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Docket Number 50-346

License Number NPF-3

Serial Number 1-1310

April 6, 2003

Mr. James E. Dyer, Administrator
United States Nuclear Regulatory Commission
Region III
801 Warrenville Road
Lisle, IL 60532-4351

Subject: Transmittal of Revision 6 of the Davis-Besse Return to Service Plan, Revision 5 of the Davis-Besse Restart Action Plan, Revision 5 of Davis-Besse Program Compliance Plan, and Revision 3 of the Nuclear Operating Business Practice, Restart Readiness Review Extended Plant Outage (DBBP-VP-0002)

Dear Mr. Dyer:

On January 9, 2003 (Serial 1-1300), the FirstEnergy Nuclear Operating Company (FENOC) transmitted earlier revisions of Davis-Besse Return to Service Plan, Davis-Besse Restart Action Plan, and Davis-Besse Program Compliance Plan. The enclosed plans supercedes all previous revisions in their entirety. The revised plans continue to accomplish the original objectives and reflect the current revision of the Building Block Plans and development of implementing procedures. Additionally, the enclosed provides a copy of Revision 3 of the Nuclear Operating Business Practice DBBP-VP-0002, Restart Readiness Review Extended Plant Outage. This procedure provides the review process to ensure Davis-Besse's materiel condition, programs and processes, and organization, including the organization's safety culture are ready for plant restart and safe, reliable operation.

No commitments are identified in the enclosures. Also, it should be noted that FirstEnergy Nuclear Operating Company may periodically update these documents in the future, as necessary.

If you have any questions or require further information, please contact Mr. Patrick J. McCloskey, Manager - Regulatory Affairs, at (419) 321-8450.

Sincerely yours,

Lew W Myers

GB/GH

Enclosures
Attachment

A001

cc: USNRC Document Control Desk
J. B. Hopkins, DB-1 NRC/NRR Senior Project Manager
C. S. Thomas, DB-1 Senior Resident Inspector
Utility Radiological Safety Board

Docket Number 50-346
License Number NPF-3
Serial Number 1-1310
Enclosure

Revision 6 of the Davis-Besse Return to Service Plan

DAVIS-BESSE
RETURN TO SERVICE PLAN

Revision: 6

Date: March 31, 2003

Approvals:

L. W. Myers, FENOC Chief Operating Officer

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Summary of Revision Changes

Revision 6:

Section IV. Revised the System Health Assurance Building Block Owner from Joseph W. Rogers to Richard G. Mende.

Item B: Containment Health Assurance Plan

Changes were made to the Charter and Description of this plan to reflect the changes made to Revision 6 of this Building Block Plan.

Item D: Program Compliance Plan

Changes were made to the Charter portion of this section to match the wording in Revision 5 of this Building Block Plan.

Item E: Management and Human Performance Excellence Plan

Changes were made to correct grammar and to match this Building Block Plan.

Item G: Restart Action Plan

Changes were made to the Charter and Description of this plan to reflect the changes made to Revision 5 of this Building Block Plan.

Section V. Confirmatory Action Letter Status

The Status of Items 1 and 4 of this section.

Figure 1: Davis-Besse Restart Building Blocks

Changes were made to the owner of the System Health Assurance Plan.

I. Introduction and Purpose

Between March 6 and March 10, 2002, as a result of inspections conducted pursuant to NRC Bulletin 2001-01, "Circumferential Cracking of Reactor Vessel Head Penetration Nozzles," Davis-Besse Nuclear Power Station (Davis-Besse) management informed the Nuclear Regulatory Commission (NRC) of the presence of a large cavity in the Reactor Pressure Vessel (RPV) Head adjacent to a control rod drive nozzle. On March 13, 2002, the NRC issued a Confirmatory Action Letter (CAL) identifying six sets of commitments that the FirstEnergy Nuclear Operating Company (FENOC) will meet to address the conditions associated with degradation of the RPV Head prior to restart of the reactor, including meeting with the NRC to obtain approval for restart. The CAL was subsequently revised on May 15, 2002, to reflect the use of a replacement RPV Head.

Prior to this point, the Davis-Besse plant had good operational performance. All NRC reactor oversight cornerstones were GREEN. Previous Institute of Nuclear Power Operations (INPO) evaluations also showed no significant weaknesses, with generally improving trends.

This Return to Service Plan describes Davis-Besse's course of action for a safe and reliable return to service. This course of action includes those actions necessary to address each of the six sets of commitments in the CAL, the near-term corrective and preventive actions necessary to address the causal factors associated with the RPV Head degradation event, and the longer term actions necessary to assure that the underlying causal factors remain corrected and that continued safe performance at Davis-Besse is sustained. In addition, the root cause related to management not promptly identifying the degradation of the RPV Head will be corrected.

The near-term actions necessary to support restart are included in the Davis-Besse Inspection Manual Chapter (IMC) 0350 Restart List and will be discussed in an Integrated Restart Report, which will demonstrate that Davis-Besse is ready for restart and request NRC approval of restart and closure of the commitments in the CAL. The longer term, post-restart actions will be evaluated for incorporation into the Business Plan and/or the regulatory commitment management system.

This Plan consists of seven Building Blocks, designed to support safe and reliable restart of the plant and to ensure sustained performance improvements:

A. Reactor Head Resolution Plan

B. Containment Health Assurance Plan

C. System Health Assurance Plan

D. Program Compliance Plan

E. Management and Human Performance Excellence Plan

F. Restart Test Plan

G. Restart Action Plan

Formal plans have been developed for each of the seven Building Blocks, along with implementing procedures and action plans where appropriate. These plans are available for

NRC review. Status of the implementation of these plans is being discussed monthly in public meetings with the NRC IMC 0350 Panel, demonstrating Davis-Besse's performance.

Davis-Besse management is being deliberate and conservative in implementing the Return to Service Plan and will not return the Station to service until it is satisfied that the Station can be returned to power and operated safely and reliably over the long-term. FENOC senior leadership is directly involved in the direction and oversight of Davis-Besse's return to service. A Restart Overview Panel, which includes independent industry experts, is providing additional oversight and review of plant activities discovered or performed as part of the Return to Service Plan Building Blocks.

II. Restart Organization

The following are the key elements of the restart organization:

- A new Chief Operating Officer position has been established and is assigned to provide corporate direction and oversight of the Return to Service Plan.
- A new Executive Vice President – Engineering and Services position has been established to provide corporate direction and oversight of engineering activities under the Return to Service Plan.
- A new Vice President of Oversight position has been established to assess the quality of Building Block and restart activities.
- Building Block Teams (Figure 1) have been established to address the causal factors associated with the RPV Head degradation.
- A Restart Overview Panel has been established, consisting of FENOC executive management to provide an independent oversight of implementation of the Return to Service and Building Block Plans.
- An Engineering Assessment Board has been established to review products generated under several of the Building Blocks.
- A Senior Management Team has been established, consisting of the FENOC Chief Operating Officer, the Plant Manager, the Directors of Nuclear Engineering, Support Services, and Work Management, and independent oversight. The Senior Management Team is chartered to provide senior management review and oversight of restart activities.
- A Restart Station Review Board has been established, consisting of the Director of Support Services, site managers, and independent oversight, chartered to identify and classify items to be included in the Restart Action Database through a review of Condition Reports, Corrective Actions, and other documents.

Figure 2 depicts the restart organization and its relationship to the building blocks.

III. Nuclear Quality Assessment Oversight

Davis-Besse (DB) Nuclear Quality Assessment (NQA), reporting to the Vice President of Oversight, provides oversight and verifies the adequacy of activities conducted as part of the Return to Service Plan. This will be performed by assessing key activities such as: review board meetings; in-depth technical review of engineering products; field verification of actual conditions pre- and post-remediation; and independent reviews paralleling those performed by the line organization. Specific activities are selected for review based on their safety and risk significance to provide reasonable assurance that Return to Service Plan activities are performed in a quality manner. Details regarding the activities to be verified are included in the Nuclear Quality Assessment Oversight of Davis-Besse Return to Service Plan.

NQA oversight is conducted using FENOC procedure NOP-LP-2004, Internal Assessment Process. As described in this procedure, the Quality Field Observation database will be used to document the results of these assessments. Findings and recommendations shall be documented on Condition Reports (CRs) and processed in accordance with FENOC procedure NOP-LP-2001, Condition Report Process. NQA will use the established process and develop a separate Quality Field Observation to document the overall NQA conclusion for each building block.

Assessment Team Leaders are certified in accordance with Davis-Besse procedure NA-QA-07006, Certification of Lead Auditor Personnel. Assessment team members, including technical specialists, receive training orientation in accordance with FENOC procedure NOP-LP-2004, Internal Assessment Process.

IV. Building Blocks

Each of the Building Blocks has been assigned an Owner and/or an individual responsible for Senior Oversight.

Block	Owner	Oversight
Reactor Head Resolution Plan	E. David Baker	Robert W. Schrauder
Containment Health Assurance Plan	Timothy J. Chambers	J. Randel Fast
System Health Assurance Plan	Richard G. Mende	James J. Powers
Program Compliance Plan	Neil A. Morrison	James J. Powers
Management and Human Performance Excellence Plan	Lew W. Myers	N/A
Restart Test Plan	Anthony R. Stallard	J. Randel Fast
Restart Action Plan	Clark A. Price	Lew W. Myers

Each of the plans for the first six Building Blocks identifies those actions that must be accomplished before restart under that plan. The Restart Action Plan, which is the seventh building block, describes the process for classifying restart items. An internal manager-level committee, the Restart Station Review Board, reviews corrective action documents and other documents to identify issues that need to be resolved prior to restart to ensure the safe operation of the plant. In accordance with the Restart Action Plan, this board determines what actions can be taken post-restart and which are added to the Restart Action Database. This database consists of the Davis-Besse Restart Action List and the Davis-Besse IMC 0350 Restart List. The membership of the Restart Station Review Board consists of the Director- Support Services, manager-level employees, and independent oversight. The board chairman and alternate chairman are designated by the Vice President - Nuclear.

When viewed collectively, the Building Blocks address the causal factors identified in Chapters 5, 6, and 7 of the Davis-Besse Root Cause Analysis Report, originally submitted to the NRC on April 18, 2002. Revision 1 to the Davis-Besse Root Cause Analysis Report was submitted to the NRC on September 23, 2002. Appendix 1 provides a matrix which correlates the Building Block actions to the causal factors identified by FENOC and the corresponding causes and missed opportunities identified in the NRC's AIT Report.

The Management and Human Performance Excellence Plan includes actions to extend and deepen the analyses of causal factors in the Root Cause Analysis Report. This includes an in-depth review, under the leadership of the new Vice President-Oversight, using formal root cause analysis tools to determine why indicators present before 2002 did not result in detection and resolution of the RPV Head degradation. This Management and Human Performance Root Cause Analysis Report was submitted to the NRC on August 21, 2002.

FENOC Nuclear Quality Assessment will monitor and sample each Building Block prior to restart. The Vice President-Oversight is a member of the Restart Overview Panel. A brief summary of the major elements of the actions and approach for each Building Block follows.

A. Reactor Head Resolution Plan

Charter: Restore the degraded Davis-Besse RPV Head such that it is in full compliance with appropriate Commission rules and industry requirements.

During the Davis-Besse 13th Refueling Outage (13RFO), an inspection of the Reactor Pressure Vessel (RPV) Head nozzles was performed pursuant to NRC Bulletin 2001-01, "Circumferential Cracking of Reactor Vessel Head Penetration Nozzle." Extensive corrosion of the RPV Head was identified during this inspection that required either major repairs or replacement of the RPV Head. Condition Reports were written and a Root Cause Analysis was prepared.

FENOC has made the decision to replace the degraded RPV Head with an unused one from the canceled Midland Nuclear Power Plant. The replacement RPV Head is a Babcock and Wilcox design, and with minor modifications, can satisfy the applicable Nuclear Regulatory Commission (NRC) rules and industry requirements.

The major attributes of this Plan include:

- Procurement and Certification of the replacement RPV Head. Non-Destructive Examinations (NDE) were performed to confirm that the replacement RPV Head is suitable for use.
- Minor RPV Head modifications, to ensure that the replacement RPV Head fits the Davis-Besse reactor. Inspection holes have been added to the Service Structure for more effective inspections.
- Temporary fuel removal from the reactor and subsequent refueling.
- Access to the Davis-Besse Containment for removal of the original RPV Head and placement of the new RPV Head on the RPV Head Stand.
- Installation of replacement RPV Head, including transfer of existing Service Structure and transfer of existing CRDM to the new RPV Head.
- Restoration, testing, and inspection of the RPV Head and Containment.
- Storage and/or disposal of original Davis-Besse RPV Head.
- Updating the Design and Licensing Basis Documents.

A temporary access opening was made in the Davis-Besse Containment vessel and shield building, allowing for the removal of the original RPV Head to its temporary storage location, and the transfer of the replacement RPV Head into the Containment building. The shield building and Containment vessel at Davis-Besse was restored to meet design requirements. An Integrated Leakage Rate Test (ILRT) will be performed to verify Containment integrity.

The degraded RPV Head is being temporarily stored at Davis-Besse. Final plans for permanent storage or disposal are under development.

Bechtel provided engineering services for the RPV Head replacement, including overall project management, detailed engineering, licensing support, quality assurance, and project controls.

Framatome-ANP was responsible for procurement and certification of the replacement RPV Head, including modifications to the RPV Head as required, providing a Certificate of Conformance documenting that the replacement RPV Head is suitable for use at Davis-Besse, and providing engineering and required evaluations to ensure the Davis-Besse design and licensing requirements are met (including ASME Code criteria).

The RPV Head replacement is a modification to the facility and is being performed in accordance with the provisions of 10 CFR 50.59 criteria. Completion of this modification will resolve the issue concerning boric acid corrosion degradation of Davis-Besse's RPV Head, including disposition of the associated corrective actions, and performance of more effective periodic head inspections allowing for early detection of RPV Head degradation due to the increased size of the inspection holes. This will enable Davis-Besse to return to safe and reliable operation.

B. Containment Health Assurance Plan

Charter: Perform inspections and evaluations of Containment Systems, Structures and Components (SSCs) and assure completion of required remediation activities prior to restart. This will ensure that the condition of Containment supports safe and reliable operation. This will be accomplished by using qualified inspectors and evaluators to characterize and as necessary, correct the condition of the following:

- ✓ Boric Acid induced degradation sites
- ✓ Containment Vessel
- ✓ Containment Coatings
- ✓ Containment Emergency Sump
- ✓ Decay Heat Valve Pit
- ✓ Alloy 600 Material
- ✓ Primary Water Stress Corrosion Cracking indications
- ✓ Threaded and Bolted Connections
- ✓ Fuel Reliability

The purpose of the Containment Health Assurance Plan is to perform inspections and evaluations of Containment Systems, Structures, and Components (SSCs) and assure completion of required remediation activities prior to restart. This will serve to ensure that the condition of containment supports safe and reliable operation. To support this plan, an organization has been put into place to manage and implement activities, provide oversight, and provide the communications interface with external organizations.

The plan is focused on the extent of Primary Water Stress Corrosion Cracking of Alloy 600 welds in the Reactor Coolant System, and identifying damage that may have resulted from boric acid leakage and dispersion of boric acid in the Containment Building. The plan scope has been expanded to assess and assure the adequacy of several areas based on input from team members, operating experience reviews, and internal and external oversight. These areas include the Containment Emergency Sump, Decay Heat Valve Pit the Containment Vessel liner, the refueling canal, fuel reliability, and affects of boric acid on Environmentally Qualified (EQ) and non-EQ equipment, and Containment coatings. Action plans for each of these focus areas direct the actions necessary to meet the objectives of this plan. FENOC is using industry experts to assist in evaluating these focus areas and developing needed corrective actions.

Procedures, Work Orders, and Condition Reports are used to control field activities and evaluations, and to resolve issues. Inspectors attend training for specific procedures and work orders prior to implementing field activities. This training standard was selected to ensure all inspectors are gathering data with similar, thorough standards and quality attributes. The rigor employed in the development and implementation of the Containment Health Assurance Plan in conjunction with the verification activities being performed by FENOC, provides assurance that the Containment (as a whole) and the individual areas specified will be restored to the condition necessary to support safe, reliable operation.

C. System Health Assurance Plan

Charter: Perform reviews of system health prior to restart to ensure that the condition of the plant is sufficient to support safe and reliable operation. Three levels of system reviews will be performed. An Operational Readiness Review of systems important to the safe and reliable operation of Davis-Besse was performed. A System Health Readiness Review of all Maintenance Rule risk significant systems not covered by the more extensive Latent Issue Review process will be performed. Latent Issues Reviews of the Reactor Coolant, Emergency Diesel Generators, Auxiliary Feedwater, Component Cooling Water, and Service Water systems will be performed to identify any latent issues, and to provide reasonable assurance that these systems can perform their safety and accident mitigation functions.

The purpose of this program is to perform reviews of system health prior to restart to ensure that the condition of the plant is sufficient to support safe and reliable operation. This will be accomplished using the following 3-step approach, an Operational Readiness Review, System Health Readiness Reviews, and Latent Issues Reviews. Other measures that will help ensure the success of the Davis-Besse System Health Assurance Plan are listed below:

- A substantially new Davis-Besse management team with a demonstrated track record is in place.
- The FENOC Engineering Principles and Expectations were issued on July 10, 2002, and these new principles and expectations have been communicated to the system review team members.
- An Engineering Assessment Board was implemented on June 28, 2002. This board, largely made up of outside experts with proven high standards, will independently review selected products from the system reviews to ensure technical adequacy.

1. Operational Readiness Reviews

The Operational Readiness Review is complete and was performed to identify whether systems have significant shortcomings, and to initiate immediate actions to correct those problems. These reviews were initiated prior to entry into the IMC 0350 process. Systems for review were selected considering system performance relative to the Maintenance Rule performance criteria, materiel condition, and operator burdens. The reviews were performed under the direction of the Plant Manager and included representatives from various site organizations.

2. System Health Readiness Reviews

System Health Readiness Reviews will be performed on all risk significant Maintenance Rule systems. These reviews are more thorough than the Operational Readiness Reviews. These reviews are focused to provide reasonable assurance that these systems can perform their risk significant maintenance rule functions. These reviews include identification of the system's risk significant functions, reviews of testing or review of other information (like trending data) that assesses the system's ability to support the system risk significant functions, walkdowns, and reviews of

selected data sources. Problems identified during the reviews will be captured in the CR process. The Restart Station Review Board will review all CRs for restart requirements.

The original scope was described as selected Maintenance Rule and Technical Specification systems. Further evaluation has resulted in clarifying the scope of the reviews to include all Maintenance Rule Risk Significant systems not covered by the more extensive Latent Issue Review process. This is a risk-based approach that focuses plant resources in the highest risk areas. By performing these reviews on the identified systems, issues can be corrected that could potentially impact a system's ability to perform its risk significant maintenance rule functions.

Additionally, these reviews may identify programmatic issues that could impact other less risk significant systems and functions. As these programmatic issues are identified, CRs will be initiated and evaluations will be performed to determine if additional System Health Readiness Reviews should be performed. The Plant Manager will have final approval of all reports.

3. Latent Issues Reviews

Latent Issues Reviews of the Reactor Coolant System, Auxiliary Feedwater System, Emergency Diesel Generators, Service Water, and Component Cooling Water systems will be performed prior to restart. The five systems selected for Latent Issues Reviews include three systems (Reactor Coolant, Auxiliary Feedwater, and Emergency Diesel Generators) with identified weaknesses and two systems (Component Cooling Water and Service Water) chosen based on their importance. The primary focus of these reviews is to provide reasonable assurance that these systems can perform their safety and accident mitigating functions. These reviews will be comprised of three major efforts. These efforts are the assessment of system attributes, review of various data sources, and walkdowns.

The collective significance of problems identified during the Latent Issues Review will be evaluated to determine if further actions are required. Problems identified during the reviews will be captured in the CR process. The Restart Station Review Board will review all CRs for restart requirements.

The Plant Engineering Manager and the EAB will review and approve the Latent Issues Review Report for each system.

The list of systems that will not have a System Health Readiness Review or a Latent Issues Review performed is included in the System Health Assurance Plan. A matrix that compares the various documentation/data sources that will be made available for review for the Operational Readiness Reviews, System Health Readiness Reviews, and Latent Issues Reviews, is also included in the Building Block Plan.

Inspections will also be conducted to look for evidence of boric acid leakage and degradation on systems outside of containment. These inspections will be performed as part of the System Health Assurance Plan. In addition to the materiel condition walkdowns being performed during the System Health Readiness Reviews and the

Latent Issues Reviews, a separate boric acid inspection of systems outside of containment will be performed in accordance with procedure EN-DP-01506, Borated Water System Inspections (Outside Containment).

D. Program Compliance Plan

Charter: Perform a review of applicable plant programs to ensure that the programs are fulfilling required obligations, including interfaces and handoffs, and are sufficient to support the restart and safe operation of the Davis-Besse Nuclear Power Station. Prior to restart, perform Phase 2 detailed systematic reviews of the Boric Acid Corrosion Control Program, Inservice Inspection Program, Plant Modification Program, Corrective Action Program, Radiation Protection Program, and the Operating Experience Program. Prior to restart, perform Phase 1 baseline assessments of applicable plant programs.

NOTE: Nuclear Quality Assessment will be assessed utilizing the Phase 2 methodology, but this assessment will be conducted independent of this plan.

Program weaknesses were a major contributor to the degradation of the Reactor Pressure Vessel Head. The program weaknesses identified are:

- **Standards**
- **Ownership**
- **Oversight**

We have identified the programs on Attachment 1 of the Program Compliance Building Block Plan to receive a Phase 1 or Phase 2 review described below. The programs receiving a Phase 2 review prior to restart that were identified as contributing to the degradation of the Reactor Pressure Vessel Head are: the Boric Acid Corrosion Control Program, Inservice Inspection Program, Plant Modification Program, Corrective Action Program, and the Operating Experience Program.

The plan review process will use a two-phase approach.

Phase 1- Program Readiness Baseline Assessment

Phase 1 performs a baseline assessment of applicable plant programs to determine if the programs are in a condition to support the restart and safe operation of Davis-Besse. The programs to receive a Phase 1 assessment are identified in the Program Compliance Building Block Plan. (Exceptions include the Probabilistic Safety Assessment, Boric Acid Corrosion Control, Inservice Inspection, Plant Modification, Corrective Action, Radiation Protection Program, and Operating Experience programs that will receive a detailed review prior to restart). The program owner assesses the program by completing a standardized questionnaire. The program owner then presents the results of the assessment to a Program Review Board, which includes independent, external personnel. The Program Review Board reviews the program utilizing a screening form. Condition Reports (CRs) will be generated to document program deficiencies. The Restart Station Review Board will review all CRs for restart requirements.

Phase 2 – Detailed Program Reviews

Phase 2 is an integral part of the long term comprehensive Management and Human Performance Excellence Plan. This phase is an in-depth systematic review of the programs, which are identified in the Program Compliance Building Block Plan. This process evaluates programs in depth to ensure that the programs are fulfilling required obligations, including interfaces and handoffs, and are sufficient to support the restart and safe operation of Davis-Besse. Phase 2 reviews will be completed prior to restart for the Boric Acid Corrosion Control Program, Inservice Inspection Program, Plant Modification Program, Corrective Action Program, Radiation Protection Program, and the Operating Experience Program. The Probabilistic Safety Assessment (PSA) was evaluated as a pilot for the review process. Condition Reports (CRs) will be generated to document program weaknesses and recommendations. The Restart Station Review Board will review all CRs for restart requirements.

E. Management and Human Performance Excellence Plan

Charter: Conduct a thorough assessment of the management and organizational issues surrounding the degradation of the reactor head.

Create a comprehensive leadership and organizational development plan for the site. This plan will include actions to be taken prior to and after restart.

A concise summary of the issue that led to the Davis-Besse RPV Head degradation is as follows:

Management ineffectively implemented processes, and thus failed to detect and address plant problems as opportunities arose.

Using data from all the root cause reports associated with the head degradation, and other related assessments, the primary management contributors to this failure can be grouped into the following areas:

- **Nuclear Safety Culture**
- **Management/Personnel Development**
- **Standards and Decision-making**
- **Oversight and Assessments**
- **Programs/Corrective Action/Procedure Compliance**

Several program compliance and program implementation failures were identified in the Root Cause Reports, including inadequate implementation of the Corrective Action Program. The actions to address the program and implementation issues are being addressed by actions in this plan as well as actions from the Program Compliance Building Block. Actions will be initiated from the Management and Human Performance Improvement Plan to develop the proper focus, behaviors and teamwork throughout the entire organization. These actions will consist of restart actions and actions to be taken after restart.

The ultimate objective of the Building Block activities is to achieve and sustain excellence in the operation of Davis-Besse. The overall goal of this Building Block is to initiate a substantive and demonstrative change in Davis-Besse management. FENOC realizes that achievement of this goal will take time, and not all will be accomplished prior to restart. The Building Blocks will ensure strong corrective actions are in place for restart, however, many actions must continue for the plant to have sustained performance. FENOC's goal prior to restart is to ensure that the plant, programs, and organization are sufficient to support safe and reliable operations. Performance indicators monitoring the effectiveness of the actions taken will be used to demonstrate and track the desired changes needed for restart. Longer term corrective actions such as system reviews, program reviews, and implementation of the Leadership in Action principles will continue well after restart.

In accordance with the Program Compliance Plan building block activity, the plant programs will be assessed for proper management Ownership, Standards, and Oversight. The Program Compliance Plan performs a baseline assessment of applicable plant programs, as well as a more detailed program review for selected programs. Long term, follow-up assessments of the programs will be performed using the same criteria, and the resultant program health will be communicated through specific program indicators.

Reviews of specific departments will be done by way of Functional Area Reviews. These reviews will be performed in selected areas in order to assess restart readiness. Long term monitoring and indicator presentation of specific area or section health will be performed through the self-evaluation process.

The Management Observation Program will be used to monitor worker behaviors, performance, and plant conditions. This program will be updated to schedule management observations to monitor effectiveness of work activities and worker behaviors.

Review boards, such as the Corrective Action Review Board and the Engineering Assessment Board will be used to monitor various work products for appropriate standards. Performance indicators will be used to monitor resultant quality.

A Management Monitoring Process will be used to monitor and trend the performance of specific management oversight activities taken on an individual basis. These will demonstrate the level of involvement of individual managers

F. Restart Test Plan

Charter: Perform Restart Testing necessary to ensure the integrity of the Reactor Coolant System and the Containment Pressure Vessel, and to evaluate proposed testing of systems and components affected by RCS leakage and boric acid deposits. In addition, develop an Integrated Restart Procedure to ensure that proper sequencing of required restart activities are accomplished prior to mode ascension. Provide operator training on this procedure to ensure that this infrequently performed test/evolution is conducted in a safe, controlled manner.

This plan has four key elements to ensure that comprehensive testing is performed prior to and during restart, and that restart activities have been completed to ensure the Davis-Besse Nuclear Power Station is in a condition to support sustained safe and reliable operation. These elements include:

- Testing the Reactor Coolant System (RCS), including components within the Reactor Coolant Pressure Boundary (RCPB) and associated piping exposed to full RCS pressure, to ensure integrity following replacement of the Reactor Pressure Vessel Head and maintenance of RCS piping and components. The leakage inspections include the reactor vessel head Control Rod Drive nozzles and the reactor bottom incore nozzles.
- Testing the Containment by performing an Integrated Leakage Rate Test in accordance with 10CFR50, Appendix J (Type A test) to ensure the integrity of containment following restoration of the containment pressure vessel.
- Evaluating the adequacy of proposed post-maintenance and post-modification testing on systems and components affected by RCS leakage and boric acid deposits and to determine if additional testing is required.
- Developing an Integrated Restart Procedure to ensure required restart activities, tests, and inspections have been performed prior to mode ascension.

The Integrated Restart Procedure shall identify the sequence of critical steps, procedures, and tests that must be performed to safely restart the Davis-Besse Nuclear Power Station. This procedure shall also include the necessary administrative controls required to authorize mode changes during plant restart. In addition to the normal procedure approvals, the Integrated Restart Procedure shall be reviewed by the Engineering Assessment Board and receive concurrence from the Senior Management Team. Final authority to restart the plant resides with the FENOC Chief Operating Officer.

G. Restart Action Plan

Charter: Administer the identification, coordination, monitoring and closure of actions required to meet all Company-identified objectives and requirements under the Davis-Besse Return to Service Plan.

The Restart Action Plan establishes a mechanism for identification, monitoring and control of restart actions under the Davis-Besse Return to Service Plan. The Restart Action Plan also establishes a process and criteria for the evaluation, disposition, and closure of restart-identified actions and provides for the effective interaction with the Nuclear Regulatory Commission (NRC) during the Inspection Manual Chapter 0350 Reactor Oversight Process. This plan provides for the actions that the FENOC Management Team at Davis-Besse will perform to ensure that the plant is restarted in a safe and reliable manner and that the long-term performance of the plant will be sustainable. After NRC approval to restart has been received, final authority to restart the plant resides with the FENOC Chief Operating Officer.

The Davis-Besse Restart Station Review Board has been established to identify and classify items to be included in the Restart Action Database through a review of Condition Reports and Corrective Actions received from activities identified by the six Building Block Plans. The Restart Station Review Board makes the determination of items for inclusion in the Restart Action Database and further classifies those items that meet NRC IMC 0350 criteria. The Senior Management Team approves additions to the Davis-Besse IMC 0350 Restart List, with final approval by the FENOC Chief Operating Officer. The Restart Station Review Board uses criteria that parallel the NRC IMC 0350 Restart Checklist criteria. Those items processed through the Restart Station Review Board that are not required for restart are managed in accordance with the Corrective Action Program and evaluated for inclusion in the Davis-Besse Operational Business Plan and/or the regulatory management system.

Action Plans from the Containment Health Assurance, System Health Assurance, Reactor Head Resolution, Restart Test, and Program Compliance Building Blocks are further evaluated for technical accuracy by the Engineering Assessment Board. The Engineering Assessment Board has been introduced at each FENOC site to ensure a high degree of technical accuracy and assurance of nuclear safety.

The Restart Action Plan establishes the phases of Planning, Discovery, Implementation, and Validation/Closure. Closure packages documenting the resolution of issues on the Davis-Besse IMC 0350 Restart List, are prepared, validated, and approved, and made available for NRC review.

Restart Readiness Reviews are conducted prior to major plant evolutions in accordance with the Restart Readiness Review Extended Plant Outage Business Practice. This Business Practice includes detailed criteria for establishing the readiness of each Department or Section to support the specific restart activity. In addition, the Restart Readiness Review process performs an assessment of the safety culture of the Davis-Besse Organization using very specific criteria to allow Senior Management to monitor safety culture and determine what remedial actions must be taken for areas with unacceptable ratings.

The Restart Overview Panel functions to provide an independent oversight and review of restart activities as part of the Davis-Besse Return to Service Plan. The Restart Overview Panel performs an overview of internal and external plant activities, advising the FENOC President, FENOC Chief Operating Officer and Davis-Besse Vice

President on matters relating to the safe resumption of operation of Davis-Besse and provides recommendations as appropriate.

The Davis-Besse Restart Action Plan shall be maintained through restart and until the NRC terminates the IMC 0350 Reactor Oversight Process. This plan is implemented by a procedure that provides details of the responsibilities and activities required to administer and control the Restart Action Plan Building Block.

V. Confirmatory Action Letter Status

A number of actions to satisfy the CAL commitments are completed or underway. The current status of the CAL items is summarized as follows:

(1) Quarantine components or other material from the RPV Head and CRDM 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.

Status: Applicable components and material were quarantined. Plans for inspection and data gathering to support determination of the root cause were provided to the NRC for review and comment. The area around Nozzle 3 was removed and shipped to the BWXT Laboratory in Lynchburg, VA for detailed analysis. A Root Cause Analysis Report was provided to the NRC on April 18, 2002 and a revised report was provided on September 23, 2002. Although the Root Cause Analysis Report is not expected to be revised, in order to support NRC research efforts as discussed between Davis-Besse and NRC personnel on November 1, 2002, the following additional specimens will be 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 Nozzles 7, 12, 16, 20, 22-25, 27-29, 38-44, 48-55, 57, 64, 68, 0r 69 (heat no. C2649-1).

Following removal of the material described above, the material will be shipped to Argonne National Laboratory (ANL).

(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.

Status: FENOC provided a Probable Cause Summary Report to the NRC on March 22, 2002. FENOC submitted the technical Root Cause Analysis Report to the NRC on April 18, 2002. Responses to NRC questions on the Probable Cause Summary Report were submitted by FENOC on April 30, 2002, and May 14, 2002. Davis-Besse staff met with NRC headquarters personnel on May 9, 2002, to review the technical elements of the root cause analysis. A revision to the technical root cause report, deleting the preliminary conclusions that were more fully investigated and documented in the human performance root cause analysis report, was submitted to the NRC on September 23, 2002. FENOC has completed a formal root cause analysis report of the human performance failure to identify the degradation, which was submitted to the NRC on August 21, 2002. FENOC and Davis-Besse

management met with NRC Region III management on August 15, 2002, to discuss the human performance root cause analysis report. The results of this report were also discussed at the NRC IMC 0350 Panel public meeting, which was held on August 20, 2002.

(3) Evaluate and disposition the extent of condition throughout the reactor coolant system relative to the degradation mechanisms that occurred on the RPV Head.

Status: On April 15, 2002, FENOC began implementation of its Containment Health Assurance Plan. The scope of this plan has been increased to encompass the overall health of the Containment. NRC review of FENOC efforts in this area is documented in NRC Inspection Reports 50/346;2002-009 dated September 13, 2002 and 50/346;2002-012 dated November 29, 2002. While inspection Report 50/346;2002-012 concluded that the "Davis-Besse Containment Health Assurance Plan" was effectively implemented, three unresolved items associated with corrective actions on components potentially affected by boric acid corrosion were identified. These unresolved items were associated with corrective actions for corrosion of electrical conduit, the bottom nozzles on the reactor vessel, and the containment air coolers. Additionally, at the time, apparent cause determinations with designated corrective actions had been completed for only a small number of the components potentially affected by boric acid corrosion. Therefore, the NRC was not able to reach a conclusion on the completeness or technical adequacy of your corrective actions for structures, systems and components affected by boric acid corrosion. Therefore, CAL Issue No. 3 will remain open pending additional NRC inspection of FENOC action regarding those unresolved items and corrective actions for identified deficiencies.

(4) Obtain NRC review and approval of the repair or modification and testing plans for the 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.

Status: FENOC replaced the RPV Head with an unused RPV Head from the Midland Plant in Michigan. NRC review of the unused head is documented in NRC Inspection Report 50/346;2002-007, dated November 29, 2002. Based on their inspection, NRC concluded that adequate records were available and required examinations performed to ensure 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. Licensing activities associated with the head replacement have been completed. The used RPV Head will be transported off-site for disposal. CAL Issue No. 4 will remain open pending NRC review of successful completion of the reactor coolant system pressure test and control rod drive performance test.

(5) Prior to the restart of the unit, meet with the NRC to obtain restart approval. During that meeting, discuss the root cause determination, extent of condition evaluations, and corrective actions completed and planned to prevent recurrence.

Status: FENOC submitted Revision 3 of the "Davis-Besse Nuclear Power Station, Unit 1 Return to Service Plan" to the NRC on September 23, 2002. FENOC will submit its Integrated Restart Report which will summarize the root cause determination, extent of condition evaluations and corrective actions completed and planned to prevent recurrence. Prior to FENOC entering operating Mode 2, FENOC will meet with NRC to discuss completed and planned actions as described in this Plan and to provide justification for restart. CAL Issue No. 5 will remain open pending that meeting and NRC approval.

(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.

Status: The Safety Significance Assessment was submitted to the NRC on April 8, 2002. In response to NRC Staff requests for additional information, FENOC submitted supporting information by letters dated June 12, 2002, July 12, 2002, and July 20, 2002. CAL Issue No. 6 is considered closed.

VI. Conclusions

FENOC is taking an integrated and comprehensive approach to complete the items in the CAL, address the causal factors in the Root Cause Analysis Report and AIT Report, and identify and implement restart actions and long-term actions to ensure that Davis-Besse is ready for safe and reliable operation and improved performance. FENOC is structuring its approach around seven key Building Blocks, including implementing documents. These plans have been made available for NRC review, and will provide the foundation for Davis-Besse's safe and reliable return to service. Lessons learned from the RPV Head degradation root cause analyses will be shared with the other FENOC plants as well as with the nuclear industry.

FIGURE 1

DAVIS-BESSE RESTART BUILDING BLOCKS

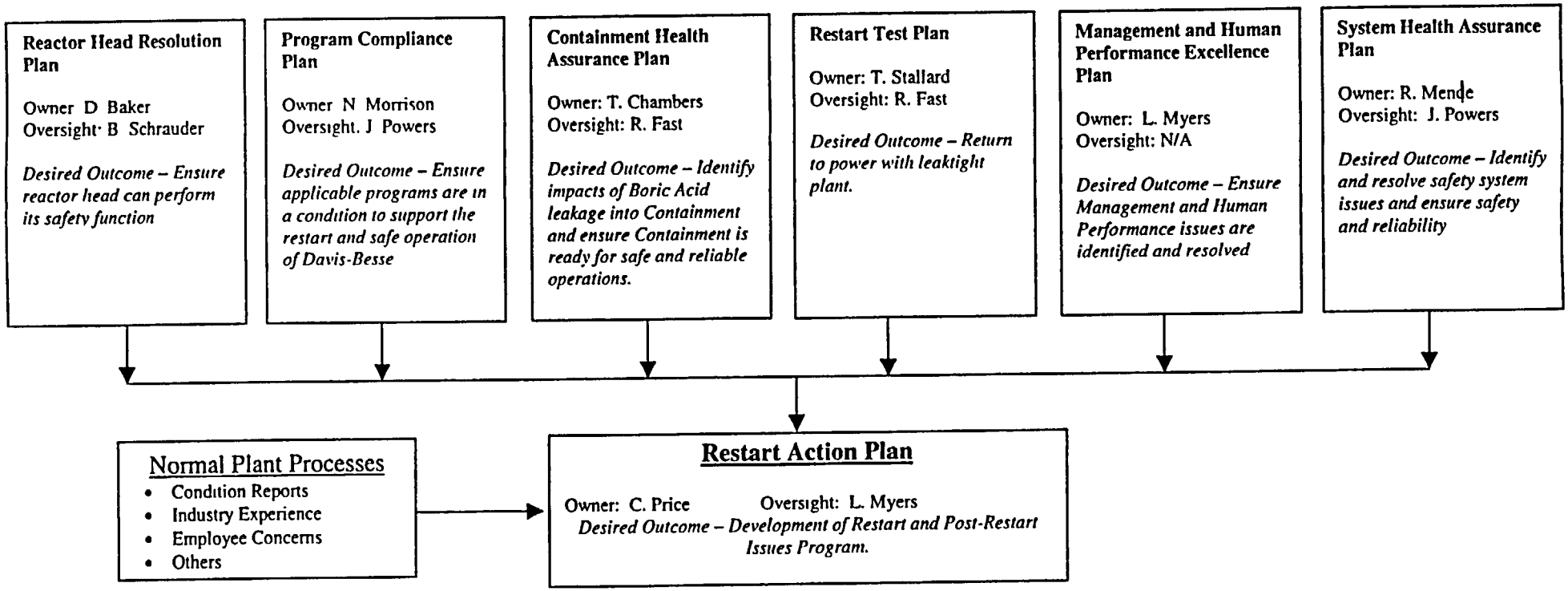
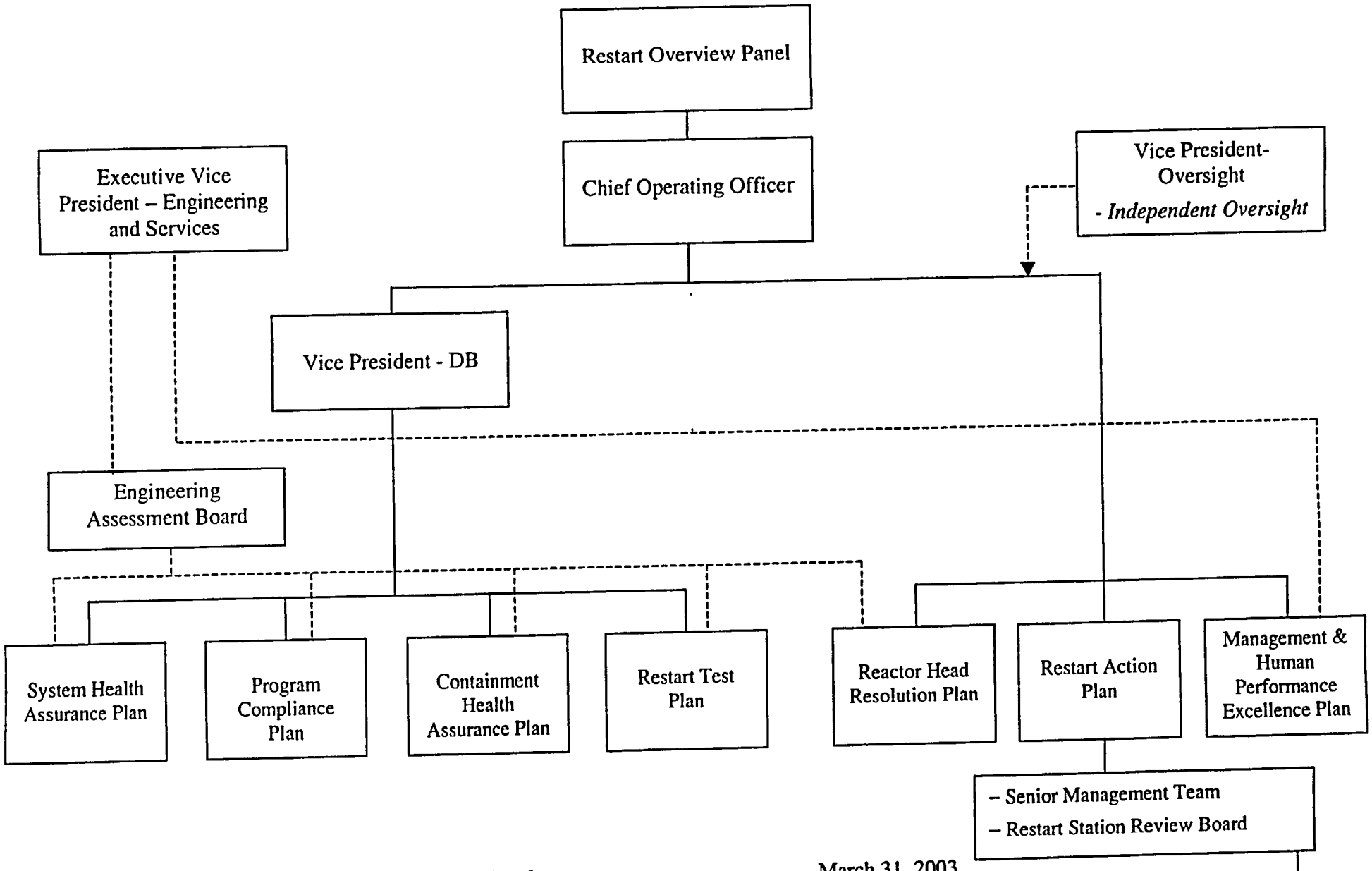


FIGURE 2

Restart Organization



APPENDIX 1

CORRELATION OF CAUSAL FACTORS VERSUS RESTART BULDING BLOCKS

Technical Root Cause Analysis Report		
Root and Contributing Causal Factor	**Building Block**	**Action**
Less than adequate material selection. PWSCC of CRDM nozzle interface at the J-groove weld due to material susceptibility in the presence of a suitable environment resulted in : ✓ CRDM nozzle crack initiated ✓ CRDM nozzle crack propagation to through wall leak ✓ Boric acid corrosion of the low-alloy-steel RPV Head material (Root Cause: 5.1.1)	Reactor Head Resolution Plan	Repair/Replace the RPV Head. (7.1.3, 7.1.4)
	Program Compliance Plan	Develop a plan to monitor CRDM leakage during restart (7.1.1)
	Containment Health Assurance Plan	Review CRDM nozzle crack initiation/propagation against susceptibility (7.1.2)
Less than adequate Boric Acid Corrosion Control and Inservice Inspection Programs and program implementation regarding the RPV head resulted in: ✓ Plant not identifying the through wall crack/leak during outages ✓ Plant returned to power with boron on the RPV Head after outages ✓ Plant not identifying degradation of RPV Head base metal during 12RFO ✓ Boric Acid Corrosion of the low-alloy steel RPV Head material (Root Cause: 5.1.2)	Program Compliance Plan	Review of Boric Acid Corrosion Control and ISI Programs (7.1.6).
	Containment Health Assurance Plan	Inspections in the Containment for other SSCs that may be affected by boric acid (7.1.5)
Less than adequate Environmental conditions. Cramped conditions due to the design and high radiation at the RPV Head resulted in: ✓ Plant not identifying the through wall crack/leak during outages ✓ Plant returned to power with boron on the RPV Head after outages ✓ Plant not identifying degradation of RPV Head base metal during 12RFO ✓ Boric Acid Corrosion of the low-alloy steel RPV Head material. (Contributing Cause: 5.2.1)	System Health Assurance Plan	Review of modification requests to identify modifications that should be implemented prior to restart. (7.2.1) (Note: the modification to improve access to the RPV Head service structure has been completed.)

APPENDIX 1
CORRELATION OF CAUSAL FACTORS VERSUS RESTART BULDING BLOCKS

Technical Root Cause Analysis Report (Continued)

Root and Contributing Causal Factor	Building Block	Action
Less than adequate maintenance and testing. Corrective Maintenance did not promptly correct the problem with equipment condition (CRDM flange leakage) that resulted in: ✓ Plant not identifying the through wall crack/leak during outages ✓ Plant not identifying degradation of RPV Head base metal during 12RFO ✓ Boric Acid Corrosion of the low-alloy steel RPV Head material (Contributing Cause: 5.2.2)	Restart Test Plan	Inspect for any leaks (7.2.2)
	System Health Assurance Plan	Review of corrective maintenance, adequacy of PMs and CRs.

APPENDIX 1
CORRELATION OF CAUSAL FACTORS VERSUS RESTART BULDING BLOCKS

Management Root Cause Analysis Report

Root and Contributing Causal Factor	Building Block	Action
Less than adequate Nuclear Safety Focus (Root Cause: 6.1.1)	Management and Human Performance Excellence Plan	Management Changes (8.1.1.a)
		Management field presence/involvement plan to improve management oversight (8.1.1.a)
		Management Monitoring Process to monitor and trend oversight activities. (8.1.1.a)
		Case Study Training (8.1.1.a)
		Safety Conscious Work Environment assessment and training. (8.1.1.b)
Less than adequate implementation of the Corrective Action Program (Root Cause: 6.1.2)	Program Compliance Plan	Detailed review of the Corrective Action Program (8.1.2)
	Management and Human Performance Excellence Plan	Review of corrective action document evaluations to enforce higher standards for cause evaluations and effective corrective action (8.1.2b)
Less than adequate analyses of safety implications (Root Cause: 6.1.3)	Management and Human Performance Excellence Plan	Industry experience management review and establish the FENOC Hierarchy of Documents. (8.1.3)
Less than adequate compliance with Boric Acid Corrosion Control (BACC) procedure and Inservice Test Program (Root Cause: 6.1.4)	Program Compliance Plan	Reinforce standards and expectations for procedure compliance and the need for work practice rigor. (8.1.4b)
Lack of Hazard Analyses. (Contributing Cause: 6.2.1)	Management and Human Performance Excellence Plan	Establish the FENOC Decision Making process at Davis-Besse including hazard analyses. (8.2.1 a)
Corrective Action Procedure (Contributing Cause: 6.2.2)	Program Compliance Plan	Detailed review of the Corrective Action Program (8.2.2b)

CORRELATION OF CAUSAL FACTORS VERSUS RESTART BULDING BLOCKS

AIT Report		
Causal Factor	**Building Block**	**Action**
PWSCC of CRDM nozzles (3.1.1)	Reactor Head Resolution Plan	Replace the head.
	Restart Test Plan	Inspect for any leaks.
Boric acid corrosion of RPV Head (3.1.2)	Reactor Head Resolution Plan	Replace the head.
	Containment Health Assurance Plan	Inspections in the Containment for other SSCs that may be affected by boric acid.
Boric acid corrosion control program (5.1)	Program Compliance Plan	Review of Boric Acid and ISI Programs.
Reactor Coolant System leakage detection (5.2)	Restart Test Plan	Inspect for any leaks.
	Program Compliance Plan	Develop leak detection program
Boric acid in Containment Air Coolers (5.3)	Containment Health Assurance Plan	Inspections in the Containment for other SSCs that may be affected by boric acid.
Boric acid in radiation elements (5.4)	Containment Health Assurance Plan	Inspections in the Containment for other SSCs that may be affected by boric acid.
Delay of Modification of Service Structure (5.5.1)	System Health Assurance Plan	Review of modification requests to identify modifications that should be implemented prior to restart. (Note: the modification to improve access to the RPV Head service structure has been completed.)
Delay of Repair of CRDM Flange Leakage (5.2.2)	Restart Test Plan	Inspect for any leaks.

Docket Number 50-346
License Number NPF-3
Serial Number 1-1310
Enclosure

Revision 5 of the Davis-Besse Restart Action Plan

Davis-Besse Restart Action Plan

Revision: 5

Date: March 31, 2003

Owner: C. A. Price

Recommend for Approval
Senior Management Team Chairman: L. W. Myers

Approved by: L. W. Myers

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Summary of Revision Changes Revision 5

Deleted references to Restart Closure Summaries to be consistent with NG-VP-00100, Restart Action Plan Process. Closure documentation is provided solely by Action Item Closure Documents.

Add a description of the Restart Readiness Review Process, Extended Plant Outage Business Practice (DBBP-VP-0002).

Deleted the review of open Procedure Change Requests as a responsibility of the Restart Station Review Board.

Revised the general outline of the Integrated Restart Report to increase the flexibility of the report style, content and format.

Executive Summary

The Restart Action Plan establishes a mechanism for identification, monitoring and control of restart actions under the Davis-Besse Return to Service Plan. The Restart Action Plan also establishes a process and criteria for the evaluation, disposition, and closure of restart-identified actions and provides for the effective interaction with the Nuclear Regulatory Commission (NRC) during the Inspection Manual (IMC) Chapter 0350 Reactor Oversight Process. This plan provides for the actions that the FENOC Management Team at Davis-Besse will perform to ensure that the plant is restarted in a safe and reliable manner and that the long term performance of the plant will be sustainable. After NRC approval to restart has been received, final authority to restart the plant resides with the FENOC Chief Operating Officer.

The Davis-Besse Restart Station Review Board has been established to identify and classify items to be included in the Restart Action Database through a review of Condition Reports and Corrective Actions received from activities identified by the six Building Block Plans. The Restart Station Review Board makes the determination of items for inclusion in the Restart Action Database and further classifies those items that meet NRC IMC 0350 criteria. The Senior Management Team reviews the addition of restart actions to the Davis-Besse IMC 0350 Restart List with final approval by the FENOC Chief Operating Officer. The Restart Station Review Board uses criteria that parallel the NRC IMC 0350 Restart Checklist criteria. Those items processed through the Restart Station Review Board that are not required for restart are managed in accordance with the Corrective Action Program and evaluated for inclusion in the Davis-Besse Operational Business Plan and/or the Regulatory Management System.

Action Plans for the Containment Health Assurance, System Health Assurance, Reactor Head Resolution, Restart Test, and Program Compliance Building Blocks are further evaluated for technical accuracy by the Engineering Assessment Board. The Engineering Assessment Board reports to the Director – Nuclear Engineering and has been introduced at each FENOC site to ensure a high degree of technical accuracy and assurance of nuclear safety.

The Restart Action Plan establishes the phases of Planning, Discovery, Implementation, and Validation/Closure. Closure packages documenting the resolution of restart actions on the Davis-Besse IMC 0350 Restart List are prepared, validated, and approved, and made available for NRC review.

Restart Readiness Reviews are conducted prior to major plant evolutions in accordance with the Restart Readiness Review Extended Plant Outage Business Practice. This Business Practice includes detailed criteria for establishing the readiness of each Department or Section to support the specific restart activity. In addition, the Restart Readiness Review process performs an assessment of the safety culture of the Davis-Besse Organization using very specific criteria to allow Senior Management to monitor safety culture and determine what remedial actions must be taken for areas with unacceptable ratings.

The Restart Overview Panel functions to provide an independent oversight and review of restart activities as part of the Davis-Besse Return to Service Plan. The Restart Overview Panel performs an overview of internal and external plant activities, advising the FENOC President, Chief Operating Officer and Davis-Besse Vice President on matters relating to the safe resumption of operation of Davis-Besse and provides recommendations as appropriate.

The Davis-Besse Restart Action Plan shall be maintained through restart and until the NRC terminates the IMC 0350 Reactor Oversight Process. This plan is implemented by a procedure that provides details of the responsibilities and activities required to administer and control this Restart Action Plan Building Block.

Charter

Administer the identification, coordination, monitoring and closure of actions required to meet all Company-identified objectives and requirements under the Davis-Besse Return to Service Plan.

Definitions

Building Block Plans: Plans that address the major areas of concentration that need to be addressed prior to restart and identify actions or process changes or improvements that shall be accomplished to support restart.

Davis-Besse IMC 0350 Restart List: The list that identifies those restart actions that FENOC identifies to the NRC to address the checklist items identified in the NRC Manual Chapter 0350 Panel Restart Checklist.

Davis-Besse Restart Action List: The list that identifies those items that FirstEnergy Nuclear Operating Company (FENOC) plans to correct over and above the Davis-Besse IMC 0350 Restart List prior to restart, and post restart items that will be evaluated for inclusion in the Davis-Besse Operational Business Plan and/or Regulatory Management System related to Building Block or restart activities.

Davis-Besse Return to Service Plan: Describes the Davis-Besse course of action for a safe and reliable return to service.

Engineering Assessment Board: A review board of FENOC personnel, independent consultants and industry experts tasked with reviewing engineering products and products from the Building Block Plans. The Engineering Assessment Board provides technical oversight to ensure Nuclear Engineering Department products and activities exhibit a high degree of technical accuracy and assurance of nuclear safety.

IMC 0350 Oversight Panel: The NRC panel chartered to provide focused and coordinated regulatory oversight in accordance with the requirements of the IMC 0350 Reactor Oversight Process.

IMC 0350 Reactor Oversight Process: A formal restart approval process which establishes criteria for NRC oversight of licensee performance and establishes a record of major regulatory and licensee actions taken and technical issues resolved, leading to approval for restart and eventual return of the plant to the routine reactor oversight process.

Restart Action Database: A total list of restart items comprised of the Davis-Besse IMC 0350 Restart List and the Davis-Besse Restart Action List.

Restart Readiness Reviews: A review process to ensure that Davis-Besse's materiel condition, programs and processes, and organization, including the organization's safety culture are ready for plant restart and safe, reliable operation. These reviews are conducted in accordance with DBBP-VP-0002, Restart Readiness Review Extended Plant Outage Business Practice.

Restart Station Review Board: A committee consisting of the Director of Support Services, site managers and independent oversight established and chartered to identify and classify items to be included in the Restart Action Database through a review of Condition Reports, Corrective Actions, and other documents.

Senior Management Team: A team consisting of the FENOC Chief Operating Officer, the Plant Manager, the Directors of Nuclear Engineering, Support Services, and Work Management and independent oversight. The Senior Management Team is chartered to provide senior management review and oversight of restart activities.

Restart Overview Panel: A panel of FENOC executive management and outside industry experts who provide an independent oversight and review of plant activities discovered or performed as part of the Davis-Besse Return to Service Building Blocks.

Restart Action Plan Objectives

- Establish a mechanism for coordinated management identification, monitoring and control of restart actions.
- Provide effective interaction with the NRC IMC 0350 Reactor Oversight Process.
- Coordinate the planning, discovery, implementation, and validation/closure of actions from the Building Block Plans.
- Control and maintain the Restart Action Database
- Provide the Restart Station Review Board with criteria for assessing items to be placed in the Restart Action Database.
- Administer Restart Station Review Board and Senior Management Team activities related to restart activities.
- Provide a process for the Restart Station Review Board to review and categorize recommended restart items.
- Provide a process for the Senior Management Team to review restart issues.
- Provide an interface with the Restart Overview Panel to review actions from the Building Block Plans, the Restart Station Review Board, the Senior Management Team, or Engineering Assessment Board.
- Provide a process for validation and closure of restart items on the Davis-Besse IMC 0350 Restart List.
- Maintain a centralized file with copies of documentation related to Building Blocks, Action Plans, and Closure Packages to facilitate reviews by the NRC and oversight organizations.

Plan Description

Overview

There are four significant phases of the Restart Action Plan process to be accomplished to return Davis-Besse to safe and reliable operations. These phases are planning, discovery, implementation, and validation/closure. Each phase is discussed below.

Planning: The planning phase is essential to ensure that all restart issues are properly and thoroughly identified and characterized during the discovery phase. In addition, planning ensures that personnel are properly trained and qualified to perform discovery activities. Planning is accomplished by development of:

- Building Block Plans
- Building Block Discovery Action Plans
- Implementing Procedures
- Restart Implementation Action Plans
- Training
- Schedules

Discovery: This is accomplished by performing the activities identified in the Building Block Discovery Action Plans using implementing procedures, and by the day-to-day activities associated with Operations, Maintenance, and Engineering. Emergent issues and findings identified during the performance of the implementing procedures are documented on Condition Reports.

During the discovery phase, it is of utmost importance that all activities are performed and properly documented. This provides the needed evidence to demonstrate to management and the NRC that the staff and contractors at the DBNPS did what was expected by the Davis-Besse Return to Service Plan and the Building Block Plans, and the work was thorough, accurate, and comprehensive in nature. It is also a requirement and expectation that issues identified either during discovery, or by the performance of day-to-day activities are accurately documented on Condition Reports in a timely manner.

Implementation: The Restart Station Review Board categorizes the Condition Reports identified during discovery, and their associated Corrective Actions. Corrective Actions classified as restart are planned as individual activities, or "binned" into Restart Implementation Action Plans to develop a comprehensive approach to managing numerous corrective actions of a similar nature. These corrective actions are intended to fix the physical plant (structures, systems and components), programs, processes and procedures, department functions, and management and oversight prior to restarting the plant. During the implementation phase, it is also important to accurately document what, how, why, when and who performed the associated corrective actions. This documentation allows the development of closure packages to demonstrate to the NRC that restart items have been properly completed.

Validation/Closure: The validation and closure process involves a planned and organized method to gather and validate the documented evidence to demonstrate that the planning, discovery and implementation activities for Davis-Besse IMC 0350 Restart List items have been properly completed or that post restart issues are understood and properly tracked to closure after restart. The Restart Action Database plays a key role in managing restart activities to closure.

Purpose

The Restart Action Plan Building Block provides overview, coordination and control of restart activities to ensure the safe, reliable, and sustainable operation of Davis-Besse associated with the ongoing actions under the NRC IMC 0350 Reactor Oversight Process and the Davis-Besse Return to Service Plan. The Restart Action Plan Team maintains the process for, and control of, the Restart Action Database that includes the Davis-Besse IMC 0350 Restart List and the Davis-Besse Restart Action List.

The Restart Action Plan Building Block also provides a coordinated interface with the other Building Block Plans, including monitoring, validation and closure of restart items on the Davis-Besse IMC 0350 Restart List. The Restart Action Plan Team administers and coordinates the activities of the Restart Station Review Board, Senior Management Team, and the Restart Overview Panel. The Restart Action Plan Team is also responsible for coordinating the preparation of the Integrated Restart Report and tracking post-restart activities while still under the IMC 0350 Reactor Oversight Process.

Organization

The Restart Action Plan Team is part of the restart organization (Figure 1) and one of the Building Block Plans subject to oversight by the Restart Overview Panel. The Restart Action Plan Team consists of separate sub-teams to coordinate its various restart activities (Figure 2). The Restart Action Plan Team Owner reports to the FENOC Chief Operating Officer.

The six sub-teams/boards of the Restart Action Plan Team are the Regulatory Interface Team, Restart Action Process Administrator, Restart Station Review Board, Senior Management Team, Return To Service Plan Administrator and the Validation Team. Each of the sub-teams or boards is headed by a lead or a chairman that has responsibility for the overall actions and products of the sub-team.

Responsibilities

Each Building Block Team includes a Regulatory Interface Team member assigned to monitor its actions and products. This provides the Restart Action Plan Team with an understanding of the discovery phase of the Building Block Team activities that will define the corrective action recommendations from the Building Block efforts.

The Regulatory Interface Team is responsible for:

- Providing an interface and liaison between the Building Block Teams and the NRC.

- Working with the Building Block Owner and team personnel to consult on regulatory issues and ensuring regulatory requirements are understood.

- Coordinating issues and commitments resulting from Condition Report evaluations, the Confirmatory Action Letter, and emergent plant or industry issues pertinent to restart.

- Facilitating communication of restart action item status and closure to the NRC.

- Interfacing with the Building Block Teams to monitor the activities of the Building Block Discovery Action Plans and Restart Implementation Action Plans.

- Monitoring and assisting, if necessary, the integration of corrective actions into the work schedules.

- Updating the status of Restart Action Database items.

- Leading and/or coordinating the efforts to support the NRC inspection, and ensuring Condition Reports are generated for inspection issues.

- Facilitating the development and presentation of closure packages to the NRC.

- Coordinating resolution of questions or issues resulting from NRC reviews and inspections and documenting final NRC closure and acceptance of completed actions.

- Generation and maintenance of procedures to implement the actions of this Building Block Plan.

The Restart Action Plan Team is responsible for:

- The administration of the process for identifying, coordinating, and tracking actions for the Restart Action Database.

- Coordinating the restart activities of the Restart Station Review Board, Senior Management Team and Restart Overview Panel.

- Ensuring Condition Reports and Corrective Actions are reviewed by the Restart Station Review Board.

- Maintaining an agenda for the review of items by the Restart Station Review Board and providing administrative support during restart meetings, including documenting the actions for each item.

- Preparing agendas and providing administrative support including the generation of meeting minutes for the Senior Management Team and Restart Overview Panel.

- Maintaining the Restart Action Database and providing status/reports of items included in the database as necessary.

- Distributing copies of Action Plans to appropriate personnel, and maintaining a central file of Action Plans and closure documentation to facilitate reviews by the NRC and oversight personnel.

The Davis-Besse Restart Station Review Board has been established to identify and classify items to be included in the Restart Action Database through a review of Condition Reports, Corrective Actions and other documents. A quorum of the Restart Station Review Board consists of at least four voting members, no more than two of who can be alternates, in addition to the Chairman or Alternate Chairman. Actions by the Restart Station Review Board are approved by consensus. If consensus cannot be reached, a vote will be taken with the majority vote being the final decision.

The Restart Station Review Board is responsible for:

- Review of Condition Reports using the restart criteria (Table 1 and Table 2) to ensure that the Condition Reports that identify issues that need to be resolved and actions that need to be completed prior to restart are added to the Restart Action Database.

- Evaluating and classifying Corrective Actions resulting from Condition Reports designated to be evaluated prior to restart, to determine which actions are required to be completed prior to restart and to ensure that Condition Report corrective actions are added to the Restart Action Database

- Reviewing the list of open Work Orders and pending modifications for determination of restart activities.

- Recommending to the Senior Management Team those items to be tracked as IMC 0350 actions using the criteria from Table 1 and Table 2.

The Senior Management Team includes the FENOC Chief Operating Officer, the Plant Manager, the Directors of Nuclear Engineering, Support Services and Work Management and independent oversight. A quorum of the Senior Management Team consists of at least two regular members in addition to the Chairman or Alternate Chairman. Actions by the Senior Management Team are approved by a consensus.

The Senior Management Team is responsible for:

- Reviewing and recommending approval of Building Block Plans and revisions, Building Block Team assignments, and criteria for identification of restart issues.

- Review and approval of Building Block Discovery Action Plans and Restart Implementation Action Plans.

- Periodically reviewing the decisions of the Restart Station Review Board to ensure items identified as post-restart are consistent with senior management's expectations.

- Reviewing and approving additions or revisions to the Davis-Besse IMC 0350 Restart List.

The Restart Overview Panel consists of three members of the FENOC Executive Management, the Vice President-FENOC Oversight, at least three industry experts and a representative of the Ottawa County government.

The Restart Overview Panel is responsible for:

- Assessing the comprehensiveness of Building Block Plans, Building Block Discovery Action Plans, and Restart Implementation Action Plans and their implementation.
- Performing independent oversight and review of plant activities needed for restart to ensure that Davis-Besse is ready to resume power operations and will be safely operated and maintained.
- Making recommendations for Return to Service for Davis-Besse.

The FENOC Chief Operating Officer is responsible for:

- Final approval of the Return to Service Plan and subsequent revisions.
- Final approval of Building Block Plans and subsequent revisions.
- Approving the Davis-Besse IMC 0350 Restart List and subsequent revisions.
- Approving all changes to the Integrated Restart Schedule that extend the completion dates of milestones or significantly increase the scope of the outage.
- Concurrence of Action Item Closure Documents as ready for NRC inspection.
- Acting as alternate Chairman of the Restart Overview Panel.
- Providing oversight and direction to the Senior Management Team.
- Final authority to restart the Davis-Besse Nuclear Power Station.

Management of Restart Action Database and Process

Restart Action Database: The Restart Action Database tracks restart items classified by the Restart Station Review Board to return the plant to safe and reliable operation and to a condition of management excellence. It contains restart items from both the Davis-Besse IMC 0350 Restart List and the Davis-Besse Restart Action List. The long-term, post-restart actions are maintained in the Restart Action Database, and are evaluated for incorporation into the Davis-Besse Operational Business Plan and/or the Regulatory Management System. The Restart Action Database is maintained by the Restart Action Plan Team and provides the basis for review and disposition of items by the Restart Station Review Board and the Senior Management Team.

Restart Action Review Process: The Davis-Besse Corrective Action Program provides the basis for the majority of the review process. Identified issues from either the Building Block Team reviews, emergent issues, or those identified by the NRC, must be documented on a Condition Report (CR) to begin the review and evaluation process.

The Restart Station Review Board reviews Condition Reports and Corrective Actions and makes the determination if the item meets the IMC 0350 Criteria by evaluating it against the criteria on Table 1. If the item meets one or more of those criteria, it is classified as a Davis-Besse IMC 0350 Restart List item. If it does not fall within the IMC 0350 Criteria, the item is evaluated for restart from the criteria in Table 2. If pre-restart is required, it is included on the Davis-Besse Restart Action List. If pre-restart is not required, the item is evaluated for incorporation into the Davis-Besse Operational Business Plan and/or the Regulatory Management System and added to the Restart Action Database. Items not related to restart are classified as not applicable and are managed using the Corrective Action Program.

The Senior Management Team reviews the addition of new restart actions to the Davis-Besse IMC 0350 Restart List with final approval by the FENOC Chief Operating Officer.

Once the restart determination has been made and the corrective actions have been identified, the issue or action moves forward for implementation. The Engineering Assessment Board reviews actions from the Containment Health Assurance, the System Health Assurance, Reactor Head Resolution, Restart Test, and the Program Compliance plans. If additional issues or actions are identified, those new issues are referred back to the Restart Station Review Board for evaluation and restart determination. Once Corrective Actions have been implemented, closure of the restart item will occur. The Validation Team performs selected in-line reviews and acceptance of Action Item Closure Documents for items on the Davis-Besse IMC 0350 Restart List. The flow chart of the Restart Action Plan Process is shown in Figure 3.

The Restart Action Database tracks the status of items on the Davis-Besse Restart Action List and the Davis-Besse IMC 0350 Restart List. This tracking process includes an identification of the responsible organization or individual for resolution of the issue, the scheduled completion date for resolution and the actual completion date.

The Building Block Teams generate action plans to evaluate either in-plant inspections of structures, systems and components, or programmatic reviews that generate Condition Reports, Corrective Actions, or reports that document the results of the inspections or reviews performed. These reports may include recommendations for actions to be completed either prior to or after restart. Reports are reviewed by the Engineering Assessment Board for technical adequacy and completeness.

If the inspections, corrective actions, or resulting reports generate new recommendations for restart actions, new Condition Reports are written and evaluated under the Restart Action Review Process.

NRC Inspection Interface

Support for inspections by the NRC for the duration of the NRC IMC 0350 Reactor Oversight Process is coordinated by the Regulatory Interface Team. The Regulatory Interface Team assesses inspection activities as they are defined by the NRC Oversight Panel. Baseline inspections performed by the NRC may be assigned to the Compliance Unit to monitor, facilitate, and coordinate the inspection. Inspections related to Davis-Besse Return to Service activities and actions are coordinated by the Regulatory Interface Team. Larger team inspections may require adjusting Regulatory Interface Team resources to cover the scope and breadth of the inspection. This may include the addition of supplemental personnel for the duration of the inspection.

An Inspection Team Lead is assigned for each inspection. The lead coordinates all aspects of the support for the inspection, including the entrance meeting, interview schedules, daily briefings, issue resolution, and the exit meeting. A database tracks each inspection issue, documents reference materials provided to the NRC, and logs Condition Reports generated during the inspection.

IMC 0350 Restart List Closure Process

Closure packages are developed for restart items on the Davis-Besse IMC 0350 Restart List. Closure packages include the necessary documentation to provide evidence that restart corrective actions have been satisfactorily completed. Closure packages are independently reviewed by the Validation Team and approved by the Building Block Owners or Responsible Director and then sent to the FENOC Chief Operation Officer for final concurrence, signifying that the restart item is ready for NRC Inspection.

Closure package development is the responsibility of the Action Plan Owners and associated responsible individuals identified in the action plans.

The Regulatory Interface Team is responsible for providing guidance and support in the development of closure packages and for maintaining a central file of closure documentation to facilitate NRC inspections and oversight reviews.

Validation of Closure Packages

The validation process ensures consistency and complete implementation of activities associated with the Davis-Besse IMC 0350 Restart List. This is accomplished through a review of documentation associated with selected in-process restart activities and Action Item Closure Documents. Validation will be performed on selected individual Condition Reports included in the Davis-Besse IMC 0350 Restart List, and on Action Plans and Building Block Plans. The validation process also considers the results of Quality Assessment oversight activities and Engineering Assessment Board/Program Review Board assessments in determining the adequacy for closure of items on the Davis-Besse IMC 0350 Restart List.

Once approved, closure packages will be made available for NRC inspection and acceptance. The Regulatory Interface team provides the interface with NRC personnel to facilitate resolution of questions or issues and documentation of final acceptance and closure by the NRC.

Restart Readiness Reviews

Restart Readiness Reviews are conducted prior to major plant evolutions in accordance with the Restart Readiness Review Extended Plant Outage Business Practice. This Business Practice includes detailed criteria for establishing the readiness of each Department or Section to support the specific restart activity. In addition, the Restart Readiness Review process performs an assessment of the safety culture of the Davis-Besse Organization using very specific criteria to allow Senior Management to monitor safety culture and determine what remedial actions must be taken for areas with unacceptable ratings.

Interface with Restart Outage Schedule

The Restart Action Plan Team interfaces with the Work Management organization to include appropriate restart activities into the work activity schedules. This interface is imperative to ensure that those work activities identified within action plans are factored into the Integrated Restart Schedule.

Integrated Restart Report

The Integrated Restart Report provides a summary of the restart actions taken at Davis-Besse. The purpose of this report is to provide an integrated discussion of restart actions and to demonstrate that Davis-Besse is ready for restart. The general outline for this report is provided below:

- Purpose of the Integrated Restart Report.
- Background information, including a description and chronology of the events leading to discovery of the degradation of the RPV Head, a description of the as-found condition of the RPV Head, and a high level summary of the Return to Service Plan and Building Blocks. This section should include a discussion regarding the scope of work that was performed beyond that required by the 0350 process to ensure Davis-Besse is ready to restart.
- Summary of the safety significance of the as-found condition of the degraded RPV Head and related safety equipment (i.e.. Containment Air Coolers).
- Summary of the Reactor Head Resolution Plan and the results of implementation of the Plan, and demonstrates that the replacement head and restored containment will continue to be able to perform their design basis functions.
- Summary of the results of the Technical Root Cause Analyses Report, findings and corrective and preventative actions.
- Summary of corrective and preventive actions for root causes including:
  - Summary of the actions in the Management and Human Performance Improvement Plan.
  - Summary of the various oversight boards described in the Restart Action Plan.
  - A discussion of the results of FENOC's measures for verifying the effectiveness of the corrective and preventive actions, including performance indicators and assessments.
  - Description of the results of the Containment Health Assurance Plan and associated corrective actions (restart and post-restart).

- Description of the results of the Program Compliance Plan and associated corrective actions (restart and post-restart).
- Description of the results of the System Health Assurance Plan and associated corrective actions (restart and post-restart).
- Description of the results of the Functional Area Reviews and associated corrective actions (restart and post-restart).
- A summary the Restart Test Plan and the results of implementation of the Plan to date.
- A summary of other significant actions taken (i.e.. those actions not addressed by the Building Block discussions) to ensure Davis-Besse is ready to support restart and sustained improved operations.

These summarizes will demonstrate that FENOC has taken appropriate action to address the causes and contributing factors and to improve performance, and has established appropriate barriers to ensure the adequacy of the work performed during implementation of the Return to Service Plan and associated Building Blocks, and demonstrate that the condition of the plant, programs, and organization are acceptable to support restart.

➢ A summary regarding the basis for FENOC's conclusions that the Davis-Besse Nuclear Power Station is ready for restart.

Figure 1: Restart Organization

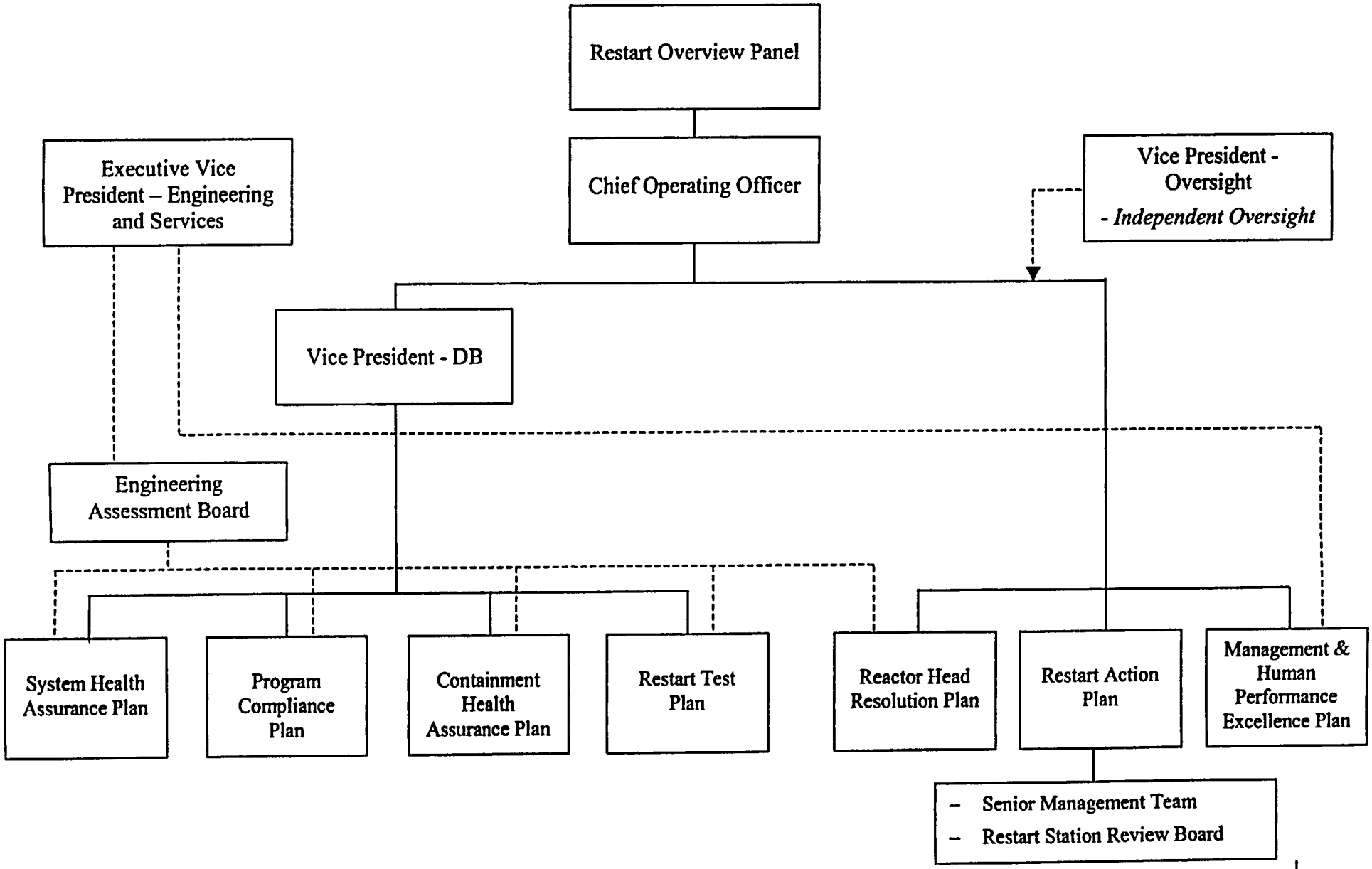

Figure 2: Restart Action Plan Team

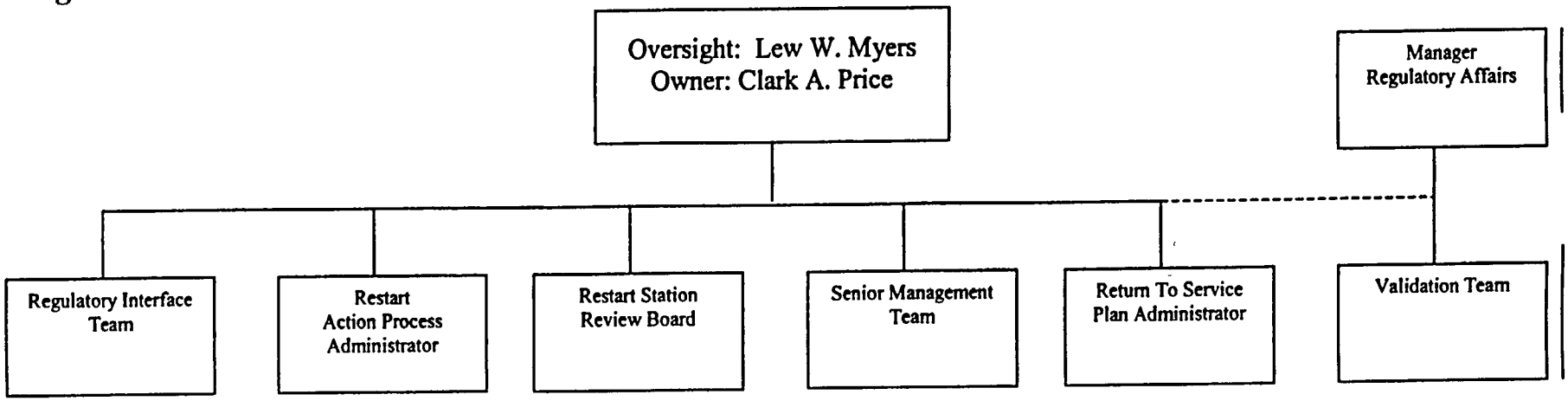

Figure 3

Davis-Besse Restart Action Plan Process

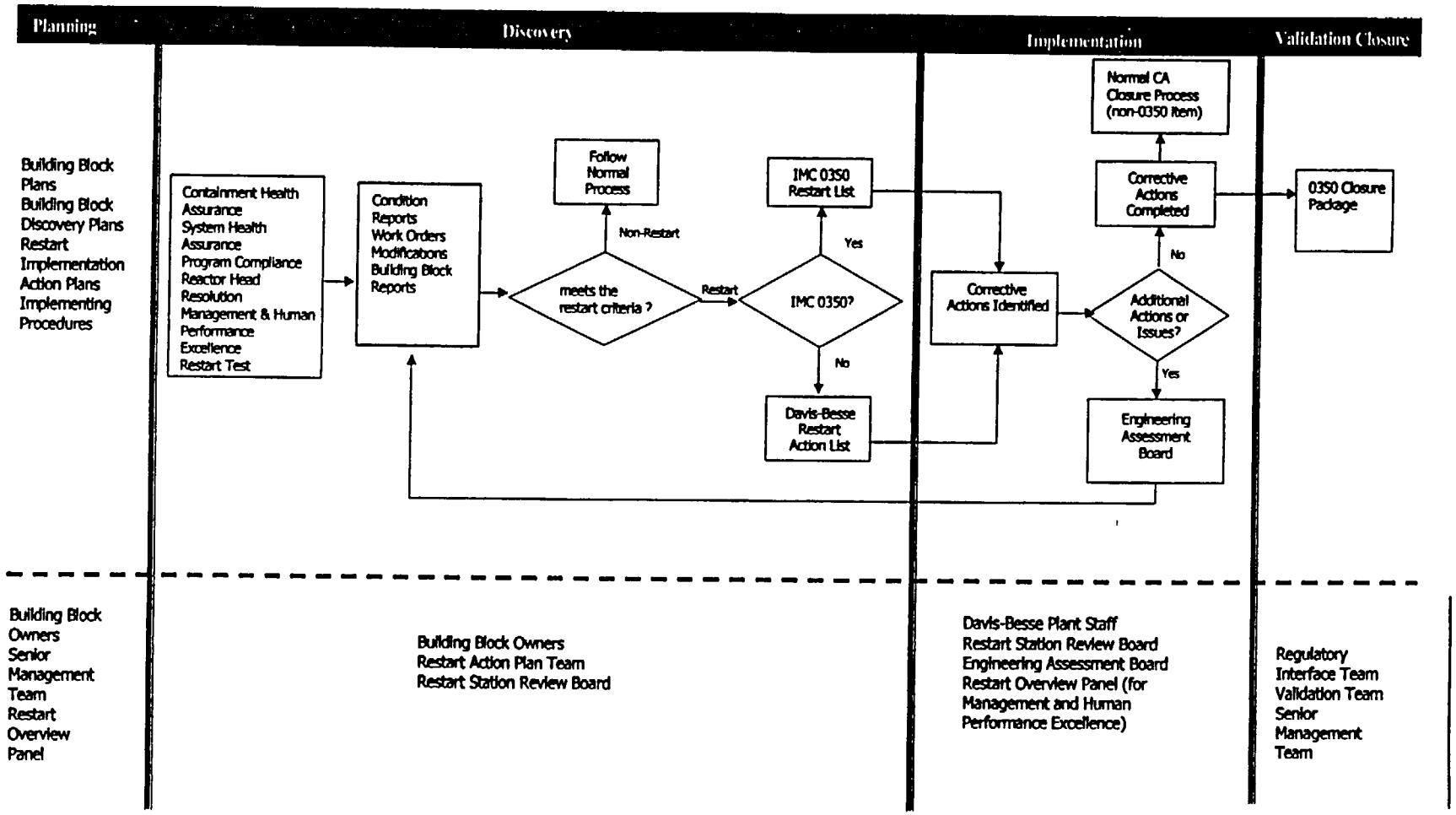

Table 1: Criteria for Inclusion of an Issue on the Davis-Besse IMC 0350 Restart List

1. Any event, finding, performance indicator or condition that would be ranked as white, yellow or red under the Nuclear Regulatory Commission's Significance Determination Process (SDP).

2. Any cited violations of Davis-Besse's license, technical specifications, regulations or orders under any mode of plant operation.

3. A loss of FENOC's ability to maintain and operate the facility in accordance with the design and licensing basis (for example, a programmatic breakdown or repetitive examples of inadequate design control, including 10 CFR 50.59 plant modifications of equipment important to safety or plant operating practices).

4. A condition or programmatic breakdown indicating a lack of reasonable assurance that FENOC can or will conduct its activities without undue risk to public health and safety (for example, multiple repetitive failures to adhere to procedures that affect risk-significant equipment, equipment important to safety or plant operation).

5. A failure of management controls to effectively address previous risk-significant concerns to prevent recurrence (for example, repetitive examples of inadequate root cause evaluations and corrective action(s) affecting risk-significant equipment and/or plant operation).

6. An issue encompassed by a previously identified / existing IMC 0350 issue.

Table 2. Restart Screening Criteria for the Restart Station Review Board

Issues should be evaluated against Criteria 1 through 9. If Criteria 1-9 do not apply, then identify as not applicable to pre- or post-restart criteria.

Issues shall be designated as restart action items if they satisfy one or more of the following criteria:

1. Nuclear Safety: Required to address a nuclear safety issue.

   Issues may be classified as follows:

   a. Items that could result in significant personnel radiation exposure, radioactivity release or effluent discharge in excess of limits

   b. Cumulative deficiencies, backlogs or conditions that, in the aggregate, are evaluated to have significant impact on nuclear safety. (Not applicable to individual work issues)

2. Operability: Required to address an operability issue.

   Issues may be classified as follows:

   a. An existing component failure, deficiency or condition that could result in operation in or entry into a Limiting Condition for Operation (LCO) action statement if left uncorrected.

   b. Would result in failure or inability to perform a required surveillance test during the current outage or the following operating cycle in accordance with plant technical specifications.

   c. Would increase the risk to operation or safety associated with performing a surveillance.

   d. Cumulative deficiencies, backlogs or conditions that, in the aggregate, are evaluated to have significant negative impact on operability. (Not applicable to individual work issues.)

3. Design Basis: Required to address design margin or conformance with the design basis.

   Issues may be classified as follows:

   a. Design basis deficiencies, i.e. deficiencies in safety-related or technical specification equipment not in conformance with design basis documents.

4. License and Licensing Basis: Required to address issues requiring a license amendment under 10CFR 50.59 or nonconformance with the license or license conditions.

   Issues may be classified as follows:

   a. Non-conformance with the license or license conditions.

   b. Technical Specification changes or amendments needed under 10CFR50.59 to support safe plant operation.

5. Licensing Commitments: Required to address restart licensing commitments and Confirmatory Action Letter issues.

   Issues may be classified as follows:

   a. Existing deficiencies or conditions that would result in the failure to meet a Confirmatory Action Letter requirement or a restart commitment to an outside agency.

6. Configuration Management: Required to address an organizational, programmatic or process deficiency that could prevent maintenance of adequate design margins or conformance with a design basis.

   Issues may be classified as follows:

   a. Deficiencies in configuration management programs, processes, engineering analysis codes or operating, maintenance or test procedures that have a reasonable probability of affecting equipment operability.

7. Reliability: Required to address significant equipment material condition deficiencies singly or in aggregate or repetitive failures that could affect safety system availability, impact plant reliability, or reduce the ability of operators to operate the plant safely.

   Issues may be classified as follows:

   a. Cumulative deficiencies, backlogs or conditions that in the aggregate are evaluated to have significant negative impact on safety system availability or reliable plant operation. (Not applicable to individual work issues.)

   b. Degraded critical components or conditions that could result in plant transient, power reduction or shutdown.

   c. Conditions that have resulted in repetitive safety system or equipment failures.

Issues that are not classified as restart may be classified as follows if further tracking beyond the Corrective Action Program is desired:

8. Post-Restart Issues:

   a. Issue can be scheduled for a subsequent outage.

   b. Issue can be readily worked on line, does not affect safe and reliable operation, does not represent a significant challenge to Maintenance Rule Goals or LCO allowed outage time, and does not impair operations necessary to perform surveillance or monitoring.

   c. Issue is classified as minor maintenance or housekeeping and does not affect plant operations.

   d. Issue is an administrative issue.

   e. Issue is a documentation deficiency that has no safety impact.

9. Industrial Safety Concerns: Industrial safety concerns will not be classified as "restart" because the priority and resolution of these concerns will be addressed under the established work control process priorities and scheduling. Although an industrial safety issue is not classified as restart, it will be worked promptly, commensurate with the safety risk.

Docket Number 50-346
License Number NPF-3
Serial Number 1-1310
Enclosure

Revision 5 of the Davis-Besse Program Compliance Plan

Davis-Besse Program Compliance Plan

Revision: 5
Date: 3/31 2003

Owner: Neil A. Morrison

Oversight: Jim Powers

Recommended for Approval
RSMT Chairman

Approved by Lew W. Myers

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Summary of Revision Changes

Revision 5: The changes in Revision 5 include the discussion of the newly implemented procedure NG-EN-00386 (Program Assessment, Ownership, and Development) Revision 0 for performing detailed program reviews at Davis-Besse. This procedure discusses the ongoing program review process, subsequent to restart from 13RFO. This procedure will assure that programs are selected for detail review and reviews are conducted on a periodic basis, commensurate with plant performance (e.g., results of QA Audits, Industry Experience, Regulatory Performance). The selection of the programs for review are included in Attachment 1 and normally, three programs will be assessed per year. The change in the scope of the ongoing process and schedule is also reflected in this revision.

Revision 4: The changes in Revision 4 include removal of the Reactor Coolant System Unidentified Leakage Program from the list of programs receiving a Phase 2 detailed review. The program does not exist today, therefore it must be developed, or a similar type of program must be developed prior to restart. In addition to this change, the External and Internal Dosimetry Program was removed from the Phase 1 review list. This program will be reviewed as part of the Radiation Protection Program.

Revision 3: The changes in Revision 3 include the addition of the Summary of Revision Changes page, in accordance with NG-VP-00100, Restart Action Process. The Radiation Protection Program will receive a Phase 2 Detailed Review, which is an addition to this revision. Provisions were made to allow the addition of other programs for a Phase 1 Program Readiness Baseline Assessment, or a Phase 2 Detailed Review, without the need to revise this Building Block Plan. The schedule for Phase 2 Program Detailed Reviews was deleted in this revision.

General editorial changes were made for clarification of wording.

Executive Summary

Program weaknesses were a major contributor to the degradation of the Reactor Pressure Vessel Head. The program weaknesses identified are:

- **Standards**
- **Ownership**
- **Oversight**

We have identified the programs on Attachment 1 to receive a Phase 1 or Phase 2 review described below. The programs receiving a Phase 2 review prior to restart that were identified as contributing to the degradation of the Reactor Pressure Vessel Head are: the Boric Acid Corrosion Control Program, Inservice Inspection Program, Plant Modification Program, Corrective Action Program, , and the Operating Experience Program.

The plan review process will use a two-phase approach as discussed below.

Phase 1- Program Readiness Baseline Assessment

Phase 1 performs a baseline assessment of applicable plant programs to determine if the programs are in a condition to support the restart and safe operation of Davis-Besse. The programs listed in Attachment 1 will receive a Phase 1 assessment prior to restart (with the exception of the Probabilistic Safety Assessment Program, Boric Acid Corrosion Control Program, In Service Inspection Program, Plant Modifications Program, Corrective Action Program, , Radiation Protection Program, and Operating Experience Program that will receive a detailed review prior to restart). The program owner assesses the program by completing a standardized questionnaire. The program owner then presents the results of his/her assessment to a Program Review Board, which includes independent, external personnel. The Program Review Board reviews the program utilizing a screening form. Condition Reports (CRs) will be generated to document program weaknesses and recommendations. The CRs will be evaluated to determine whether the corrective action should be identified as a restart restraint.

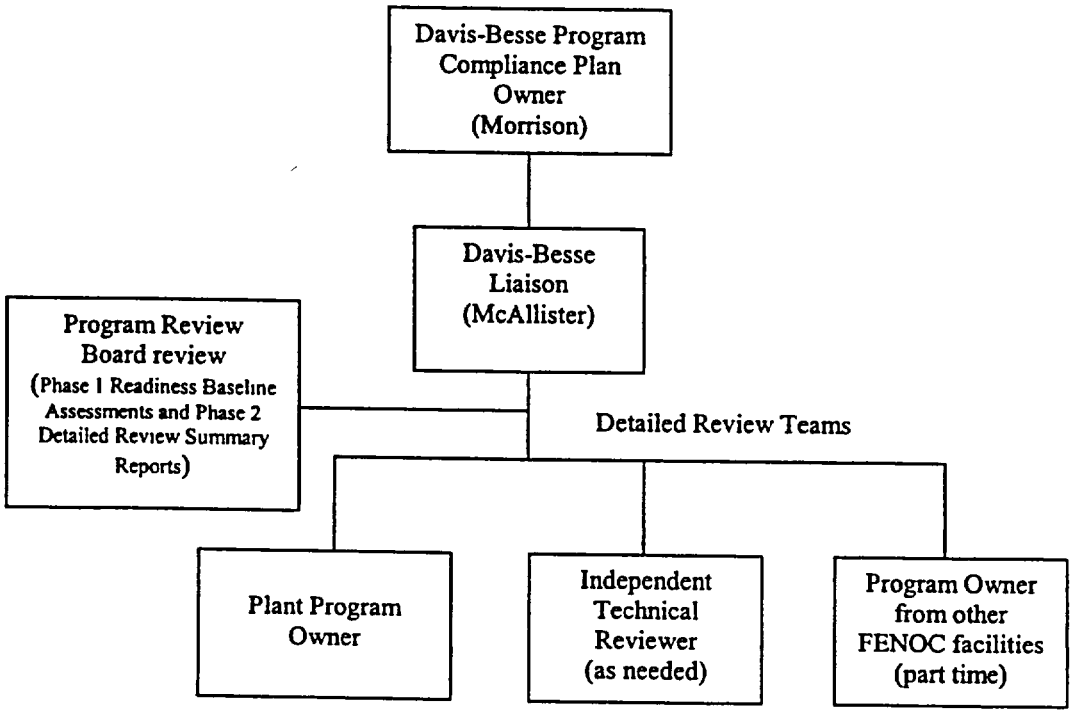
Phase 2 – Detailed Program Reviews

Phase 2 is an integral part of the long term Comprehensive Management and Human Performance Excellence Plan. This phase is an in-depth systematic review of the programs listed in Attachment 1. This process evaluates programs in depth to ensure that the programs are fulfilling required obligations, including interfaces and handoffs, and are sufficient to support the restart and safe operation of Davis-Besse. Phase 2 reviews will be completed prior to restart for the Boric Acid Corrosion Control Program, Inservice Inspection Program, Plant Modification Program, Corrective Action Program, Radiation Protection Program, and the Operating Experience Program. The Probabilistic Safety Assessment Program (PSA) will be evaluated as a pilot for the review process. Condition Reports (CRs) will be generated to document program weaknesses and recommendations. The CRs will be evaluated to determine whether the corrective action should be identified as a restart restraint.

Program Compliance Plan Charter

Perform a review of applicable plant programs to ensure that the programs are fulfilling required obligations, including interfaces and handoffs, and are sufficient to support the restart and safe operation of Davis-Besse Nuclear Power Station. Prior to restart, perform Phase 2 detailed, systematic reviews of the Boric Acid Corrosion Control Program, Inservice Inspection Program, Plant Modification Program, Corrective Action Program, Radiation Protection Program, and the Operating Experience Program. Prior to restart, perform Phase 1 baseline assessments of applicable plant programs.

Program Compliance Organization Chart



Phase 1: Program Readiness Baseline Assessment

Purpose

Program weaknesses contributed to the degradation of the Reactor Pressure Vessel Head in the area of standards, ownership, and oversight. Perform a baseline assessment of applicable plant programs to determine if the programs are in a condition to support the restart and safe operation of Davis-Besse and to ensure condition reports exist to track resolution of program deficiencies. As such, this effort will review the following:

Standards

- The program attributes comply with those required by basis documents and commitments;
- The program attributes comply with the "spirit" as well as the letter of the basis documents and commitments.

Ownership

- The program goals and scope are appropriate;
- Interfaces and handoffs with other programs or work groups are positively controlled and effectively implemented;
- The program appropriately implements Operating Experience; and

Oversight

- The program has an appropriate level of management involvement.
- The program has an owner who is properly qualified;
- The roles and responsibilities for program implementation are clearly defined and appropriately implemented.

Scope

The USAR, Operating License, Technical Specifications, and the Davis-Besse Team Work and Ownership model were reviewed for programs along with contacting selected managers to identify applicable programs for review. Plant Programs that meet the criteria listed below and not selected for a Phase 2 Detailed Review prior to restart will be reviewed under Phase 1 prior to restart.

- a program that affects the operation of a Structure, System, or Component (SSC) with a safety function,
- a program that, if deficient or if deficiently implemented, could result in an adverse impact on the safety function of a SSC,

- a program that, if deficient or if deficiently implemented, could result in a failure to prevent, detect or correct an adverse impact on the safety function of a SSC.

These identified programs are listed in Attachment 1. Programs that have been identified as under development or are in draft will not be assessed under Phase 1, but will be reviewed using a comprehensive review process discussed in NG-EN-00386 "Program Assessments, Ownership, and Development" following restart and completion of the program development. Additional programs may be designated for a Phase 1 Review based on the recommendation of the Program Compliance Plan Oversight to the Davis-Besse Senior Management.

Methodology for Phase 1 - Program Readiness Baseline Assessment

The program owners for the selected programs shall perform an assessment by completing a standardized Baseline Assessment Questionnaire designed to address important program attributes such as ownership, qualifications, and interfaces/handoff control. The program owner will then make a short presentation and make themselves available to the Program Review Board to address questions and issues. The assessment shall be organized as discussed in NG-EN-00385 "Program Compliance Review". The Program Review Board reviews the programs utilizing a screening form. Condition Reports (CRs) will be generated to document program deficiencies. If the Program Review Board determines additional assessment of an item on the screen is needed they shall initiate a CR to direct the performance of a focused self-assessment. The Restart Safety Review Board will evaluate whether any of the CRs should be considered restart restraints. When the program is ready to support the restart and safe operation of Davis-Besse, the Manager of the Program Owner shall make an affirmation to that fact. The Corrective Action process will be used to address issues identified during any step of the assessment process.

Reviews-Program Review Board

The Program Review Board is a subcommittee of the Engineering Assessment Board and is intended to provide a high level of independence to provide a critical look at the programs. The Program Review Board shall consist of personnel as defined in NG-EN-00385, Program Compliance Review.

Phase 2: Program Detailed Reviews

PURPOSE

This review is an integral part of the Comprehensive Management and Human Performance Plan. As programs are reviewed, evaluations will be made about standards, ownership, oversight, technical adequacy, and performance indicators. This document provides a general methodology to perform detailed reviews of selected programs. Program weaknesses contributed to the degradation of the Reactor Pressure Vessel Head in the area of standards, ownership, and oversight. This review is designed to ensure that the programs are in full compliance with the basis document(s) or that sound documented technical basis exists for any differences, the programs are fulfilling required obligations including interfaces and handoffs, and are sufficient to support the restart and safe operation of Davis-Besse. As such, this effort will review the following:

Standards

- The program attributes comply with those required by basis documents and commitments;
- The program attributes comply with the "spirit" as well as the letter of the basis documents and commitments.

Ownership

- The program goals and scope are appropriate;
- Interfaces and handoffs with other programs or work groups are positively controlled and effectively implemented;
- The program appropriately implements Operating Experience; and

Oversight

- The program has an appropriate level of management involvement.
- The program has an owner who is properly qualified;
- The roles and responsibilities for program implementation are clearly defined and appropriately implemented;

The Phase 2 review is a comprehensive review that evaluates the foregoing critical aspects of a program. In view of the broad scope of this effort, it is important to obtain outside expertise that will question existing conditions. To this end, outside expertise from other plants as well as contracted expertise will be involved in this effort to prove a high level of independence for these reviews.

SCOPE

Phase 2 performs a detailed systematic review of the programs listed in Attachment 1. Six programs were identified as contributors in the Root Cause Analysis Report of the technical causes of the degradation of the Reactor Pressure Vessel Head (April 15, 2002). These programs are the Boric Acid Corrosion Control Program, Inservice Inspection Program, Plant Modification Program, Corrective Action Program, Operating Experience Program, and Reactor Coolant System Unidentified Leakage Program. Detailed reviews of these five programs will be performed prior to restart. A program to include Reactor Coolant System Unidentified Leakage will be developed to address the current lack of an integrated approach. A detailed systematic review will also be performed on the Probabilistic Safety Assessment Program as a pilot review to develop and test the detailed review methodology and the Radiation Protection Program at the direction of the Davis-Besse Senior Management Team. Additional programs may be designated for the Phase 2 Detailed Review based on the recommendation of the Program Compliance Plan Oversight, to the Davis-Besse Senior Management Team. These additional program reviews may be designated to occur prior to or following restart.

Comprehensive reviews, selected from the programs listed in Attachment 1, will be conducted as an ongoing effort as discussed in NG-EN-00386 "Program Assessment, Ownership, and Development".

METHODOLOGY FOR PROGRAM DETAILED REVIEWS

The programs will be reviewed in accordance with NG-EN-00385, Program Compliance Review. The methodology is as follows:

- Identify the program basis documents and commitments and determine the programmatic elements needed to fulfill the basis document. Review the program implementing procedure(s) and manuals. Compare the basis document requirements against the program implementing procedure(s). Compare the philosophy of the implementing procedures against the philosophy the basis document portrays. Determine if sound technical justification exists for deviations from the bases documents. Include in this portion of the review, consideration of applicable "Owner's Group" or Industry Group implementing policies or accepted alternate approaches to the basis document.

- Determine if the program is implemented in full compliance with the spirit and letter of the governing and implementing documents. Verify if the program goals and scope are appropriate. Review condition reports, self-assessments, Quality Assurance audits, Peer Reviews, and NRC audits, to include the time frame of at least the past three years, of the program under review to identify any previously identified areas for program improvement. (The basis for the time frame is that issues identified in self-assessments, audits, or Condition Reports greater than three years old generally have diminished value or no are longer valid because of changes in plant processes, procedures, and organizational structure.) Review corrective actions resulting from the program assessments and condition reports reviewed to determine if they were appropriately implemented and effective. Determine if an appropriate schedule for regular program assessments exists.

- Identify key program interfaces and handoffs. Check the interfaces and handoffs to ensure that required supporting interfaces and receiving handoffs are addressed by the procedure of the interfacing programs. Review examples of the program execution. Look for areas that require "tribal knowledge" to be successfully implemented as opposed to procedure or program driven. Verify that interfaces and handoffs with other programs or work groups are positively controlled and effectively implemented. As appropriate, include interviews with groups impacted (interface and handoff) by the program.

- Verify that the roles and responsibilities for program implementation are clearly defined and appropriately implemented. Verify if the program has an appropriate level of management involvement. Verify performance indicators provide an accurate indication of the health of the program.

- Verify that the program has an owner who is properly qualified. Determine if a sufficient number of qualified personnel exist to manage, implement and interface with the program. Determine if qualification criteria have been established. Determine if appropriate training exists and has been completed.

- Review Operating Experience (for the past five years) external to Davis-Besse for applicability and potential impact to the program under review. (The basis for the time frame is that programs continuously evolve as better understanding of issues and new technologies immerge. Because of this continuous process the value in reviewing Operating Experience beyond 5 years is greatly diminished). Verify effective implementation of industry lessons learned related to the program.

- Generate Condition Reports to document identified weaknesses and recommendations for program changes or upgrades identified during the review that will restore compliance with the basis document or correct interface/handoff deficiencies.

Qualifications for the outside expertise is discussed in NG-EN-00385 "Program Compliance Plan."

Summary Report

The Phase 2 report shall be developed per the requirements of NG-EN-00385 "Program Compliance Review".

The approved report, which includes a listing of the CRs generated, will be submitted to the Restart Action Plan Team, for use in developing and maintaining the Restart Action List.

Review-Program Review Board

The Program Review Board (PRB) will review the Summary Reports to ensure the adequacy of the report and recommendations. Comments identified by the board will be addressed within the report.

Following the PRB review and resolution of any comments, the completed program reviews will be reviewed and approved by the Oversight of the Program Compliance Plan for Davis-Besse.

Attachment 1

Existing Programs to Receive Phase 1.

10CFR50.59 Program
Air Operated Valve (AOV) Reliability Program
Appendix R and Safe Shutdown Program
ASME Section XI Repair, Replacement, and Modification Program
Auxiliary Chemistry Control Program
Breaker Reliability Program
Calculation Control Program
Check Valve Reliability Program
Chemistry Measuring & Test Equipment Program
Commercial Grade Dedication Program
Commitment Management Program (TERMS)
Configuration Management Program
Containment Leakage Rate Test Program (Appendix J)
Control of Work
Controlled Materials Program
Core Design & Reload Analysis Program
Corrosion-Erosion Monitoring and Analysis Program (CEMAP)
Engineered Spare Parts List Program
Environmental Qualification (EQ) Program
Equipment Modernization Program
Fire Protection Program
Foreign Material Exclusion Program
Fuel Reliability Program
Heat Exchanger Monitoring Program
Hydraulic Snubber Program
Infrared Thermography Program
Inservice Test Program
Leak Reduction Program
Locked Valve Program
Lubrication Monitoring and Analysis Program
Maintenance Rule Program
Material Receipt Inspection Program
Measuring & Test Equipment Program
Meteorological Monitoring Program
Motor Operated Valve (MOV) Reliability Program
Motor Reliability Program
On-line Risk Management Program
Operability Determination Program
Post Accident Sampling Program
Predictive Maintenance Program
Preventive Maintenance Program
Primary Water Chemistry Monitoring & Control Program
Procurement Program

Quality Classification Control Program
Radioactive Effluent Controls Program
Radioactive Materials Program
Reactivity Management Program
Safety Tagging Program
Secondary Water Chemistry Monitoring & Control Program
Service Water System Reliability Program
Severe Accident Management Program
Shelf Life Evaluation Program
Shutdown Risk Management Program
Software Control Program
Steam Generator Program Management
Temporary Leak Sealing
Temporary Modification Process
Test Control Program
Thermal Performance Monitoring Program
Transient Counting
Valve Packing Program
Vendor Manual Control Program
Ventilation Filter Testing Program
Vibration Analysis Program
Welding Implementation & Qualification Program

Programs to Receive Phase 2 Review Prior to Restart

Boric Acid Corrosion Control Program
Corrective Action Program
Inservice Inspection (ISI) Program
Operating Experience Program
Plant Modification Program
Probabilistic Safety Assessment (PSA) Program (pilot)
Radiation Protection Program

Programs Identified to be Developed

Alloy 600 Program
Barrier Control Program
Buried Commodities Program (Cathodic Protection)
Cable Reliability Program
Containment Coating Program
Controller Reliability Program
Electrical Load Control Program
Grid Reliability Program
Material Reliability Project Program
Power Supply Reliability Program
Protective Relay Program
Pump Reliability Program
Relief Valve Reliability Program
Set Point Control Program

Docket Number 50-346
License Number NPF-3
Serial Number 1-1310
Enclosure

Revision 3 of the Nuclear Operating Business Practice Restart Readiness Review Extended Plant Outage (DBBP-VP-0002)

RESTART READINESS REVIEW EXTENDED PLANT OUTAGE

Approved: _____

Effective Date APR - 2 2003

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1.0 PURPOSE

The purpose of this Business Practice is to provide assurance that the Davis-Besse Nuclear Power Station is ready to restart following the extended plant outage. The framework detailed here establishes a review process for areas not addressed by the Restart Test Plan and DB startup procedures to ensure that Davis-Besse's materiel condition, programs and processes, and organization, including the organization's safety culture are ready for plant restart and safe, reliable operation.

2.0 APPLICABILITY

This Business Practice applies to the first plant startup following this extended plant outage. It also applies to subsequent startups from this same outage and therefore shall be re-performed if the startup is halted resulting in an entry into a lower mode.

Adherence to this Business Practice is mandatory.

3.0 RESPONSIBILITY

The Beaver Valley Vice President-Nuclear is responsible for initiating the Restart Readiness Review Process.

Each Section Manager and 0350 Restart List Responsible Individual is responsible for the accuracy and adequacy of the reviews performed, actions taken and action plans developed during the review process.

The Section Managers of Plant Engineering, Operations and Maintenance are responsible for ensuring plant walk-down inspections are conducted prior to power ascension.

The Manager-Operations is responsible for affirming: 1) the Operations Section has completed a review of operational readiness and is ready to support the safe and reliable startup and operation of the plant through the next operating cycle; 2) that the plant is in a condition of materiel readiness to support safe and reliable startup and operation and the operating crews are prepared and ready to startup and operate the plant in a safe and reliable manner through the next operating cycle.

The Supervisor-DB Reactor Engineering is responsible for: 1) following movement of fuel in the reactor core, changes to reactivity control components in the reactor core and/or changes to nuclear instrumentation in the reactor core, verifying that the reactor core is configured to support safe and reliable operation through the cycle. This affirmation is required prior to installation of the reactor head; 2) prior to reactor startup, verifying that the required conditions exist to support a safe startup and power ascension.

Each Director is responsible for the final review of the assessment and action plans developed during the review process by the sections in his department.

The Vice President-Nuclear is responsible for final approval prior to plant restart.

4.0 DETAILS

1. The review process shall be initiated early enough to ensure it is completed prior to entry into Modes 6, 4 and 2. The review shall be completed by the milestone date as determined by the responsible Shift Outage Director. All Sections and 0350 Checklist Responsible Individuals, shall submit restart readiness reviews by the milestone dates; not all items have to be complete, provided bullet (4) in Step 3 is appropriately addressed.

2. The process consists of the review and assessment of the specified Restart Readiness Review Indicators. The matrix on Attachment 2 designates the minimum indicators from Attachment 1 that are applicable to each Section and/or 0350 Checklist Item. Each Section and 0350 Checklist Responsible Individual, shall address applicable indicators and should participate in the review and assessment of any indicator for which meaningful input can be provided.

3. The methodology for the review process consists of the following steps:

   - Monitor plant system/component work activity progress during the outage
   - Monitor emergent work/issues during the outage for shutdown concerns
   - Monitor personnel and administrative issues during the outage for restart concerns
   - Assess Restart Readiness Review Indicators as identified on Attachment 1, as applicable per Attachment 2.
   - Assess Safety Culture as identified on Attachment 8, Page 18
   - Identify items to be complete prior to the designated Mode (6, 4 or 2) that have not been completed as of the Shift Outage Director milestone date. Ensure a reference is associated with each incomplete item that addresses completion of that item before needed in that mode.

4. Results of the individual indicator assessments, including the status of action plans to support plant restart, will be indicated on Attachment 1, and acknowledged by the signature of the Section Manager or 0350 Checklist Responsible Individual. Indicator assessments should be marked as Final (all conditions are acceptable to support plant restart) or Preliminary (one or more indicators are not currently complete or acceptable and action plans will support

plant restart when complete). Details on incomplete items and the status of action plans to eliminate them shall be attached.

5. Restart Readiness Review Indicators (Attachment 1) should be provided to the Restart Action Process Administrator at least two days prior to the meeting.

6. Restart Readiness Review Indicators shall be reviewed by the Senior Management Team and approved by the Vice President-Nuclear or Chief Operating Officer, as provided on Attachment 3.

7. Completed Attachments 1 and 3 shall be included with the documentation package assembled in accordance with this Business Practice.

8. Walk down inspections shall be completed prior to power ascension as described in this document and in accordance with EN-DP-01503, System Walkdowns and Plant Engineering Policy PE-02, System Walkdown Checklist. Results of walkdown inspections shall be documented in Attachment 4 and submitted to the on-shift Engineering Manager.

9. The Shift Manager of each crew should:

    a. Conduct reasonable and appropriate activities to accomplish the objective of attaining, demonstrating and affirming operational readiness. The Shift Manager should consider the following to support the affirmation of operating crew readiness:

    -adequacy of staffing levels, personnel experience and qualification levels.

    -assure no uneasiness remains among Operations personnel regarding the Station's ability to operate safely by eliciting any outstanding safety concerns from shift personnel and ensuring that the concerns are resolved.

    -completion of appropriate personnel refresher training of shift personnel, including training on plant, procedures and process changes.

    -completion of training of shift personnel on the startup and power ascension plan. This training shall include discussion on the expected behavior and characteristics of the core for this startup.

    b. Affirm to the best of their knowledge and judgment that the plant is in a condition of materiel readiness to support safe and reliable startup and operation. The Shift Manager should consider the following:

-adequacy of the materiel condition of the plant, including the current status of operator work-arounds, to support safe and reliable restart and operation during the next operating cycle.

-all outage-related temporary fire suppression systems removed and fire protection requirements or commitments ready to support startup.

-temporary modifications, temporary power feeds, removed/MCCs restored, installed temporary power feeds, if applicable, reviewed to ensure they will not affect safety or operations.

c. Complete Attachment 5.

10. The Supervisor-DB Reactor Engineering shall, following movement of fuel, changes to reactivity control components and/or changes to nuclear instrumentation in the reactor core, verify that the reactor core is configured to support safe and reliable operation through the cycle. This affirmation is required prior to installation of the reactor head. Attachment 6, Core Configuration Affirmation Form, details the required review areas and documents the affirmation.

11. The Supervisor-DB Reactor Engineering, shall, prior to a reactor startup, verify that the required conditions exist to support a safe startup and power ascension. Attachment 7, Reactor Startup Affirmation Form, details the required review areas and documents that affirmation.

ATTACHMENT 1: RESTART READINESS REVIEW INDICATORS

Page 1 of 2

Plant Section or 0350 Checklist Item_____

Mode_____

Acceptable to Support Restart? Yes/No/NA

1 All assigned outage work activities are complete to support plant restart and operations. This includes a reconfirmation that previous dispositions of nonconforming conditions or Preventive Maintenance deferrals continue to provide a justification for continued operation. (Attachment 2-a) _____

2 Outstanding Operability Evaluations, CR corrective actions and new CRs generated during the shutdown have been evaluated for operability concerns are either closed or determined to have no impact on operability. (Attachment 2-b) _____

3 Regulatory and internal commitments have been evaluated for operability concerns or restart restraints and are either closed or determined to have no impact on operability. (Attachment 2-c) _____

4 Housekeeping walkdowns utilizing the guidelines of NG-DB-00215, Material Readiness and Housekeeping Inspection Program are complete. (Attachment 2-d) _____

5 The Power Ascension Schedule has been reviewed for accuracy and adequacy ensuring: (Attachment 2-e)

- Post maintenance retest and special testing are identified and scheduled correctly with instructions in place.
- Planned walkdowns are scheduled appropriately _____

6 Personnel, materials and special test equipment necessary to support power ascension retest and walkdown activities have been identified and availability is ensured during power ascension. (Attachment 2-f) _____

7 Contingency plans are established for immediate response to plan and repair steam leaks or high-risk test failures. (Attachment 2-g) _____

8 Standing orders have been reviewed for continued applicability and system status sheets completed as required by DB-OP-06911, Pre-Startup Checklist. (Attachment 2-h) _____

9 System walkdowns have been performed by Plant Engineering and Maintenance, as directed by Operations, to ensure system readiness for restart. _____

10 Operating Experience reports have been reviewed to ensure no potential operability concerns _____

11 Procedure alterations/PCRs are ready for mode change or restart. _____

12 Work around and burdens identified prior to or during shutdown and not corrected have been confirmed acceptable. (Attachment 2-i) _____

ATTACHMENT 1: RESTART READINESS REVIEW INDICATORS (Continued)
Page 2 of 2

Plant Section or 0350 Checklist Item_____

Mode_____

		Acceptable to Support Restart? Yes/No/NA
13	All Management and Human Performance Improvement Plan items required for restart are complete. (Attachment 2-j)	_____
14	All 0350 Discovery Action Plan milestones identified as required for restart are complete. (Attachment 2-k)	_____
15	All 0350 Implementation Action Plan milestones identified as required for restart are complete. (Attachment 2-l)	_____
16	All Condition Reports and corrective actions, work orders, modifications (including EWRs and ECRs) categorized as 0350 are completed. (Attachment 2-m, n, o)	_____
17	All Condition Reports and corrective actions, work orders, and modifications (including EWRs and ECRs) designated as required for restart by the Restart Station Review Board are completed. (Attachment 2-q, r, s)	_____
18	Any required for restart Condition Report or corrective action, work order or modification (including EWRs and ECRs), which cannot be completed prior to restart, has a written exemption from the RSRB. (Attachment 2-u)	_____
19	All pending allegations have been reviewed and determined not to affect the restart of the plant. (Attachment 2-v)	_____
20	Integrated Restart Report per NG-VP-00100 signed by the SMT. (Attachment 2-w)	_____

Check one

	Preliminary: I have reviewed the assessment of the Restart Readiness Review Indicators as indicated above and confirm that the attached plans will support plant restart when complete.
	Final: I have reviewed the assessment of the Restart Readiness Review Indicators as indicated above and concur that the current conditions support plant restart.

Section Manager or 0350 Checklist Individual_____
(Please Print Your Name)

Signature: _____ Date_____
Section Manager or 0350 Checklist Individual

ATTACHMENT 2: PLANT RESTART READINESS REVIEW INDICATOR MATRIX

Page 1 of 3

	a. Work Scope	b. CR's, OEs	c. Commitments	d. Housekeeping	e. Startup Schedule	f. Resources	g. Contingency	h. Standing Orders	i. Workarounds/ Burdens	j. M&HPE Improvement Plan Activities
Plant										
Operations	X	X	X	X	X	X	X	X	X	X
RP	X	X	X	X	X	X	X			X
Chemistry	X	X		X	X	X	X			X
Training		X				X				X
Safety		X		X		X				X
Work Management										
FIN	X			X		X	X			X
Mechanical	X	X		X		X	X			X
E&C	X	X		X		X	X			X
Maint. Serv.	X			X		X	X			X
QC and Work Mgmt Assessment	X			X		X	X			X
Work Control	X		X			X	X			X
Outage Management	X		X		X	X	X			X
Projects and Facilities	X			X	X	X	X			X
Engineering										
Plant Engineering	X	X	X	X	X	X	X			X
Design Engineering	X	X	X			X				X
Project Management	X	X	X			X				X
RRT	X	X				X				X
Computer		X				X				X
Support Services										
Performance Improvement		X				X				X
Regulatory Affairs	X	X	X		X	X				X
Quality Services						X				X
Security						X				X
Other Departments										
OPID/QA	X	X	X		X	X				X
Nuclear Fuels	X	X	X	X	X	X				X
Supply Chain					X	X				X
Client Services						X				X
Business Services						X				X
Human Resources						X				X

ATTACHMENT 2: PLANT RESTART READINESS REVIEW INDICATOR MATRIX
Page 2 of 3

0350 CHECKLIST ITEM RESTART READINESS REVIEW INDICATOR MATRIX

0350 Checklist Item	k. 0350 Discovery Action Plan	l. 0350 Implementation Action Plan	m. 0350 Condition Reports	n. 0350 Work Orders	o. 0350 MODs, EWRs, & ECRs
1. Adequacy of Root Cause Determinations—S. Loehlein, W. Pearce, M. Roder, D. Gudger, J. Powers, D. Eshelman, L. Myers*	X		X	X	X
2. Adequacy of Safety Significant Structures, Systems and Components--D. Baker, A. Stallard, T. Chambers, J. Rogers, J. Cunnings*	X	X	X	X	X
3. Adequacy of Safety Significant Programs--N. Morrison, D. Gudger, S. Loehlein, J. Cunnings, M. Shepherd, J. Grabnar, R. Pell*	X	X	X		
4. Adequacy of Organizational Effectiveness and Human Performance--D. Eshelman, J. Powers*	X	X	X	X	X
5. Readiness for Restart—C. Price, W. Pearce, J. Rogers, R. Schrauder, A. Stallard*		X	X		
6. Licensing Issue Resolution--J. Powers, P. McCloskey*		X	X		
7. Confirmatory Action Letter Resolution--L. Myers, P. McCloskey*			X		

* Or an approved designated alternate

ATTACHMENT 2: PLANT RESTART READINESS REVIEW INDICATOR MATRIX
Page 3 of 3

REQUIRED FOR RESTART READINESS REVIEW INDICATOR MATRIX

	q. Required for Restart CRs and CAs	r. Required for Restart MODs, EWRs, ECRs	s. Required for Restart Work Orders	t. Procedure Alterations	u. RSRB Exemptions	v. Allegations	w. Recommendation for Restart
Restart Station Review Board	X	X	X		X		
Quality Services				X			
Employee Concerns Program						X	
Plant Operating Review Committee							X
Company Nuclear Review Board							X
Restart Overview Panel							X

ATTACHMENT 3: RESTART READINESS REVIEW FOR PLANT STARTUP

Restart Recommended By:

Plant Manager—Davis-Besse Nuclear Power Station Date

Director-Davis-Besse Nuclear Engineering Date

Director-Davis-Besse Work Management Date

Director-Davis-Besse Support Services Date

RESTART APPROVAL:

Vice President-Nuclear Date

Chief Operating Officer Date

ATTACHMENT 4: PLANT INSPECTION/WALKDOWN DOCUMENTATION SHEET

Page 1 of 1

ASSET LABEL: _____

Or

AREA INSPECTED: _____

NOUN NAME: _____

LOCATION: _____

DESCRIPTION: _____

_____

_____

_____

_____

_____

MAINTENANCE TAG/WORK ORDER #:

CONDITION REPORT INITIATED (#) _____

SUBMITTED BY: _____ **DATE/TIME** _____ / _____

(please print your name)

SIGNATURE: _____

ATTACHMENT 5: OPERATIONAL READINESS AFFIRMATION FORM

Shift Designator: _____

Shift Manager: _____
(Please Print)

Mode_____

Review Summary:

The Shift Manager should initial each item below to affirm that he/she and the operating crew have completed the required actions:

_____ Shift staffing levels, including personnel experience and qualification levels, are adequate.

_____ No uneasiness remains among Operations personnel regarding the station's ability to operate safely. All safety concerns have been identified and addressed.

_____ Appropriate refresher training of shift personnel, including training on plant, procedure and process changes, has been completed.

_____ Appropriate training of shift personnel on the startup and power ascension plan, have been completed, including discussions on core behavior and characteristics for this startup.

_____ The materiel condition of the plant, including the current status of operator work-arounds, is adequate to support safe and reliable restart and operation.

Affirmation:

Based upon an evaluation of the considerations set forth in Details, 4.0, and to the best of my knowledge and judgment, the plant is in a condition of materiel readiness to support the safe and reliable startup and power operation through the next operating cycle and the operating crew is ready to startup and operate the plant in a safe and reliable manner.

Shift Manager:
Print/Signature/Date_____|_____|___

Reviews and Approvals:
Manager-Operations:
Print/Signature/Date_____|_____|_____

Remarks: (Attach a continuation sheet if applicable)

ATTACHMENT 6: CORE CONFIGURATION AFFIRMATION FORM

Mode_____

Review Summary:

The Supervisor-DB Reactor Engineering, should initial each item below to affirm that the required conditions exist following movement of fuel in the reactor core, changes to reactivity control components and/or changes to nuclear instrumentation in the reactor core. This affirmation is required prior to installation of the reactor head.

_____ All new fuel assemblies loaded into the reactor core were inspected, as required, to ensure that the manufacturing and design specifications were met.
_____ All irradiated fuel assemblies present in the reactor core were inspected, as required, and dispositioned as acceptable for operation through the cycle.
_____ No fuel assemblies in the reactor core are known leaking assemblies.
_____ A 10CFR50.59 Reload Safety Evaluation governing reactor core operation has been approved by the Plant Operating Review Committee (PORC)
_____ The reactor core loading has been verified.
_____ All reactivity control components in the reactor core will meet their design functions.
_____ All nuclear instrumentation in the reactor core will meet their design functions.

Affirmation:
Based on my knowledge and judgment, the required conditions exist and the reactor core is configured to support safe and reliable operation through the cycle.

Supervisor-DB Reactor Engineering
Print/Signature/Date_____|_____|_____

Remarks: (Attach a continuation sheet if appropriate)

ATTACHMENT 7: REACTOR STARTUP AFFIRMATION FORM

Mode_____

Review Summary:

The Supervisor-DB Reactor Engineering should initial each item below to affirm that the required conditions exist prior to reactor startup.

_____ Estimated Critical Conditions have been prepared and independently verified.
_____ Preparations are complete for any necessary Low Power Physics Testing (i.e. equipment, procedures, calculations, training)
_____ Personnel are available, as required, to support reactor startup and power ascension to 100%.
_____ Required training has been completed for Nuclear Fuels personnel.
_____ Reactivity plans are available, as required, to support reactor startup and power ascension to 100%. These plans include expectations for reactor behavior with emphasis on any behavior that is different from recent plant operation.
_____ The Core Monitoring System is operable.
_____ All reactivity control systems will meet their design functions.
_____ Sufficient nuclear instrumentation is available to safely startup and operate the reactor core.
_____ There are no outstanding reactivity management issues impacting the safe operation of the reactor core.

Affirmation:
Based on my knowledge and judgment, the required conditions exist and the reactor core is ready to support a safe startup and power ascension.

Supervisor-DB Reactor Engineering
Print/Signature/Date_____|_____|_____

Remarks: (Attach a continuation sheet if appropriate)

ATTACHMENT 8: ASSESSMENT OF SAFETY CULTURE

Page 1 of 2

ASSESSMENT OF SAFETY CULTURE

Assessment Summary:

Improving safety culture is a long-term activity that will be constantly monitored by Davis-Besse senior management. For Restart Readiness, it is important to show an improving safety culture, however not every assessed area must be white or green to ensure an adequate safety culture. Some areas may be yellow, however none of the three major areas (Policy or Corporate Commitment, Plant Management Commitment or Individual Commitment) will be red.

Remedial actions will be taken for any red indicators. Condition Reports will be written for all red and yellow indicators with corrective actions to identify an existing or new plan for improvement. Corrective Actions may take credit for already existing activities. Red indicator corrective actions will be formally presented to the Senior Management Team.

The criterion for ratings follows in Appendix A. These criteria are guidelines. Management may consider other factors and adjust the ratings accordingly. If other factors are considered, they shall be documented in an attachment to the Rating sheet. The ratings are based on convergent assessment such as: performance indicators, management observations, demonstrated performance during critical plant conditions ad hoc surveys, training and feedback from independent safety culture reviews and Nuclear Quality Assurance Assessments.

Safety Culture Commitment Area Ratings:

Green:	all major areas are acceptable with a few minor indicator deviations
White:	all major areas are acceptable with a few indicators requiring management attention
Yellow:	all major areas are acceptable with several indicators requiring prompt management action
Red:	several major areas do not meet acceptable standards and require immediate management action

Each Section manager will provide a Rating sheet (Attachment 8, Page 18,) with the Final Restart Readiness Indicators. At the final Restart Readiness Review meeting for any mode, a site-wide Rating sheet will be prepared by the Management Team using the individual section ratings as a guideline. The final Rating sheet will be signed by the Vice President-Nuclear and maintained with the other Restart Readiness documentation.

Determination of the individual indicator or the commitment area color will be based on the following:

Red=0 points
Yellow=1 point
White=2 points
Green= 3 points

Greater than one red attribute or indicator means the indicator or commitment area can be no more than yellow
Red=≤.75
Yellow= >.75 to <1.75
White =≥1.75 to <2.5
Green= ≥2.5

3

ATTACHMENT 8: ASSESSMENT OF SAFETY CULTURE

Page 2 of 2

Rating Safety Culture

Mode_____

Item	***Color***
1. Policy or Corporate Commitment Area	____
a. Policies on Safety Culture and Safety Conscious Work Environment clearly state that safety is a core value and are understood by the organization	____
b. Management values are clearly reflected in the Business Plan and are understood by the organization	____
c. Resources are available or can be obtained to ensure safe, reliable operations	____
d. Self-Assessment is a tool used to monitor, assess and improve our performance	____
e. Independent Oversight is a tool used to validate acceptable performance and identify areas for improvement or corrective action	____
2. Plant Management Commitment Area	____
a. There is a visible commitment to safety: nuclear, industrial, radiological and environmental	____
b. Goals and roles are clear and teamwork is reinforced	____
c. Ownership and accountability is evident	____
d. Training and Qualification are valued	____
e. Commitment to continuous improvement is evident	____
f. Cross functional work management and communication	____
g. Creating an environment of engagement and commitment	____
3. Individual Commitment Area	____
a. Drive for excellence—nuclear assets of people and plant are continuously improved to enhance margins of safety	____
b. Questioning attitude—challenges are welcomed	____
c. Rigorous work control and prudent approach—performing activities in a quality manner is the standard	____
d. Open communications—associates are comfortable in voicing opinions, issues and concerns	____
e. Nuclear Professionalism—persistence and urgency in identification and resolution of Problems is prevalent	____

	I have reviewed the Rating of Safety Culture as indicated above and concur that the current conditions support readiness for mode change.

Section Manager _____
(Please Print Your Name)

Signature: _____ Date_____
Section Manager

Adjustments to ratings from the standard criteria should be documented and attached to this page.

APPENDIX A: ASSESSMENT OF SAFETY CULTURE CRITERIA

Page 1 of 37

POLICY COMMITMENT AREA

CRITERIA RELATED TO STATEMENT OF SAFETY POLICY

Policies on Safety Culture and Safety Conscious Work Environment clearly state that safety is a core value and are understood by the organization

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Policy statement on Safety Culture	There is no policy.	Policy statement is issued but only occasionally reinforced by management.	Policy statement issued and is frequently reinforced by management.	Policy statement is issued and is continuously reinforced by management.
Policy statement on Safety Conscious Work Environment (SCWE)	There is no policy.	Policy statement is issued but only occasionally reinforced by management.	Policy statement is issued and is frequently reinforced by management.	Policy statement issued and is strong statement of safety conscious work environment and often reinforced.
Making employees aware of policy statements	Policy statements simply issued as part of FENOC Business Plan.	Policy statements distributed separately to employees in memo.	Policy statements are communicated by at least two means. (e.g., hard copy distribution, newsletters, group meetings, training, stand down).	Policy statements are communicated to employees and emphasized regularly in meetings and face to face communication.
Employee understanding of policies	Surveys/interviews indicate that most employees do not understand the policies.	Surveys/interviews indicate that more than 50%of the employees understand the policies and consider safety a FE value.	Surveys/interviews indicate that more than 75% of employees understand the policies and consider safety a FE value.	Surveys/interviews indicate that more than 90% of employees understand the policies and consider safety a FE value and the normal way to do business.

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APPENDIX A: ASSESSMENT OF SAFETY CULTURE CRITERIA

Page 2 of 37

POLICY COMMITMENT AREA

CRITERIA RELATED TO MANAGEMENT VALUES

Management values are clearly reflected in the Business Plan and are understood by the organization

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Corporate values	There is no corporate level statement of safety values. FirstEnergy management does not express its safety values to plant personnel.	There is a corporate level statement of commitment to safety. FirstEnergy management meets infrequently with plant personnel to express its safety values.	There is a corporate level statement of commitment to safety. FirstEnergy management meets occasionally with plant personnel to express its safety values.	There is a corporate level statement of commitment to safety. FirstEnergy management meets frequently with plant personnel to express its safety values.
Statement of mission, vision, and values	There is no statement of Mission, Vision, and Values and employees believe focus is on production and profits.	The statement of Mission, Vision, and Values places some weight on safety but greater weight on production or profits.	The statement of Mission, Vision, and Values places approximately equal weight on safety and production/profits.	The statement of Mission, Vision, and Values emphasizes safety over production and profits.
FENOC Business Plan	Business Plan contains no Critical Success Area Initiatives on safety.	Business Plan contains few Critical Success Area Initiatives on safety.	Business Plan contains Critical Success Area Initiatives on safety with implementation plans.	Business Plan contains Critical Success Area Initiatives on safety and all are being fully implemented.
Incentive program	The Safety Culture Assessment value is 40% or less.	The Safety Culture Assessment value is 40-60%.	The Safety Culture Assessment value is 60-80%.	The Safety Culture Assessment Value is above 80%.

APPENDIX A: ASSESSMENT OF SAFETY CULTURE CRITERIA

Page 3 of 37

POLICY COMMITMENT AREA

CRITERIA RELATED TO RESOURCES

Resources are available or can be obtained to ensure safe, reliable operations

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Adequacy of management resources	More than five manager or above positions are not filled with ANSI qualified FENOC individuals.	More than five supervisor or above positions are not filled with ANSI qualified FENOC individuals.	Five or less supervisor or above positions are filled with ANSI qualified FENOC individuals.	All management positions are filled with ANSI qualified FENOC individuals.
Adequacy of personnel resources	More than four sections do not have sufficient personnel to perform their assigned responsibilities.	Three or four sections do not have sufficient personnel to perform their assigned responsibilities.	One or two sections do not have sufficient personnel to perform their assigned responsibilities.	Each section has a full complement of personnel (minus normal attrition) to perform its assigned responsibilities.
Adequacy of funding	Necessary activities, to improve nuclear safety, as defined by the Senior Management Team and Project Review Committee (PRC) are not being completed in a timely manner due to lack of funding that was requested and rejected by FENOC Executive Management.	A number of identified improvements to improve nuclear safety, as identified by the PRC in the plant, programs, or other activities, are not completed in a timely manner due to lack of funding.	Several identified improvements to improve nuclear safety, as identified by the PRC in the plant, programs, or other activities, are not completed in a timely manner due to lack of funding.	Sufficient funding exists to perform improvements, as identified by the PRC in plant, programs and other activities to improve nuclear safety.

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APPENDIX A: ASSESSMENT OF SAFETY CULTURE CRITERIA

Page 4 of 37

POLICY COMMITMENT AREA

CRITERIA RELATED TO RESOURCES (continued)

Resources are available or can be obtained to ensure safe, reliable operations

Adequacy of tools, material and equipment	Many necessary tasks (PMs, Work Orders, ECRs and projects) are not being completed in a timely manner due to lack of tools, material or equipment.	A number of scheduled tasks (PMs, Work Orders, ECRs and projects) are not being completed in a timely manner due to lack of tools, material or equipment.	Several scheduled tasks (PMs, Work Orders, ECRs and projects) are not being completed in a timely manner due to lack of tools, material or equipment.	Sufficient tools and equipment exist to perform its assigned tasks , for PMs, Work Orders, ECRs and projects.	3

APPENDIX A: ASSESSMENT OF SAFETY CULTURE CRITERIA

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POLICY COMMITMENT AREA

CRITERIA RELATED TO SELF-ASSESSMENT

Self-Assessment is a tool used to monitor, assess and improve our performance

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Use of Nuclear Quality Assurance as part of the self-assessment process	Less than 60% of the sections have used NQA as part of the self-assessment process.	Between 60-75% of the sections have used NQA as part of the self-assessment process.	Between 75-90% of the sections have used NQA as part of the self-assessment process.	More than 90% of the sections have used NQA as part of the self-assessment process.
Self-assessments	Most sections are not routinely performing self-assessments.	Sections are routinely performing scheduled self-assessments but there are many findings and they are not effectively implemented.	Sections are routinely performing scheduled self-assessments with some findings, which are partially implemented.	Each section is routinely performing scheduled self-assessments with findings that are fully implemented.
Performance Indicators	Performance indicators related to safety and quality do not exist.	A number of performance indicators do not exist (or need to be improved) for important activities affecting quality and safety.	Several performance indicators do not exist (or need to be improved) for important activities affecting quality and safety.	Performance indicators exist and are being regularly updated for important activities affecting safety and quality.
Personnel Performance Appraisals	The performance appraisal program does not include assessments of safety or quality of performance.	The performance appraisal program includes assessments of safety or quality of performance but most employee appraisals have not been performed.	The performance appraisal program includes assessments of safety or quality of performance but some appraisals have not been performed in timely manner and some employees do not have a current appraisal.	The performance appraisal program includes assessments of safety and quality of performance and the appraisals are being performed in timely manner and all employees have a current appraisal.

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POLICY COMMITMENT AREA

CRITERIA RELATED TO OVERSIGHT

Oversight is a tool used to show acceptable performance and identify areas for improvement and corrective actions.

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Nuclear Committee of Board of Directors	The Nuclear Committee of the Board has little focus on safety in the agenda.	The Nuclear Committee occasionally discusses safety as a topic in the agenda.	The Nuclear Committee has safety as a part of the agenda at least once per quarter.	The Nuclear Committee has safety as a part of the agenda every meeting.
Company Nuclear Review Board (CNRB)	The CNRB has not implemented any of the recommendations from the independent assessment of the CNRB. The CNRB rarely has a safety assessment discussion on the agenda.	The CNRB has not implemented a number of the recommendations from the independent assessment of the CNRB. The CNRB agenda has a safety discussion only once per year.	The CNRB has implemented all but one or two of the recommendations from the independent assessment of the CNRB. The CNRB agenda has a safety discussion two out of three meetings per year.	The CNRB has implemented the recommendations from the independent assessment of the CNRB. The CNRB agenda has a safety discussion every meeting.
Nuclear Quality Assurance (NQA)	NQA is not performing audits or assessments of important safety activities.	A number of NQA audits or assessments were not performed when required or a number of important safety activities were not subject to audits or assessments.	NQA audits or assessments were performed when required, but several important safety activities were not subject to audits or assessments.	NQA is regularly performing audits and assessments of important safety activities and identifying key issues for finding.

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO COMMITMENT TO SAFETY

There is a visible commitment to safety: nuclear, industrial, radiological and environmental

ATTRIBUTE	RED	YELLOW	WHITE	GREEN	
Management observations performed as scheduled	There is no management observation program.	There is a management observation program and more than 50% of management observations are performed as scheduled.	There is a management observation program and more than 75% are performed as scheduled.	There is a management observation program and more than 90% are performed as scheduled.	
Management observations are self critical	Management observations are not self-critical.	More than 50% of the management observations performed are self-critical and corrective actions implemented.	More than 75% of the management observations performed are self-critical and corrective actions implemented.	More than 90% of the management observations performed are self-critical and corrective actions implemented.	3
Management emphasis on safety to employees; questioning attitude	No method has been used in the last month to provide emphasis on safety to employees (e.g., town hall meetings, 4 Cs meetings, newsletters, and training).	One method has been used in the last month to provide emphasis on safety to employees (e.g., town hall meetings, 4 Cs meetings, newsletters, and training).	Two means have been used in the last month to provide emphasis on safety to employees (e.g., town hall meetings, 4 Cs meetings, newsletters, and training).	Multiple means have been used by management in the last month to provide emphasis on safety to employees (e.g., town hall meetings, 4 Cs meetings, newsletters, and training).	
Leadership in Action	Leadership in Action does not include discussions on safety culture Leadership in Action training has not been available for most supervisors and above.	Leadership in Action includes discussions on safety culture Leadership in Action training has been completed for more than 50% of supervisors and above within 12 months of new appointment.	Leadership in Action includes discussions on safety culture Leadership in Action training has been completed for more than 75% of supervisors and above within 12 months of new appointment.	Leadership in Action includes discussions on safety culture Leadership in Action training has been completed for more than 90% of supervisors and above within 12 months of new appointment.	3

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO COMMITMENT TO SAFETY (continued)

There is a visible commitment to safety: nuclear, industrial, radiological and environmental

Problem solving	A problem solving process exists but there is no use of the document.	In several cases, the problem solving process NOP-EN-3001 has not been properly implemented for applicable conditions.	With one or two exceptions, the problem solving process, NOP-EN-3001 has been properly implemented for applicable conditions.	The problem solving process, NOP-EN-3001 has been properly implemented for applicable conditions.
Decision making	Safety significant decisions are made in isolation without adequate information, oversight, involvement and peer checking.	Safety significant decisions are made with minimal information, oversight, involvement and peer checking.	Safety significant decisions, with few exceptions, are made with adequate information, oversight, involvement and peer checking.	Safety significant decisions are made with adequate information, oversight, involvement and peer checking.
Improvements in safety margin	None of the improvements in safety margin are complete (e.g. emergency sump, cavity seal, decay heat pit modification, refurbishment of reactor coolant pumps, Flus monitors, diesel air starting system).	Most of the improvements in safety margin are not complete (e.g. emergency sump, cavity seal, decay heat pit modification, refurbishment of reactor coolant pumps, Flus monitors, diesel air starting system).	Most of the improvements in safety margin are complete (e.g. emergency sump, cavity seal, decay heat pit modification, refurbishment of reactor coolant pumps, Flus monitors, diesel air starting system).	All improvements in safety margin are complete (e.g. emergency sump, cavity seal, decay heat pit modification, refurbishment of reactor coolant pumps, Flus monitors, diesel air starting system).
Plant activities receive proper management attention and safety focus	Significant plant event occurs due to lack of management attention or safety focus.	Condition Adverse to Quality CR written due to lack of management attention or lack of safety focus.	Significant plant activities have management oversight plan scheduled for the duration of the activity.	Significant plant activities have a management plan with a management sponsor and management oversight scheduled for the duration of the activity.

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO ROLES AND TEAMWORK

Goals and roles are clear and teamwork is reinforced

ATTRIBUTE	RED	YELLOW	WHITE	GREEN	
Understanding that safety is highest priority	Ad hoc surveys show that less than 50% of employees understand that safety is the highest priority.	Ad hoc surveys show that 50-75% of employees understand that safety is the highest priority.	Ad hoc surveys show that 75-90% of employees understand that safety is the highest priority.	Ad hoc surveys show that more than 90% of employees understand that safety is the highest priority.	3
Program ownership	The majority of programs do not have assigned owners and program owners are not implementing their assigned responsibilities.	Some programs do not have assigned owners and a many program owners are not implementing their assigned responsibilities.	With one or two exceptions, all programs have assigned owners. With several exceptions, program owners are implementing their assigned responsibilities.	All programs have assigned owners. In general, program owners are implementing their assigned responsibilities.	
Ownership of corrective actions	More than 5% of SCAQ remedial and preventive corrective actions and more than 10% of CAQ remedial and preventive corrective actions are overdue for the previous quarter	Between 2-5% of SCAQ remedial or preventive corrective actions and 5-10% of CAQ remedial and preventive corrective actions are overdue for the previous quarter	Less than 2% of SCAQ remedial or preventive corrective actions and between 2-5% of CAQ remedial and preventive corrective actions are overdue for the previous quarter	There are no SCAQ remedial and preventive corrective actions overdue and less than 2% of CAQ remedial and preventive corrective actions are overdue for the previous quarter	3
Ownership of engineering products as measured by the Engineering Assessment Board (EAB)	The quality of engineering products as measured by the EAB is greater than 3.0.	The quality of engineering products as measured by the EAB is between 3.0 and 2.1.	The quality of engineering products as measured by the EAB is between 2.0 and 1.1.	The quality of engineering products as measured by the EAB is 1.0 or less.	

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO ROLES AND TEAMWORK (continued)

Goals and roles are clear and teamwork is reinforced

Effectiveness of supervision of individuals	The individual error rate is >0.5 individual errors per 10,000 hours worked.	The individual error rate is <0.31 individual errors per 10,000 hours worked.	The individual error rate is<0.29 individual errors per 10,000 hours worked.	The individual error rate is<0.26 individual errors per 10,000 hours worked.
Intra-department teamwork and alignment	Ad hoc survey indicates there is no alignment and little teamwork among managers.	Ad hoc survey indicates there is minimal alignment and some teamwork among managers.	Ad hoc survey indicates alignment is improving and teamwork can be seen in some key activities.	Ad hoc survey indicates alignment and teamwork are obvious in all activities at the site.
Expectations	There are statements of expectations for individual sections but employees routinely ignore them.	Although there are statements of expectations for some sections, they are weakly implemented.	There are statements of expectations for most sections, and they are being implemented.	There are statements of expectations for each section and managers are reinforcing and ensuring employees understand and implement them.
Trust, openness and focused commitment	4Cs surveys show less than 30% of employees feel that work groups display high levels of trust, openness and commitment.	4Cs surveys shows 30-60% of employees feel that work groups display high levels of trust, openness and commitment.	4Cs surveys show 60-90% of employees feel that work groups display high levels of trust, openness and commitment.	4Cs surveys show more than 90% of employees feel that work groups display high levels of trust, openness and commitment.

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO ROLES AND TEAMWORK (continued)

Goals and roles are clear and teamwork is reinforced

Clear goals and priorities	No clear goals and priorities have been established.	Goals and priorities exist but are not adequately understood and owned by employees.	Goals and priorities exist at most levels and some employees understand and own them.	Most employees are clear about goals and priorities as well as how their role contributes to achieving them.
Input and involvement	No employees input and involvement occurs in the development of department business plan, setting goals and establishing work priorities.	Only managers and supervisors are involved in the development of department business plan, setting goals and establishing work priorities.	Managers and supervisors occasionally request input/involvement in the development of department business plan, setting goals and establishing work priorities.	Employees are appropriately involved in developing the department business plan, setting goals and establishing work priorities.

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO OWNERSHIP AND ACCOUNTABILITY

Ownership and accountability is evident

ATTRIBUTE	RED	YELLOW	WHITE	GREEN	
Performance appraisals	Less than 50% of performance appraisals are completed on schedule.	Between 50-74% of performance appraisals are completed on schedule.	Between 75-89% of performance appraisals are completed on schedule.	More than 90% of performance appraisals are completed on schedule.	3
Development plans	Less than 50% of managers and supervisors have development plans.	Between 50-74% of managers and supervisors have development plans.	Between 75-89% of managers and supervisors have development plans.	More than 90% of managers and supervisors have development plans.	
Restart Readiness Reviews	There is no restart readiness review process.	A restart readiness review process exists but implementation is poor as shown by lack of management participation.	A restart readiness review process exists and is implemented with the majority of management participation.	A restart readiness review process exists and is implemented efficiently and with strong management participation.	
Willingness to raise safety concerns	Ad hoc surveys show that less than 75% of personnel are willing to raise safety concerns.	Ad hoc surveys show that between 75-85% of personnel are willing to raise safety concerns.	Ad hoc surveys show that between 85-95% of personnel are willing to raise safety concerns.	Ad hoc surveys show that more than 95 % of personnel are willing to raise safety concerns.	3
SRO reviews for Operability are performed in a timely manner	Less than 75% were completed within 24 hours.	Between 75-85% are completed within 24 hours.	Between 85-95% are completed within 24 hours.	More than 95% are completed within 24 hours.	

APPENDIX A: ASSESSMENT OF SAFETY CULTURE CRITERIA

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO OWNERSHIP AND ACCOUNTABILITY (continued)

Ownership and accountability is evident

System assessments	None of the improvements in safety are complete (e.g. emergency sump, cavity seal, decay heat pit modification, refurbishment of reactor coolant pumps, Flus monitors, diesel air starting system).	Most of the improvements in safety are not complete (e.g. emergency sump, cavity seal, decay heat pit modification, refurbishment of reactor coolant pumps, Flus monitors, diesel air starting system).	Most of the improvements in safety are complete (e.g. emergency sump, cavity seal, decay heat pit modification, refurbishment of reactor coolant pumps, Flus monitors, diesel air starting system).	The improvements in safety are complete (e.g. emergency sump, cavity seal, decay heat pit modification, refurbishment of reactor coolant pumps, Flus monitors, diesel air starting system).
NQA field assessments	NQA field assessments show that managers and supervisors are generally ineffective.	NQA field assessments show that managers and supervisors are generally effective, with several noteworthy exceptions.	NQA field assessments show that managers and supervisors are generally effective, with a few exceptions.	NQA field assessments show that managers and supervisors are generally effective.
Management observations leading to coaching	Less than 50% of management has held a coaching session in the last month.	Between 50-74% of management has held a coaching session in the last month.	Between75-89% of management has held a coaching session in the last month.	More than 90% of management has held a coaching session in the last month.
Timeliness of corrective actions	Less than 50% of corrective actions designated as required for restart are completed on schedule without extensions.	Between 50% and 74% of corrective actions designated as required for restart are completed on schedule without extensions.	Between 75% and 89%of corrective actions designated as required for restart, are completed on schedule without extensions.	More than 90% of corrective actions designated as required for restart, are completed on schedule without extensions.

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO TRAINING AND QUALIFICATION

Training and Qualification are valued

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Supervisory evaluations	Most supervisors and managers have not been evaluated to assess their competence for their current positions.	Between 50-74% of supervisors and managers have been evaluated to assess their competence for their current positions.	Between 75-89% of supervisors and managers have been evaluated to assess their competence for their current positions.	More than 90% of supervisors and managers have been evaluated to assess their competence for their current positions.
Restart training	Most required restart training is not complete.	Between 50-74% of required restart training is complete.	Between 75-99% of required restart training is complete.	100% of required restart training is complete.
Initial Operator training	Less than 70% of new operators passed their initial license examination for the most recent class.	Between 70-84% of new operators passed their initial license for the most recent class examination.	Between 85-95% of new operators passed their initial license examination for the most recent class.	More than 95% of new operators passed their initial license examination for the most recent class.
Requalification training	Less than 70% of licensed operators have passed their requalification training.	Between 70-84% of the licensed operators have passed their requalification training.	Between 85-95% of the licensed operators have passed their requalification training.	More than 95% of the licensed operators have passed their requalification training.
Root cause training	Less than 50% of root cause evaluation personnel have received training on TapRoot.	Between 50% and 74% of root cause evaluation personnel have received training on TapRoot.	Between 75% and 89% of root cause evaluation personnel have received training on TapRoot.	More than 90% of root cause evaluation personnel have received training on TapRoot.

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO TRAINING AND QUALIFICATION (continued)

Training and Qualification are valued

Operability determination training	Less than 50% of applicable operators and engineers have received training on operability determinations.	Between 50-74% of applicable operators and engineers have received training on operability determinations.	Between 75-90% of applicable operators and engineers have received training on operability determinations.	More than 90% of applicable operators and engineers have received training on operability determinations.
Training on SCWE	Less than 50% of managers, supervisors, and operators have received training on SCWE.	Between 50% and 74% of managers, supervisors, and operators have received training on SCWE.	Between 75% and 89% of managers, supervisors, and operators have received training on SCWE.	More than 90% of managers, supervisors, and operators have received training on SCWE.
Training on decision making process	Less than 50% of applicable personnel have received training on the decision making process.	Between 50-74% of applicable personnel have received training on the decision making process.	Between 75-89% of applicable personnel have received training on the decision making process.	More than 90% of applicable personnel have received training on the decision making process.
Training on standards and expectations	Less than 50% of applicable personnel have received training on standards and expectations.	Between 50-75% of applicable personnel have received training on standards and expectations.	Between 75-90% of applicable personnel have received training on standards and expectations.	More than 90% of applicable personnel have received training on standards and expectations.
Continuing training identified by Curriculum Review Committee (CRC)	Less than 50% of scheduled training identified by the CRC is completed in a timely manner.	Between 50-74% of scheduled training identified by the CRC is completed in a timely manner.	Between 75-89%of scheduled training identified by the CRC is completed in a timely manner.	More than 90% of scheduled training identified by the CRC is completed in a timely manner.

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO COMMITMENT TO CONTINUOUS IMPROVEMENT

Commitment to continuous improvement is evident

ATTRIBUTE	RED	YELLOW	WHITE	GREEN	
Improvements in management staffing	No open requisitions for management positions have been filled in the past month.	About 50% of open requisitions for management positions have been filled in the past month.	About 75% of open requisitions for management positions have been filled in the past month.	At least 85% of open requisitions for management positions have been filled in the past month.	
Restart Overview Panel (ROP)	The ROP does not believe DB is ready to restart.	The ROP has expressed concerns over DB restart.	The ROP has expressed some minor concerns and believes DB can restart.	The ROP is satisfied with DB progress to restart.	3
Corrective Action Review Board (CARB)	There are no directors on the CARB. The backlog of documents awaiting CARB review is more than four weeks.	The CARB has been enhanced with director-level personnel. The backlog of documents awaiting CARB review is less than four weeks.	The CARB has been enhanced with director-level personnel. The backlog of documents awaiting CARB review is less than two weeks.	The CARB has been enhanced with director-level personnel. The backlog of documents awaiting CARB review is less than one week.	
Engineering Assessment Board (EAB)	The backlog of documents awaiting EAB review is greater than four weeks.	The backlog of documents awaiting EAB review is less than four weeks.	The backlog of documents awaiting EAB review is less than two weeks.	The backlog of documents awaiting EAB review is less than one week.	
Benchmarking against industry standards	Most of the programs have not been benchmarked against industry standards.	Between 50-74% of the programs have been benchmarked against industry standards.	Between 75-89% of the programs have been benchmarked against industry standards.	More than 90% of the programs have been benchmarked against industry standards.	3

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO COMMITMENT TO CONTINUOUS IMPROVEMENT (continued)

Commitment to continuous improvement is evident

Operator crew benchmarking	Less than 50% of the operators have visited other plants to benchmark Davis-Besse operations.	Between 50% and 74% of the operators have visited other plants to benchmark Davis-Besse operations.	Between 75% and 90% of the operators have visited other plants to benchmark Davis-Besse operations.	More than 90% of the operators have visited other plants to benchmark Davis-Besse operations.
Management observations	There is no management observation program and management does not regularly conduct observations of field activities.	A management observation program has been established. More than 50% of management observations are performed as scheduled., but observations are weak.	A management observation program has been established. More than 75% of management observations are performed as scheduled and most are considered acceptable.	A management observation program has been established. More than 90% of management observations are performed as scheduled and contain quality information.
Temporary modifications	There are more than 11 temporary modifications.	There are 11 or less temporary modifications.	There are 8 or less temporary modifications.	There are 5 or less temporary modifications.
Number of Operator work-arounds	There are more than 4 operator workarounds.	There are 4 operator workarounds.	There are 2 operator workarounds.	There are 1 or less operator workarounds.
Number of Control Room deficiencies	There are more than 5 Control Room deficiencies.	There are more than 3 Control Room deficiencies.	There are more than 2 Control Room deficiencies.	There are less than 2 Control Room deficiencies.

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO COMMITMENT TO CONTINUOUS IMPROVEMENT(continued)

Commitment to continuous improvement is evident

Training on SCWE	Less than 50% of managers, supervisors and operators have received training on SCWE.	Between 50-74% of managers, supervisors and operators have received training on SCWE.	Between 75-85% of managers, supervisors and operators have received training on SCWE.	More than 90% of managers, supervisors and operators have received training on SCWE.
Licensed operator pipeline	Less than 70% of new operators passed their initial license examination for the most recent class.	Between 70-84% of new operators passed their initial license for the most recent class examination.	Between 85-95% of new operators passed their initial license examination for the most recent class.	More than 95% of new operators passed their initial license examination for the most recent class.

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO COMMITMENT TO CONTINUOUS IMPROVEMENT(continued)

Commitment to continuous improvement is evident

SAFETY CONSCIOUS WORK ENVIRONMENT (SCWE)

CRITERIA RELATED TO SCWE REVIEW TEAM (SCWERT)

ATTRIBUTE	RED	YELLOW	WHITE	GREEN	
Use of SCWERT	Less than 75% of disciplinary action against employees and contractors is reviewed by SCWERT prior to the action.	Between 75- 85% of disciplinary action against employees and contractors is reviewed by SCWERT prior to the action.	Between 85-95% of disciplinary action against employees and contractors is reviewed by SCWERT prior to the action.	More than 95% of disciplinary action against employees and contractors is reviewed by SCWERT prior to the action.	3
Effectiveness of SCWERT in avoiding discrimination claims	There are more than 3 allegations of discrimination submitted to the NRC per year.	There are less than 3 allegations of discrimination submitted to the NRC per year.	There are 2 allegations of discrimination submitted to the NRC per year.	There are 1 or fewer allegations of discrimination submitted to the NRC per year.	
Valid harassment, intimidation, retaliation, and discrimination reports	There are one or more substantiated allegations of harassment, intimidation, retaliation, and discrimination per year.	There are no substantiated allegations of harassment, intimidation, retaliation, and discrimination per year and the trend of allegations is not improving.	There are no substantiated allegations of harassment, intimidation, retaliation, and discrimination per year.	There are no substantiated allegations of harassment, intimidation, retaliation, and discrimination per year and the trend of allegations is improving.	3
ECP concerns that request confidentiality or anonymity	More than 50% of ECP concerns per year request confidentiality or anonymity.	Between 40–50% of ECP concerns per year request confidentiality or anonymity.	Between 30-40% of ECP concerns per year request confidentiality or anonymity.	Less than 30% of ECP concerns per year request confidentiality or anonymity.	

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO COMMITMENT TO CROSS-FUNCTIONAL WORK MANAGEMENT AND COMMUNICATION

Commitment to cross functional work management and communication is evident

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Cross-functional teamwork	No cross-functional teamwork is evident.	Some cross-functional teamwork exists but work is sub-optimized.	Cross-functional teamwork frequently occurs, enabling efficient and effective workflow.	Cross-functional teams are constantly forming/reforming around the best way to get work done.
Department interfaces	Many process breakdowns occur with extensive amounts of rework needed.	Some process breakdowns occur with frequent amounts of rework needed.	Minimal process breakdowns and rework occur with effective and efficient resolution of emergency issues.	Department interfaces are seamless; work flows efficiently between departments throughout the entire organization.
Performance to schedule	Less than 50% of work is completed on time, as scheduled, causing major consequences to overall site performance.	Between 50-75% of work is completed on time, as scheduled, with major adjustments to resource capacity required to improve performance.	Between 75-90% of work is completed on time, as scheduled, with minimal adjustments to resource capacity required to improve performance.	More than 90% of work is completed on time, as scheduled, within current resource capacity.
Interdepartmental communication	Information that impacts downstream implementation is not shared, causing significant negative consequences to other departments.	Information that impacts downstream implementation is inconsistently shared, which keeps departments in a reactive mode.	Information that impacts downstream implementation is frequently shared on a timely basis, enabling department to proactively plan and respond.	Information that impacts downstream implementation is communicated as soon as it's known, enabling all departments to work proactively on a consistent basis.

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO COMMITMENT TO CROSS-FUNCTIONAL WORK MANAGEMENT AND COMMUNICATION (continued)

Commitment to cross functional work management and communication is evident

Interdepartmental problem solving and decision making	Problem solving and decision making occurs in isolation; non-involvement of other department stakeholders.	Cross-functional stakeholders are seldom involved when problems are being solved and decisions are made.	Cross-functional stakeholders are frequently involved when problems are being solved and decisions are made.	Cross-functional stakeholders are consistently involved when problems are being solved and decisions are made.
Systemic learning	Things are broken down, focus is on the pieces and discrete problems are fixed with no understanding of interdependencies.	Discrete problems are fixed with minimal understanding of interdependencies .	Attention is focused on learning and discovering fundamental solutions to resolving long-standing and/or complex problems.	Streamlining and improving systems and process is constant to resolve long-standing and/or complex problems.
Incorporating industry Operating Experience	Industry operating experience is not actively evaluated and used to enhance site performance.	There is less than adequate implementation and minimal compliance to our Operating Experience Program.	There is full compliance with the Operating Experience Program.	Operating Experience is consistently and fully utilized in every department and is well integrated into everyday activities to enhance plant performance.

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO COMMITMENT TO CREATING AN ENVIRONMENT OF ENGAGEMENT AND COMMITMENT

An environment of engagement and commitment is evident

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
FENOC values, basic principles and leadership strategies	FENOC values, basic principles and leadership strategies are not used by management personnel.	FENOC values, basic principles and leadership strategies are inconsistently demonstrated by some management personnel.	FENOC values, basic principles and leadership strategies are frequently demonstrated by some management personnel.	Most management personnel have internalized and are living the FENOC values, basic principles and leadership strategies as demonstrated in their day to day actions.
Quality of management and employee relationships	Employees openly express fear of retaliation and will not raise safety concerns with management.	Employee Concerns Program, Quality Assessment and 4Cs survey data indicates that less than 50% of employees will bring safety concerns to management.	Employees Concerns Program, Quality Assessment and 4Cs survey data indicates that more than 50% of employees will bring concerns to management.	Employee Concerns Program, Quality Assessment and 4Cs survey data indicate most employees raise issues directly with management, work collaboratively to resolves issues and reflect favorable improvement.
Organizational commitment and shared success criteria	Management focuses on what is in the best interest of their department at the expense of what is in the best interest of the whole organization.	Management occasionally supports what is in the best interest of their department without consideration to what is in the best interest of the whole organization.	Management frequently supports doing what is in the best interest of the whole organization rather than what is in the best interest of their department.	Management consistently supports doing what is in the best interest for the whole organization rather than what is in the best interest for their department.

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MANAGERS' COMMITMENT AREA

CRITERIA RELATED TO COMMITMENT TO CREATING AN ENVIRONMENT OF ENGAGEMENT AND COMMITMENT (continued)

An environment of engagement and commitment is evident

Employee job satisfaction	The Safety Conscious Work Environment survey dimension around job satisfaction indicates less than 30%.	The Safety Conscious Work Environment survey dimension around job satisfaction indicates 30-60%.	The Safety Conscious Work Environment survey dimension around job satisfaction indicates 60-90%	The Safety Conscious Work Environment survey dimension around job satisfaction indicates is above 90%.	
Ownership for Excellence Performance Appraisals	Less than 50% of performance appraisals are completed on schedule.	Between 50-74% of performance appraisals are completed on schedule.	Between 75-89% of performance appraisals are completed on schedule.	More than 90% of performance appraisals are completed on schedule.	3
Ownership for Excellence Development Plans	Less than 50% of managers and supervisors have development plans	Between 50-74% of managers and supervisors have development plans	Between 75-89% of managers and supervisors have development plans	More than 90% of managers and supervisors have development plans	

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO DRIVE FOR EXCELLENCE

Nuclear assets of people and plant are continuously improved to enhance margins of safety

ATTRIBUTE	RED	YELLOW	WHITE	GREEN	
Maintenance Rule (a)(1) Systems	There are more than four Red (a)(1) systems.	There are two or three Red (a)(1) systems..	There is one Red (a)(1) system.	There are zero Red (a)(1) systems.	3
Number of Operator workarounds	There are more than 4 operator workarounds.	There are 4 operator workarounds.	There are 2 operator workarounds.	There are 1 or less operator workarounds.	
Number of Control Room deficiencies	There are more than 5 Control Room deficiencies.	There are more than 3 or less Control Room deficiencies.	There are more than 2 Control Room deficiencies.	There are less than 2 Control Room deficiencies.	
Number of temporary modifications	There are more than 11 temporary modifications.	There are 11 or less temporary modifications.	There are 8 or less temporary modifications.	There are 5 or less temporary modifications.	
Individual Error Rate	The individual error rate is > 0.5 individual errors per 10,000 hours worked.	The individual error rate is <0.31individual errors per 10,000 hours worked.	The individual error rate is <0.29 individual errors per 10,000 hours worked.	The individual error rate is <0.26 individual errors per 10,000 hours worked.	
Number of long standing equipment problems as defined by the System Health Report	There are more than 20 long standing equipment problems.	There are between 10 and 20 long standing equipment problems.	There are between 5 and 10 long standing equipment problems	There are fewer than 5 long standing equipment problems.	3

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO DRIVE FOR EXCELLENCE (continued)

Nuclear assets of people and plant are continuously improved to enhance margins of safety

Percent of self-identified Condition Reports (CRs)	Less than 80% of the CRs originated are self-identified.	80% or more of the CRs originated are self-identified.	90%or more of the CRs originated are self-identified.	95% or more of the CRs originated are self-identified.
Number of open Condition Report evaluations	Less than 80% of SCAQ evaluations and less than 70% of CAQ evaluations were completed on schedule for the previous quarter	At least 80-90% of SCAQ evaluations and 70-80% of CAQ evaluations were completed on schedule for the previous quarter	At least 90% of SCAQ evaluations and 80-90% of CAQ evaluations were completed on schedule for the previous quarter	All SCAQ evaluations and 90% of CAQ evaluations were completed on schedule for the previous quarter
Engineering Assessment Board (EAB) index	The quality of engineering products as measured by the EAB is greater than 3.0.	The quality of engineering products as measured by the EAB is 3.0 or less.	The quality of engineering products as measured by the EAB is 2.0 or less.	The quality of engineering products as measured by the EAB is 1.0 or less.
Performance during major plant evolutions	More than one significant event has occurred during a plant evolution.	One significant event has occurred during a plant evolution.	Major plant evolutions have been performed with some less than significant challenges or transients.	Major plant evolutions have been performed as planned.

3

Operational transient is defined by INPO as a plant transient that occurs (reactor critical or while shutdown) and results in significant changes in primary or secondary plant parameters or results in significant changes in mechanical or electrical lineups.

3

Significant is defined by INPO as an event which caused or had the potential to cause an appreciable reduction in plant safety or reliability, excessive radiation exposure, the discharge of radioactivity offsite or serious harm to individuals. The significance of a particular event (including the discovery of a serious deficiency, lies in the actual or potential consequences of the event or in the likelihood that it is a precursor to a more serious event.

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO QUESTONING ATTITUDE

Challenges are welcomed

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Quality of pre-job briefs	Management observations and QA field observations show that most pre-job briefs are not acceptable.	Management observations and QA field observations show that most pre-job briefs are acceptable.	Management observations and QA field observations show that, with some exceptions, pre-job briefs are acceptable.	Management observations and QA field observations show that pre-job briefs in general are acceptable.
Percent of CRs per person per group	Less than 13% of individuals wrote CRs during the past 30 days.	Between 13-15% of individuals wrote CRs during the past 30 days.	Between 15-17% of individuals wrote CRs during the past 30 days.	More than 17% of individuals wrote CRs during the past month.
Number of programmatic CRs	The number of programmatic CRs indicates that individuals in general are reluctant to write CRs on programmatic and management issues.	The number of programmatic CRs indicates that most individuals are willing to write CRs on programmatic and management issues.	The number of programmatic CRs indicates that a large majority of individuals are willing to write CRs on programmatic and management issues.	The number of programmatic CRs indicates that individuals in general are willing to write CRs on programmatic and management issues.
Program and process error rate	>0.48 program and process errors per 10,000 hours worked.	<0.48 program and process errors per 10,000 hours worked.	<0.30 program and process errors per 10,000 hours worked.	<0.27 program and process errors per 10,000 hours worked.
Raising problems	Management observations and NQA field observations show that most individuals are not raising problems encountered in the field.	Management observations and NQA field observations show that most individuals are raising problems encountered in the field.	Management observations and NQA field observations show that a large majority of individuals are raising problems encountered in the field.	Management observations and NQA field observations show that individuals in general are raising problems encountered in the field.

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO RIGOROUS WORK CONTROL AND PRUDENT APPROACH

Performing activities in a quality manner is the standard

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Event Free Clock	The event free clock is less than 20 days on average.	The event free clock is between 20 and 30 days on average.	The event free clock is 30 to 39 days on average.	The event free clock is greater than 40 days on average.
Industrial safety performance	There are more than 10 OSHA recordables per year.	There are between 10 and 7 OSHA recordables per year.	There are 7 OSHA recordables per year.	There are no more than 3 OSHA recordables per year.
Individual error rate	The individual error rate is >0.30 individual errors per 10,000 hours worked.	The individual error rate is <0.31individual errors per 10,000 hours worked.	The individual error rate is <0.29 individual errors per 10,000 hours worked.	The individual error rate is <0.26 individual errors per 10,000 hours worked.
Program and process error rate	>0.48 program and process errors per 10,000 hours worked.	<0.48 program and process errors per 10,000 hours worked.	<.30 program and process errors per 10,000 hours worked.	<0.27 program and process errors per 10,000 hours worked.
Significant human performance errors resulting in plant transients(see page 43 for definition of transient)	There are more than 3 significant human performance errors per year resulting in plant transients.	There are fewer than 3 significant human performance errors per year resulting in plant transients.	There are fewer than 2 significant human performance errors per year resulting in plant transients.	There were no significant human performance errors per year resulting in plant transients.
Backlog of procedure change requests (PCRs)	There are more than 200 open PCRs.	There are 200 open PCRs.	There are 150 open PCRs.	There are 100 open PCRs.

3

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO RIGOROUS WORK CONTROL AND PRUDENT APPROACH (continued)

Performing activities in a quality manner is the standard

Deficiency rate for QC holds	Deficiency rate for QC holds points is more than 25%	The deficiency rate for QC holds points is less than 25%.	The deficiency rate for QC holds points is less than 15 %.	The deficiency rate for QC holds points is less than 7 %.	3
Rework rate	Rework rate is more than 3%.	The rework rate is 2.5-3.0%	The rework rate is 2.1-2.5%	The rework rate is ≤2.0%	
Ratio of completed to scheduled works orders per week	Less than 50% of scheduled work orders are completed.	More than 50% of scheduled work orders are completed.	More than 75% of scheduled work orders are completed.	More than 90% of scheduled work orders are completed.	
Number of late preventive maintenance (PM) activities	Less than 50% of scheduled work orders are completed.	More than 50% of scheduled PMs are completed.	More than 75% of scheduled PM are completed.	More than 90% of scheduled PMs are completed.	
Backlog of corrective maintenance (CM) activities	There are more than 230 CM activities outstanding.	There are between 229 and 150 CM activities outstanding.	There are between 149 and 134 CM activities outstanding.	There are less than 134 CM activities outstanding.	
Number of Maintenance Rule (a)(1) systems	There are more than four Red (a)(1) systems.	There are two or three Red (a)(1) systems.	There is one Red are one or two (a)(1) systems.	There are zero Red (a)(1) systems.	
Performance during major plant evolutions.(see page 43 for definitions)	More than one significant event has occurred during a plant evolution. There are more than three significant events during major plant evolutions prior to restart.	One significant event has occurred during a plant evolution. There are three significant events during major plant evolutions prior to restart.	Major plant evolutions have been performed with some less than significant challenges or transients. There is one significant event during major plant evolutions prior to restart.	Major plant evolutions have been performed as planned. There are no significant events during major plant evolutions prior to restart.	3

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO RIGOROUS WORK CONTROL AND PRUDENT APPROACH (continued)

Performing activities in a quality manner is the standard

Use of procedures and work orders	Management observations and NQA field observations show that most individuals are not using procedures or work orders.	Management observations and NQA field observations show that most individuals are using procedures or work orders.	Management observations and NQA field observations show that a large majority of individuals are using procedures or work orders.	Management observations and NQA field observations show that individuals in general are using procedures or work orders.

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO OPEN COMMUNICATIONS

Associates are comfortable in voicing opinions, issues and concerns

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Number of CRs per person per group	Less than 13% of individuals wrote CRs during the past 30 days.	Between 13-15% of individuals wrote CRs during the past 30 days.	. Between 15-17% of individuals wrote CRs during the past 30 days.	More than 17% of individuals wrote CRs during the past 30 days.
Ratio of concerns submitted to Employee Concerns Program (ECP) vs. NRC allegations	There are more NRC allegations than ECP concerns.	There are more ECP concerns than NRC allegations.	There are 4 times more ECP concerns than NRC allegations.	There are 8 times more ECP concerns than NRC allegations.
Employee surveys	Employee surveys indicate that most individuals are not willing to raise concerns.	Employee surveys indicate that 65-75% of individuals are willing to raise concerns.	Employee surveys indicate that more than 75-90% of individuals are willing to raise concerns.	Employee surveys indicate that more than 90% of individuals are willing to raise concerns.
Feedback from 4Cs meetings	Feedback from the 4Cs meetings indicates that most individuals are not willing to raise concerns.	Feedback from the 4Cs meetings indicates that most individuals are willing to raise concerns.	Feedback from the 4Cs meetings indicates that a large majority of individuals are willing to raise concerns.	Feedback from the 4Cs meetings indicates that almost all individuals are willing to raise concerns.
SCORE program	Each months total Safe behavior is 59% or less	Each months total Safe behavior is 60% to 69%	Each months total Safe behavior is 70% to 79%	Each months total Safe behavior is 80% or higher
Pre-job briefings	Management observations and QA field observations show that most pre-job briefs are not acceptable.	Management observations and QA field observations show that most pre-job briefs are acceptable.	Management observations and QA field observations show that, with some exceptions, pre-job briefs are acceptable.	Management observations and QA field observations show that pre-job briefs in general are acceptable.

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO OPEN COMMUNICATIONS (continued)

Associates are comfortable in voicing opinions, issues and concerns

Intra-department information sharing	No formal communication structures exist for sharing information within departments	Haphazard and infrequent information sharing exists within departments	Formal communication structures exist and are occasionally used to share information within departments	Formal communication structures exist and are consistently used to share information within departments	3
Quality of communication	4Cs surveys indicate less than 30% believe communication is good	4Cs surveys indicate 30-60% believe communication is good	4Cs surveys indicate 60-90% believe communication is good	4Cs surveys indicate more than 90% believe communication is good	

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO OPEN COMMUNICATIONS

SAFETY CONSCIOUS WORK ENVIRONMENT (SCWE)

CRITERIA RELATED TO RAISING CONCERNS WITHOUT FEAR OF RETALIATION

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Employee awareness of policy	Surveys/interviews indicate that most employees are not aware of policy.	Surveys/interviews indicate that 50-75% of employees are aware of policy and consider it a FE value	Surveys/interviews indicate that 75-90% of employees are aware of policy and consider it an FE value	Surveys/interviews indicate that more than 90% of employees are aware of policy and consider it an FE value and the normal way to do business
Training on SCWE	Less than 50% of managers, supervisors, and operators have received training on SCWE.	Between 50-74% of managers, supervisors, and operators have received training on SCWE.	Between 75-89% of managers, supervisors, and operators have received training on SCWE.	More than 90% of managers, supervisors, and operators have received training on SCWE. 3
Ratio of concerns submitted to ECP vs. NRC allegations	There are more NRC allegations than ECP concerns.	There are more ECP concerns than NRC allegations.	There are 4 times more ECP concerns than NRC allegations.	There are 8 times more ECP concerns than NRC allegations.
NQA interviews	NQA interviews indicate that less than 50% of individuals are willing to raise concerns.	NQA interviews indicate that between 50-74% of individuals are willing to raise concerns.	NQA interviews indicate that between 75- 90% of individuals are willing to raise concerns.	NQA interviews indicate that more than 90% of individuals are willing to raise concerns.
ECP concerns that request confidentiality or anonymity	More than 50% of ECP concerns per year request confidentiality or anonymity	Between 40-50% of ECP concerns per year request confidentiality or anonymity	Between 30-40% of ECP concerns per year request confidentiality or anonymity	Less than 30% of ECP concerns per year request confidentiality or anonymity

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO OPEN COMMUNICATIONS

SAFETY CONSCIOUS WORK ENVIRONMENT (SCWE)

CRITERIA RELATED TO EMPLOYEE CONCERNS PROGRAM (ECP)

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Use of ECP by employees	Employee surveys indicate that less than 65 % of individuals are willing to raise concerns.	Employee surveys indicate that between 65% to 75% of individuals are willing to raise concerns.	Employee surveys indicate that between 75% and 90% of individuals are willing to raise concerns.	Employee surveys indicate that more than 90% of individuals are willing to raise concerns.
Satisfaction of employees using the ECP	Less than 50% of employees that use the ECP report being satisfied with the process	Between 50% and 74 % of employees that use the ECP report being satisfied with the process	Between 75% and 89% of employees that use the ECP report being satisfied with the process	More than 90% of employees that use the ECP report being satisfied with the process
Complaints of breach of confidentiality of ECP	There are more than 2 complaints per year	There are 2 complaints per year	There is 1 complaint per year	There are zero complaints per year
Management support for ECP	Employee surveys indicate less than 65% of individuals believe management supports ECP	Employee surveys indicate between 65% and 75% of individuals believe management supports ECP	Employee surveys indicate between 75% and 90% of individuals believe management supports ECP	Employee surveys indicate more than 90% of individuals believe management supports ECP

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO NUCLEAR PROFESSIONALISM

Persistence and urgency in identification and resolution of problems is prevalent

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Ownership for Excellence	Less than 50% of applicable employees have completed the Ownership for Excellence development plans.	Between 50-74 % of applicable employees have completed the Ownership for Excellence development plans	Between 75-90% of applicable employees have completed the Ownership for Excellence development plans	More than 90% of applicable employees have completed the Ownership for Excellence development plans
Training attendance	Training attendance is less than 50%.	Training attendance is between 50-74%.	Training attendance is between 75-89%.	Training attendance is greater than 90%.
Rework rate	The rework rate is more than 3%.	The rework rate is 2.5-3.0%	The rework rate is 2.1-2.5%	The rework rate is ≤2.0%
Results of EAB assessments	The quality of engineering products as measured by the EAB is greater than 3.0.	The quality of engineering products as measured by the EAB is 3.0 or less.	The quality of engineering products as measured by the EAB is 2.0 or less.	The quality of engineering products as measured by the EAB is 1.0 or less.
Red and Yellow windows in training	There are more than 19 yellow or red windows in training. (Less than 70%)	There are 13-19 yellow or red windows in training. (70-80%)	There are 6-13 yellow or red windows in training. (80-90%)	There are less than 6 yellow or red windows in training. (90% or better)
Radiation Protection events	There are more than 3 radiation protection events per quarter.	There are 1-3 radiation protection events per quarter.	There is 1 radiation protection event per quarter.	There are no radiation protection events per quarter.
Chemistry Performance Index	The index is greater than 1.036	The index is equal to or less than 1.036	The index is equal to or less than 1.004.	The index is equal to or less than 1.000

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO NUCLEAR PROFESSIONALISM (continued)

Persistence and urgency in identification and resolution of problems is prevalent

Procedure compliance	Management observations and NQA field observations show that most individuals are not complying with procedures.	Management observations and NQA field observations show that most individuals are complying with procedures.	Management observations and NQA field observations show that a large majority of individuals are complying with procedures.	Management observations and NQA field observations show that individuals in general are complying with procedures.	
Personal initiative	Few employees routinely express why work can't be done or improved.	Employees work hard to do what's expected.	Employees do what it takes to get the job done	Employees at all levels take personal initiative to invent methods to achieve higher quality and greater efficiency	3
Ownership	Employees don't follow through on assigned commitments and seldom volunteer for ownership	Employees are inconsistent in following through to meet quality and timing of assigned commitments	Employees follow through and do what is asked of them and do what is defined within their job description	Most employees regularly volunteer to own/lead project, develop plans, coordinate efforts and see work through to completion	

APPENDIX A: ASSESSMENT OF SAFETY CULTURE CRITERIA

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO NUCLEAR PROFESSIONALISM (continued)

Persistence in identification and resolution of problems is prevalent

CRITERIA RELATED TO THE CORRECTIVE ACTION PROGRAM

ATTRIBUTE	RED	YELLOW	WHITE	GREEN
Implementation of CAP improvements	Implementation of the CAP improvements designated for restart has not started	Implementation of the CAP improvements designated for restart are started but none are completed.	Implementation of the CAP improvements for restart are completed but the associated training is not completed.	The CAP improvements designated for restart are completed and associated training is completed.
Root cause evaluation quality	The root cause evaluation approval rate as determined by the CARB is less than 50%.	The root cause evaluation approval rate as determined by the CARB is between 50-74%.	The root cause evaluation approval rate as determined by the CARB is between 75-90%.	The root cause evaluation approval rate as determined by the CARB is 90% or greater.
CR category accuracy	The CR category accuracy rate is less than 70% or greater.	The CR category accuracy rate is between 70-80%	The CR category accuracy rate is between 80-90%.	The CR category accuracy rate is 90% or greater.
CR self-identification rate	Less than 80%of the CRs originated are self-identified.	80% or more of the CRs originated are self-identified.	90% or more of the CRs originated are self-identified.	95% or more of the CRs originated are self-identified.
Employee survey	Employee surveys indicate that only 15 % of individuals are not willing to use the CAP.	Employee surveys indicate that between 15-10% of individuals are not willing to use the CAP.	Employee surveys indicate that between 10-5% of individuals are not willing to use the CAP.	Employee surveys indicate that less than 5% of individuals are not willing to use the CAP.

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INDIVIDUALS' COMMITMENT AREA

CRITERIA RELATED TO NUCLEAR PROFESSIONALISM (continued)

Persistence in identification and resolution of problems is prevalent

CRITERIA RELATED TO THE CORRECTIVE ACTION PROGRAM

NQA interviews	NQA interviews indicate that 15% of individuals are not willing to use the CAP.	NQA interviews indicate that between 15-10% of individuals are not willing to use the CAP.	NQA interviews indicate that between 10-5% of individuals are not willing to use the CAP.	NQA interviews indicate that less than 5 % of individuals are not willing to use the CAP.	
Timeliness of corrective actions	Less than 50% of corrective actions are completed on schedule without extensions.	Between 50-74% of corrective actions are completed on schedule without extensions.	Between 75-89%of corrective actions are completed on schedule without extensions.	More than 90% of corrective actions are completed on schedule without extensions.	3

COMMITMENT LIST

The following list identifies those actions committed to by the Davis-Besse Nuclear Power Station (DBNPS) in this document. Any other actions discussed in the submittal represent intended or planned actions by the DBNPS. They are described only for information and are not regulatory commitments. Please notify the Manager - Regulatory Affairs (419-321-8450) at the DBNPS of any questions regarding this document or associated regulatory commitments.

COMMITMENTS	DUE DATE
None	