of operations, engineering, safety culture, and corrective actions.

As assurance that the Operational Improvement Plan initiatives are sufficient to ensure the continued integrity of the reactor coolant system and correction of the underlying management and organizational problems which led to the RPV head degradation, the Licensee also committed to the following actions. By letters dated March 31 (ML030930451) and November 14, 2003 (ML033220323), FENOC committed to conduct certain inspections every refueling outage for leakage from the RPV upper head and from pressure-retaining components above the RPV head. These include the CRDM flanges. In addition, by letter

dated July 30, 2003 (ML032160384), FENOC committed to conduct similar inspections of the reactor vessel underside incore monitoring instrumentation nozzles, including during the Cycle 14 midcycle outage. As noted in the NRC staff assessment (ML032510339), the midcycle inspection will help to assure prompt identification of any significant reactor coolant system pressure boundary leakage should it develop. The midcycle outage activities will provide additional confirmation of the material status of the reactor coolant system.

Notwithstanding the corrective actions completed to address the CAL and Restart Checklist and planned by the Licensee in the Operational Improvement Plan, the NRC requires additional measures with respect to independent assessments and midcycle inspections to provide reasonable assurance that the long-term corrective actions remain effective for those conditions that resulted in risk-significant performance deficiencies. During the course of the extended shutdown of Davis-Besse beginning in February 2002, FENOC conducted a number of thorough evaluations and self-assessments. Examples include the evaluation of system design, the assessment of the completeness and accuracy of docketed information, the evaluation of operational performance deficiencies during the normal operating pressure test, and the evaluation of the failure to comply with technical specification requirements during testing of the steam and feedwater rupture control system. However, Licensee assessments of operational performance prior to both the normal operating pressure test and the NRC's Restart Readiness Assessment Team Inspection in December 2003 failed to identify a number of deficiencies. NRC inspections also discovered problems that were not originally found by the Licensee, most notably in safety culture, in the corrective action program, and in the quality of engineering calculations and analyses. These issues indicated weaknesses in the Licensee's ability to assess, find, and correct conditions adverse to quality. In addition, on November 23, 2003, the Licensee concluded that the plant, programs, and personnel were ready to support safe operation, subject to completion of a few, well-defined work activities prior to restart, and

requested the NRC schedule a meeting as stated in the CAL, and then provide approval for restart. A meeting was originally scheduled for December 18, 2003, to discuss restart. However, due to self-revealing equipment and operational problems and issues from the NRC Restart Readiness Assessment and the Management and Human Performance inspection teams, the meeting was delayed. Given the Licensee's previous conclusion that it was ready to support safe operation, these problems were additional evidence of inadequate self-assessment. Since then, the NRC recognizes that FENOC has implemented significant corrective actions resulting in improved performance and self-assessment capability. Nevertheless, considering the problems noted above and going forward, the NRC requires independent outside assessments to ensure continued effective Licensee self-assessments and sustained safe performance in the areas of operations, engineering and corrective actions at Davis-Besse.

On February 26, 2004, the Licensee executed a consent form in which it committed to implement the conditions in Section IV below with respect to future independent assessments of operations, safety culture, corrective actions, and engineering at Davis-Besse, and inspections of the reactor coolant system pressure boundary during a midcycle outage. The independent assessments will provide important confirmation of the effectiveness of the Licensee's self-assessments and long-term improvement actions. The reactor coolant system pressure boundary inspections will assure prompt identification of any leakage should it develop. The Licensee further agreed that this Order would be effective upon issuance and waived its right to a hearing.

I find that the Licensee's commitments, as set forth in Section IV, are acceptable and necessary and conclude that with these commitments, plant safety is reasonably assured. In view of the foregoing, I have determined that public health and safety require that the

Licensee's commitments be confirmed by this Order. Based on the above, this Order is immediately effective upon issuance.

IV.

Accordingly, pursuant to Sections 103, 161b, 161i, 161o, 182 and 186 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202 and 10 CFR Part 50, IT IS HEREBY ORDERED, **EFFECTIVE IMMEDIATELY**, THAT LICENSE NO. NPF-3 IS MODIFIED AS FOLLOWS:

1. FENOC shall contract with independent outside organizations to conduct comprehensive assessments of the Davis-Besse operations performance, organizational safety culture, including safety conscious work environment, the corrective action program implementation, and the engineering program effectiveness. Ninety days prior to the assessments, FENOC shall inform the Regional Administrator, NRC Region III, in writing, of the identity of its outside assessment organizations, including the qualifications of the assessors, and the scope and depth of the assessment plans. These outside independent assessments at Davis-Besse shall be completed before the end of the 4th calendar quarter of 2004 and annually thereafter for 5 years. Within 45 days of completion of the assessments, the Licensee shall submit by letter to the Regional Administrator, NRC Region III, all assessment results and any action plans necessary to address issues raised by the assessment results.

2. FENOC shall conduct a visual examination of the reactor pressure vessel upper head bare metal surface, including the head-to-penetration

interfaces; the reactor pressure vessel lower head bare metal surface, including the head-to-penetration interfaces; and the control rod drive mechanism flanges, using VT-2 qualified personnel and procedures during the Cycle 14 midcycle outage. The results and evaluation of the inspections will be reported by letter to the Regional Administrator, NRC Region III, prior to restart from the midcycle outage, and any evidence of reactor coolant leakage found during the inspections will be reported by telephone within 24 hours of discovery to the Regional Administrator, NRC Region III, or designee.

If the Licensee determines that submittals made in accordance with these conditions contain proprietary information as defined by 10 CFR 2.390, the Licensee shall also provide a nonproprietary version in accordance with 10 CFR 2.390(b)(1)(ii). The Regional Administrator, NRC Region III, may, in writing, relax or rescind any of the above conditions upon demonstration by the Licensee of good cause.

V.

Any person adversely affected by this Confirmatory Order, other than the Licensee, may request a hearing within 20 days of its issuance. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time in which to request a hearing must be made in writing to the Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and must include a statement of good cause for the extension. Any request for a hearing shall be submitted to the Secretary, U.S. Nuclear Regulatory Commission, ATTN: Chief, Rulemakings and Adjudications Staff, Washington, DC 20555. Copies of the hearing request shall also be sent to the Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC

20555, to the Assistant General Counsel for Materials Litigation and Enforcement at the same address, to the Regional Administrator for NRC Region III, 801 Warrenville Road, Lisle, Illinois 60532-4351, and to the Licensee. If a person requests a hearing, that person shall set forth with particularity the manner in which his interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR 2.309(d).

If a hearing is requested by a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearing. If a hearing is held, the issue to be considered at such hearing shall be whether this Confirmatory Order should be sustained. AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Dated this 8th day of March 2004

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