Enclosure 4

Root Cause Analysis of Corrective Action Problem Resolution of Human Performance and Implementation

Root Cause Analysis Report

Ineffective Corrective Action Problem Resolution Human Performance and Implementation

CR 2002-04884, Dated 08-23-2002

REPORT DATE: 11-26-2002

Submitted:

A. F. Silakoski, **Team Lead**

J. C Sturdavant, **Root Cause Evaluator**

Root Cause Team Members:

Ron Bisbee	Fred Bolton
Kay Gallogly	Brian Haagensen
Jeff Hubbartt	Whitney Hansen
Tom Shedlosky	Paul Swetland

Reviewed:

B. T. Hennessy, **Supervisor**

Approved:

D. T. Gudger, **Manager**
Performance Improvement

R. W. Schrauder, **Director**
Support Services

Table of Contents

1. CAP Issues Matrix
2. Chronological Timeline (Narrative) of Events
3. Timeline of Events Chart
4. Events and Causal Factors Chart
5. Barrier Analysis Charts
6. Organizational and Program Interface Chart Stream Analysis
7. Organizational and Program Diagnostic Chart
8. Management Ineffectiveness or Errors Failure Mode Chart
9. Interview Participants and Question Survey Results
10. Corrective Action Guideline Analysis of Deficiencies
11. Corrective Action Guideline Flow Chart
12. Collective Significance Analysis Results
13. Corrective Actions Referenced from CR 02-00891

Executive Summary

Background

Following the discovery of the boric acid corrosion of the Davis-Besse Plant's Reactor Pressure Vessel (RPV) head, a root cause analysis was conducted and documented in CR-02-00891. The analysis identified a lack of sensitivity to nuclear safety, a focus on production, and a culture that justified existing plant conditions. It was also identified that the Corrective Action Program (CAP) failed to identify the corrosion problem even though numerous symptoms were identified and documented within the Condition Reporting system.

The Corrective Action Program was also reviewed as a part of the Program Compliance Discovery Action Plan. The review team concluded, *"...the CAP is not consistently implemented (executed) in full compliance with applicable basis and guidance documents, and commitments. The CAP program implementation is not fulfilling all required obligations. Implementation needs to be improved to support the safe operation of Davis-Besse Nuclear Power Station."* CRs 02-04885 (CAP Infrastructure) and CR 02-04884 (CAP Implementation) were generated to address the identified concerns of the CAP Program review and to consider the collective significance of other Condition Reports which have identified significant deficiencies in the Corrective Action Process. CR 02-04884 utilized a Team Root Cause approach with team members including external consultants with Corrective Action Program assessment and recovery experience, USNRC inspection experience, Root Cause analysis experience in several techniques, and CAP program owners from the other FENOC stations.

The Root Cause approach was completed in two phases. CR-02-04885 addressed specific infrastructure improvement needs. CR 02-04885, a Basic Cause evaluation, drew heavily on the evaluation process conducted for CAP implementation CR (02-04884) and team members were shared between the two teams as appropriate to enhance communication and expertise. CR 02-04884 addressed that the "Corrective Action Process was ineffective in that Conditions Adverse to Quality (CAQs) were not appropriately evaluated and resolved, resulting in significantly degraded station equipment and processes, and a loss of confidence in station personnel to use the Corrective Action Program (CAP) effectively to identify, evaluate, and resolve CAQs."

Lastly, the Root Cause evaluation linked the cause evaluation to the evaluation performed for CR 02-00891. Where direct linkage was established, the cause determination was accepted and further considered for potential expansion of the extent of condition.

Cause Determination

CR 02-04884 concludes:

Root Causes:

1. ***Less than adequate Managerial Methods – site personnel exhibited insufficient awareness of the impact of conditions on safety and reliability.*** **The site-wide emphasis of production over safety was manifested in a lack of self-critical and questioning attitudes within the Davis-Besse organization.** The majority of the actual performance issues associated with the corrective action process (with a few exceptions) were identified prior to the discovery of the RPV head corrosion. The collective significance of the individual issues were not recognized and consequently were not elevated to a high enough level in the organization to obtain management support for corrective actions.

   - Oversight reports and NQA audits identified similar performance problems in the area of corrective actions at Davis-Besse over a period of several years. Many of these problems were not assigned appropriately serious significance categories and not promptly corrected. Some of these conditions were subsequently identified as the cause of the RPV head corrosion.

   - Instances where CAP inadequacies were identified by internal and external sources were not critically measured against industry norms nor appropriately questioned to identify and correct the source of those discrepancies.

2. ***Less than adequate Managerial Methods – expectations regarding the Corrective Action Program were not well defined or understood.*** **Past failures of Senior Management to convey clear expectations in support of the CAP, establish appropriate standards of CAP performance, and align organizational goals within the Davis-Besse staff caused a loss of organizational commitment to the FENOC vision for the corrective action process.** The line organization directors and managers did not align their performance standards consistent with the site CAP expectations. As a result, the resource loading and planning functions were focused on achieving standards that were not sufficient to ensure that the corrective action process was adequately supported and implemented.

   - The FENOC CAP process lacked commonality/consistency due to inadequate commitment to common process initiatives. There have been four CAP common practice owners within the 2-year span of NOP-LP-2001.

   - Alignment of expectations, standards and goals was not achieved, resulting in planning and resource loading not being commensurate with workload. Work management strategies were consequently employed resulting in shortcuts, delays or reduced quality of corrective action tasks.

- Lack of alignment between sites and among departments led to flexible standards and disparate implementation of CAP activities. When weaknesses were identified, the standards were not high enough to ensure that successful corrective actions were specified and implemented by the owners of the respective CR's.
- Management prioritization of CAP was low, resulting in deferral of funding for CREST changes and lack of resources to remediate causal analysis deficiencies due to budgetary constraints. No compensatory action was considered in lieu of these deferred corrective actions.

Contributing Causes:

1. ***Less than adequate Managerial Methods*** – **Site personnel were not held accountable for high quality implementation of many facets of the Corrective Action Program.** Past failure of plant management to enforce standards by holding personnel accountable for completing CAP activities in accordance with the expectations of the existing procedures. The implementation issues raised in the conditions reviewed in this analysis fall into the same areas as the causal factors of CR 02-00891.

2. ***Less than adequate Written Communication – Program / Process Weakness*** - **Although the Condition Report process provides an adequate framework for identifying and correcting adverse conditions, the large number of implementation issues shows that the infrastructure is not adequately matched to user needs to assure successful accomplishment of the process at Davis-Besse.** NOP-LP-2001 and the Condition Report Guideline do not provide a comprehensive set of instructions on a user-specific basis.

3. ***Less than adequate Change Management*** – **Risk and consequences associated with change were not adequately assessed when revising the corrective action process from the NG-NA-0702/Reference Guide/CATS system to the NOP/Guideline/CREST system in 2001.** The implementation of major changes in the corrective action process and the FENOC common process initiative impacted performance. Poor control of FENOC common processes implementation caused unrealistic project milestones and ineffective conflict resolution methods.

Over 60 individual corrective actions were formulated to prevent recurrence of the implementation problems that were the subject of this report. In addition, there were 37 corrective actions in CR-02-00891 that must be implemented to prevent recurrence of the implementation problems. These actions are listed in detail under section 7 and are too numerous to be repeated in an executive summary.

The ultimate question is why should an organization that has not effectively implemented corrective actions to prevent recurrence of problems in the past, be expected to implement these actions this time. The answer resides primarily in the change in the safety culture. New managers must exercise visionary leadership to change the safety culture if corrective actions to prevent recurrence are to be effective.

1.0 Problem Statement

The following consolidated problem statement comes from Condition Reports (CRs) 2002-04884 and 2002-04885:

> *The Corrective Action Process was ineffective in that Conditions Adverse to Quality (CAQs) were not appropriately evaluated and resolved, resulting in significantly degraded station equipment and processes, and a loss of confidence in station personnel to use the Corrective Action Program (CAP) effectively to identify, evaluate, and resolve CAQs. CR 02-04884 (Ineffective Corrective Action Problem Resolution: Human Performance and implementation) was submitted to provide the basis for the Root Cause Evaluation of the CAP in areas of human performance and program implementation. Additionally, CR 02-04885 (Ineffective Corrective Action Problem Resolution: Infrastructure and Procedures) was generated to address deficiencies in CAP infrastructure and programmatic requirements.*

1.1 Description of reason for investigation

This root cause investigation was chartered in response to a number of condition reports and other problem statements prepared during the last 12 months that identified significant weaknesses in the corrective action program (CAP) at Davis Besse. Those weaknesses culminated in the March, 2002 discovery of the significant degradation of the reactor vessel head due to boric acid corrosion.

The CAP weaknesses that were analyzed in this investigation were primarily identified in two documents: The Management and Human Performance Root Cause Analysis Report associated with CR 02-00891 (*Failure to Identify Significant Degradation of the Reactor Vessel Head*), dated August 13, 2002, and the Corrective Action Program (CAP) Program Review Summary Report, issued in September, 2002. In addition, weaknesses identified in the Management and Human Performance Improvement Plan (MHPIP) and the Boric Acid Control Program Review (PR BACC) were also included in this analysis.

In Section 6 of the Management and Human Performance Root Cause Analysis Report, the authors of the report concluded that one of the root causes of the reactor vessel head degradation involved the corrective action program. The root cause report stated:

"6.1.2: <u>Less than Adequate Implementation of the Corrective Action Program</u> – Implementation of the corrective action program was less than adequate as indicated by the following:

a. <u>Addressing Symptoms Rather than Causes</u> – Management pursued symptoms rather than the identification of the causes with respect to the corrosion of the RPV base metal and other boric acid issues.

b. *Low Categorization of Condition – The condition reports and evaluation methods on the RPV head and other boric acid issues were categorized as relatively low, resulting in the use of superficial cause analysis techniques.*

c. *Less than Adequate Cause Determinations – Corrective actions for identified problems associated with the eventual degradation of the RPV head and other boric acid issues lacked rigor and were less than adequate dating back to at least 1996.*

d. *Less than Adequate Corrective Actions – Corrective actions assigned and implemented from 1996 to 2002 were not effective and failed to find and fix the leaks that caused extensive damage to the RPV head.*

e. *Less than Adequate Trending – Equipment and materiel trending failed to identify recurring failures, equipment degradation, and performance issues associated with the boric acid on the RPV head and other boric acid issues.* "

Further, the Extent of Condition analysis in that report stated:

"Based upon the information considered by the Root Cause Analysis Team, the Team believes that other activities may be adversely affected by the same causes identified in Section 6. Therefore, the Team recommends that Davis Besse conduct reviews to determine whether other hardware, functions and programs have been impacted by these causes."

In response, Davis-Besse management established a Return to Service Plan that included a Program Compliance Review of station programs. The "Corrective Action Program (CAP) Program Review Summary Report" (PR CAP Report) presented the results of a review of all aspects of the CAP. The results of this review were summarized as follows:

"The primary problem identified during this detailed review can be summarized as ***Inadequate Implementation of the Corrective Action Program.*** *While identifying the primary problem as such, it is not meant to diminish the range or scope of issues identified during the review. These issues identified varying levels of implementation issues as well as other program related issues that have contributed to the extensive nature of the problems identified with the Corrective Action Program.*

Implementation of the program is inadequate as indicated by the following: [Extracted and summarized only for brevity]

- *Recurring Trend of Less than Adequate Corrective Actions (CR-02-03674)*
- *Recurring Trend of Less than Adequate CR Evaluations (CR-02-03673)*
- *Hesitancy to Document Certain Types of Conditions Adverse to Quality (CR-02-03672)*
- *Management Review Board Deficiencies (CR-02-03535)*
- *Trending Program Needs Improvement (CR-02-03676)*
- *Untimely Supervisory Reviews and Failure to Notify Senior Reactor Operator (SRO) (CR-02-03671)"*

The PR CAP Report continued:

"Additional implementation problems and areas for improvement were identified by the Detailed Program Review Team that provided insights into the causes of the recurring implementation problems discussed above. These areas for improvement include: [summarized for brevity]

- *Ineffective Ownership of the Corrective Action Program (CR-02-03497)*
- *Inadequate Cause Evaluations and Corrective Actions for CAP Program Deficiencies (CR-02-04292)*
- *Nuclear Quality Assurance (NQA) Failed to Elevate Identified Deficiencies with the Corrective Action Program to Ensure Resolution (CR-02-03769)*
- *Recurring Trend of Procedural Non-Compliance (CR-02-04716)*
- *Corrective Action Review Board (CARB) Backlog and General Performance Issues (CR-02-03525)*
- *Inadequate Corrective Action Program Training Efforts (CRs 02-03534, 02-03831, and 02-04796)*
- *Postponement of CREST Improvements (CR-02-03818)*
- *Inconsistent and Inaccurate Effectiveness Reviews (CR-02-03675)*
- *Marginal CAP Performance Indicators (CR-02-03817)*
- *Inadequate Benchmarking and Operating Experience Usage (CRs 02-03821, 02-05559)*
- *Less than Adequate CAP Procedural Controls (CRs 02-03754, 02-05342, 02-03543)*
- *Interfacing Procedures do not Adequately Address CAP Requirements (CRs 02-03865, 02-03867, 02-03871, 02-03868, 02-03869, 02-03872, 02-03873, 02-03874, 02-04742, and 02—05928)"*

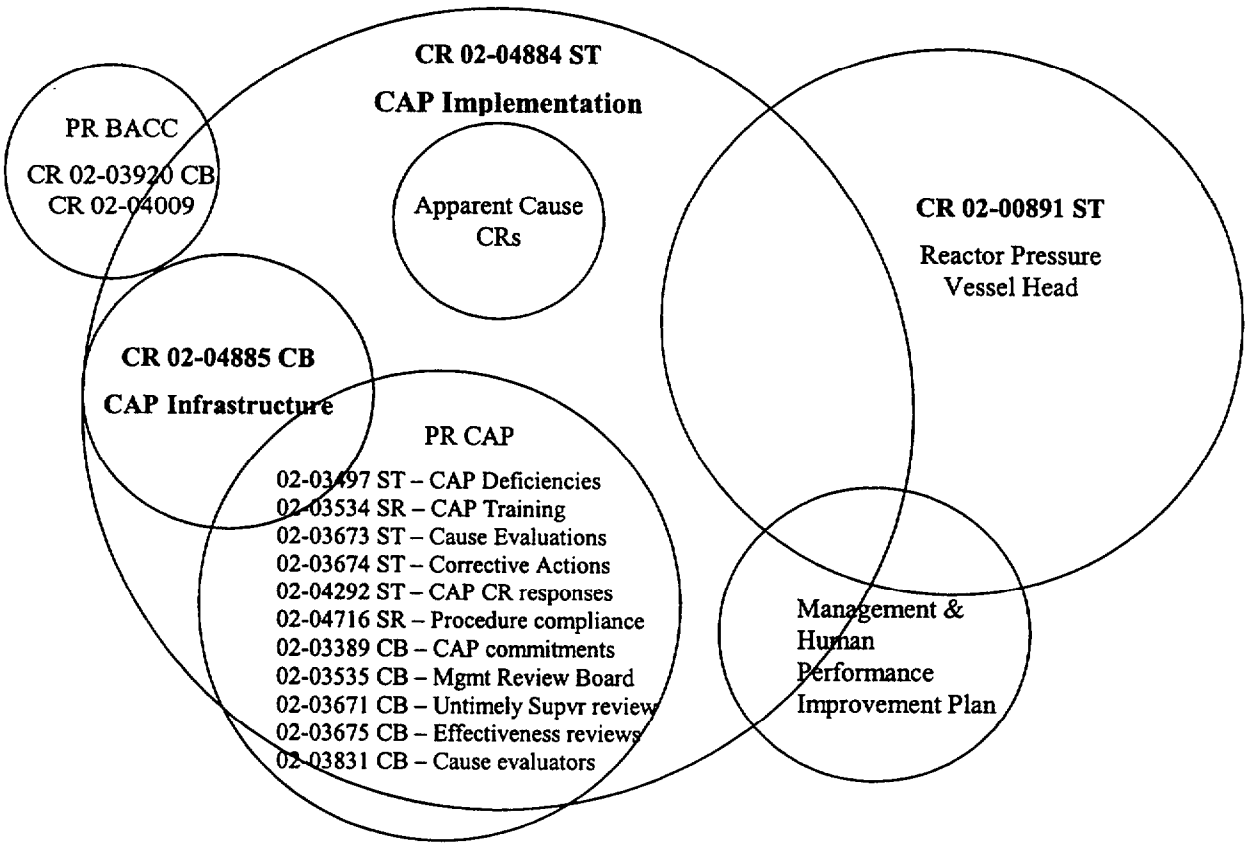
The PR CAP Report provided specific recommendations for corrective actions for each of the weaknesses identified. However, the PR CAP Team did not conduct a formal analysis of the root and contributing causes for the problems identified in the report. Although the recommended corrective actions address the specific problems identified, the task of conducting a formal root cause analysis was assigned to the Performance Improvement organization. Therefore, a Root Cause Analysis Team was chartered to determine the causes of the weaknesses identified and to ensure that the full scope of necessary corrective actions to prevent recurrence of the CAP weaknesses has been identified.

1.2 Data analysis

The approach taken by this Team to conduct the root cause analysis for the CAP weaknesses differed from the approach normally taken to investigate and analyze a single event or condition report. For example, eight of the 43 PR CAP condition reports were classified as Significant Conditions Adverse to Quality (SCAQ) and, therefore, by procedure NOP-LP-2001 each of those condition reports required a separate root cause

analysis to determine corrective actions to prevent recurrence. However, the root causes for many of these conditions appeared to this Team to likely be closely related. Further, any attempt to analyze the root cause(s) of each individual CAP weakness without consideration of the impact of the other weaknesses identified could result in uncoordinated or even conflicting corrective actions. The interrelated and overlapping nature of these multiple problem statements made it prudent to consider the problem statements in aggregate.

The following "Ven" diagram highlights the relationships among the CAP weaknesses that have been identified:



The total number of condition reports reviewed by this Root Cause Team was 71.

Rather than attempt to conduct multiple and possibly redundant root cause analyses regarding the reasons for the identified problems, CR 2002-04884 (Ineffective Corrective Action Problem Resolution: Human Performance and Implementation) and CR 2002-04885 (Ineffective Corrective Action Problem Resolution: Infrastructure and Procedures) were generated. CR 2002-04884 focused on the problems related to implementation of the corrective action process and CR 2002-04885 focused on the problems related to procedural infrastructure and process improvement.

The condition reports shown in the diagram were consolidated into the following two general questions to be investigated by the Team:

- Why did station personnel fail to adequately implement the corrective action process given the approved procedures that existed?
- Why did the procedures and practices fail to provide the required level of guidance and direction to facilitate proper implementation at Davis-Besse?

To address these questions, the Team conducted the analysis in two steps. First, a subteam conducted a basic cause analysis for CR 2002-04885 (Ineffective Corrective Action Problem Resolution: Infrastructure and Procedures) that specifically addressed the procedural deficiencies noted in the PR CAP Report. Second, the total Team collaborated to identify the reasons that these deficiencies occurred, as well as reasons for the failure to implement the CAP as designed.

An independent problem validation for each condition report included in the evaluation was not conducted. The root causes that were noted in the Management and Human Performance Root Cause Analysis Report for CR 2002-00891 and the problem statements in the PR CAP Report were accepted as stated.

1.3 Consequences of condition investigated

The failure of the CAP to identify and correct conditions adverse to quality was a root cause of the reactor vessel head degradation. The PR CAP Report did not specifically identify any other significant degradation in structures, systems and components (SSCs) caused by this condition. However, the lack of an effective CAP could preclude the identification and resolution of a wide range of problems. If the root causes for the CAP's failure to properly identify and resolve significant conditions adverse to quality are not identified and corrective actions taken, future significant conditions adverse to quality may not be prevented before other significant challenges to safety systems occur.

1.4 Remedial actions taken

Certain remedial actions were instituted as temporary barriers to guard against continued CAP failure. These measures, documented in CAF 51, included:

1. Assigned a new Manager of Performance Improvement who had a background of leadership, a track record of achievement and experience outside of Davis Besse.
2. Conducted a barrier analysis of CAP problem areas, vulnerabilities and current actions to methodically identify needs for additional compensatory actions.
3. Added external subject matter experts in human performance evaluation, root cause evaluation, and in CAP process to the Performance Improvement organization staff for mentoring as well as bulk reviews and work processing.
4. Chartered a root cause team to evaluate the CAP issues identified.

5. Expanded CAP performance indicators and stressed performance in the daily management meetings as well as holding line organization managers accountable for identified performance concerns.
6. Communicated standards and expectations from the Site Vice President to all supervisors and managers as well as provided followup focus and attention toward Supervisors in Supervisory Continuing Training Sessions.
7. CAP managers and directors participated in departmental and site-wide meetings and presentations to mentor and encourage CAP ownership.
8. Increased management focus on supervisory and SRO reviews to improve submittal timeliness, completeness and initial significance review.
9. Scheduled root cause analysis training for new evaluators and refresher training for currently qualified personnel, CARB members and management.
10. Established a Cause Analysis Review Group (CARG) to provide an earlier level of quality review for those condition reports that did not meet the criteria for screening by the Corrective Action Review Board (CARB).

2.0 Event Narrative

The event that caused a detailed, introspective review of the corrective action process was the discovery of the corrosive degradation of the reactor vessel head in February 2002. The ensuing sequence of events, including the response to a confirmatory action letter that implemented the NRC's 0350 restart process, required that Davis-Besse Nuclear Station conduct an analysis of the root causes behind this event.

However, there was no singular "event" that caused condition report CR-02-04884 to be originated. This condition report is a compilation of 19 initial condition reports including many which were originated by the team that prepared the PR CAP Report as a strategy to get a better perspective on all the issues in the aggregate. The initial 19 condition reports were selected for inclusion on the basis that they generally characterized problems related to implementation of the corrective action program. The initial condition reports were later augmented by 52 additional condition reports; ultimately totaling 71 condition reports for the root cause analysis charter. These condition reports characterized 203 discreet problem statements that related to the implementation of the corrective action process at Davis-Besse Nuclear Power Station. All condition reports were originated within the year 2002 (except CR-01-03162).

2.1 Background

The majority of the condition reports and problem statements from the PR CAP Report were similar. Rather than conduct a large number of redundant cause analyses, CR-02-04884 and CR-02-04885 were originated to consolidate and distill many similar issues into a broader context and common problem statements for root cause analysis. Generally, the analyzed "event" consisted of two primary problem areas:

- Station personnel failed to adequately implement the corrective action process, given the approved procedures that existed.
- The procedures and practices fail to provide the required level of guidance and direction to facilitate proper implementation at Davis-Besse within a culture of:
  - lack of sensitivity to nuclear safety,
  - a focus on production, and
  - the justification of existing plant conditions.

The sequence of events consisted of dual track timelines. One timeline showed a sequence of hardware events such as the RC-2 valve problem and the corrosion of the reactor vessel head. A second timeline was a sequence of audits, condition reports, NRC inspections, PR CAP Report and other identified problem statements that address poor performance or a lack of compliance with the current license basis and industry standards. These dual event timelines were related and reveal a pattern of procedural and implementation problem areas that were built up over many years.

Condition Report CR-02-00891 *Significant Degradation of the Reactor Pressure Vessel Head (Management Issues)* was prepared to address the root causes of the corrosion on the reactor vessel head. This effort was conducted by a team of industry experts and provides a revealing picture of how the corrective action process failed to identify a serious challenge to reactor safety. CR-02-00891 determined a series of root causes and corrective actions that addressed many generic issues at Davis-Besse. The CR-02-04884 team correlated the CR-02-00891 corrective actions to the CR-02-04884 problem statements (where they appeared to be applicable) to avoid requiring multiple, repetitive corrective actions.

However, the root causes determined in CR-02-00891 addressed the cause of the corrosion on the reactor vessel head. A preliminary attempt by this team to correlate the root causes specified in CR-02-00891 to the problem areas in CR-02-04884 did not succeed because the root cause statements in CR-02-00891 were focused to specifically address the reactor vessel head corrosion problem. This made it necessary to conduct a separate root cause assessment to further refine the problem areas and determine the causal factors and corrective actions to prevent recurrence of the CAP infrastructure and procedure problems, as well as the CAP implementation and human performance problems.

2.2 Sequence of Events

Although the condition reports that were enveloped into CR-02-04884 (and CR-02-04885) were prepared within the last year, the actual sequence of events began long before either condition report was originated. The root cause analysis team for the reactor vessel head degradation condition report (CR-02-00891) began their analysis timeline (E&CF chart) at the start of Refueling Outage #10 (10RFO) in April 1996 when indications of leakage through the CRDM nozzles appears to have initiated. This analysis has direct implications for the corrective action program.

Prior to the 1996 time period, the corrective action process was in a rudimentary stage at Davis-Besse. Although criterion XVI of 10CFR50 Appendix B has existed since the 1970s, the nuclear industry did not focus on an integrated condition reporting system that tracked the corrective action process until the early-to-mid-1990s. Corrective action tracking and implementation was provided by multiple work management systems that were often fragmented to each department. In the mid-1990s, as networked computer systems became sufficiently available to workers, many plants began to consolidate the work management systems into a condition report tracking system. At Davis-Besse, the initial condition reporting system was the Potential Condition Adverse to Quality (PCAQ) System. This system relied heavily on a paper-based input that was then computerized and tracked in the Davis-Besse Action Tracking System (DBATs) on the mainframe computer system.

This system was refined and improved along with the usage of personal computers. INPO published specific performance objectives with supporting criteria for self-assessment and corrective action activities in the 1997 revision of *Performance Objectives and Criteria for Operating Nuclear Generating Stations* (INPO 97-002). Davis-Besse transitioned from the PCAQ system to the Corrective Action Tracking System (CATs) in 1998. CATs was the first attempt to facilitate interaction with a networked computer environment. CATs was an improved action tracking system for paper-based condition reports. One of the guiding principles behind this transition was to move ownership of the corrective action tracking process from a small group of corrective action tracking specialists into the line organization in

an effort to establish better ownership by the line organization. The dedicated group of root cause analysts was dispersed to line departments in March 2001. Davis-Besse directed the line organization to conduct all root cause evaluations.

In December 1999, INPO published *Principles for Effective Self-Assessment and Corrective Action Programs*. Davis-Besse upgraded the CATs system to the new Condition Report Evaluation and Status Tracking (CREST) system. CREST included a new and improved computer application program that was more powerful and user friendly. In addition, the CREST software was intended to provide an adequate level of user interface (intuitive self-prompting) to preclude the need to have a paper procedure in hand when using CREST. Some user training was provided and a Guideline document was developed that was coordinated with NOP-LP-2001, *Condition Report Process.*

NOP-LP-2001 was developed as part of an initiative to integrate all three nuclear sites under the FENOC common process umbrella. However, each site had a different reactor type (GE BWR, B&W PWR and Westinghouse PWR) built by different organizations and licensed by the NRC with varied commitments. The current license basis at each site is significantly different from each other. This condition implied that NOP-LP-2001 could only implement commitments that were common between the three FENOC sites. Deviations in the implementation of applicable current license basis commitments between the sites had to be covered under another site-specific procedure. The Programmatic Guide was developed to address those policies, practices and information that could not be included in NOP-LP-2001 but were not clearly obvious in the CREST user interface.

As the corrective action process was developed and improved at Davis-Besse, the vision for the Performance Improvement[1] (PI) organization was also evolving. The new vision was focused on PI being the owner of the condition reporting process but not the owner of corrective action implementation (i.e. program). The Davis-Besse line organizations were charged with implementing the corrective action program. PI would maintain the software and procedures, but would remain removed in the areas of routine implementation and adjudication of condition reports. This was a more significant change in the management and ownership of the corrective action program than had been previously anticipated by the Davis Besse management team.

In February 2002, it was discovered that Boric acid on the Reactor Pressure Vessel (RPV) head had caused a serious degradation problem. This problem led to an extended plant shutdown and a period of introspection that is still in progress. One of the root causes identified for the corrosion problem was that the corrective action program failed to identify and correct the problem. As part of the restart recovery effort, a Corrective Action Program (CAP) Program Review (PR CAP) was conducted. The PR CAP identified numerous issues relating to problem identification and resolution. Two condition reports, CR-02-04884 and CR-02-04885 were initiated to determine the cause of the failure of the corrective action program. This report is the outcome of the root cause assessment for the failure of the corrective action process.

[1] The title "the Performance Improvement Organization" is used generically in this report to mean the current Performance Improvement Organization and the predecessor organizations; the Learning Organization and the Quality Programs Organization.

3.0 Data Analysis

The data was collected and analyzed using condition reports, root cause analyses, and other testamentary sources available to the Team. Interviews were conducted to gain additional insights into individual motivation and decisions. The data was analyzed using an Events and Causal Factors (E&CF) Flow Chart, a Change Analysis, Barrier Analysis, Collective Significance Analysis and PII© Failure Modes Analysis. The following section describes the process and conclusions in detail.

The data analysis relied on interviews with Davis Besse staff members to explain certain decisions and behaviors that occurred in the past. To the extent possible, objective data and documentation related to the information provided in the interviews was obtained to validate the interviewees' perceptions and recollections.

The adverse conditions analyzed were compiled primarily from condition reports and the CAP Program Review recommendations. This evaluation was not focused to duplicate or independently validate the root cause analysis that was conducted by the CR-02-00891 Management Root Cause Analysis Team. The conclusions and root causes reached by the CR-02-00891 Technical and Management Root Cause Team were accepted as valid. The PR CAP Report and associated condition reports were likewise presumed to be generally accurate statements of the corrective action process adverse conditions. However, throughout the conduct of this evaluation, original and derived data was correlated and objectively viewed to determine if it was congruent to the previous analyses and whether divergence was determined to exist.

The (203) specific issues in the CAP Issues Matrix were characterized into separate "bins" or categories using the technique of affinity analysis. These categories were generic problems that could be analyzed at a more general level.

Twenty (20) focused interview questions were developed with associated directed lines of inquiry that attempted to identify the causes of the adverse conditions. Using these generic adverse condition categories, the Team conducted further information discovery to answer the question, "Why did this [specific adverse condition] occur?" by conducting 32 formal focused interviews and numerous other informal discussions with Davis Besse personnel, both present and past. The interview results were compiled on the interview synopsis in attachment 9.

The bottom line question from the original CR-02-04884 problem statement to be answered was always:

"Why was the implementation of the corrective action process less than adequate?"

3.1 DATA REVIEW

The Root Cause Analysis Team used an industry-accepted approach for data collection and analysis. This approach generally followed the FENOC Root Cause Analysis Reference Guide

investigation steps. However, the use of affinity analysis techniques is not explicitly covered in the FENOC Root Cause Analysis Reference Guide. The Team used an industry-recognized methodology (a draft procedure not yet implemented at Davis Besse) for a collective significance and common cause analysis for the development and use of the CAP Issues Matrix.

3.1.1 Data Collection:

The Root Cause Team collected data for this analysis using the following steps:

- Reviewed 19 condition reports initially associated with CR-02-04884 and CR-02-04885 in the description of condition.
- Separated the condition report problem statements into separate issues and listed the issues in a CAP Issues Matrix (Attachment 1).
- Reviewed the PR CAP Report for additional issues. Added these issues to the CAP Issues Matrix.
- Reviewed 52 additional condition reports assigned to Performance Improvement and added issues to the CAP Issues Matrix.
- Correlated the 203 separate and distinct issues together into logical categories based on the similarity of problem statements using the technique of affinity analysis. All issues were binned to at least one of the following generic categories in the CAP Issues Matrix (attachment 1):
    1. *Process Issues:* Categorization, CAs LTA, Cause LTA, Trending LTA, Not Timely, Procedures
    2. *Compliance Issues*
    3. *Knowledge, Skill and Ability (KSA) Issues:* Training, Qualification
    4. *Unclear Expectation Issues*
    5. *Other Issues:* Resources, OE
- Conducted formal structured interviews with 32 individuals associated with the Corrective Actions Program. These interviews included 20 multiple choice survey questions with the survey results documented in Attachment 9.
- Compiled the results of the survey questions in Attachment 9.

3.1.2 Structured Analysis Process:

The data was analyzed using the following steps:

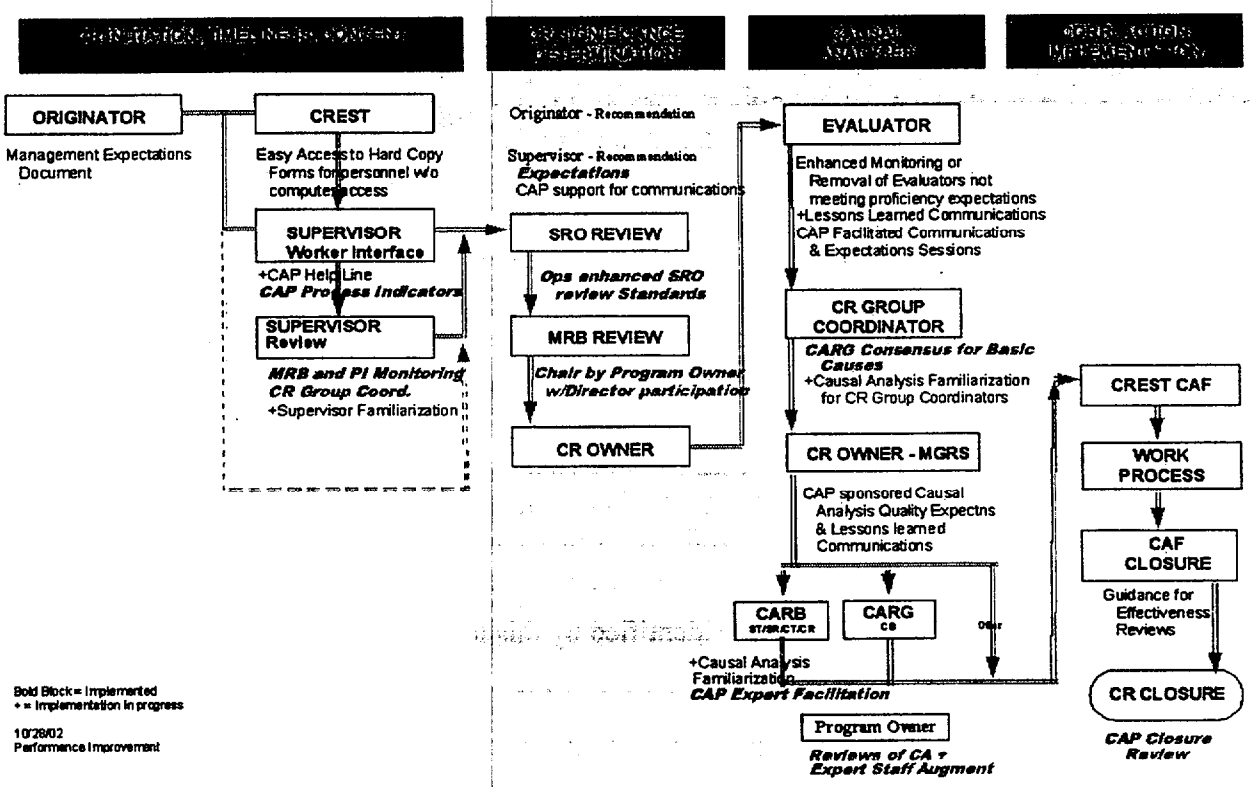
- Conducted a Barrier Analysis of the corrective actions process and determined compensatory measures
- Developed a timeline of all relevant events (Attachments 2 & 3)

- Developed and analyzed an Events and Causal Factors (E&CF) Chart from this timeline (Attachment 4)
- Conducted a Change Analysis of the programmatic changes from 1996 to present
- Conducted a Collective Significance Analysis of the CAP Issues Matrix
- Performed a Failure Mode Analysis using the PII© formal analysis process (Attachments 6, 7 & 8) for the collective significance generic categories
- Determined the causal factors using the PII© Failure Mode Analysis / Stream Analysis technique
- Determined the root causes and contributing factors using the "why staircase" technique
- Coded the root and contributing causes using the HPES trend codes
- Developed recommended corrective actions that addressed the root causes
- Verified that all CAP Matrix Issues were specifically addressed in the corrective action section
- Documented all findings

3.1.3 Barrier Analysis

A classical barrier analysis was conducted to determine the programmatic barriers that were relied upon to ensure the effective functioning of the corrective action process. The barrier analysis considered the corrective action process as it was implemented along with insights from condition reports including the CR-02-00891 Management Root Cause Evaluation. The CAP process was segmented into traditional functional areas, and process barriers were correlated to each function area. The following flowchart graphically depicts the corrective action process at Davis Besse. This chart was constructed as part of the barrier analysis of the process documenting the compensatory measures put in place such as the Cause Analysis Review Group.

Corrective Action Process
Significant Immediate & Compensatory Measures Flowchart



Conclusions: The barrier analysis concluded that vulnerabilities were identified in the four process barrier areas as well as the two supporting areas based upon the analyzed condition reports and the PR CAP Report:

Functional Barriers:

1. Condition Report Initiation, Timeliness, Content
2. Significance Determination
3. Causal Analysis
4. Corrective Action Implementation

Supporting Areas:

1. Oversight and Program Ownership
2. CAP Infrastructure and Supporting Processes

The barrier analysis indicated a number of compensatory measures that were implemented as temporary, stopgap measures to improve the corrective action process until the root cause analysis was completed and permanent corrective actions can be made. In order to obtain further detail on the degradation of the functional process barriers, the collective significance of these degradations had to be analyzed in further detail.

3.1.4 Collective Significance Analysis

A collective significance analysis was conducted to determine if there were generic trends or patterns among the various condition reports and PR CAP issues. The collective significance review was a systematic evaluation of the generic problem categories determined in the affinity analysis correlated with the functional barriers that had been degraded. The collective significance review identified the presence of generic issues that spanned across activities, behaviors, organizations and condition reports. The result of the collective significance review is a generic problem description and overall assessment of the impact and significance of these generic conditions. With 203 issues in the CAP Issues Matrix, it was highly likely that many issues would affect other issues. Each functional barrier area was then analyzed using collective significance techniques to determine major themes and issues within the area.

Within each functional barrier area, the CAP Issues Matrix was sorted by affinity analysis category to determine potentially generic issues. The CAP Issues Matrix "functional barrier" and "affinity category" fields were correlated by filtering techniques to obtain trends and issue patterns. These correlations were further refined if other secondary patterns appeared that appeared to group issues together into common themes or generic problem areas.

The following generic problem areas were identified by this technique:

1. **Condition Report Initiation was not consistent (8 specific issues noted)**
   - There may be a hesitancy to originate condition reports (3 issues).
   - There was a lack of threshold guidance or direction for originating condition reports (5 issues).
2. **Significance Determination was not accurate (18 specific issues noted)**
   - *Low categorization of conditions (4 issues)
   - Lack of timeless in classification (7 issues)
   - Inadequate procedural direction and guidance (7 issues)
3. **Causal Evaluation was not accurate (31 specific issues noted)**
   - *Causal analysis was often not accurate (25 issues).
   - Personnel conducting causal analysis did not always have adequate training (5 issues).
   - Management expectations for causal analysis were not clear (1 issue).
4. ***Corrective Action Implementation was not effective (25 specific issues noted)**
   - Corrective actions were ineffectively formulated and often not based on causes (13 issues).
   - Corrective actions were ineffectively implemented (5 issues).

---

* CR-02-00891 Root Cause

- Corrective actions were not implemented in a timely manner (7 issues).

5. Oversight and Program Ownership (26 specific issues noted)

- Ineffective corrective actions were not identified by CARB (9 issues).
- There was a lack of timely review and a large backlog of issues pending before CARB (5 issues).
- Procedural requirements for oversight activities were not properly captured (5 issues).
- *Trending and performance indicators did not support oversight of corrective actions (7 issues).

6. CAP Infrastructure and Supporting Processes (83 specific issues noted)

- There was no action plan to correct noted problems in CAP (1 issue).
- There was a general lack of procedural compliance with existing procedures (34 issues).
- CARB was not meeting often enough and the CARB backlog was too high (3 issues).
- Performance Improvement should move all outstanding CATs CRs into CREST and close the CATs tracking system (1 issue).
- The work order and CR processes were not adequately integrated (5 issues).
- A formal training program was not developed to support the CAP process (29 issues).
- CREST improvements were deferred but were required (3 issues).
- Trending and performance indicators were not adequately developed (2 issues).
- Management expectations were not clear and not adequately communicated (5 issues).

A complete and detailed description of the collective significance analysis is contained in attachment 12. The collective significance review synthesized six generic problem areas from the 71 condition reports included in the analysis. The generic problem areas identified how the corrective action process functional barriers had degraded or weakened. This provided a focused approach to determining the causal factors. Only one functional barrier, CR Initiation, was determined to be sufficiently robust. The remaining five barriers had significant degradation based on the condition reports.

Conclusions: The implementation issues raised in the conditions reviewed in this analysis fall into the same areas as the causal factors of CR 02-00891:

- Significance determination was not accurate. Significance determinations were biased to be lower than appropriate.
- Cause Determinations were not accurate.
- Corrective action implementation was not effective.

---

* CR-02-00891 Root Cause

- Program oversight was not effective. Trending and performance indicators did not support program oversight.
- CAP Infrastructure and supporting processes do not reflect industry best practices.

Line management did not take effective action to identify these deficiencies, or to direct prompt corrective action when the problems were identified.

3.1.5 Events and Causal Factors Analysis

An Event and Causal Factor Flow Chart was constructed beginning with January of 1996 and is included as Attachment 4. Two event lines were used in an effort to understand the interactions and impacts of the Corrective action program with regard to the plant boric acid corrosion. The two event lines are:

- Plant events and conditions with respect to the identification of the boric acid corrosion,
- Corrective action documents (CRs, audits, and external reports).

The E&CF analysis identified 24 condition reports or PCAQs that had been initiated between January 1996 and December 2001 in regard to aspects of the Boric Acid corrosion issue. This would indicate that there were opportunities to explore and resolve the growing indications of a problem with corrosion. The E&CF analysis also identified 17 condition reports and NQA audit reports that characterized corrective action process performance problems. This would indicate that Performance Improvement had numerous opportunities to explore and resolve the problems related to the corrective action process.

Analysis of the E&CF Chart showed several trends and conditions:

- Most RPV degradation precursor conditions and events had been identified by the condition reporting system (i.e. a condition report had been originated).
- Most CAP process issues had been identified by the condition reporting system.
- The significance of the individual CRs/PCAQs was often lower than appropriate.
- The corrective actions taken were often inadequate to correct the problem (CAQ) or to prevent recurrence of the problem (SCAQ).
- The cumulative impact of management and process changes affected the implementation of the corrective action program.

The Team concluded that if the personnel at Davis Besse had collectively considered all of the information that had been available, they might have been able to understand the significance of the RPV head degradation problem at an earlier point.

Conclusion: The actual performance issues associated with the corrective action process (with a few exceptions) were identified prior to the discovery of the RPV head degradation. The collective significance of the individual issues were not recognized and consequently were not elevated to a high enough level in the organization to obtain management support for corrective actions.

Oversight reports and NQA audits identified similar performance problems in the area of corrective actions at Davis-Besse over a period of several years. Many of these problems were not assigned appropriately serious significance categories and not promptly corrected. Some of these conditions were subsequently identified as the cause of the RPV head degradation.

3.1.6 Change Analysis

A change analysis was conducted on the changes made to the corrective action process over the period 1996 to 2002. The change analysis considered:

- Technology changes for condition reports (software upgrades DBATs to CATs to CREST)
- Organizational and ownership changes in the corrective action process
- Management changes at the station and within Performance Improvement
- Impact of the FENOC common process at Davis Besse

The change analysis concluded that the rate of change of the corrective action program has been relatively high and appears to be virtually continual over this period of time. The key changes noted during this period were in three areas:

- **Technology**: The process and software transitions from the PCAQ to CRs and from DBATs to CATs to CREST occurred at the same time as the ownership transition from using a dedicated corrective actions group to using line personnel for implementation of the process.
- **Organization /Ownership:** The organization was changed from Quality Programs Group, to the Learning Organization and finally to the Performance Improvement Organization. These changes occurred simultaneously with the realignment of ownership philosophy for corrective action implementation. Ownership transitioned from a full-time staff group to the line organization. These changes occurred in conjunction with the implementation of the FENOC common process initiative.
- **Staffing:** The organizational realignment occurred concurrently with numerous staff personnel changes. Some of the new personnel did not have the experience, background or training to perform their required functions. New staff members who did not have that training replaced many staff members who had recently received training in root cause analysis. Staffing stability has impacted the PI organizations' ability to implement the CAP.

These changes clearly affected the organizational and process stability and occurred at the same time that the corrective action process failed to recognize the significance of the boric acid buildup and subsequent degradation that was developing in the RPV head. Several personnel interviewed indicated that the program was in a continual state of flux and it was difficult to stay current with the latest expectations. Implementation of the FENOC common process during this period also added an element of coordination that had not been previously required. It was

suddenly necessary to coordinate all process changes between the three FENOC sites and each site had a different perspective on the philosophy of the corrective action process.

The change analysis technique assumes that a correlation can be made between a change in the performance state, and the change in the process state. For example, a change in a procedure causes an operator error. In this particular case, it was very difficult to correlate the changes in the program to the changes in performance. There were so many program changes between 1996 and 2002 that it was impossible to determine the effect of the individual changes on performance. The greatest effect seems to have come from the decision to move the day-to-day responsibility to execute the corrective action process from a full-time PI staff / review board, including the dedicated group of trained root cause analysts to the line organization. Therefore, the 12RFO CRs documenting the RPV head degradation were not reviewed by anyone other than the line organization responsible for the evaluation. The same conclusion is true for the condition reports that stated problems with the corrective action process.

The cumulative impact of these changes added a level of complexity (ever-changing / unclear management expectations) to the problem identification and resolution process, and contributed to the station's difficulty in complying with the CAP procedures.

Conclusions: The implementation of major changes in the corrective action process and the FENOC common process initiative impacted performance.

- Poor control of FENOC common processes implementation caused unrealistic project milestones and ineffective conflict resolution methods. The corrective action process was one of the first FENOC common processes. The three nuclear sites had difficulty agreeing to a robust common process with the result that the sites had to develop site-specific guidelines to address the areas not included in the NOP-LP-2001 procedure. Davis-Besse's guideline removed existing "tools" and communicated an optional tone to the requirements residing in the Guideline. These factors placed stresses on the corrective action program standards and provided the DB staff with excuses/incentive for implementation inadequacies.
- Root causal analysis was adversely affected when the root cause team was dispersed to line organizations without increased monitoring of the use of the assigned resource and the quality being produced.
- The appropriate staffing levels depend on the stability of the workforce and the CAP implementation standards. If the standards are raised, staffing will have to be increased to provide adequate resources to the additional workload.

3.1.7 PII© Failure Mode Analysis Technique:

Upon completion of the collective significance review, a formal analysis of the condition report issues in the CAP Issues Matrix was conducted using PII© failure mode analysis techniques. The details and process of this analysis are contained in Attachments 6, 7 & 8. The initial results of the analysis indicted organizational failure modes that required stream analysis. The results of

the stream analysis indicated that management failures were involved. A further analysis of management failures indicated that there were three primary failure modes:

- The largest number of failure modes identified was in the area of control error (attachment 8). These errors indicate that processes were not accurately implemented such that the process outcome was not the desired outcome. A majority of the control errors (such as inadequate cause analysis or ineffective corrective actions) were caused by improper implementation of corrective program elements (trending, categorization) as previously discussed.
- The second largest number of failure modes identified was in the area of management expectation errors (attachment 8). These failure modes were indicative of a failure of management to establish and enforce standards for the organization. Communication of clear expectations was a large factor in this failure mode.
- The third largest number of failure modes identified was in the area of programmatic deficiencies (attachment 7). There were a number of procedure problems identified during the affinity analysis. There were also procedural usage (user interface) problems identified by the Team's flow-charting of the corrective action process procedures that showed a number of user interface flaws and judgment errors.

Conclusions: Using the results of this failure mode analysis, the PII©-certified facilitator identified the following causal factors:

- **Failure to comply with existing standards, requirements and procedures.**
- **Lack of clear management expectations and standards.**
- **Lack of procedures that could be easily followed.**
- **Lack of commitment to program implementation.**

These causal factors were then validated and further analyzed using a "why staircase" technique until the final causes were determined.

3.1.8 Root Cause Analysis

The next step in the FENOC analysis process was to validate the PII© causal factors and to determine the root cause(s). The Team discussed each of the identified causal factors in great detail. PR CAP and interview results were also used to add insight. The Team used the "why staircase" technique where each causal factor was analyzed by repeatedly asking the question, *"Why did this happen?"* until there was no longer any answers that were under the control of management to change.

The "Why Staircase": The "why staircase" is a root cause analysis technique where analysts will repetitively ask the question "why did this occur" until a point is reached where there are no more answers that are within management's capability to control. This point is often the root cause of the event. Ultimately, several different causal factors may result in the same root cause after using the why staircase.

The "why staircase" technique added an additional insights into the PII© causal analysis. One insight was that the Team was actually comparing the past performance of the corrective action process to the present configuration of this process. It was clear that many of the comments from the PR CAP Report and previous condition reports were problem statements that had most frequently occurred under previous versions of the corrective action process as well as under a different management culture.

There has been a substantial change in management personnel from February 2002 until today. Many of the new managers have not yet had an opportunity to fully foster a change in the culture of their respective organizations. This is particularly true of the Performance Improvement Organization where three of four key leaders (the manager and two of three supervisors) have been changed or added within the last three months. The Team recognized that the problems listed above had developed under the previous station management and earlier versions of the corrective action process. The future performance of the current organization and current corrective action process is currently being tested and noted behavior differences are evident. It would not be accurate to determine causal factors by analyzing the current configuration of the corrective action program judged against the performance history under the former corrective action program. The results would inevitably lead to false or misleading conclusions. Past corrective action program performance was caused by former management and old processes. Present corrective action performance remains a work in progress that could best be judged by today's performance. It was recognized that past processes are presently in revision and encompassing compensatory measures implemented to prevent many of the past performance problems. The impact of the changes will be evaluated by future effectiveness reviews and oversight activities.

Lack of clear expectations and standards: During the "why staircase" exercise, the Team recognized the key or primary causal factor was a lack of clear expectations and standards by past management. A detailed review of previous NQA audit and self-assessments since 1996 indicated that although many of the problems or issues were routinely identified in the reviews, the Performance Improvement (PI) Organization[2] did not agree on the need to implement corrective actions that would prevent these problems from recurring. The oversight and assessment groups continued to report many of the same findings years after year. In response, PI continued to make process changes in an attempt to improve performance. However, *they did not change the actual performance of the corrective action program or behaviors of the station to prevent recurrence of the findings*, leading to more repeat findings on the next assessment.

Misalignment of Organizational Standards: Interview comments with past and present members of PI and NQA clearly highlighted the fact that the oversight activities were assessing to a substantially different set of standards. The oversight activities compared corrective action program performance to a compliance-based standard while PI was managing the program to a performance-based standard. These standards were very different.

A compliance-based standard holds the program accountable for essentially perfect performance. If a small number of problems are noted during the assessment or audit, this is evidence of a

[2] The title "the Performance Improvement Organization" is used generically in this report to mean the current Performance Improvement Organization and the predecessor organizations; the Learning Organization and the Quality Programs Organization.

defacto problem in that area. An example of the application of a compliance-based standard can be observed in the area of apparent cause determination. If the oversight activity notes a small number of apparent cause determinations that are in error, the finding is made that apparent cause determinations are inaccurate. No attempt is made to present the finding in the context of how many apparent cause determinations were correct, or the degree of inaccuracy of the causal factors.

When questioned about the standards, several NQA auditors who had performed many of the past audits stated that they considered it "appropriate for NQA to hold PI to higher standards". Their vision was that NQA should set high standards for the entire site. While nobody can argue with this vision, it was clear that past PI management was unable to construct a corrective action process that could produce the error-free results required by the NQA standards.

Complicating this picture were three additional factors:

- External oversight activities (NRC, INPO) gave the Davis Besse corrective action program generally high marks (especially after the introduction of CREST).
- The NQA audits characterized the corrective action program as good overall even though the audits continued to report the same specific findings and deficiencies.
- Personnel who were not reporting to Performance Improvement were actually performing many of the corrective action activities that were criticized.

Interviews with NQA auditors indicated that they considered the corrective action program to be "well run in general and functioning within acceptable standards" but they were concerned that PI objected to the specific audit findings. These objections were fundamentally over the appropriate standards to be used for establishing the audit criteria, which determined the findings. At the core of this disagreement was the idea that NQA would audit to "higher standards" and PI would manage the program to "more realistic performance standards" which were in line with the resources that were applied to the program.

In addition, PI was being challenged by station management to correct implementation errors made by many personnel who were not in the PI organization. PI made a number of process changes that were intended to make the process simpler (e.g. *CATs* to *CREST*) or provide additional information or guidance (e.g. *Condition Report Process Programmatic Guideline, CREST Users Manual*) on HOW to do the job. PI did (or could) not address the root cause of the problem, which were the individual behaviors of the personnel in the line organization who were actually making the day-to-day decisions for the corrective action process. Station management was focused on production and had created a safety culture where safety-significant corrective actions that were costly were too often deferred or cancelled. Process changes alone could not correct this problem. This situation led to a cycle of implementation error – process change – implementation error, which has been noted in the PR/CAP Report. A more fundamental change in the safety culture of the entire line organization was required to change this cycle.

Repetitive Nature of Adverse Conditions: A good example of the repetitive nature of these findings can be seen in the Root Cause Analysis Report for Condition Report Program Implementation Deficiencies (CR-2000-1584 dated 9/22/00). A Multi-Discipline Team was chartered to investigate the root causes for the 2000 CORAC Audit findings. The Problem

Statement noted, *"Similar implementation deficiencies were noted during a 1999 CORAC Audit."*

The Experience Review section of the 2000 CORAC Audit Root Cause Report identified similar previous findings at Davis Besse including (in part):

"1994 Conger & Elsea, Inc. DBNPS Corrective Action Program Review:

- *Major areas of concern were:*
  1. *The lack of required analytical techniques (cause evaluations such as apparent cause/ CATPR*
  2. *The lack of training of the evaluators for analyzing hardware, procedures and personnel problems*
  3. *The lack of follow up and evaluation of corrective actions*

AR-99-CORAC-01-01:

- *Insufficient change management to transition to the condition report process*

1999 CR 1999-0310:

- *Corrective action documents being closed without entering required trend information into CATS*

1999 INPO Report OR.2-1:

- *Problems in monitoring and implementation of station initiatives and some corrective actions are hindering management's ability to address several long-standing recurring issues in a timely and effective manner."*

The deficiencies identified in these reports included many (if not all) of the deficiencies on the CAP Issues Matrix. The consequences of this event/condition were stated to be:

> *"Weaknesses in the areas of Condition Report evaluation, documentation, tracking and coding could jeopardize the Station's position relative to compliance with portions of 10 CFR 50 Appendix B, Quality Assurance Criteria for Nuclear Power Plants."*

Compensatory actions were taken and remedial actions were proposed. The tone of the audit findings was a compliance-based comparison against DBNPS procedure requirements, guidance, expectations and Industry Standards. Numerous audit findings were noted, many of which were identical or similar to the issues in the PR CAP Report. The root causes identified for this report were (in part):

1. *"LTA Written Communications (Root Cause)*
   - *Omission of relevant information: The guidance for the CAP is not well defined...*
   - *Vertical and lateral integration of procedures, guidelines and Business Plan expectations"*

2. *"LTA Change management in changing the corrective action program[3] (Root Cause)*
   - *Change related to training/retraining was not performed or not adequate*
   - *Change related documents (tools) were not developed)"*
3. *"LTA Managerial Methods (Root Cause)*
   - *Management expectations were not well identified: The guidance for CAP is not well defined..."*
4. *"LTA Managerial methods (Contributing Factor)*
   - *Management follow-up or monitoring did not identify problems"*

The corrective action process issues had been identified and analyzed for many years. Actions to prevent recurrence were not effective because repeated audits and assessments continued to determine the same findings on multiple occasions.

PI management was managing to performance standards that were fundamentally different than the standards used by the oversight activities to evaluate the program. PI was managing the corrective action program as a management or action-tracking system while the oversight activities were auditing and assessing the program to the higher standards of 10 CFR 50 Appendix B and INPO industry best practices. The misalignment of standards between the PI organization and the oversight activities caused an inevitable performance deficit. Resource loading and performance goals were set by PI, not the oversight activities, and inevitably underestimated the amount of effort that would be required to meet the higher performance standards set by NQA.

Failure to Employ Human Error Reduction Techniques: It has been previously concluded that the safety culture at Davis Besse did not place sufficient emphasis and priority on safe operations[4]. Human performance error reduction techniques are well known in the nuclear industry. These techniques include peer checking, independent or dual verification, pre-job briefings, verbatim compliance with procedures etc. All of these techniques have been applied to activities related to quality programs and processes, especially when associated with plant operations or maintenance. However, employment of these techniques comes with an associated cost and substantial additional effort. Human performance error reduction techniques were not often used to improve the accuracy of the corrective action process because the PI Organization did not subscribe to the standards that were used for audits by the oversight activities.

Failure of the Organization to Reconcile Differences in Standards: There were several previous attempts made by the PI Supervisor and NQA to reconcile these standards. Several meetings were held where PI and NQA stated their respective viewpoints and agreed to disagree on the appropriate standards for performance assessment and process management. One historical factor may have been the relative organizational position of the Manager of NQA who was senior to the Supervisor of PI. Past Senior Managers (Directors) were not sufficiently engaged to resolve the misalignment of these standards between their respective organizations. The inevitable result was that the oversight and assessment activities continued to find the same

[3] When changing from PCAQ to CATs for tracking
[4] CR-02-00891 Management Root Cause Analysis Report: "Less than adequate nuclear safety focus" root cause 6.1.1

issues on repeated audits. They did not raise these issues to the proper management level for correction until the 2000 NQA audit. The staff of both PI and NQA continued to disagree on the appropriate standards and they set expectations that were fundamentally misaligned. The inevitable result was a substantial deviation in corrective action program performance from the oversight requirements.

3.2 CONCLUSIONS

The Team reached conclusions after completing each analysis technique. These conclusions were generally reinforcing and mutually supporting.

3.2.1 Barrier Analysis Conclusions:

The barrier analysis concluded that the following barriers were relied upon for a properly functioning corrective action program: PR CAP

- Condition Report Initiation
- Significance Determination
- Causal Evaluation
- Corrective Action Implementation
- Oversight and Program Ownership
- CAP Infrastructure and Supporting Processes

Compensatory measures were put in place to strengthen several of these barriers.

3.2.2 Collective Significance Review Conclusions:

The implementation issues raised in the conditions reviewed in this analysis fall into the same areas as the causal factors of CR 02-00891:

- Significance determination was not accurate. Significance determinations were biased to be lower than appropriate.
- Cause Determinations were not accurate.
- Corrective action implementation was not effective.
- Program oversight was not effective. Trending and performance indicators did not support program oversight.
- CAP Infrastructure and supporting processes did not reflect industry best practices.
- Line management did not take effective action to identify these deficiencies, or to direct prompt corrective action when the problems were identified.

3.2.3 Events & Causal Factors Chart Conclusions:

The majority of the performance issues associated with the corrective action process were identified prior to the discovery of the RPV head corrosion. The collective significance of the individual issues were not recognized and consequently were not elevated to a high enough level in the organization to obtain management support for corrective actions.

Oversight reports and NQA audits identified similar performance problems in the area of corrective actions at Davis-Besse over a period of several years. Many of these problems were not assigned appropriately serious significance categories and not promptly corrected. Some of these conditions were subsequently identified as the cause of the RPV head corrosion.

There were a large number of organizational changes that occurred during the period of time when RPV head degradation occurred. These changes included process changes, ownership changes, and organizational realignments. A change analysis was conducted to consider the effect of these changes.

3.2.4 Change Analysis Conclusions:

The implementation of major changes in the corrective action process and the FENOC common process initiative impacted performance.

Poor control of FENOC common processes implementation in 2001 caused unrealistic project milestones and ineffective conflict resolution methods. The corrective action process was one of the first FENOC common processes. The three nuclear sites had difficulty agreeing to a robust common process with the result that the sites had to develop site-specific guidelines to address the areas not included in the NOP-LP-2001 procedure. Davis-Besse's guideline removed existing "tools" and communicated an optional tone to the requirements residing in the Guideline. These factors placed stresses on the corrective action program standards and provided the DB staff with excuses/incentive for implementation inadequacies.

Davis Besse's root cause analysis capability was adversely affected when the root cause team was dispersed to the line organizations without increased monitoring of the use of the assigned resource and the quality being produced.

The appropriate staffing levels depend on the stability of the workforce and the CAP implementation standards. If the standards are raised, staffing will have to be increased to provide adequate resources to the additional workload.

3.2.5 PII© Failure Mode Analysis Conclusions:

The following causal factors were identified using the PII© Failure Mode Analysis Technique:

- Failure to comply with existing standards, requirements and procedures.
- Lack of clear management expectations and standards.
- Lack of procedures that could be easily followed.

- Lack of commitment to program implementation

3.3 OVERALL CONCLUSIONS

The "why staircase" technique yielded the following additional insights into the analysis and causal factors.

- Change management of the corrective action process has not been carefully controlled in the past. Numerous changes in staffing, process, software and ownership have maintained a constant state of flux.
- Risk and consequences associated with change were not adequately assessed when revising the corrective action process from the NG-NA-0702/Reference Guide/CATS system to the NOP/Guideline/CREST system in 2001.
- The conditions analyzed represented performance under an old process or under past management. The process and management changes that had been made since the RPV head degradation event have not been in place long enough to evaluate the impact of these changes.
- Most of the specific adverse conditions that caused or contributed to the RPV head degradation problem had been identified (i.e. condition reports prepared). However, the station had not recognized the overall significance.
- Various oversight groups had previously identified most of the corrective action process problems. However, the Performance Improvement Organization had not recognized the overall significance.
- There was a substantial misalignment in standards between the oversight groups and the Performance Improvement Organization. PI was managing the corrective action program as a management or action-tracking system while the oversight activities were auditing and assessing the program to the higher standards of 10 CFR 50 Appendix B and INPO industry best practices. The misalignment of standards between the PI organization and the oversight activities caused an inevitable performance deficit.
- Prior to the RPV head degradation, their had been a universal emphasis of production over safety at Davis Besse. This created an organizational environment where standards were not communicated and management expectations were often unclear or conflicting. This environment often left it to the workers to make the hard choices between making deadlines and delivering product quality. Too often, the individual chose to make the deadline and sacrifice quality.
- The site-wide emphasis of production over safety was manifested in a lack of self-critical and questioning attitudes within the Davis-Besse organization.
- Past failures of Senior Management to convey clear expectations in support of the CAP, establish appropriate standards of CAP performance, and align organizational goals within

the Davis-Besse staff caused a loss of organizational commitment to the FENOC vision for the corrective action process.

- Past failure of plant management to enforce standards by holding personnel accountable for completing CAP activities in accordance with the expectations of the existing procedures.
- Although the Condition Report process provides an adequate framework for identifying and correcting adverse conditions, the large number of implementation issues shows that the infrastructure is not adequately matched to user needs to assure successful accomplishment of the process at Davis-Besse.

These causes were further analyzed into root and contributing causes as listed in section 5 of this report.

3.4 ROOT CAUSE ASSESSMENT

The multiple data analysis techniques all converged on the same set of causal factors for a large set of data. Although the words or emphasis may have been slightly different, the concepts were essentially consistent. The Team synthesized several sets of causal factors and then conducted a consensus-building meeting where all team members ultimately endorsed the final version of the causal factors.

The Team had some difficulty in resolving a single root cause. Some of the Team members thought that the cultural issues of production over safety, lack of a self-critical questioning attitude were the fundamental or root cause of the conditions. Their position was that people made the errors and that the problem could not be corrected until the people who implemented the corrective action process changed their attitudes and behaviors.

The other part of the Team thought that the root cause was a lack of management alignment and consistency between the parts of the Davis Besse site organization. Their position was that it was this lack of agreement in standards and the resulting lack of communication of clear expectations between the Senior Managers that led to the misalignment of priorities for corrective actions.

The primary causes could only be corrected by strong and effective leadership. Safety culture changes slowly, but only in response to strong and credible leadership. Management alignment can only occur if there is strong and credible leadership to cause the various directors to agree on a common vision for Davis Besse. After further analysis and discussion of these two primary causal factors, it was agreed that both causal factors would be considered as the root causes of the conditions.

The three contributing causes provided additional insight into the reasons why these conditions occurred. They provide a context for the root causes and should also be the subject of corrective actions to prevent recurrence. The root and contributing causes are listed in section 5 of this report.

4.0 Experience Review

An Experience Review was performed using the CATS, CREST and INPO databases. A search on various themes of inadequate/failed corrective action programs identified the following related issues.

4.1 Davis-Besse

There are numerous (109) examples in CREST and CATS where inadequate implementation of the corrective actions program was identified at various levels of the process including recurrent events. Untimeliness, inadequate evaluation and ineffective corrective action were frequent themes. These examples included the 71 CR's referenced in the problem statement. This was the impetus for generating this "collective significance" condition report.

4.2 Nuclear Industry

The search revealed several (10) repeat equipment failures that could have been prevented with improved implementation of corrective actions. Although, none of the examples was directly on point with the programmatic implementation failures being assessed in this review, the D. C. Cook NRC Manual Chapter 0350 shutdown in 1998 had many parallels. The immediate problem was that the ice condenser was discovered to have numerous hardware issues that were undetected and unresolved. Although the corrective action program identified many of the individual issues prior to the shutdown, the collective significance of the problems was not understood. D. C. Cook personnel did not determine that the ice condenser was not able to function as designed until identified by the NRC. The root cause assessment indicated that one of the root causes was a lack of corrective action process effectiveness.

Although the D. C. Cook ice condenser problem is obviously very different than the Davis Besse RPV head degradation, there are some similarities. Both events were significant hardware failures of a safety-related SSC that caused the respective plants to shutdown under an NRC confirmatory action letter (NRC Manual Chapter 0350). In both causes, the one of the root causes of the event was a corrective action program that failed to focus attention on the problem. The D. C. Cook corrective action problem areas included:

- Not identifying conditions adverse to quality
- Failure to implement corrective actions
- Ineffective corrective actions
- Marginal ability to track and trend conditions

Many of these problems are identified in the PR/CAP Report as requiring correction at Davis Besse. The INPO "Principles for Effective Self-Assessment and Corrective Action Programs," December 1999, provides detailed guidance regarding the elements of an industry-standard corrective action program. The principles were not adequately implemented at Davis Besse.

4.3 Conclusions

The focus of this evaluation is on the failure of the corrective action program to recognize that there was a breakdown in implementation and to remediate the concerns identified in the problem statement. There was ample prior identification of these issues and this analysis addresses the causes of the failure to correct them earlier. The corrective actions for this condition report go farther than previous preventive actions, in that the root causes address cultural and management expectation issues.

5.0 Root Cause Determination

"A manager fails in the long run if he does not strive to produce people who can do his work better than he has been doing it."

Ralph Besse 1905-2002

The CR-02-00891 Management Root Cause Analysis for the RPV head degradation event concluded that one of the root causes of the problem was inadequate implementation of the corrective action program (CAP). This Root Cause Team was chartered to analyze why the corrective action process has not been adequately implemented at Davis-Besse. Seventy-one condition reports documenting CAP-related issues were considered by the Team.

The Team considered the facts, conclusions and causal factors identified by the previous analyses and then asked the question:

> *What were the primary reasons or causes (under the control of management) of the conditions that, if corrected, should have prevented the adverse conditions from recurring?*

After a careful analysis of the data, the Team determined that the reasons for the CAP failures were most appropriately characterized by two root causes. These root causes address both the underlying cultural issues at the site and the management factors that fostered those cultural issues.

5.1 Root Causes

1. ***Less than adequate Managerial Methods – site personnel exhibited insufficient awareness of the impact of conditions on safety and reliability.*** **The site-wide emphasis of production over safety was manifested in a lack of self-critical and questioning attitudes within the Davis-Besse organization.** The majority of the actual performance issues associated with the corrective action process (with a few exceptions) were identified prior to the discovery of the RPV head corrosion. The collective significance of the individual issues were not recognized and consequently were not elevated to a high enough level in the organization to obtain management support for corrective actions.

   - Oversight reports and NQA audits identified similar performance problems in the area of corrective actions at Davis-Besse over a period of several years. Many of these problems were not assigned appropriately serious significance categories and not promptly corrected. Some of these conditions were subsequently identified as the cause of the RPV head corrosion.
   - Instances where CAP inadequacies were identified by internal and external sources were not critically measured against industry norms nor appropriately questioned to identify and correct the source of those discrepancies.

2. ***Less than adequate Managerial Methods – expectations regarding the Corrective Action Program were not well defined or understood.*** **Past failures of Senior Management to convey clear expectations in support of the CAP, establish appropriate standards of CAP performance, and align organizational goals within the Davis-Besse staff caused a loss of organizational commitment to the FENOC vision for the corrective action process.** The line organization directors and managers did not align their performance standards consistent with the site CAP expectations. As a result, the resource loading and planning functions were focused on achieving standards that were not sufficient to ensure that the corrective action process was adequately supported and implemented.

   - The FENOC CAP process lacked commonality/consistency due to inadequate commitment to common process initiatives. There have been four CAP common process owners within the 2-year span of NOP-LP-2001.
   - Alignment of expectations, standards and goals was not achieved, resulting in planning and resource loading not being commensurate with workload. Work management strategies were consequently employed resulting in shortcuts, delays or reduced quality of corrective action tasks.
   - Lack of alignment between sites and among departments led to flexible standards and disparate implementation of CAP activities. When weaknesses were identified, the standards were not high enough to ensure that successful corrective actions were specified and implemented by the owners of the respective CR's.
   - Management prioritization of CAP was low, resulting in deferral of funding for CREST changes and lack of resources to remediate causal analysis deficiencies due to budgetary constraints. No compensatory action was considered in lieu of these deferred corrective actions.

5.2 Contributing Causes

1. ***Less than adequate Managerial Methods – site personnel were not held accountable for high quality implementation of many facets of the Corrective Action Program.*** **Past failure of plant management to enforce standards by holding personnel accountable for completing CAP activities in accordance with the expectations of the existing procedures.** The implementation issues raised in the conditions reviewed in this analysis fall into the same areas as the causal factors of CR 02-00891:

   - Low Categorization of Conditions
   - Less than Adequate Cause Determinations
   - Less than Adequate Corrective Actions
   - Less than Adequate Trending

   Line management did not take effective action to identify these deficiencies, or to direct prompt corrective action when the problems were identified.

2. ***Less than adequate Written Communication – Program / Process Weakness*** **Although the Condition Report process provides an adequate framework for identifying and correcting adverse conditions, the large number of implementation issues shows that the infrastructure is not adequately matched to user needs to assure successful accomplishment of the process at Davis-Besse.** NOP-LP-2001 and the Condition Report Guideline do not provide a comprehensive set of instructions on a user-specific basis.

   - In order to use the procedures accurately and consistently, the user must be familiar with the overall process and needs to extract the applicable activities from multiple procedures, sections and attachments. A process flow chart of the procedures indicates that the procedure design is not straightforward.
   - As delineated in the PR CAP Report, the infrastructure does not reflect state-of-the-art industry practices.

3. ***Less than adequate Change Management*** – **Risk and consequences associated with change were not adequately assessed when revising the corrective action process from the NG-NA-0702/Reference Guide/CATS system to the NOP/Guideline/CREST system in 2001.** The implementation of major changes in the corrective action process and the FENOC common process initiative impacted performance.

   - Poor control of FENOC common processes implementation caused unrealistic project milestones and ineffective conflict resolution methods. The corrective action process was one of the first FENOC common processes. The three nuclear sites had difficulty agreeing to a robust common process with the result that the sites had to develop site-specific guidelines to address the areas not included in the NOP-LP-2001 procedure. Davis-Besse's guideline removed existing "tools" and communicated an optional tone to the requirements residing in the Guideline. These factors placed stresses on the corrective action program standards and provided the DB staff with excuses/incentive for implementation inadequacies.
   - Root causal analysis was adversely affected when the root cause teams were dispersed to line organizations without increased monitoring of the use of the assigned resource and the quality being produced.

6.0 Extent of Condition

The 71 condition reports underlying this Root Cause Analysis discuss failure to implement the corrective action processes, weaknesses in the infrastructure that contribute to these problems and the inability of the CAP owners (Quality Programs/Learning Organization) to resolve these concerns. The causes identified in Section 5.0 could affect other administrative processes at Davis-Besse. As delineated below, Davis-Besse is conducting reviews in accordance with the Restart Readiness Plan to determine whether other hardware, functions, and programs have been impacted by the causes that have led to the current shutdown.

The Davis-Besse Building Block Plans include reviews to assess the adequacy of systems, organizations, and programs to support safe and reliable operation. The Management and Human Performance Excellence Plan includes a series of reviews of functional areas (organizations). These reviews include checks of whether:

- there are clear lines of authority and responsibly within the organization;
- staffing levels and resources are sufficient to handle assigned responsibilities;
- individuals have a clear description of their assigned responsibilities;
- individuals satisfy regulatory requirements and commitments for certification, qualification, and experience;
- the training of individuals is current;
- programs within the responsibility of the organization have an individual who is assigned as the owner;
- there are effective methods for communicating safety information within the organization;
- interfaces with other organizations are clearly defined;
- corrective actions and improvements for the organization's findings within the last two years have been effective;
- the organization has appropriate performance indicators or other goals and objectives; and
- the organization satisfies any other applicable regulatory requirements and commitments.

The Program Compliance Plan provides for a series of program reviews. These reviews determine whether:

- the interfaces with other programs or work groups are controlled;
- the program appropriately implements operating experience;
- the program has an appropriate level of management involvement;
- the program has an owner who is properly qualified; and
- the roles and responsibilities for program implementation are clearly defined and appropriately implemented.

As the primary issues of the CR 02-0-4884 evaluation were associated with Corrective Action Program implementation, the causal factors and conclusions could potentially be applicable to other stations and utilities. CAP program counterpart owners from the other FENOC sites were included on this team to facilitate the experience transfer of the details and conclusions of this review to other FENOC sites. A review of the CR databases for other FENOC sites did not identify conditions where the level of management and cultural weaknesses similar to Davis-Besse appeared to be present. FENOC is conducting a team review at Perry to look for extent of condition issues, while a similar effort is planned at Beaver Valley, if necessary. As an additional common process improvement effort, FENOC has created a central common process organization to provide for improved control of common processes such as the Corrective Action Program.

7.0 Recommended Corrective Actions

This section identifies corrective actions and actions to prevent recurrence of the problems, and relates each of the root and contributing causes to the recommended corrective actions. The recommended corrective actions are linked to the proposed Corrective Action Form (CAF) numbers in CR 02-04884 for easy reference. The CAFs will implement the intent of the recommendations after negotiation with the CAF owners. Numerous applicable corrective actions are already being tracked through CR 02-00891 and the Management and Human Performance Improvement Plan (MHPIP). Recommended corrective actions for this condition report are *noted in Italics.*

7.1 Corrective Actions for Root Causes

There were two root and three contributing causes identified in the condition report. Davis Besse has already structured corrective actions in CR 02-00891 to correct the problems associated with safety culture on a site-wide basis. Many of these corrective actions are also contained in the MHPIP.

7.1.1 Root Cause #1 Corrective Actions

Root cause #1:

1. ***Less than adequate Managerial Methods – site personnel exhibited insufficient awareness of the impact of conditions on safety and reliability:*** **The site-wide emphasis of production over safety was manifested in a lack of self-critical and questioning attitudes within the Davis Besse organization.** The majority of the actual performance issues associated with the corrective action process (with a few exceptions) were identified prior to the discovery of the RPVH corrosion. The collective significance of the individual issues was not recognized and consequently was not elevated to a high enough level in the organization to obtain management support for corrective actions.

Corrective Actions:

These actions address the following areas: establish clear standards and expectations in nuclear and industrial safety; change management's vision of success; and hold management accountable for implementation of the new vision.

7.1.1.1 Establish clear nuclear and industrial safety policies:

The first step in implementing a change in safety culture is to establish and support clear and unambiguous policies on nuclear and industrial safety at Davis Besse. The MHPIP Section 6.1 states that one of the stated objectives for improving safety culture at Davis-Besse is:

> "Nuclear, radiological and personnel safety have the highest priority and take precedence over other objectives, such as cost and production. Personnel feel free to

raise safety concerns without fear of retaliation and concerns are investigated and resolved in a timely manner."

Meeting these objectives will require aggressive cultural change to take place at Davis Besse. New leadership that proactively establishes standards and expectations will foster this cultural change. This change will be accomplished by:

> CR-02-00891 CAF 75: Establish a FENOC-level policy emphasizing the station industrial and nuclear safety philosophy. The policy should be incorporated into procedures, guidelines, job descriptions and performance evaluations, as appropriate. Policies and procedures should include both management and worker responsibility in providing a safe work environment, personal protective equipment, training (including SCWE attributes) and working safely. [Note: The recommendation of the [00891] Team does not advocate a particular form that the policy may take, and in fact, the old 'policy book' could be eliminated in favor of an approach that is better connected with the Business Plan.]"

In order to ensure that the new FENOC industrial and nuclear safety policy is properly reflected in the corrective action process, Performance Improvement should also:

> Recommendation to be implemented by CAF 6: *Incorporate revised nuclear safety policies, as appropriate into the Business Plan, NOP-LP-2001 and sub-tier procedures, guidelines, and reference documents; and include in the roles and responsibilities of the Performance Improvement Manager and direct reports.*
>
> Recommendation to be implemented by CAF 8: *Implement Corrective Action Program focused criteria into revised nuclear safety focused management and supervisor performance criteria. (The Performance Improvement Manager will provide proposed criteria for consideration as tasked in CAF 7.)*

Application of these new safety policies depends on a decision making process that considers all risks. The MHPIP Section 6.3, addresses improvements in standards and decision-making, and discusses the development of a FENOC Common Process to ensure safe decision-making. This process is already under development as required by CAF 24 from CR 02-00891:

> CR 02-00891 CAF 24: A standard process to ensure a safety oriented and methodical approach to decision-making is under development. Applicable personnel will be trained on the FENOC Decision-Making Model for improved safety focus and a questioning attitude.

PI shall ensure that all CAP personnel who need training in this area will receive the appropriate training.

> Recommendation implemented by CAF 13: *The Manager of Performance Improvement (PI) identifies PI personnel who require FENOC Decision-Making Model training and ensure that they attend the training classes.*
>
> Recommendation implemented by CAF 14: *Review the Decision-Making-Model for potential impact on CAP training for station personnel who perform tasks related to the evaluation and processing of condition reports (that are not in PI- e.g. CR Group Coordinators).*

The new decision-making process will be structured as stated in CAFs 62 and 83 of CR 02-00891. The process will focus on two primary areas; an operational decision-making process

that includes hazard analysis and risk assessment; and implementation of a FENOC common process that defines the hierarchy of documents and invokes policies for use of operating experience. CR 02-00891 contains CAFs 59, 62 and 83 that implement these requirements.

CR 02-00891 CAF 59: Develop and implement the FENOC Hierarchy of Documents for Davis-Besse to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants.

The following items are to be considered from the MORT section on lack of hazard analysis:

1. Establish policy for the use of external information that is specific enough for the user to understand the following expectations:

- When to seek the information
- Where to seek the information
- How to determine the validity of the information
- When and how to obtain review / approval of its use
- How to maintain tracking of the information for future updating and use.
- When to incorporate the information into existing station procedures.

2. Establish policy for internal operating experience information that will establish the connection between the information and the applicable process or program.

CR02-00891 CAF 62: a. Establish the FENOC operational/decision-making process at Davis-Besse including hazard analyses.

As it relates to the hazard analysis the following is to be addressed:

1. Establish policy that provides the expectations for performing hazard analysis, including:

Definition of acceptable risk

When to perform hazard analysis. The concept of not only performing hazard analysis after the decision to make a change to the facility has been made but also performing analysis at the point of initiation for requesting a change (before the request is made).

Method for performing hazard analysis not addressed in 10CFR50.59, including both probability and consequence.

Qualification requirements for preparer and reviewers of hazard analysis (outside 10CFR50.59)

(Consider issuance of a FENOC policy.)

2. Establish the necessary guidelines or other implementing instruction for performing the hazard analysis addressed in t the hazard analysis addressed in the policy. The guidelines should provide examples of conditions/issues that warrant entry into hazard analysis.

CR02-00891 CAF 83: Establish the FENOC decision-making process at Davis-Besse including hazards analyses.

As it relates to the hazard analysis the following is to be addressed:

1. Review station processes and procedures to determine if entry into hazard analysis (including decision-making) is required.

2. Update processes and procedures determined to require performance of hazard analysis to reference the applicable policy/guidelines for implementation. The guideline should provide examples of issues that warrant entry into hazards analysis.

Performance Improvement will follow the new decision-making processes when they are developed. In addition, PI will further improve the CAP procedures to incorporate these decision-making processes into the CAP where appropriate.

Recommendation to be implemented by CAF 28: *A problem solving and decision-making process is under development as a common process, this is intended to provide a safety oriented and methodical approach to decision making. Ensure that the new decision-making process is integrated with the corrective action process.*

Critical to effective methodical and conservative decision making is the committed exercise of questioning attitudes and self-critical evaluation. Complex or numerous process variables can increase administrative and training burdens and options, creating a narrow rule based evaluation process rather than an open minded and probing resolution focus. A reduction of some discretionary process variabilities will increase the importance and depth of evaluation of lower level cause evaluations and will focus limited CR evaluation and corrective action implementation resources to areas of highest impact and importance, increase the consistency of problem evaluations, and encourage CR evaluators and owners to consider causes and solutions beyond the obvious or superficial.

Recommendation implemented by CAF 23: *Revise corrective action procedures to replace the Basic Cause evaluation category with a more structured Apparent Cause evaluation. Include more emphasis on the use of evaluative processes to arrive at apparent cause determinations and Operating Experience and generic implication reviews. (Under the new process, many of the current Apparent Cause assignments would become "Fixes").*

Recommendation implemented by CAF 24: *Provide clarification through case studies that the significance coding of CRs is directed at the specific problem and its consequences, not the individual classification of the process, system, component, or structure. (The cause evaluation technique should be driven by the level of analysis required to correctly identify the causes.)*

Recommendation implemented by CAF 25: *Adopt a tiered corrective action classification approach. One category would be Preventive, a second category would be Corrective Action, and a third category of Other actions such as OE/EFR/Rollover, which are supportive to the causes but not corrective in nature. Corrective Actions will be prioritized and resourced on their own merit.*

Changing the safety policies and culture is a task for all levels of management at Davis Besse. These CAFs should ensure that the new vision of success is clearly established and personnel are trained in proper nuclear and industrial safety policies.

7.1.1.2 Change management's vision of success:

The next step in the process is to change management's vision in the area of nuclear safety. These changes will be implemented by replacing some managers and retraining many others. Extensive changes have already been made in the FENOC officers, directors and managers responsible for Davis-Besse as required by the MHPIP. CR 02-00891 requires:

> CR 02-00891 CAF 42: Extensive changes have been made in the officers, directors, and managers responsible for Davis-Besse, including establishment and appointment of a new Chief Operating Officer Executive Vice President, and Vice President of Oversight; changes in the site Vice President; and changes in each of the directors. These new individuals bring outside experience and high safety standards.
>
> Recommendation implemented by CAF 9: *"Extensive changes were made in FENOC officers, directors, and managers responsible for Davis Besse as noted by 02-00891 CAF 42. This CAF is created to administratively document action taken for changes in management providing an impetus for a change in culture and values especially relative to the implementation of the Corrective Action Program."*

A new Manager of Performance Improvement with plant and regulatory experience was assigned in July 2002 to provide program ownership and oversight. The Performance Improvement organization has implemented a restructuring to reinforce program ownership expectations. Compensatory augmentation was provided by outside mentors and corrective action program experts to raise and reinforce standards of performance.

The new leadership shall be trained to ensure that they share the FENOC vision of operational excellence and nuclear safety.

> Recommendation implemented by CAF 10: *Leadership training will be revised to include nuclear safety focus. Training includes Foundations for Leadership that is one of the initial supervisory training programs and Leadership in Action training that will set standards on how the management team will be expected to conduct business. Include conservative decision-making and self-critical thinking concepts.*

After installing and training a new manager for PI, the new manager must communicate within the PI organization to ensure that changes in the new safety culture vision are being internalized. CR 02-00891 requires:

> CR 02-00891 CAF 95: The FENOC COO determined that 4-C's (Compliments, Communications, Concerns, and Assessment) meetings are part of the change to reinforce the site safety culture. Formalize the meetings to meet on a periodic basis for set period of time to allow personnel to discuss safety issues.
>
> Recommendation implemented by CAF 11: *Manager Performance Improvement meet with Performance Improvement staff and CR Coordinators to communicate expectations for CAP program ownership actions and, departmental extensions of CAP ownership plans. Ensure that proper feedback is received and understood.*

These corrective actions should change the safety culture at Davis Besse if implemented as expected. However, management must be held accountable for the change in safety culture.

7.1.1.3 Hold management accountable for implementation

One of the reasons why corrective actions have failed in the past is that people were not held accountable for implementation. CR 02-00891 recognized this potential problem and clearly required accountability and feedback. Aligning management performance incentives with safe operations promotes accountability. CR 02-00891 requires:

> CR 02-00891 CAF 74: Management incentives should be realigned to place more reward for safety and same operation of the station when the management positions reside at the station (e.g. Site VP and below). The distribution should be consistent among all site positions.
>
> Recommendation to be implemented by CAF 7: *Develop proposed performance evaluation criteria for implementation of the Corrective Action Program by key station management and supervisors. These criteria will be included as a subset of the overall station management evaluation criteria.*

Feedback on safety culture change occurs when management gets out in the plant and routinely observes the conduct of plant activities. CR 02-00891 requires management to develop a program to conduct frequent field observations. The Management Field Observation Program has been implemented for increased management presence in the field. CR 02-00891 implemented a field monitoring program under CAFs 22 and 45.

> CR 02-00891 CAF 22: Develop and implement a program for increased presence of management in the field both during outages and during normal operations to improve management oversight. Formalization of this program is intended to look for degraded conditions, open opportunities for coaching, and enforcement of management expectations. This Management Field Observation Program with weekly schedules is to be similar to the programs established at Perry and Beaver Valley.
>
> CR 02-00891 CAF 45: A Management Monitoring Process will be implemented to monitor and trend the performance of specific management oversight activities taken on an individual basis. This will demonstrate the level of involvement and nuclear safety focus of individual managers.

PI will ensure that the results of these monitoring activities are captured in CRs.

> Recommendation implemented by CAF 12: *Assure that the scope of Management Observations regularly includes the coverage of CAP activities. This can be accomplished by adding a review of management observations to trending indicator protocols.*

Site-wide accountability for implementation of the nuclear safety policy and standards will be ensured as required by CR 02-00891:

> CR 02-00891 CAF 41: Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.

7.1.1.4 Verify effectiveness of the change in safety culture

Verification of effectiveness is needed to ensure that the planned corrective actions have prevented recurrence of the problems. The MHPIP has established an effectiveness verification process using performance indicators and assessments to measure improvements in safety culture. At the heart of this process is management monitoring of the change in culture.

- CR 02-00891 CAF 96: Perform periodic Safety Conscious Work Environment Survey and Assessments (Effectiveness Reviews) based on criteria and attributes derived from NRC policy and guidance. Review survey results and take actions where necessary to reinforce the site safety.

The responsibility for site-wide change begins with the individual but ultimately resides at the senior management level. PI shall play an appropriate role in supporting the higher standards. MHPIP Section 6.5 has established an action to improve the Corrective Action Review Board (CARB) by enforcing higher standards for cause evaluations and corrective actions. This requirement was also contained in CR 02-00891.

> CR02-00891 CAF 49: The Corrective Action Review Board (CARB), which reviews select corrective action document evaluations, will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB.

Peer checking provides resilient barriers to encourage thorough analysis and consideration of alternate viewpoints. The Corrective Action Process is constructed specifically to provide for various peer checks (i.e. CR Coordinators). PI shall implement peer checking into the CAP requirements as a method of reducing human errors.

> Recommendation implemented by CAF 20: *Develop and implement standards and expectations for a section-level Corrective Action Program advisor / subject matter expert (e.g., CR Coordinator). Develop training and/or qualification requirements consistent with the SAT process to support the above objective.*

In addition, positive incentives will shape behavior as the line organization begins to perform to the new standards. Performance Improvement should consider the following recommended corrective action.

> Recommendation implemented by CAF 46: *Expand positive incentives in the form of recognition and/or reward to personnel who perform CAP activities in an exemplary manner. Include where possible in section or department level plans.*

These corrective actions, if implemented properly, should significantly improve the site-wide safety culture. Effective implementation requires a substantial commitment to change at all levels of the organization.

7.1.2 Root Cause #2 Corrective Actions

Root Cause #2:

Less than adequate Managerial Method – expectations regarding the Corrective Action Program were not well defined or understood: **Past failures of Senior Management to convey clear expectations in support of the CAP, establish appropriate standards of CAP performance, and align organizational goals within the Davis-Besse staff caused a loss of organizational commitment to the FENOC vision for the corrective action process.** The line organization directors and managers did not align their performance standards consistent with the site CAP expectations. As a result, the resource loading and planning functions were focused on achieving standards that were not sufficient to ensure that the corrective action process was adequately supported and implemented.

Corrective Actions: One of the stated objectives of section 6.2 in the MHPIP is to address initiatives to improve management performance:

> "Managers are experienced, have high safety standards and are involved in directing and overseeing plant activities."

The corrective actions to prevent recurrence of this problem are:

- Set the standards and expectations
- Communicate the standards and expectations
- Plan and support the standards and expectations
- Monitor effectiveness

7.1.2.1 Set the standards and expectations

The MHPIP Section 6.3 addresses actions to make improvements in standards and in decision-making. The stated objective is that:

> "Decision-making and technical standards have a nuclear safety focus, have technical rigor, account for operating experience and seek to correct problems rather than justifying acceptance of the problems."

Actions are being taken to resolve these issues and to insure that personnel are provided with technical standards and the proper decision-making. These include:

FENOC will establish written technical expectations for its technical staff to improve the safety culture. For example, the Engineering Department has issued expectations for its technical staff, including expectations for Nuclear Safety, Rigor, Compliance and Ownership. Data from the CAP review groups and observation programs will be used to monitor effectiveness of these standards. As stated previously, CR 02-00891 requires:

> CR 02-00891 CAF 75: Establish a FENOC-level policy emphasizing the station industrial and nuclear safety philosophy. The policy should be incorporated into procedures, guidelines, job descriptions and performance evaluations, as appropriate. Policies and procedures should include both management and worker responsibility in providing a safe work environment, personal protective equipment, training (including SCWE attributes) and working safely.

PI will ensure that the new standards and policies are internalized by all personnel and are incorporated in the corrective action process.

> Recommendation implemented by CAF 26: *Establish a common set of standards for management personnel that will stress the need for management to communicate the proper safety values and expectations for their personnel and to personally observe and measure their performance. Ensure that these standards are applied to the Performance Improvement Organization and are appropriately reflected in a Corrective Action Expectations Manual.*

Once the new standards and policies have been established, the next step is to ensure that management internalizes the new standards and policies. CR 02-00891 requires an evaluation of current management to ensure alignment.

> CR 02-00891 CAF 105: Complete an evaluation of the current Directors and Managers to ensure adequate alignment with emphasis on 1) Safety, 2) People, and 3) Reliability prior to restart.

PI will monitor this site-wide alignment process to ensure that each department is ready to support the new standards and expectations in regards to the CAP.

> Recommendation implemented by CAF 30: *While the Performance Improvement organization provides resources for program administration and programmatic oversight; responsibility for implementation of the Corrective Action Program rests first with the line supervisors and managers. The Senior Management Team will complete an evaluation of current directors and managers to ensure adequate alignment prior to restart. In addition, each department will rebaseline its standards and expectations prior to restart. The Senior Management Team will define the site CAP elements and expectations, and assure department alignment through the aforementioned evaluation process.*

PI will also ensure that the CAP roles and expectations are clearly defined by procedures. This will bring the alignment process to the personnel who must implement the corrective action process.

> Recommendation implemented by CAF 19: *Define the position roles and responsibilities of (sic)-Section CR Coordinators within the Corrective Action Program (CAP) process. Include an in-line review of Section CR's and provide guidance to minimize conflicting production priorities.*
>
> Recommendation implemented by CAF 20: *Develop and implement standards and expectations for a Section level (Manager direct report) Corrective Action Program advisor / subject matter expert (e.g. CR Coordinator). Develop training and/or qualification requirements consistent with the SAT process to support the above objective.*
>
> Recommendation implemented by CAF 21: *Modify CREST to recognize the CR Coordinator.*
>
> Recommendation implemented by CAF 31: *For all Depts not assigned a CR Coordinator, PI work with those sections to develop their commitment to the CAP. For those sections determine and implement those CAP improvement actions/resource commitments that are needed to achieve CAP program goals for their Section.*

One of the primary problems has been the misalignment in standards between NQA and PI. This misalignment has been the cause of a series of audit findings that have not been adequately corrected. It is imperative that NQA and PI agree on realistic and executable standards for the corrective action process prior to the next NQA audit.

> Recommendation implemented by CAF 22: *NQA has shifted to a Continuous Assessment Process method of providing station and program oversight. Develop a code of conduct for interface with NQA to ensure that PI fully understands oversight standards and that oversight is provided with insight as to CAP areas of vulnerability and/or oversight need. Work with NQA to set high and achievable performance standards. Seek to align the standards with the FENOC vision of operational excellence.*

These corrective actions should ensure that the right standards and expectations are established at Davis Besse.

7.1.2.2 Communicate the standards and expectations

Once established, the new standards and expectations must be communicated to the personnel who actually implement the corrective action process. These are the personnel in the line organization who originate, evaluate and analyze CRs. Management will ensure that the new standards are upheld for the site. CR 02-00891 requires:

> CR 02-00891 CAF 44: Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.

PI will ensure that the new standards and expectations for corrective actions are effectively communicated to all personnel involved in the corrective action process.

> Recommendation implemented by CAF 27: *Develop a corrective action performance expectations manual.*
>
> Recommendation implemented by CAF 32: *Facilitate the development of corrective action program implementation improvement plans and efforts within individual line organizations working through the respective CR Coordinators.*

These corrective actions should ensure that all personnel who are involved in the CAP would understand the new standards and expectations. This should align the organization such that all personnel understand the common goals and standards.

7.1.2.3 Plan and support the standards and expectations

Once the new standards are communicated, they must be internalized by the organization. This requires that each individual commit to achieving the goal by planning for success. CR 02-00891 requires the following site-wide action.

> CR 02-00891 CAFs 108 through 112: Rebaseline Standards and Expectations in the [108 Plant/Station Department; 109 Quality Assurance Department; 110 Work

Management Department; 111 Support Services Department; 112 Nuclear Engineering Department] and issue policies/handbook stating the standards/expectations with emphasis on lessons learned from this root cause evaluation.

PI shall support this effort by implementing the following corrective actions designed to ensure effective planning and resource allocation.

> Recommendation implemented by CAFs 52 through 63: *Each section must reconsider it's own commitment to the CAP. Each Section shall determine and implement those CAP improvement actions/resource commitments that are needed to achieve CAP program goals for their Section. Performance Improvement will work with each section Manager and section CR Group Coordinator to provide recommended improvement actions and support communications, briefings and other CAP improvement related needs.*
>
> Recommendation implemented by CAF 33: *Match station-wide CAP programmatic requirements and processing needs to baseline staffing and resources to support CAP station responsibilities and to control normal CR evaluation and corrective action throughput. Alignment should include both line organizations (especially the role of the CR Coordinators) as well as the PI staff Organization. Include this resourcing evaluation in section level CAP improvement plans. Provide additional resources above the baseline to support the program changes specified in the CAP improvement plan, and to address the significant backlog/surge activities caused by current events at Davis-Besse.*

Planning for success is crucial to the effective implementation of the corrective actions. Planning includes resource allocation, scheduling and goal setting. Once the goals have been agreed upon by all stakeholders and established, they should be implemented with adequate planning to ensure success.

7.1.2.4 Monitor effectiveness

Monitoring the effectiveness of the plans provides the feedback required for effective implementation. CR 02-00891 requires:

> CR 02-00891 CAF 45: A Management Monitoring Process will be implemented to monitor and trend the performance of specific management oversight activities taken on an individual basis. This will demonstrate the level of involvement and nuclear safety focus of individual managers.

7.2 Corrective Actions for Contributing Causes

Contributing Cause #1:

Less than adequate Managerial Methods – site personnel were not held accountable for high quality implementation of many facets of the Corrective Action Program: **Past failure of plant management to enforce standards by holding personnel accountable for completing CAP activities in accordance with the expectations of the existing procedures.** The implementation issues raised in the conditions reviewed in this analysis fall into the same areas as the causal factors of CR 02-00891:

- Low Categorization of Conditions
- Less than Adequate Cause Determinations
- Less than Adequate Corrective Actions
- Less than Adequate Trending

Line management did not take effective action to identify these deficiencies, or direct prompt corrective action when the problems were identified.

7.2.1 Contributing Cause #1 Corrective Actions

Holding personnel accountable for following procedures and meeting standards is an important corrective action. As part of the comprehensive Management & Human Performance Improvement Plan, FENOC is acting to improve procedure compliance. Section 6.5 of the Plan has the following objective for programs, corrective action and procedure adherence:

> "Programs comply with NRC regulations, incorporate applicable operating experience, and are effectively implemented. Adverse conditions (including adverse trends) are promptly identified and documented. The root causes of significant conditions adverse to quality are identified, actions are taken to preclude recurrence of the conditions, and the preventive actions are effective. Personnel comply with procedures as written, or obtain proper revisions as needed."

Site management has taken a number of actions to reinforce procedural compliance and accountability. One of the actions required by CR 02-00891 is:

> CR 02-00891 CAF 103: Revise the Morning Management Communications and Teamwork Meeting agenda to regularly discuss procedural compliance at the MCTM meetings.

Performance Improvement should take the following action to ensure personnel are aware of FENOC's standards for procedure compliance, and that management ensures that these standards are met.

> Recommendation implemented by CAF 35: *The need for procedure compliance will be discussed regularly at the morning meetings of managers. The MTCM is a natural forum for the discussion of expectations that are not being met. Performance Improvement representatives provide feedback to the station as appropriate. PI develop the CAP communication plan to provide programmatic communications and feedback to support the above objective.*

Accountability is enforced through management observation of activities. CR 02-00891 requires station management to become proactive in monitoring site-wide procedural compliance.

> CR02-00891 CAF 22: Develop and implement a program for increased presence of management in the field both during outages and during normal operations to improve management oversight. Formalization of this program is intended to look for degraded conditions, open opportunities for coaching, and enforcement of management expectations. This Management Field Observation Program with weekly schedules is to be similar to the programs established at Perry and Beaver Valley.
>
> CR02-00891 CAF 45: A Management Monitoring Process will be implemented to monitor and trend the performance of specific management oversight activities taken on an individual basis. This will demonstrate the level of involvement and nuclear safety focus of individual managers.

CR 02-00891 also requires a site-wide review of the program scope and compliance by outside consultants.

> CR 02-00891 CAF 47: The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.

The PR/CAP Review was completed under the requirements of the Program Compliance Plan. This CR (CR 02-04884) was generated in response to the Program Compliance Review. Performance Improvement will monitor procedural compliance by establishing performance indicators to measure and trend this area.

> Recommendation implemented by CAF 36: *FENOC will use performance indicators to measure improvements in procedure compliance. This will be accomplished by tracking CRs written for failure to follow procedures. Performance in the area of procedure compliance will also be measured through assessments from Quality Assurance audits and surveillances. Davis Besse will also perform semiannual evaluations using the human performance evaluation system (HPES) techniques to determine the causes of procedure noncompliance and to develop actions to improve performance. Performance Improvement ensure that the corrective action self-assessment program reflects requirement for human performance evaluations of procedure non-compliance events to support the above objective.*

Personnel need to be knowledgeable of procedural and program requirements in order to be successful in their implementation. Familiarization and training provide the entry-level requirements for establishing and measuring minimum proficiency. Supervisory instruction and mentoring provide a method for reinforcing desirable behavior and correcting undesirable or incorrect behavior. Supervisor knowledge of procedural and program requirements is an essential cornerstone of this effort. Performance Improvement should invest heavily in the training of staff and line personnel who use the corrective action process.

> Recommendation implemented by CAF 37: *Establish standards and training for personnel involved with the corrective action process. Conduct a needs analysis for training requirements to support the Performance Improvement Staff, CR Coordinators and other personnel who are required to implement the corrective action process.*

Establish standards and training programs to address the needs analysis both for initial and continuing proficiency in the use of the corrective action process.

Recommendation implemented by CAF 38: *Include follow-on Case Study training in Performance Improvement communications plan objectives and as identified in the CAP training needs analysis to reinforce standards and expectations for procedure compliance, the need for work-practice rigor, and the potential consequences of a failure to do so.*

Recommendation implemented by CAF 15: *Conduct case study training for Condition Report (CR) Coordinators and for managers to communicate the results of this (CR 02-04884 and 02-04885) root cause analysis.*

Recommendation implemented by CAF 16: *Establish Case Study training in the ongoing training criteria to discuss standards and expectations, standards of conduct and CR content for CR Coordinators, evaluators, supervisors and managers.*

Recommendation implemented by CAF 34: *The Performance Improvement organization staff should receive appropriate direction and instruction on the use of the FENOC Procedure Change Process and the Commitment Tracking Database (TERMS). (Failure to properly follow the Procedure Change Process was the basic cause of CR-02-04885).*

Recommendation implemented by CAF 43: *Include communications and briefings into the CAP communications plan (7.2.1.a.ii.(1)), to discuss the errors found occurring in processing issues through the CAP. Briefings should provide a mechanism for user feedback to discuss their challenges and problems with the system.*

Feedback to CR originators provides an opportunity for the originator to confirm that the correct issue was addressed and resolved, as well as providing information to the originator for the understanding of conditions adverse to quality. Feedback to evaluators for root cause evaluations is provided directly in the Corrective Action Review Board (CARB). The importance of this key activity was acknowledged in CR 02-00891, which requires:

CR 02-00891 CAF 49: The CARB, which reviews select corrective action document evaluations, will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB.

Robust performance indicators that accurately characterize the performance of the corrective action process site-wide should augment this effort. Performance Improvement should implement the following recommendation.

Recommendation implemented by CAF 44: *Provide a method (weekly performance indicators) for ongoing periodic management monitoring of the results of effectiveness reviews.*

The results of the performance indicators should be communicated throughout the organization. CR reviewing organizations and individuals such as CR Coordinators, the MRB, Condition Owner, and CARB should provide feedback, both positive and negative, to the individuals whose work is being critiqued. Performance Improvement should also augment these present efforts by clarifying the role of the CR Coordinator:

Recommendation implemented by CAF 39: *Modify NOP-LP-2001 (or CREST) to direct that if CR initiators are available that they be provided the opportunity to receive feedback upon CR evaluation approval of actions taken relative to the CR, which they initiated.*

Recommendation implemented by CAF 40: *Include in CR Coordinator responsibilities direction to provide feedback to evaluators within their respective organizations.*

When taken in aggregate, these actions should effectively promote site-wide accountability for correct action procedural compliance.

Within contributing cause #1, there were four conditions that were previously identified by CR 02-00891 as root causes for the RPV head degradation. Corrective actions should be implemented to ensure these problems do not recur.

Corrective Actions for Improper Categorization of Condition Reports:

Mechanistic classification and evaluation of conditions has eroded the questioning attitude and self-critical thinking applied to some CR's. Some SCAQs are over classified in order to achieve extent of condition or collective significance, when the condition does not warrant a rigorous root cause. Conversely, some NCAQs were historically under classified to provide flexibility in the resolution of conditions. Corrective actions are often classified as enhancements to facilitate acceptance and ease extension approvals. In order to facilitate and reinforce application of critical questioning while discouraging superficial analyses and channeled thinking, resource expenditures should be refocused to the issues of greatest importance or risk significance. CR 02-00891 requires:

CR 02-00891 CAF 50: Review and revise, as necessary, the criteria for CR categorization of repeat equipment failures to ensure they are appropriately categorized and utilized by station personal. These criteria should be sufficient to elevate repeat Condition Adverse to Quality (CAQ) failure CRs to a Significant Condition Adverse to Quality (SCAQ) categorization, which requires utilizing of a higher evaluation method. Repeat conditions are to be treated as SCAQs.

Concurrently with the implementation of this CAF, a review should be conducted of long-standing unresolved issues. This is presently required under CR 02-00891:

CR 02-00891 CAF 51: Review open existing long-standing/recurring issues for potential nuclear safety-related concerns and initiate SCAQ CRs for each issue identified. If any SCAQ issues are discovered, use root cause evaluation techniques to obtain resolution of the issues.

CR02-00891 CAF 78: Provide periodic assessments of the CR categorization and CR evaluation methods assigned to determine if the site is categorizing conditions appropriately. Minimal numbers of basic and root causes could be indicators of inappropriate standards. Develop Performance Indicators to trend data.

Performance Improvement should implement these CAFs as stated to ensure that past problems of low CR significance characterization is eliminated. In addition, PI should also continue to emphasize accurate significance classification at MRB.

Recommendation implemented by CAF 41: *Emphasize in the NOP, managers' and supervisors' responsibility to be adequately prepared to discuss their CR's at the MRB such that accurate categories and due dates can be assigned.*

Significance determination (categorization) has been often linked in the past to the desired commitment of resources required to conduct generic implication evaluations or cause determinations. The categorization of CRs should be conducted exclusively on the risk or safety significance of the adverse condition. PI should consider changing the requirements for conducting a generic implication review to preclude misclassification of significance determinations.

Recommendation implemented by CAF 42 / CR02-00891 CAF 80: *Revise NOP-LP-2001 and the CAP Guideline to require a generic implication review for basic cause (until eliminated) analyses, and provide appropriate generic implication requirements for the upgraded apparent cause technique.*

Corrective Actions for Less than Adequate Cause Analysis:

The key element in these changes is to ensure that causal determinations are conducted correctly and appropriately. A causal determination that shortcuts the process and arrives at an incorrect solution is detrimental to the corrective action program. It is better to omit a causal factor determination than to abbreviate the process and arrive at a misleading answer, as has been the case in the past. By eliminating basic cause determinations, the following alignment should be achieved:

- SCAQs should require a root cause determination and corrective actions to prevent recurrence,
- CAQs should require a more robust apparent cause determination and actions to correct the adverse condition.
- NCAQs should not require causal determination and may be corrected as appropriate.

Basic cause determinations are recommended for elimination under this proposed alignment. Apparent cause determinations are conducted in a more structured and robust manner to ensure the quality of the apparent cause. Additional communication and training shall reinforce self critical and questioning attitude behaviors on a site-wide level as required by CR 02-00891.

CR02-00891 CAF 49: The Corrective Action Review Board (CARB), which reviews select corrective action document evaluations, will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB.

CR 02-00891 CAF 53: Define and implement training requirements necessary for cause evaluations, especially for equipment analysis.

CR 02-00891 CAF 82: Define and implement training on evaluation (basic and apparent cause evaluation) techniques associated with equipment problem analysis to heighten expertise in this analysis area.

CR 02-00891 CAF 85: Provide specific training (such as root cause training, effectiveness reviews) for CARB members.

CR 02-00891 CAF 99: Develop and implement apparent cause training. (Suggestion is a one or two day problem solving class.) Obtain upper management approval of curriculum. Perform training for all personnel that perform apparent cause evaluations. (Personnel that have completed root cause training should be exempted.)

These corrective actions are extensive and should prevent recurrence of the causal determination problems if implemented effectively. Performance Improvement should augment these corrective actions by implementing the following CAFs:

Recommendation implemented by CAF 17: *Conduct root cause training for CARB/CARG members, CR Coordinators and additional personnel as determined by the results of a needs analysis. Complete incumbent qualification and experience reviews for cause evaluators, CR Coordinators, and additional personnel and remediate as identified through the CAP Training Needs Analysis.*

Recommendation implemented by CAF 18: *Verify CARG (compensatory measure) charter addresses training and qualification requirements for CARG members.*

In addition to the actions above, there are several other corrective actions required under CR 02-00891 that should remediate the problems with causal determinations. Several of these actions may require specific changes to the CAP procedures.

CR02-00891 CAF 101: Provide root cause evaluation teams with a formal charter of expectations.

CR02-00891 CAF 52: Require the use of formal cause determination techniques for root and basic cause evaluations to ensure analytical rigor is applied to the analysis (i.e., revise CAP Guideline). A tiered approach to the number and type of techniques applied should be considered.

CR 02-00891 CAF 81: Develop and implement a formal systematic approach for collective significance reviews.

Performance Improvement shall implement these actions as stated.

Monitoring the site-wide improvement in causal factor determination shall be conducted as prescribed under CR 02-00891.

CR 02-00891 CAF 54: Provide/proceduralize periodic independent reviews and self-assessments of apparent cause evaluations, and recommend changes as appropriate, to provide assurance of the quality of these evaluations.

These actions should prevent recurrence of inaccurate causal factors determinations in the future.

Corrective Actions for Less than Adequate Corrective Actions:

One of the key problems identified in CR 02-00891 was ineffective corrective action. The earlier sections of this report have identified site-wide CAP corrective actions that will establish adequate safety policies and implement a conservative decision-making process. Formulation of effective corrective action requires an understanding of the specific problem and the CAP

process. The current system of multiple corrective action categories has proved to be confusing to the personnel in the line organization who must assign CAFs. The categorization of corrective actions should be simplified to promote consistency. Performance Improvement should:

> Recommendation implemented by CAF 25: *Adopt a tiered corrective action classification approach. One category would be Preventive, a second category would be Corrective Action, and a third category of Other actions such as OE/EFR/Rollover, which are supportive to the causes but not corrective in nature. Corrective Actions will be prioritized and resourced on their own merit.*
>
> CR 02-00891 CAF 56: Revise the CAP Guideline to require the use of the Safety Precedence Sequence (Step 6 of Root Cause Analyses Reference Guide/Attachment 13 of D-B Condition Report Process Guideline) for root cause and basic cause analyses. *(until replaced by improved apparent cause evaluations)*. This step shall require the Safety Precedence Sequence for each corrective action.

Formulation of effective corrective action ultimately depends on the understanding of the nature of the failure. Critical thinking and a questioning attitude foster the formulation and implementation of effective corrective action. Safety culture is also a key component to this area. These problems are addressed in other parts of this section.

Corrective Actions for Less than Adequate Trending:

Trending adverse conditions provides management with key performance indicators that can identify significant conditions adverse to quality as they develop. In the past, trending has been relatively ineffective. CR 02-00891 requires a robust trending program that will highlight problems as they develop rather than waiting until they are self-revealed.

> CR 02-00891 CAF 57: Develop and implement a site wide equipment trending program. This program should define what is to be trended periodically (e.g. vendor, failure mode, failure mechanism, environmental, material issues).
>
> CR 02-00891 CAF 97: Review the Equipment Trending Program with emphasis on identifying repeat issues for elevating CR categorization/evaluation level or initiation of CRs when adverse trends are identified.
>
> CR 02-00891 CAF 58: Revise the trending program to require performance of trending of issues that occur only during outages. (e.g. boric acid found on reactor head in 10RFO, 11RFO and 12RFO) to provide management with an understanding of on-going outage related issues.

Performance Improvement will implement these CAFs and should augment the site-wide trending effort by implementing the following additional corrective actions:

> Recommendation implemented by CAF 45: *Revise the performance indicators for the CAP and CARB performance based on comparison to other facility programs. Select performance indicators for the CAP that accurately reflect performance at the Department level.*

These corrective actions should prevent recurrence of the trending problems identified in CR 02-00891 and the PR/CAP Report.

7.2.2 Contributing Cause #2 Corrective Actions

Less than adequate Written Communication – Program Process Weakness: **Although the Condition Report process provides an adequate framework for identifying and correcting adverse conditions, the large number of implementation issues shows that the infrastructure is not adequately matched to user needs to assure successful accomplishment of the process at Davis-Besse.** NOP-LP-2001 and the Condition Report Guideline do not provide a comprehensive set of instructions on a user-specific basis.

Corrective Actions:

The CR 02-00891 Management and Human Performance Root Cause Report and the PR/CAP Report provide a number of directed changes to the written CAP procedures. CR 02-04885 addressed most of these specific procedure changes and will not be repeated here. In order to ensure that the changes made to the CAP procedures are in accordance with best practices and industry standards, the following corrective actions were directed by CR 02-00891.

> CR 02-00891 CAF 47: The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.
>
> CR 02-00891 CAF 63: a. Review, benchmark and revise the NOP and Corrective Action Program Guideline against industry standards.

Performance Improvement will implement these CAFs and augment the corrective actions by implementing the following recommendations.

> Recommendation implemented by CAF 29: *The PR/CAP provided a level of comparison to requirements and written INPO industry program characteristics. Additionally, the evaluation of CR 02-04885 provided an administrative comparison against CAP procedures from two other stations. Follow up with a complete benchmarking of both CAP to reinforce the CAP Restart Improvement Plan activities and to assist with the transition from CREST to SAP.*
>
> Recommendation implemented by CAF 47: *In conjunction with NOP and Guideline changes required by CR 02-04885 and this CR (02-04884), provide logical groupings of user-specific instructions to the extent practicable.*

These corrective actions, when taken together with the CAFs in CR 02-04885 should prevent recurrence of the problems by implementing an industry standard CAP program.

7.2.3 Contributing Cause #3 Corrective Actions

Less than adequate Change Management: **Risk and consequences associated with change were not adequately assessed when revising the corrective action process from the NG-NA-0702/Reference Guide/CATS system to the NOP/Guideline/CREST system in 2001.** The implementation of major changes in the corrective action process and the FENOC common process initiative impacted performance.

Corrective Actions:

The effect of frequent multiple changes on the CAP was a contributing cause of the adverse conditions cited in CR 02-00891 and the RP/CAP report. Change management of the CAP was not adequately executed in the past. In order to prevent this problem from recurring the following corrective actions should be considered.

> Recommendation implemented by CAF 48: *Develop a FENOC policy and implementing instructions to guide the organization through changes to the Common Process. The policy should stress management's commitment to Common Processes and address defined methods for timely change management and issue resolution, especially with respect to areas where consensus is not achieved between the FENOC sites. Additionally, for significant changes, dedicated staff resources should be assigned for the team reporting to the Common Process sponsor, and not as collateral duty assignments.*
>
> Recommendation implemented by CAF 49: *Require the common process owner to submit and the Process Steering Committee to approve a change management plan for implementation of common processes identifying the impact on of changes on individual station commitments, processing and staffing needs and other resources.*
>
> Recommendation implemented by CAF 50: *Provide an interfacing note to remind procedure owners to review for Change Management Plan needs that conform to existing site policies to be included in the procedure change package for significant changes.*

When taken in conjunction with changes in the safety culture, CAP procedures and alignment of standards and expectations, the management of these sweeping changes becomes even more significant. The introduction of SAP to replace CREST in addition to the required changes currently being directed or recommended makes proper change management one of the key determining factors for future success.

References

Documents reviewed:

10 CFR Part 50, Appendix B

Corrective Action Program Reference Guide, Revision 9, dated5/15/01

CR 01-0677 Technical Evaluation Documentation Adequacy Collective Significance, dated 3/8/01

CR 01-2028 Collective Significance Review of Late CR Evaluations or Corrective Actions, dated 8/8/01

CR 01-2183 CARB Basic Cause Reject Rate has Increased, dated 8/23/01

CR 01-2962 Ineffective Corrective Actions for CR Program Deficiencies, dated 10/31/01

CR 01-2994 INPO 2001 Plant Evaluations AFI SE 1-3, dated 11/6/01

CR 01-3156 Recommend Analysis of CR Data, dated 11/27/01

CR 01-3158 Concerns Regarding the Timeliness of Evaluations for Process Related CRs, dated 11/27/01

Davis-Besse Condition Report Process Programmatic Guideline, dated 1/23/01

Davis-Besse Management & Human Performance Improvement Plan, dated 9/5/02

Davis-Besse Nuclear Power Station, Corrective Action Program (CAP) Program Review, date 9/02

FENOC Condition Report Process, Revision 01

FENOC Nuclear Operating Procedure, NOP-LP-2001, dated 12/15/00

FENOC Root Cause Analysis Reference Guide, Revision 3 (Not Dated)

NG-NA-00305, Revision 02, Operating Experience Assessment Procedure, dated 2,19,99

NA-NA-00702, Revision 02, Corrective Action Program, dated 10/7/98

NG-NA-00711, Revision 02, Quality Trending Procedure, dated 1/10/01

INPO Principles for Effective Self-Assessment and Corrective Action Programs, dated 12/99

Davis-Besse Cause Analysis Review Group (CARG) Charter

Davis-Besse Corrective Action Review Board (CARB) Charter, Revision 02, dated 10/2/01

Davis-Besse Nuclear Power Station Trend Code Guide, dated 12/28/01

Davis-Besse Quality Assessment Audit Report AR-00-CORAC-01, dated 7/6/00

Davis-Besse Nuclear Quality Assessment Report AR-01-REGAF-01, dated 11/26/01

Davis Besse Nuclear Quality Assessment Audit Report AR-01-OPSNF-01, dated 12/6/01

Davis Besse Nuclear Quality Assessment Audit Report AR-02-OUTAG-01, dated 5/31/02

Davis-Besse Site Organization Matrix, dated 1/26/96

Davis-Besse Site Organization Matrix, dated 4/1/96

Davis-Besse Site Organization Matrix, dated 8/14/96

Davis-Besse Site Organization Matrix, dated 5/6/97

Davis-Besse Site Organization Matrix, dated 11/26/97

Davis-Besse Site Organization Matrix, dated 6/7/99

Davis-Besse Site Organization Matrix, dated 10/15/99

Davis-Besse Site Organization Matrix, dated 5/25/00

Davis-Besse Site Organization Matrix, dated 11/30/00

Davis-Besse Site Organization Matrix, dated 2/19/01

Davis-Besse Site Organization Matrix, dated 6/30/01

Davis-Besse Site Organization Matrix, dated 11/10/01

Davis-Besse Site Organization Matrix, dated 6/12/02

NRC Bulletin 2001-01, Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzles

NRC Bulletin 2002-01, Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity, 3/18/02

NRC Bulletin 2002-02, Reactor Pressure Vessel Head and Vessel Head Penetration Nozzle Inspection Programs, dated 8/9/02

NRC Generic Letter (GL) 97-01, Degradation of Control Rod Drive Mechanism Nozzle and Other Vessel Closure Head Penetrations, dated 4/1/97

NRC Information Notice 2001-05, Through-Wall Circumferential Cracking of Reactor Pressure Vessel Head Control Rod Drive Mechanism Penetration Nozzles at Oconee nuclear Station, Unit 3, dated 4/30/01

NRC Information Notice 2002-11, Recent Experience with Degradation of Reactor Pressure Vessel Head, dated 3/12/02

NRC Information Notice 2002-13, Possible Indicators of Ongoing Reactor Pressure Vessel Head Degradation, dated 4/4/02

Industry OE Reports potentially applicable to Corrective Action Program failures:

- SEN 143, Reactor scram with slow transfer of off-site power results in temporary loss of control rod position indication
- SEN 169, Recurring event, operating mechanism problems in 4, 160-volt circuit breakers
- SEN 179, Long-standing design weaknesses and ineffective corrective actions cause gas binding failures of high head safety injection pumps
- SEN 200, Low condenser vacuum manual scram due to waterbox air entrapment

- SEN 210 Reactor scram caused by rapid injection of cold feedwater
- SER 4-02, Recurring events: Electrical workers severely injured while performing maintenance on medium-voltage switchgear (4-kv to 13kv)
- SER 4-97, Incorrect use of emergency operating procedures during a potential anticipated transient without scram
- SER 8-97, Switchyard circuit breaker failure results in motoring main generator
- Calvert Cliffs NRC Inspection 2001-09, Corrective Action Program
- Beaver Valley Power Station NRC Inspection 2001-08

Plant Engineering Policy, Policy Number PE-17, Revision 01, Trending

Root Cause Analysis Report, CR 00-1584 - Condition Report Program Implementation Deficiencies, dated 9/22/00

Root Cause Analysis Report, CR 01-2967 - Condition Report Cause Analysis Deficiencies, dated 1/4/02

Root Cause Analysis Report (Management), CR 02-0891 - Failure to Identify Significant Degradation of the Reactor Pressure Vessel Head, dated 8/12/02

Root Cause Analysis Report (Technical), CR 02-0891 - Failure to Identify Significant Degradation of the Reactor Pressure Vessel Head, dated 4/17/02

Personnel contacted:

A total of 27 personnel involved with the CAP process were interviewed for this root cause report. In addition, the Manager, Performance Improvement and the Director, Support Services were contacted.

Methodologies employed:

- Events and Causal Factors (E&CF) Chart (Attachment 4)
- Barrier Analysis
- Change Analysis
- Affinity Analysis
- Collective Significance Analysis
- Failure Mode Analysis using the PII© formal analysis process (Attachments 6, 7 & 8)
- Validated the root causes and contributing factors using the "why staircase" technique
- Coded the root and contributing causes using the HPES trend codes

Acronyms

BA	Boric Acid
BACC	Boric Acid Corrosion Control
B&W	Babcock & Wilcox
B&WOG	Babcock & Wilcox Owners Group
BWOG	Babcock & Wilcox Owners Group
BRW	General Electric Boiling Water Reactor
CAC	Containment Air Coolers
CAF	Corrective Action Form
CAQ	Condition Adverse to Quality
CATPR	Corrective Action to Prevent Recurrence
CAP PR	Corrective Action Program, Program Compliance Review
CAP	Corrective Action Program
CARB	Corrective Action Review Board
CARG	Corrective Action Review Group
CATS	Corrective Action Tracking System
CFR	Code of Federal Regulations
CNRB	Company Nuclear Review Board
COO	Chief Operating Officer
CR	Condition Report
CRDM	Control Rod Drive Mechanism
CREST	Condition Report Evaluation & Status Tracking
CTMT	Containment
DBAT	Davis-Besse Action Tracking System
DBNPS	Davis-Besse Nuclear Power Station
EAB	Engineering Assessment Board
E&CF	Event and Causal Factor
FENOC	FirstEnergy Nuclear Operating Company
GET	General Employee Training
GE BWR	General Electric Boiling Water Reactor
GL	NRC Generic Letter

HPES	Human Performance Evaluation System
IN	NRC Information Notice
INPO	Institute of Nuclear Power Operations
ISEG	Independent Safety Evaluation Group
ISI	Inservice Inspection
KSA	Knowledge, skills and ability
MCTM	Management Communication & Teamwork Meeting
MHPIP	Management & Human Performance Improvement Plan
MORT	Management Oversight and Risk Tree
MRB	Management Review Board
NCAQ	Condition Not Adverse to Quality
NDE	Non-Destructive Examination
NQA	Nuclear Quality Assurance
NRC	U.S. Nuclear Regulatory Commission
O&P	Organization & Programmatic
OE	Operating Experience
OPIC	Organization & Program Interface Chart
OPS	Operations Department
PCAQ	Potential Condition Adverse to Quality
PCAQR	Potential Condition Adverse to Quality Report
PI	Performance Improvement Organization
PI	Performance Indicator
PII	Performance Improvement International, LLC®
PR/CAP	Corrective Action Program, Program Compliance Review
PWR	Pressurized Water Reactor
PWSCC	Primary Water Stress Corrosion Cracking
QA	Quality Assurance
QAPM	Quality Assurance Program Manual
RAD	Radiation Detector
RCS	Reactor Coolant System
RFO	Refueling Outage
RPV	Reactor Pressure Vessel
PRVH	Reactor Pressure Vessel Closure Head

RV	Reactor Vessel
SAT	Systems Approach to Training
SCAQ	Significant Condition Adverse to Quality
SCWE	Safety Conscious Work Environment
SRB	Station Review Board
SRO	Senior Reactor Operator
SVP	Station Vice President
TERMS	Toledo Edison Regulatory Management System
USAR	Updated Safety Analysis Report
USNRC	U.S. Nuclear Regulatory Commission
VHP	Reactor Pressure Vessel Head Penetration
VP	Vice President
VT	Visual Examination
WANO	World Association of Nuclear Operators
10CFR50	Code of Federal Regulations, Title 10 - Energy, Part 50

Attachments

1. CAP Issues Matrix
2. Chronological Timeline (Narrative) of Events
3. Timeline of Events Chart
4. Events and Causal Factors Chart
5. Barrier Analysis Charts
6. Organizational and Program Interface Chart Stream Analysis
7. Organizational and Program Diagnostic Chart
8. Management Ineffectiveness or Errors Failure Mode Chart
9. Interview Participants and Question Survey Results
10. Corrective Action Guideline Analysis of Deficiencies
11. Corrective Action Guideline Flow Chart
12. Collective Significance Analysis Results
13. Corrective Actions Referenced from CR 02-00891

This page is provided for place keeping.

Attachment 1,
"CAP Issues Matrix",
is available separately as an MS Excel© spreadsheet for review purposes as part of
Attachment 1, "CAP Issues Matrix", Tab 1

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
01-03162	NA	1 of 1		Inadequate guidance for performance effectiveness reviews. i.e. Effectiveness reviews verify individual CAs are done, not that the problem was fixed.Note: The cause analysis of this CR was not completely acceptable. As a result CR02-06300 was generated. Also, the PR/CAP team identified weaknesses in the effectiveness review process and issued CR02-03675.	Infrastructure	6.2.2	Procedure	A corrective action was processed to revise the NOP to require the completion of an effectiveness review for all root cause evaluations (or obtain a waiver of this requirement from the CARB). CAF 03675 – 03. The effectiveness review instructions will be revised to emphasize that the review must determine that the original problem has been corrected in addition to verifying that the corrective actions are complete. ** CAF 00891 - 55. CAF 03675 – 05 provides action to adopt the Hatch EFR in the NOP, and CAF 03675 – 02 provides action to include/emphasize appropriate training and CARB expectations in the CAP process.	21
02-01850	CE	1 of 1		Root Cause Analysis for CR 02-00891did not comply with NOP or Guideline, cause was poor quality (in May 2002), RCA did not investigate ineffective CR 1998-0020, RC-2 issue.	Cause	6.1.2.c	Cause LTA	Closure is pending. This is the CR that was written on the 0891 root cause evaluation while it was still in process.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-02434	SR	1 of 1	884	Inadequate engineering rigor applied to activities. (Assigned to Plant Engineering). This is a memo addition to CR 02-04884 review.		6.1.2.c 6.1.3	Other	This CR was assigned to Plant Engineering.	
02-02715	CA	1 of 4	884	Failure of management to demonstrate attention to, expectations for, & ownership of CAP	Oversight	6.1.1 6.1.3	Unclear Expectations	Corrective Action 1.a.ii. In the corrective actions for 02-4884 states that the Ownership for Excellence program will establish accountability for all Directors and Managers	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-02715	CA	2 of 4	884	Poor quality analysis: Root, Basic & Apparent	Cause	6.1.1 6.1.2.c 6.1.3	Cause LTA	The training and qualification processes for evaluators and the enhanced oversight (CARB/CARG) of CAP activities will correct this item. Also the feedback of good and bad performance to the evaluators, and ongoing clinics to share and learn from these observations.	
02-02715	CA	3 of 4	884	Large CR backlog for CARB review	Oversight	6.1.1	Not Timely	CR 02-02715 has been answered independently. The evaluation was complete and approved on 7/15/02. There were (4) actions, all are complete, the last was on 8/8/02.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-02715	CA	4 of 4	884	No formal qualification or re-qualification process for root cause analysts	Cause	6.2.2	Qualification	The root cause and corrective actions of CR02 04884 address this issue. This item is implemented by actions in CRs 02-00891, 05960 & 04885.	
02-02715	CA		PR/CAP 9.3.38	Implement CR 02-02715 recommendations and CAs concerning management expectations, cause analysis and corrective actions, CARB backlog and qualification (PR/CAP 9.3.38).	Implementation		CAs LTA	The root cause of CR02-04884 address this issue. A corrective action will be processed to incorporate selected compensatory measures from CR 02-2715 (including management expectations from VP/Director Memo) into the NOP/Guideline. CAF 04885 – 07, Item 26.	
02-02715	CA		PR/CAP 9.3.38	Implement CR 02-02715 recommendations and CAs concerning management expectations, cause analysis and corrective actions, CARB backlog and qualification (PR/CAP 9.3.38).	Cause		Cause LTA	The root cause of CR02-04884 address this issue. A corrective action will be processed to incorporate selected compensatory measures from CR 02-2715 (including management expectations from VP/Director Memo) into the NOP/Guideline. CAF 04885 – 07, Item 26.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-02715	CA		PR/CAP 9.3.38	Implement CR 02-02715 recommendations and CAs concerning management expectations, cause analysis and corrective actions, CARB backlog and qualification (PR/CAP 9.3.38).	Implementation		Not Timely	The root cause of CR02-04884 address this issue. A corrective action will be processed to incorporate selected compensatory measures from CR 02-2715 (including management expectations from VP/Director Memo) into the NOP/Guideline. CAF 04885 – 07, Item 26.	
02-02715	CA		PR/CAP 9.3.38	Implement CR 02-02715 recommendations and CAs concerning management expectations, cause analysis and corrective actions, CARB backlog and qualification (PR/CAP 9.3.38).	Infrastructure		Qualification	The root cause of CR02-04884 address this issue. A corrective action will be processed to incorporate selected compensatory measures from CR 02-2715 (including management expectations from VP/Director Memo) into the NOP/Guideline. CAF 04885 – 07, Item 26	
02-02715	CA		PR/CAP 9.3.38	Implement CR 02-02715 recommendations and CAs concerning management expectations, cause analysis and corrective actions, CARB backlog and qualification (PR/CAP 9.3.38).	Oversight		Unclear Expectations	The root cause of CR02-04884 address this issue. A corrective action will be processed to incorporate selected compensatory measures from CR 02-2715 (including management expectations from VP/Director Memo) into the NOP/Guideline. CAF 04885 – 07, Item 26.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03049	CA	1 of 2	884	Supervisor reviews of CRs are not timely. This CR was rolled over to 02-04885. CR 02-04885 determined that the apparent cause was failure to follow the procedure and CREST prompts. The issue was rolled over to 02-04884 as an implementation issue. It is CA 02-04884-03.	Screening	6.1.1 6.1.4	Compliance	Root causes and corrective actions for procedure non-compliance are addressed in CR02-04884, programmatic corrective actions also taken in CR02-04885. Addressed by CR02-00891 CAFs 44 and 45.	
02-03049	CA	2 of 2	884	Failure to notify the on-duty Shift Manager or Shift Engineer that a CR was waiting their review. This CR was rolled over to 02-04885. CR 02-04885 determined that the apparent cause was failure to follow the procedure and CREST prompts. The issue was rolled over to 02-04884 as an implementation issue. It is CA 02-04884-03.	Screening	6.1.1 6.1.4	Compliance	Compensatory measures are in place. Root causes and corrective actions for procedure non-compliance are addressed in CR02-04884. Addressed by CR02-00891 CAFs 44 and 45.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03163	CA	1 of 1	884	Cause analysis for CR 02-02715 is poor quality	Cause	6.1.1 6.1.2.c	Cause LTA	The root cause and corrective actions of CR02 04884 address this issue. An apparent cause analysis was completed for the CR02-02715 issues. The root cause and corrective actions of CR02-04884 address the underlying causes and corrective actions of poor cause analysis and for improper categorization of events.	
02-03163	CA		PR/CAP 9.3.23	Implement compensatory measures as outlined in CR 02-02715, until permanent corrective actions are in place (PR/CAP 9,3.23).	Oversight		Procedure	A corrective action will be processed to incorporate selected compensatory measures from CR 02-2715 (including management expectations from VP/Director Memo) into the NOP/Guideline. CAF 04885 – 07, Item 26.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03270	CA	1 of 3		CARB initiated actions to correct weakness in identification, tracking & closure of CRs. CARB generated commitments continue to be inconsistently implemented.	Oversight		CAs LTA	Method of corrective action to specifically address the issues identified in CR. PI will now use CREST as the method of documentation of CARB rejects. This is not proceduralized although the timeliness of this action is addressed in "CARB Guideline". Requirement for repeat back not addressed. Requirement of generate CATS item for CARB follow-up items not addressed. CAF needs to be generated to procedurally require implementation of above in either the CARB charter, or Guideline and to communicate these and other CARB expectations to CARB Members. CAF 02-03676-01 does state: "Back fit CARB reject data into CREST as much as practical, analyze the recent / historical CARB reject data and provide the results to the CARB regularly." Revise the CARB Charter to establish the expectation that CARB reject data is input into CREST and reviewed by the CARB regularly. These actions will, as recommended, facilitate trending of the site's implementation of the CAP as it relates to the CARB. So this CR is partially addressed here.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03270	CA	2 of 3		CARB administrative issues: 1)Untimely generation of CAFs, 2)Failure to "repeat back" at meetings, 3)Failure to track items in CATs	Oversight		Not Timely	Item 3 is addressed by: "CARB reject data will input into CRES II and reviewed by the CARB on a regular basis." (CAF 02-03676-01). IAW the CR description, these items are merely administrative protocols, and thus it is recommended that the CARB Charter be revised to require that meetings periodically review administrative protocols to ensure they are clearly delineated, understood and implemented.	
02-03270	CA	3 of 3		CARB administrative deficiencies: 1)Failure for timely generation of CAFs, 2)Failure to "repeat back" at meetings, 3)Failure to track action items in CATS	Oversight		Procedure	Item 3 is addressed by: "CARB reject data will input into CRES II and reviewed by the CARB on a regular basis." (CAF 02-03676-01). IAW the CR description, these items are merely administrative protocols, and thus it is recommended that the CARB Charter be revised to require that meetings periodically review administrative protocols to ensure they are clearly delineated, understood and implemented.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03288	NA		PR/CAP 9.3.24.A	Establish and enforce timeliness expectations for closing out reviews of CRs (PR/CAP 9.3.24.A)	Oversight		Not Timely	A corrective action will be processed to include in the NOP, a requirement for PIU to status CRs to closed within 30 days after closure of the last CAF. CAF 04885 – 07, Item 27.	
02-03288	NA		PR/CAP 9.3.24.B	Eliminate the current backlog of CRs in review status (PR/CAP 9.3.24.B)	Oversight		Not Timely	CR 02-03288 has been answered independently. The evaluation and action were both complete and approved on 7/15/02. The CR was closed on 9/28/02.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03319	CA	1 of 1	884	Internal Lessons Learned Program(OE) does not meet INPO 097-011	OE	6.1.3 6.2.2	Procedure	This issue will be addressed separately by PIU. An OE program review is being conducted.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03319	CA		PR/CAP 9.3.15	Benchmark other utilities activities in the area of internal lessons learned and create a program that not only meets INPO performance criteria but provides lessons learned information to station personnel that will help prevent recurrence of past events (PR/CAP 9.3.15).	OE		Procedure	This issue will be addressed separately by PIU. An OE program review is being conducted.	
02-03389	CB	1 of 1	884	Program compliance reviews difficult due to ambiguous commitments. Q: What is definition of a commitment? Assigned to Reg Affairs	Infrastructure	6.2.2	Unclear Expectations	This issue was assigned to Reg. Affairs	
02-03389	CB		PR/CAP 9.3.16	Evaluate & update the commitments (TERMS) related to CAP using the appropriate Commitment Change mechanism. Ensure the remaining Commitments are clear and properly implemented (PR/CAP 9.3.16).	Infrastructure		Procedure	This issue was assigned to Reg. Affairs	
02-03405	CF		PR/CAP 9.3.22	Send the completed CATS CR & CA documents to Records Management and capture the remaining open corrective actions or roll them into the CREST system. (PR/CAP 9.3.22)	Infrastructure		Other	CR/CAFs 02-03820-01 & 02 will address this item.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03497	ST	1 of 5	884	Some CAs related to the CR process were closed with questionable or meaningless closure actions	Implementation	6.1	Compliance	Root causes and corrective actions for procedure non-compliance and corrective actions LTA are addressed in CR02-04884. The issue was addressed by CSFs02-00891-44, 47, 49, 50 and 51	
02-03497	ST	2 of 5	884	Some CAs related to the CR process were repeatedly delayed with no action	Implementation	6.1.2.d	Not Timely	The corrective actions for the causes listed in CR 02-04884 will address this item.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03497	ST	3 of 5	884	Many CAP related Business Plan issues items are not completed or planned	Implementation	6.1.2.d	Compliance	The root cause and corrective actions identified in CR02-04884 are designed to improve performance of the corrective action program. The current D-B recovery programs are designed to manage recovery at the high level of the Business Plan	
02-03497	ST	4 of 5	884	Little training has been done to assist personnel in the CAP process	Infrastructure	6.2.2	Training	CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and will determine and provide all required training for the CAP. Several other actions from 02-00891 delineate and require specific training as well. The root cause of CR02-04884 address this issue.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03497	ST	5 of 5	884	Self Assessments by the CAP Organization failed to identify any significant deficiencies with the process, calling into question the value of self-assessments.	Oversight	6.1.3	Unclear Expectations	The root cause and corrective actions identified in CR02-04884 will address the organizational and cultural issues related to a poor questioning attitude. FENOC has recently revised the self-assessment guidelines.	
02-03497	ST		PR/CAP 9.3.1.A	Consolidate recommendations from CR 02-03497, 02-00891 & others into an action plan & implement (PR/CAP 9.3.1.A)	Infrastructure		CAs LTA	An action plan will be developed upon completion of CR02-04884	
02-03497	ST		PR/CAP 9.3.1.B	Create improvement oriented culture in the Performance Improvement Organization (PR/CAP 9.3.1.B)	Infrastructure		Training	The cause and corrective actions are provided in CR 02-04884.	
02-03497	ST		PR/CAP 9.3.1.C	Establish controls whereby NQA performes an independent check on a sampling of evaluations performed by Performance Improvement and the implementation of corrective actions by the Performance Improvement group (PR/CAP 9.3.1.C)	Oversight		Procedure	CR 02-04884 includes an action for NQA to provide performance-based audit and surveillance of CAP activities. No other NQA activity is recommended.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03525	CA	1 of 2	884	CARB Backlog is excessive, CARB review is not timely. CARB Review is not always performed prior to implementing CAs.	Oversight	6.1.1	Not Timely	CARB meeting frequency was changed from every two weeks with alternating meetings cancelled to every week with the expectation that meetings be rescheduled not cancelled. (CAF 02-02715-04) Additionally, CARB Review is not part of the administrative approval process, and thus should not be a hold-up, or barrier to the implementation of corrective actions. For the instances where this could occur, one of the CARB attributes is to concur with the proposed actions, and where applicable, their effectiveness.	
02-03525	CA	2 of 2	884	CARG Charter permits members w/o root cause training. Provide root cause training to CARG	Infrastructure	6.2.2 6.3.2	Training	Staff the CARG with those who are qualified or train those who are not, or both.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03525	CA		PR/CAP 9.3.10.A	Increase CARB meeting frequency until the backlog is eliminated (PR/CAP 9.3.10.A)	Infrastructure		Not Timely	CARB meeting frequency has been changed from every two weeks with alternating meetings cancelled to every week with the expectation that meetings be rescheduled not cancelled. CAF 02-02715-04	
02-03525	CA		PR/CAP 9.3.10.B	Develop a guideline for CARB presentations that outlines the presentation protocol, content and flow of information (PR/CAP 9.3.10.B).	Infrastructure		Procedure		
02-03525	CA		PR/CAP 9.3.10.C	Revise CARB charter requiring members to have root cause qualification (PR/CAP 9.3.10.C).	Infrastructure		Qualification	CR 02-04884 provides a corrective action to implement this recommendation.	
02-03525	CA		PR/CAP 9.3.10.D	Develop checklists for root and basic cause and effectiveness review to incorporate them into NOP-LP-2001 and use the checklists for CARB reviews (PR/CAP 9.3.10.D).	Infrastructure		Procedure	A corrective action has been processed to incorporate the checklist/score sheet for completing and evaluating causal analysis. ** CAF 4885 – 07, Item 30. CAF 03675 – 05 provides action to adopt the Hatch EFR in the NOP, and CAF 03675 – 02 provides action to include/emphasize appropriate training and CARB expectations in the CAP process.	
02-03525	CA		PR/CAP 9.3.10.E	Proceduralize a requirement to generate a CR for each rejected cause analysis or effectiveness review (PR/CAP 9.3.10.E).	Infrastructure		Procedure		

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03525	CA		PR/CAP 9.3.10.F	Develop tracking system for timely review, include re-review of rejected items (PR/CAP 9.3.10.F)	Implementation		Not Timely	No current action(s) could be found that specifically address this item. However, CREST currently provides the capability to status all items in or waiting the CARB. What may be missing is the documented process of how this is accomplished. Recommend that the CARB Charter or other appropriate document be revised/updated to include the expectation to utilize it.	
02-03525	CA		PR/CAP 9.3.10.G	Develop PIs for CARB performance. Consider: Root and basic cause reports and effectiveness reviews, meeting attendence, timelieness of reviews and backlog (PR/CAP 9.3.10.G).	Infrastructure		Trend	CR 02-03676 action #1 requires CARB activities to be coded in the CREST system to enable trending of performance such as reject status and backlog.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03534	SR	1 of 4	884	Training, qualification & re-qualification requirements are not specifically delineated (in the cap).	Infrastructure	6.2.2 6.3.2	Training	CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and is intended to determine and provide all required training, etc. for the CAP. Once the specifics are identified, item 1 from CAF 02-04885-07 will capture them. The root cause and corrective actions of CR02-04884 address this issue.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03534	SR	2 of 4	884	Existing CBT not used for CAP and cause analysis training.	Infrastructure	6.2.2 6.3.2	Training	Require viewing of the CBT as part of General Employee or similar training.	
02-03534	SR	3 of 4	884	CAP training developed w/o Systems Approach to Training (SAT) process.	Infrastructure	6.2.2 6.3.2	Training	CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and is intended to determine and provide all required training for the CAP.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03534	SR	4 of 4	884	CAP personnel do not have sufficient experience & training.	Infrastructure	6.2.2 6.3.2	Training	[redacted]	
02-03534	SR		PR/CAP 9.3.14.A	Require all employees to be trained on how and when to initiate CRs (PR/CAP 9.3.14.A)	Infrastructure		Training	CR 02-05960, owned by Training is applying SAT, needs analysis of the entire CR process, and is intended to determine and provide all required training for the CAP. Several other actions from 02-00891 delineates and requires specific training as well. The root cause and corrective actions of CR02-04884 address this issue.	
02-03534	SR		PR/CAP 9.3.14.B	Require all CR Evaluators receive training for the assigned type of evaluations (e.g., apparent cause analysis and/or root cause analysis) (PR/CAP 9.3.14.B).	Cause		Training	Actions from 02-00891 require specific training for evaluators. CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and is intended to determine and provide required training as administered by FITS. The root cause and corrective actions of CR02-04884 address this issue.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03534	SR		PR/CAP 9.3.14.C	Require that all CR Evaluators receive training in development of corrective actions that are succinct, clear and measurable (PR/CAP 9.3.14.C).	Implementation		Training	CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and is intended to determine and provide all required training for the CAP. Several other actions from 02-00891 delineates and requires specific training as well	
02-03534	SR		PR/CAP 9.3.14.D	Require that those who approve CR evaluations be trained in the methodology being used (PR/CAP 9.3.14.D).	Screening		Training	[redacted]	
02-03534	SR		PR/CAP 9.3.14.E	Develop formal Root Cause qual & requal programs w/ the Systems Approach to Training (SAT) process (PR/CAP 9.3.14.E).	Cause		Training	CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and is intended to determine and provide all required training for the CAP. Other actions from 02-00891 require specific training as well. The root cause and corrective actions of CR02 04884 address this issue.	
02-03534	SR		PR/CAP 9.3.14.F	Require that the CARB to be qualified in a Root Cause Analysis methodology (PR/CAP 9.3.14.F).	Cause		Qualification	CR 02-00891 & 04884 provide corrective actions to implement this recommendation. The root cause of CR02-04884 address this issue.	
02-03534	SR		PR/CAP 9.3.14.F	Require that the CARB to be qualified in a Root Cause Analysis methodology (PR/CAP 9.3.14.F).	Cause		Training	CR 02-00891 & 04884 provide corrective actions to implement this recommendation. The root cause of CR02-04884 address this issue.	
02-03534	SR		PR/CAP 9.3.14.G	Require that the CAP Program Owner be qualified in a Root Cause Analysis (PR/CAP 9.3.14.G).	Cause		Qualification	[redacted]	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03534	SR		PR/CAP 9.3.14.G	Require that the CAP Program Owner be qualified in a Root Cause Analysis (PR/CAP 9.3.14.G).	Cause		Training	The current owner has been qualified through the CARB member qualification requirement. CAP program owner qualification requirements will be established by the SAT/needs analysis performed under CR 02-05960. The root cause of CR02-04884 address this issue.	
02-03534	SR		PR/CAP 9.3.14.H	Establish and document appropriate training, qualification, and requalification training requirements for individuals involved in the CAP process (PR/CAP 9.3.14.H).	Infrastructure		Qualification	CAP personnel/users qualification requirements will be established by the SAT/needs analysis performed under CR 02-05960. The root cause of CR02-04884 address this issue.	
02-03534	SR		PR/CAP 9.3.14.H	Establish and document appropriate training, qualification, and requalification training requirements for individuals involved in the CAP process (PR/CAP 9.3.14.H).	Infrastructure		Training	CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and is intended to determine and provide all required training, etc. for the CAP. Once the specifics are identified, item 1 from CAF 02-04885-07 will capture them. The root cause of CR02-04884 address this issue.	
02-03534	SR		PR/CAP 9.3.14.I	Specify qualification criteria in NOP-LP-2001 for positions with CAP responsibilities (PR/CAP 9.3.14.I).	Infrastructure		Qualification	CAP personnel/users qualification requirements will be established by the SAT/needs analysis performed under CR 02-05960. For those positions requiring qualification, the need will be incorporated in the NOP/Guideline/Charters as appropriate. The qualification standard and implementation will be controlled by FITS. The root cause of CR02-04884 address this issue.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03535	CB	1 of 5	884	MRB Failed to assign generic implication reviews	Screening	6.1.1 6.1.2.b 6.1.3	Compliance	Root cause and corrective actions for procedure non-compliance are addressed in CR02-04884. This issue is addressed in the CR02-00891 root cause and corrective actions. CAFs02-00891-44, -45, -47-, 50, 51 and 78 are applicable.	
02-03535	CB	2 of 5	884	Untimely resolution of CRs due to improper classification, NCAQs got multiple extensions	Screening	6.1.1 6.1.2.b 6.1.4	Compliance	Root cause and corrective actions for procedure non-compliance and improper classification are addressed in CR02-04884. This issue is addressed in the CR02-00891 root cause and corrective actions. CAFs02-00891-44, -45, -47-, 50, 51, 77 and 78 are applicable.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03535	CB	3 of 5	884	MRB not categorizing CRs properly.	Screening	6.1.1 6.1.2b 6.1.3	Compliance	The root cause and corrective actions for procedure non-compliance and improper classification are addressed in CR02-04884. This issue is addressed in the CR02-00891 root cause and corrective actions. CAFs02-00891-44, -45, -47-, 50, 51, 77 and 78 are applicable.	
02-03535	CB	4 of 5	884	Roles & responsibilities are unclear which impact the categorization of CRs.	Infrastructure	6.2.2	Unclear Expectations	The roles and responsilitites will be clarified by actions in CAF # 7 to CR 02-04885. In addition, CR 02-04884 provides actions to emphasize preparation for MRB and train MRB members and alternates in categorization. The root cause of CR02-04884 address this issue.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
				CRs are not categorized consistently across FENOC Sites				The CR02-00891 items provide assurance that the implementation of categorization will be conducted in accordance with the common process. The other sites are participating in the DB recovery efforts and must comply with the common process changes.	
02-03535	CB	5 of 5	884		Screening		Categorization		
02-03535	CB		PR/CAP 9.3.9.A	Revise NOP-LP-2001 to provide specific examples SCAQs, CAQs, and NCAQs, grouped by problem type (PR/CAP 9.3.9.A)	Screening		Procedure	CAF 04885 – 07, Item 28 provides action for inclusion of FENOC standard category examples in the NOP. CAF- 03821 – 03 provides an action to use the next benchmarking effort to determine whether expanded category examples for use by originators, supervisors and MRB are appropriate.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03535	CB		PR/CAP 9.3.9.B	Revise NOP-LP-2001 to provide criteria for when generic implications should be assigned (PR/CAP 9.3.9.B).	Screening		Procedure	CAF 02-00891 - 80 addresses this issue.	
02-03535	CB		PR/CAP 9.3.9.C	Conduct MRB reviews separate from the Management Communication and Teamwork Meeting (MCTM) (PR/CAP 9.3.9.C).	Screening		Procedure	This is a compensatory action that is currently being implemented at D-B.	
02-03535	CB		PR/CAP 9.3.9.D	Allow adequate discovery time prior to categorization of CR (PR/CAP 9.3.9.D).	Screening		Procedure	CR 02-04884 provides an action to include this requirement in the NOP responsisbilitites section.	
02-03535	CB		PR/CAP 9.3.9.E	Conduct MRB meetings with the procedure in-hand (PR/CAP 9.3.9.E).	Screening		Other	A corrective action will be generated to provide a checklist for use by MRB. ** CAFs 04885 – 03 & 00891-63.	
02-03543	CF	1 of 1	884	Create Governing Corrective Action Program Document (to CR 02-04885 group)	Infrastructure	6.2.2	Procedure	A corrective action has been created to determine whether a better umbrella can be achieved through a single implementing procedure. ** CAF 03821 – 03.	
02-03543	CF		PR/CAP 9.3.13	Create a single governing document for a comprehensive Corrective Action Program (PR/CAP 9.3.13).	Infrastructure		Procedure	A corrective action has been created to determine whether a better umbrella can be achieved through a single implementing procedure. ** CAF 03821 – 03.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03671	CB	1 of 1	884	Failure to contact the Supervisor - supervisory reviews not done	Screening	6.1.1 6.1.4	Compliance	Root causes and corrective actions for procedure non-compliance are addressed in CR02-04884. The issues was addressed by CSFs02-00891-44, 45 and 47. The root cause of CR02-04884 addresses this issue.	
02-03671	CB		PR/CAP 9.3.8.A	Revise NOP-LP-2001 include management expectations for timeliness of Supervisor review of CRs (PR/CAP 9.3.8.A).	Screening		Procedure	In reviewing common process, other FENOC stations have established criteria for documentation of conditions to be no more than two normal working days. ** A corrective action will be generated to establish a common approach to this issue. CAF 04885-07, Item 7.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03671	CB		PR/CAP 9.3.8.B	Establish a requirement to notify the SRO as a separate step versus embedding the action beneath other actions (PR/CAP 9.3.8.B).	Screening		Procedure	As discussed in some subsequent concerns, a responsibility section will be added to the NOP to delineate specific existing expectations to notify the SRO of conditions as the first supervisor responsibility, as well as notify responsible parties of an issue, if possible, prior to issuance of the CR. In addition, a corrective action will be generated to move the SRO notification to the first supervisor action delineated in NOP-LP-2001 and the CR Guideline. ** CAF 04885 – 07, Items 7 & 11.	
02-03671	CB		PR/CAP 9.3.8.C	Enforce compliance with the new management expectations (PR/CAP 9.3.8.C).	Oversight		Compliance	Root causes and corrective actions for procedure non-compliance are addressed in CR02-04884. The issues was addressed by CSFs02-00891-44, 47, 49, 50 and 51	
02-03671	CB		PR/CAP 9.3.8.D	Evaluate resources against workload for CR reviews, provide additional supervisory resources as required (PR/CAP 9.3.8.D).	Oversight		Resources	Addressed in the root cause and corrective actions for CR02-04884	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03672	ST	1 of 3	884	Hesitancy to write CRs for unstated reasons	Initiation	6.1.1 6.1.3	Unclear Expectations	This issue is being addressed by a separate site-wide SCWE improvement plan. The CR is assigned to Regulatory affairs.	
02-03672	ST	2 of 3	884	Hesitancy to document CRs for fear of retaliation.	Initiation	6.1.1 6.1.3	Unclear Expectations	This issue is being addressed by a separate site-wide SCWE improvement plan. The CR is assigned to Regulatory affairs.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03672	ST	3 of 3	884	Hesitancy to document CRs due to the boomerang effect of assigning action to the Originator.	Initiation	6.1.1 6.1.3	Not Timely	This issue is being addressed by a separate site-wide SCWE improvement plan. The CR is assigned to Regulatory affairs.	
02-03673	ST	1 of 7	884	Some Basic and Root Causes are performed by unauthorized individuals	Cause	6.2.2	Compliance	Root causes and corrective actions for procedure non-compliance are addressed in CR02-04884. The issues was addressed by CR02-00891 corrective actions.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03673	ST	2 of 7	884	Some Basic and Root Causes do not comply with the procedural requirements	Cause	6.1.1 6.1.2.c 6.1.4	Compliance	Root causes and corrective actions for procedure non-compliance and for cause analysis LTA are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions. Additional barriers to poor performance are in place.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03673	ST	3 of 7	884	Internal & External OE are not appropriately utilized during some basic and root cause evaluations	OE	6.1.1 6.1.2.c 6.1.4 6.2.2	Compliance	Root causes and corrective actions for procedure non-compliance and OE are addressed in CR02-04884. The issues was addressed by CR02-00891 corrective actions.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03673	ST	4 of 7	884	Some Basic & Root Causes fail to utilize analytical techniques	Cause	6.1.1 6.1.2.c 6.2.2	Compliance	Root causes and corrective actions for procedure non-compliance and for cause analysis LTA are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions. Additional barriers to poor performance are in place.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03673	ST	5 of 7	884	Initiators of CRs are rarely contacted for clarification of the problem to be addressed.	Cause	6.1.1 6.1.1.c	Compliance	Root causes and corrective actions for procedure non-compliance are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions. CR02-04885 corrective actions require feedback to the CR originator.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03673	ST	6 of 7	884	Some Basic & Root Causes are not objective or independent	Cause	6.1.2.a 6.1.2.c	Cause LTA	The independence of cause evaluation is provided for in the specification of RCT investigations, and by the CARB/SMT review of root causes. The actions of CR's 02-00891 and 04884 will address this issue. The root cause of CR02-04884 address this issue.	
02-03673	ST	7 of 7	884	Some Basic & Root Causes do not address the condition identified	Cause	6.1.2.a 6.1.2c	Cause LTA	The actions of CR's 02-00891 and 04884 will address this issue. The root cause of CR02-04884 for addresses this issue.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03673	ST		PR/CAP 9.3.3.A	Perform a needs analysis and utilize the systematic approach to training for personnel implementing the CAP(PR/CAP 9.3.3.A)	Infrastructure		Training	CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and is intended to determine and provide all required training, etc. for the CAP. Once the specifics are identified, item 1 from CAF 02-04885-07 will capture them.	
02-03673	ST		PR/CAP 9.3.3.B	Analyze resources needed to perform cause analyses against work assigned to each unit. Adjust resources in working units as necessary.(PR/CAP 9.3.3.B).	Oversight		Cause LTA	CR 02-04884 provides an action to track resource requirements and allocate resources as appropriate.	
02-03674	ST	1 of 4	884	Corrective actions closed w/o being completed.	Implementation	6.1.1 6.1.2.d 6.1.4	Compliance	Root causes and corrective actions for procedure non-compliance and for corrective actions LTA are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions 44, 47, 49, 55, 56 and 71.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03674	ST	2 of 4	884	Untimely implementation of corrective actions.	- Implementation	6.1.1 6.1.2.d 6.1.4	Not Timely	The actions for the causes in 02-04884 & 04885 will address this item.	
02-03674	ST	3 of 4	884	Corrective Actions changed w/o revising original CR	Implementation	6.1.2.d 6.1.4	Compliance	Root causes and corrective actions for procedure non-compliance and for corrective actions LTA are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03674	ST	4 of 4	884	Corrective Actions are ineffective in preventing recurrence.	Implementation	6.1.1 6.1.2.c 6.1.2.d 6.1.4	CAs LTA	The root cause and corrective actions of CR02 04884 for addresses this issue. Would also take credit for any training, other than that, corrective actions are adequate	
02-03674	ST		PR/CAP 9.3.2.A	Use systematic approach to training, develop & provide training to all personnel specifying, reviewing, or approving CAP CAs including human performance considerations (PR/CAP 9.3.2.A).	Infrastructure		Training	CR 02-05960 owned by Training is applying SAT needs analysis of the entire CR process and is intended to determine and provide all required training for the CAP. Several other actions from 02-00891 delineates and requires specific training as well.	
02-03674	ST		PR/CAP 9.3.2.B	Procedural guidance: development of appropriate, meaningful, and measurable CAs, include human performance considerations (PR/CAP 9.3.2.B).	Implementation		Procedure	The root cause and corrective actions associated with CR02-04884 address this issue.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03674	ST		PR/CAP 9.3.2.C	Procedural guidance for verification of CAs: Require sign off action complete person and action verified person to verify the actual documents against the CA (PR/CAP 9.3.2.C).	Oversight		Procedure	A corrective action will be processed to revise the NOP/Guideline relative to the expectation (definition & instructions) that verification is to be based on an independent determination founded on objective evidence. The verification has to determine that the problem was solved. CAF 04885 - 07 Item 2.	
02-03674	ST		PR/CAP 9.3.2.D	Establish program to audit completed CAs independent of the effectiveness review process, maintain in place until consistent compliance (PR/CAP 9.3.2.D)	Oversight		CAs LTA	No corrective actions for review of completed corrective actions exists. Suggest on line review of all completed SCAQ and CAQ PR's and RA's, however in lieu of this a commitment for sampling can be used. Sampling program must include escalation based on results and should be timely. Suggest a corrective action for this should be generated.	
02-03675	CB	1 of 1	884	Provide procedural guidance for performing effectiveness reviews (to CR 02-04885 group). Implement a procedural requirement to verify that the original problem was corrected - do not stop at validating that the CA s have been implemented. (See also 01-3162)	Infrastructure	6.2.2	Procedure	A corrective action was processed to revise the NOP to require the completion of an effectiveness review for all root cause evaluations (or obtain a waiver of this requirement from the CARB). CAF 03675 – 03. The effectiveness review instructions will be revised to emphasize that the review must determine that the original problem has been corrected in addition to verifying that the corrective actions are complete. ** CAF 00891 - 55. CAF 03675 – 05 provides action to adopt the Hatch EFR in the NOP, and CAF 03675 – 02 provides action to include/emphasize appropriate training and CARB expectations in the CAP process.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03675	CB		PR/CAP 9.3.19	Provide procedural guidance for performing effectiveness reviews that requires an evaluation to determine if the original problem has been eliminated (PR/CAP 9.3.19).	Oversight		Procedure	A corrective action was processed to revise the NOP to require the completion of an effectiveness review for all root cause evaluations (or obtain a waiver of this requirement from the CARB). CAF 03675 – 03. The effectiveness review instructions will be revised to emphasize that the review must determine that the original problem has been corrected in addition to verifying that the corrective actions are complete. ** CAF 00891 - 55. CAF 03675 – 05 provides action to adopt the Hatch EFR in the NOP, and CAF 03675 – 02 provides action to include/emphasize appropriate training and CARB expectations in the CAP process.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03676	NA	1 of 2		Adverse Quality trends are not consistently being categorized as SCAQs as required by commitments and have sometimes even been classified as NCAQs.	Screening	6.1.1 6.1.2.b 6.1.4	Compliance	Root causes and corrective actions for procedure non-compliance and for improper categorization of CRs are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions 50, 55, 57, 58, 64, 78 and 97.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03676	NA	2 of 2		The current process of quarterly reports that are then presented to management results in identifying trends several months after they occur and is labor intensive.	Oversight	6.1.3	Trend	CR 02-03676 action #2 requires the development of real-time, automated trending of CREST data that has trigger thresholds to aid in the identification of emerging and adverse trends.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03676	NA		PR/CAP 9.3.18.A	Capture CARB reject data in CREST to facilitate trending the site's performance in implementing the CAP (PR/CAP 9.3.18.A).	Oversight		Trend	CREST currently provides specific fields for capture of CARB review results. Corrective actions have been processed to revise the CARB charter to provide an expectation that CARB Review results are captured by CREST, to revise the NOP to stipulate this expectation, and to provide a subsequent review to ensure this data is indeed being entered. ** CAFs 03676 – 01.	
02-03676	NA		PR/CAP 9.3.18.B	Implement real-time, automated trending of CREST data (PR/CAP 9.3.18.B).	Oversight		Trend	A corrective action was processed to implement real-time, automated trending of CREST data. CAF 03676 - 02.	
02-03676	NA		PR/CAP 9.3.18.C	Revise NOP-LP-2001 to provide clear guidance that adverse quality trends are SCAQs (PR/CAP 9.3.18.C).	Screening		Procedure	CAF 00891 – 50 provides a restart item to revise the NOP to include adverse equipment trends in the examples of SCAQs. A corrective action was processed to revise the NOP to specify that a verified adverse trend of CAQs is a SCAQ. CAFs 04885 - 07, Item 34 and 03676 - 03.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03754	SR	1 of 1	884	CAP procedural deficiencies (to CR 02-04885 group). This CR compares the NOP against the criteria of 10CFR50 appendix B and commitment tracking system. The conclusion is reached that numerous criteria and commitments SHOULD be covered by the NOP and ARE NOT COVERED. This conclusion may not be valid - requires a management decision to implement these criteria / commitments in the NOP.	Infrastructure	6.2.2	Unclear Expectations	This CR was downgraded with MRB approval to a CB and was rolled into CR 02-04885. All results and needed actions are identified and tracked there. The root cause of CR02-04884 for addresses this issue.	
02-03754	SR		PR/CAP 9.3.6.A	Revise NOP-LP-2001 to explicitly incorporate all applicable regulatory requirements and commitments (PR/CAP 9.3.6.A).	Infrastructure		Procedure	Will be considered complete/addressed with implementation of the corrective actions assigned in Condition Report 02-04885.	
02-03754	SR		PR/CAP 9.3.6.B	Evaluate the Commitments contained in TERMS related to CAP and cancel, change, or close those not longer applicable to the CAP using the appropriate Commitment Change mechanism (PR/CAP 9.3.6.B).	Infrastructure		Procedure	Will be considered complete/addressed with implementation of the corrective actions assigned in Condition Report 02-04885.	
02-03754	SR		PR/CAP 9.3.6.C	Revise NOP-LP-2001 to include requirements for the various departments participating in the program to perform self-assessments of their performance relative to CAP. Specify the content and frequency of the self-assessments (PR/CAP 9.3.6.C).	Infrastructure		Procedure	A corrective action will be processed to incorporate minimum trend search, self-assessment and performance indicator details in the appropriate procedure(s) that can be linked to the QAPM umbrella. ** CAF 04885 – 11.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03754	SR		PR/CAP 9.3.6.D	Create checklists that incorporate procedural requirements and any additional management expectations. As a minimum, the checklists should cover the following activities; Supervisor reviews of new CRs, Fix evaluations, Apparent Cause evaluations, Basic Cause evaluations, Root Cause evaluations, and effectiveness reviews. Use the same checklist for all personnel participating in the activity (PR/CAP 9.3.6.D).	Infrastructure		Procedure	A corrective action will be processed to review checklists against other select utilities for incorporation into the FENOC NOP. ** CAF 04885 – 03. A corrective action has been processed to incorporate the checklist/score sheet for completing and evaluating causal analysis. ** CAF 4885 – 07, Item 30.	
02-03769	CF		PR/CAP 9.3.5	Develop an issue elevation protocol/mechanism that NQA can use when identified issues linger without action or resolution by the responsible department (PR/CAP 9.3.5). Assigned to NQA.	Oversight		Other	Recommendations in section 9.3.5 were assigned to NQA	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03817	NA	1 of 1		The CAP performance indicators do not provide meaningful parameters regarding the state of the CAP	Oversight	6.1.2.e	Trend	CR02-00891 corrective action 78 is to develop of CAP performance indicators.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03817	NA		PR/CAP 9.3.21	Benchmark to other facilities CAP-related Performance Indicators and select indicators that will provide better information regarding the health of the Corrective Action Program (PR/CAP 9.3.21).	Oversight		Trend	Corrective action root cause #1.b.ii in CR 02-04884 will take care of this item	
02-03818	NA		PR/CAP 9.3.17	Restore CREST funding and implement CREST improvement items stated in PR/CAP 9.3.17.1 through 9.3.17.11 Refer to PR CAP Report (PR/CAP 9.3.17).	Infrastructure		Resources		
02-03820	NA	1 of 1		CR in CATS should be entered into CREST to allow tracking & trending in a single data base.	Infrastructure	6.2.2	Other	CR/CAFs 02-03820-01 & 02 will address this item.	
02-03820	NA		PR/CAP 9.3.20	Move CR and CA information from the CATS to CREST to use a single database (PR/CAP 9.3.20).	Infrastructure		Other	CR/CAFs 02-03820-01 & 02 will address this item.	
02-03821	NA		PR/CAP 9.3.29	Develop a mechanism to ensure benchmarking is used to identify CAP program improvements (PR/CAP 9.3.29)	Infrastructure		Procedure	Corrective Actions were generated to ensure that PI implements the benchmarking guideline, and tracks improvements in the CR process. CAFs 03821 – 01 & 02.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03831	CB	1 of 13	884	Individuals that management authorizes to do Basic & Root Cause Analysis are not qualified. (See also 02-3673)	Infrastructure	6.1.2.c 6.2.2	Compliance	Root causes and corrective actions for procedure non-compliance are addressed in CR02-04884. The issues was addressed by CR02-00891 corrective actions 44, 47, 49 and 84. Actions are taken by CR02-04885.	
02-03831	CB	10 of 13	884	A contractor is on the cause evaluator list	Infrastructure	6.2.2	Qualification	Qualification and training requirements will be developed because of the actions from CR02-04884 and CR02-0485. This process will unravel any confusion in the future of who is qualified to evaluate cause analysis. The root cause of CR02-04884 for addresses this issue.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03831	CB	11 of 13	884	Basic Cause Evaluator List statement: "following individuals have completed Basic Cause Evaluator training and have documented prior root cause training" conflicts w/ CA 01-03437-02. Only root cause training on the basic list.	Infrastructure		Qualification	This item will be addressed by the establishment of new qualification processes implemented by actions in CR's 02-00891, 04884, and 05960. The root cause of CR02-04884 address this issue.	
02-03831	CB	12 of 13	884	28 people on the "Basic Cause Evaluator List" are not on the "CR Root Cause Qualified Evaluator List"	Infrastructure		Qualification	This item will be addressed by the establishment of new qualification processes implemented by actions in CR's 02-00891, 04884, and 05960. The root cause of CR02-04884 address this issue.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03831	CB	13 of 13	884	Electronic versions of the Root & Basic Cause Evaluator Lists are not write protected. There is a potential for unauthorized modification of the lists.	Infrastructure	6.1.2.c 6.2.2	Qualification	Qualification and training requirements will be developed because of the actions from CR02-04884 and CR02-0485. This process will unravel any confusion in the future of who is qualified to evaluate cause analysis. There are existing provisions for protecting training and qualification records. The root cause of CR02-04884 for addresses this issue.	
02-03831	CB	12 of 13	884	Lack of specificity can result in personnel assigned to perform root or basic causes that have been trained on inappropriate tool for assignment.	Infrastructure	6.2.2	Training	This item will be addressed by the establishment of new qualification processes implemented by actions in CR's 02-00891, 04884, and 05960. CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and will determine and provide all required training for the CAP. The root cause of CR02-04884 addresses this issue.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03831	CB	3 of 13	884	CA 01-3437-02 does not specify what type of root cause training is required	Infrastructure	6.2.2	Training	CR's 02-00891, 04884 and 5960 provide actions to establish cause analysis qualification standards to be implemented through the FITS system. The result will be incorporated into CAF #2 of CR 01-3437.	
02-03831	CB	4 of 13	884	No training or analytical techniques required for conducting Apparent Cause determinations.	Infrastructure	6.1.2.c 6.2.2	Training	This item will be addressed by the establishment of new qualification processes implemented by actions in CR's 02-00891, 04884, and 05960. CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and is intended to determine and provide all required training for the CAP.	
02-03831	CB	5 of 13	884	Root & Basic Cause evaluators not requalifing every two years. The Guideline recommends that the Basic Cause "individuals should perform one Root Cause or Basic Cause Evaluation and/or attend proficiency training every two years to maintain proficiency"	Infrastructure	6.1.2.c 6.2.2	Training	This item will be addressed by the establishment of new qualification processes implemented by actions in CR's 02-00891, 04884, and 05960. These programs will be controlled by FITS. The root cause of CR02-04884 addresses this issue.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03831	CB	6 of 13	884	28 Basic Cause evaluators have not been trained in root cause analysis.	Infrastructure		Training	The root cause of CR02-04884 and the corrective actions for CR02-04884, 02-4885 and 02-0596 address this issue. CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and is intended to determine and provide all required training for the CAP.	
02-03831	CB	7 of 13	884	Basic cause evaluators list updated twice w/o identifying that 28 people are not root cause trained nor are they on the "CR Root Cause Evaluator" list	Infrastructure		Qualification	This item will be addressed by the establishment of new qualification processes implemented by actions in CR's 02-00891, 04884, and 05960. The root cause of CR02-04884 addresses this issue.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03831	CB	8 of 13	884	Confusion between the term "Authorized" in NOP-LP-2001 & the term "Qualified" on the CR Root Cause Evaluator Evaluator list	Infrastructure	6.2.2	Qualification	This item will be addressed by the establishment of new qualification processes implemented by actions in CR's 02-00891, 04884, and 05960.	
02-03831	CB	9 of 13	884	No provisions in NOP or Guideline to control placement of non-FENOC personnel on Evaluator lists (see also 10 of 13)	Infrastructure	6.6.6	Qualification	Qualification and training requirements will be developed because of the actions from CR02-04884 and CR02-0485. This process will unravel any confusion in the future of who is qualified to evaluate cause analysis. The root cause of CR02-04884 for addresses this issue.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03831	CB		PR/CAP 9.3.11.A	Review the Basic Cause analyses, performed by the individuals that have not received root cause training, for analysis adequacy (PR/CAP 9.3.11.A).	Cause		Training		
02-03831	CB		PR/CAP 9.3.11.B	Define Basic Cause Evaluator in CAP programatic guidance as root cause trained and section manager designated. Administed the listings as specified in CA 01-3437-02 or revise the CR (PR/CAP 9.3.11.B).	Cause		Qualification	CR's 02-00891, 04884 and 5960 provide actions to establish cause analysis qualification standards to be implemented through the FITS system. The result will be incorporated into CAF #2 of CR 01-3437. The root cause of CR02-04884 addresses this issue.	
02-03831	CB		PR/CAP 9.3.11.C	Establish formal qualification programs for Basic and Root Cause evaluators (PR/CAP 9.3.11.C)	Cause		Qualification	CR's 02-00891, 04884 and 5960 provide actions to establish cause analysis qualification standards to be implemented through the FITS system.	
02-03862	CA	1 of 1		Evaluator Check List & Condition Owner Check List are required but not part of the completed CR packages. (Note: The check lists are not part of the nuclear records package. Future revisions to CREST may replace the paper check lists with "pop-up" reminders).	Cause	6.1.4	Compliance		

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03865	CF		PR/CAP 9.3.25.A	Revise DB-OP-00002, Operations Event Notification, Rev. 7, to remove the obsolete references (PR/CAP 9.3.25.A). Assigned to Operations	Infrastructure		Other	This item and CR is owned by Operations.	
02-03865	CF		PR/CAP 9.3.25.B	Revise DB-OP-00018, Inoperable Equipment Tracking Log, to delete referenced obsolete statement about restrictions per NOP-LP-2001 (PR/CAP 9.3.25.B). Assigned to Operations	Infrastructure		Other	This item and CR is owned by Operations.	
02-03867	CF		PR/CAP 9.3.26	Revise the CAP Programmatic Guideline to refer the user to the Inoperable Equipment Tracking Log or NG-DB-00018 as required (PR/CAP 9.3.26).	Infrastructure		Procedure	This item has been addressed separately by PIU.	
02-03868	NF		PR/CAP 9.3.30.A	Revise 1. NG-DB-00205, Plant Maintenance, to broaden its determination of when to write a CR and include references to NOP-LP-2001 (PR/CAP 9.3.30.A). Assigned to Maintenance.	Initiation		Procedure	This item and CR is owned by Maintenance.	
02-03868	NF		PR/CAP 9.3.30.B	Revise DB-DP-00007, Control of Work, to expand the conditions for writing a CR or simply refer to NOP-LP-2001 (PR/CAP 9.3.30.B). Assigned to Maintenance.	Initiation		Procedure	This item and CR is owned by Maintenance.	
02-03869	NF		PR/CAP 9.3.31.A	Revise NG-EN-00333, Vendor Manual Control, to reference NOP-LP-2001 (PR/CAP 9.3.31.A). Assigned to Plant Engineering.	Infrastructure		Procedure	This item and CR is owned by Plant Engineering.	
02-03869	NF		PR/CAP 9.3.31.B	Revise EN-DP-01040, Engineering Correspondence Control/Vendor Document Processing, to reference NOP-LP-2001(PR/CAP 9.3.31.B). Assigned to Plant Engineering.	Infrastructure		Procedure	This item and CR is owned by Plant Engineering.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03870	NF		PR/CAP 9.3.27.A	Revise IS-DP-00518, Security Implementing Procedure Reporting Requirements, to ensure that CRs might be written for other conditions (PR/CAP 9.3.27.A). Assigned to Security.	Infrastructure		Procedure	This item and CR is owned by Security.	
02-03870	NF		PR/CAP 9.3.27.B	NG-IS-00001, Control of Safeguards Information, does not reference the CR process. Revise NG-IS-00001 to address the CR interface (PR/CAP 9.3.27.B). Assigned to Security.	Infrastructure		Procedure	This item and CR is owned by Security.	
02-03871	CF		PR/CAP 9.3.28.A	NG-NS-00802, Commitment Management, references an obsolete procedure NG-NA-00702, revise to reference NOP-LP-2001 (PR/CAP 9.3.28.A). Assigned to Regulatory Affairs.	Infrastructure		Procedure	This item and CR is owned by Regulatory Affairs.	
02-03871	CF		PR/CAP 9.3.28.B	The CR guideline does direct users to NG-NS-00807, Regulatory Reports, for Reportability Reviews, but that procedure doesn't refer to the CR guideline. Revise NG-NS-00807 to address CR reviews for Reportability determination (PR/CAP 9.3.28.B). Assigned to Regulatory Affaires.	Infrastructure		Procedure	This item and CR is owned by Regulatory Affairs.	
02-03872	NF		PR/CAP 9.3.32	Revise NG-DB-00208, Radiation Protection Program, to reference NOP-LP-2001 (PR/CAP 9.3.32). Assigned to Chemistry & Radiation Protection	Infrastructure		Procedure	This item and CR is owned by Radiation Protection.	
02-03873	NF		PR/CAP 9.3.33	Revise NG-NA-00711, Quality Trending, to refer to the Performance Improvement instead of Quality Programs (PR/CAP 9.3.33).	Infrastructure		Procedure	This item is being addressed separately by PIU.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-03874	NF		PR/CAP 9.3.34	Revise NG-NS-00400, Materials Management, to correctly reference the CAP documents (PR/CAP 9.3.34). Assigned to Supply	Infrastructure		Procedure	This item and CR is owned by Supply.	
02-03920	CF	1 of 1	884	CRs have potentially inappropriate cause evaluations. Recommended requirement for restart, also recommended to rollover to CR 02-03673	Cause -	6.1.2.c	Cause LTA	The actions of CR's 02-00891 and 04884 will address this issue. The root cause of CR02-04884 addresses this issue.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-04009	CB	1 of 2	884	BACC training was inadequate as it did not train inspectors.	Infrastructure	6.1.3	Training	The issue of BACC training will be addressed within the BACC program action items. The root cause of CR02-04884 and the corrective actions for CR02-04884, 02-4885 and 02-0596 address this issue. CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and is intended to determine and provide all required training for the CAP.	
02-04009	CB	2 of 2	884	BACC training was inadequate as it did not develop a questioning attitude.	Infrastructure	6.1.3	Training	The root cause and corrective actions for CR02-04884 address the performance standards and organizational goals necessary to develop a questioning attitude.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-04211	NB	1 of 1		Performance indicators do not provide meaningful measures of Station and Work Group performance. (Note: CR was initiated by Performance Improvement).	Oversight	6.1.2.e	Trend	See corrective actions for CR02-04211	
02-04278	NA	1 of 1		E-mail has been used in the CAP & OE programs as a substitute for more extensive publication of clarifications & expectations.	Infrastructure	6.2.2	Procedure	This item is being addressed separately by PIU.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-04292	ST	1 of 3	884	Improper selection and implementation of corrective actions, 24 examples. The originator asks for an extent of condition by performing a validation of a representative sample of these CRs.	Implementation	6.1.1 6.1.2.c 6.1.2.d	Compliance	Root causes and corrective actions for procedure non-compliance and for corrective actions LTA are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-04292	ST	2 of 3	884	Inadequate or inaccurate cause analysis, 14 examples. The originator asks for an extent of condition by performing a validation of a representative sample of these CRs.	Cause	6.1.1 6.1.2.b 6.1.2.c	Compliance	Root causes and corrective actions for procedure non-compliance and for cause analysis LTA are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-04292	ST	3 of 3	4884	Improper categorization of CRs, 7 examples. The originator asks for an extent of condition by performing a validation of a representative sample of these CRs.	Screening	6.1.1 6.1.2.b	Categorization	Root causes and corrective actions for procedure non-compliance and for improper categorization are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions.	
02-04292	ST		PR/CAP 9.3.4.A	Remediate the identified deficiencies in CR 02-04292 Attachment (PR/CAP 9.3.4.A).	Implementation		CAs LTA	No existing corrective action exists at this time to address the specific Condition Reports and additional corrective actions listed in Section 4.6 of the PR/CAP Report. This issue still needs addressed one way or the other. Could use the wording "overcome by circumstances" and take credit for moving forward.	
02-04292	ST		PR/CAP 9.3.4.A	Remediate the identified deficiencies in CR 02-04292 Attachment (PR/CAP 9.3.4.A).	Cause		Cause LTA		

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-04292	ST		PR/CAP 9.3.4.B	Complete the reviews specified in the DB Program Compliance Plan and DB System Health Assurance Plan for a statistically significant sample of completed cause evaluations and **implemented corrective actions**. Based upon results, expand the sample as necessary (PR/CAP 9.3.4.B).	**Implementation**		CAs LTA	This appears to be an "extent of condition" for the issue identified in the PIU and CR response. No existing corrective action exists; however, the reviews should uncover any problems and "overcome by events" is a good word.	
02-04292	ST		PR/CAP 9.3.4.B	Complete the reviews specified in the DB Program Compliance Plan and DB System Health Assurance Plan for a statistically significant sample of **completed cause evaluations** and implemented corrective actions. Based upon results, expand the sample as necessary (PR/CAP 9.3.4.B).	**Cause**		Cause LTA	This appears to be an "extent of condition" for the issue identified in the PIU and CR response. No existing corrective action exists; however, the reviews should uncover any problems and "overcome by events" is a good word.	
02-04355	CA	1 of 1		An OE review is not conducted as required by procedures.	OE	6.1.1 6.1.4 6.1.3	Compliance	Root causes and corrective actions for procedure non-compliance are addressed in CR02-04884.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-04716	SR	1 of 4	884	Not complying with the requirements of the CAP - procedure noncompliance.	Infrastructure	6.1.1 6.1.4	Compliance	Root causes and corrective actions for procedure non-compliance are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions.	
02-04716	SR	2 of 4	884	Failure to complete or extend actions prior to the due date - procedure noncompliance	Implementation	6.1.1 6.1.4	Not Timely	No current action(s) could be found that specifically address this item. The proposed/existing actions for the root causes in 02-04884 should adequately address this item.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-04716	SR	3 of 4	884	Failure to obtain the required reviews.	Infrastructure	6.1.1 6.1.4	Compliance	Root causes and corrective actions for procedure non-compliance are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions.	
02-04716	SR	4 of 4	884	CAP NOP & Guideline difficult to use because procedure layout does not match process flow	Infrastructure	6.2.2	Procedure	A corrective action was processed to specify that any NOP/Guideline revisions will, to the extent practicable, separate procedure actions into user specific groupings. ** CAF 04885 – 07, Item 25. The root cause of CR02-04884 addresses this issue.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-04716	SR		PR/CAP 9.3.12	Revise NOP-LP-2001 so that the procedure layout matches the flow of the process (PR/CAP 9.3.12).	Infrastructure		Procedure	A corrective action was processed to specify that any NOP/Guideline revisions will, to the extent practicable, separate procedure actions into user specific groupings. ** CAF 04885 – 07, Item 25.	
02-04742	NA		PR/CAP 9.3.35	Evaluate integrating the Work Order and CR processes (PR/CAP 9.3.35).	Infrastructure		Other	This issue has been assigned to OPS.	
02-04796	NF	1 of 1		CAP program does not provide adequate direction & training relative to development of corrective actions, especially in the area of human performance .	Implementation	6.1.2.c 6.1.3 6.2.2	Training	This item will be addressed by the establishment of new qualification processes implemented by actions in CR's 02-00891, 04884, and 05960. CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and is intended to determine and provide all required training for the CAP.	

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					87	1. Provide independence of effectiveness reviews. 2. Consider applying effectiveness reviews to basic cause evaluations.	99	Develop and implement apparent cause training. (Suggestion is a one or two day problem solving class.) Obtain upper management approval of curriculum. Perform training for all personnel that perform apparent cause evaluations. (Personnel that have completed root cause training should be exempted.)	27	Augment engineering staff to shore up technical capability and improve engineering rigor and standards.	
					63	a. Review, benchmark and revise the NOP and Corrective Action Program Guideline against industry standards.					

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHPIP also has the following relevant actions:	63	a. Review, benchmark and revise the NOP and Corrective Action Program Guideline against industry standards.			
						** Not Specifically Addressed**					
					87	1. Provide independence of effectiveness reviews. 2. Consider applying effectiveness reviews to basic cause evaluations.	99	Develop and implement apparent cause training. (Suggestion is a one or two day problem solving class.) Obtain upper management approval of curriculum. Perform training for all personnel that perform apparent cause evaluations. (Personnel that have completed root cause training should be exempted.)	27	Augment engineering staff to shore up technical capability and improve engineering rigor and standards.	

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					59	a. Develop and implement the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants. 2. Establish policy for internal OE information that will establish the connection between the information and the applicable process or program. The information should be considered for inclusion into existing station procedures, and it should also be referenced for easy retrieval for future use. 2. The MHPIP also has the following relevant action: Improvements to the Industry OE program will be made to ensure the appropriate actions identified from other plants or sources of information are properly tracked and implemented.	34	The Program Compliance Plan includes a detailed review of the OE program. Review and implement changes.	98	Effectiveness Review Area: Review the Policies and Standards for analysis of safety issues (the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants), including external information and internal OE. Refer to CA 02-00891-59.	
					44	a. The MHPIP also has the following relevant actions:	63	a. Review, benchmark and revise the NOP and Corrective Action Program Guideline against industry standards.			

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					59	a. Develop and implement the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants. 2. Establish policy for internal OE information that will establish the connection between the information and the applicable process or program. The information should be considered for inclusion into existing station procedures, and it should also be referenced for easy retrieval for future use. 2. The MHPIP also has the following relevant action: Improvements to the Industry OE program will be made to ensure the appropriate actions identified from other plants or sources of information are properly tracked and implemented.	34	The Program Compliance Plan includes a detailed review of the OE program. Review and implement changes.	98	Effectiveness Review Area: Review the Policies and Standards for analysis of safety issues (the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants), including external information and internal OE. Refer to CA 02-00891-59.	

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					59	a. Develop and implement the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants. 2. Establish policy for internal OE information that will establish the connection between the information and the applicable process or program. The information should be considered for inclusion into existing station procedures, and it should also be referenced for easy retrieval for future use. 2. Improvements to the Industry OE program will be made to ensure the appropriate actions identified from other plants or sources of information are properly tracked and implemented.	34	The Program Compliance Plan includes a detailed review of the OE program. Review and implement changes.	98	Effectiveness Review Area: Review the Policies and Standards for analysis of safety issues (the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants), including external information and internal OE. Refer to CA 02-00891-59.	

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					59	a. Develop and implement the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants. 2. Establish policy for internal OE information that will establish the connection between the information and the applicable process or program. The information should be considered for inclusion into existing station procedures, and it should also be referenced for easy retrieval for future use. 2. Improvements to the Industry OE program will be made to ensure the appropriate actions identified from other plants or sources of information are properly tracked and implemented.	34	The Program Compliance Plan includes a detailed review of the OE program. Review and implement changes.	98	Effectiveness Review Area: Review the Policies and Standards for analysis of safety issues (the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants), including external information and internal OE. Refer to CA 02-00891-59.	

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					25	Effectiveness Review Area 1 - Review Standards and Expectations in the Quality Assessment Department with emphasis on lessons learned from this root cause evaluation (ie, procedure compliance, adequacy of audits/surveillances, oversight of DB Departments activities, safety focus). Refer to CA 02-00891-32, -72, -109, -46, -104, -75, -109.	28	Effectiveness Review Area 2 - Review Standards and Expectations in the Work Management Department with emphasis on lessons learned from this root cause evaluation (i.e., procedure compliance, hazards analysis, safety focus). Refer to CA 02-00891-46, -48, -104, -83, -62, -75, -110.	33	Effectiveness Review Area 3 - Review Standards and Expectations in the Support Services Department with emphasis on lessons learned from this root cause evaluation (ie, procedure compliance, commitment identification in TERMS, hazards analysis, safety focus). Refer to CA 02-00891-35, -46, -48, -62, -75, -83, -104, -111.	43

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					25	Effectiveness Review Area: Review Standards and Expectations in the Quality Assessment Department with emphasis on lessons learned from this root cause evaluation (ie, procedure compliance, adequacy of audits/surveillances, oversight of DB Departments activities, safety focus). Refer to CA 02-00891-32, -72, -109, 46, -104, 75, -109	28	Effectiveness Review Area: Review Standards and Expectations in the Work Management Department with emphasis on lessons learned from this root cause evaluation (i.e., procedure compliance, hazards analysis, safety focus). Refer to CA 02-00891-46, -48, -104, -83, -62, -75, -110	33	Effectiveness Review Area: Review Standards and Expectations in the Support Services Department with emphasis on lessons learned from this root cause evaluation (ie, procedure compliance, commitment identification in TERMS, hazards analysis, safety focus). Refer to CA 02-00891-35, -46, -48, -62, -75, -83, -104, -111	43

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					52	a. Require the use of formal cause determination techniques for root and basic cause evaluations to ensure analytical rigor is applied to the analysis (i.e., revise CAP Guideline). A tiered approach to the number and type of techniques applied should be considered.	55	a. Improve the CAP Guideline guidance on reviews of the effectiveness of corrective actions with focus on verifying that causes have been fixed, and provide training on the revised guidance.	56	b. Revise the CAP Guideline to require the use of the Safety Precedence Sequence (Step 6 of Root Cause Analyses Reference Guide/ Attachment 13 of D-B Condition Report Process Guideline) for root cause and basic cause analyses. This step shall require the Safety Precedence Sequence for each corrective action.	63
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	49	The Corrective Action Review Board (CARB), which reviews select corrective action document evaluations, will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					49	The Corrective Action Review Board (CARB) which reviews select corrective action document evaluations, will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB.	54	c. Provide/proceduralize periodic independent reviews and self assessments of apparent cause evaluations, and recommend changes as appropriate, to provide assurance of the quality of these evaluations.	55	a. Improve the CAP Guideline guidance on reviews of the effectiveness of corrective actions with focus on verifying that causes have been fixed and provide training on the revised guidance.	80

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					25	Effectiveness Review Area: Review Standards and Expectations in the Quality Assessment Department with emphasis on lessons learned from this root cause evaluation (ie, procedure compliance, adequacy of audits/surveillances, oversight of DB Departments activities, safety focus). Refer to CA 02-00891-32, -72, -109, 46, -104, 75, -109.	28	Effectiveness Review Area: Review Standards and Expectations in the Work Management Department with emphasis on lessons learned from this root cause evaluation (i.e., procedure compliance, hazards analysis, safety focus). Refer to CA 02-00891-46, -48, -104, -83, -62, -75, -110.	33	Effectiveness Review Area: Review Standards and Expectations in the Support Services Department with emphasis on lessons learned from this root cause evaluation (ie, procedure compliance, commitment identification in TERMS, hazards analysis, safety focus). Refer to CA 02-00891-35, -46, -48, -62, -75, -83, -104, -111.	43
					25	Effectiveness Review Area: Review Standards and Expectations in the Quality Assessment Department with emphasis on lessons learned from this root cause evaluation (ie, procedure compliance, adequacy of audits/surveillances, oversight of DB Departments activities, safety focus). Refer to CA 02-00891-32, -72, -109, 46, -104, 75, -109.	44	a. The MHPIP also has the following relevant actions: 1. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	33	Effectiveness Review Area: Review Standards and Expectations in the Support Services Department with emphasis on lessons learned from this root cause evaluation (ie, procedure compliance, commitment identification in TERMS, hazards analysis, safety focus). Refer to CA 02-00891-35, -46, -48, -62, -75, -83, -104, -111.	43

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					15	Coordinate the determination of if D-B should issue OE Reports according to NG-NA-305, step 6.7.3 for the issues evaluated by the root cause. For the issues determined to need OE Reports issued, ensure a CAF is generated for the action (or ensure an OE Report was issued)	19	Include in the case study the missed opportunities to recognize RPV Head corrosion from OE evaluations.	34	The Program Compliance Plan includes a detailed review of the OE program. Review and implement changes.	59

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
							50	a. Review and revise, as necessary, the criteria for CR categorization of repeat equipment failures to ensure they are appropriately categorized and utilized by station personal. These criteria should be sufficient to elevate repeat Condition Adverse to Quality (CAQ) failure CRs to a Significant Condition Adverse to Quality (SCAQ) categorization, which requires utilizing of a higher evaluation method. Repeat conditions are to be treated as SCAQs	51	Review open/existing long-standing/recurring issues for potential nuclear safety-related concerns and initiate SCAQ CRs for each issue identified. If any SCAQ issues are discovered, use root cause evaluation techniques to obtain resolution of the issues.	77

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					87	1. Provide independence of effectiveness reviews. 2. Consider applying effectiveness reviews to basic cause evaluations.	99	Develop and implement apparent cause training. (Suggestion is a one or two day problem solving class.) Obtain upper management approval of curriculum. Perform training for all personnel that perform apparent cause evaluations. (Personnel that have completed root cause training should be exempted.)	27	Augment engineering staff to shore up technical capability and improve engineering rigor and standards.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					87	1. Provide independence in effectiveness reviews. 2. Consider applying effectiveness reviews to basic cause evaluations.	99	Develop and implement apparent cause training. (Suggestion is a one or two day problem solving class.) Obtain upper management approval of curriculum. Perform training for all personnel that perform apparent cause evaluations. (Personnel that have completed root cause training should be exempted.)	27	Augment engineering staff to shore up technical capability and improve engineering rigor and standards.	

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					78	Provide periodic assessments of the CR categorization and CR evaluation methods assigned to determine if the site is categorizing conditions appropriately. Minimal numbers of basic and root causes could be indicators of inappropriate standards. Develop Performance Indicators to trend data.	45	3. A Management Monitoring Process will be implemented to monitor and trend the performance of specific management oversight activities taken on an individual basis. This will demonstrate the level of involvement and nuclear safety focus of individual managers.	64	Effectiveness Review Area: Review the Management Monitoring Process/Standards and Effectiveness in monitoring and trending the performance of involvement/oversight activities and emphasis on nuclear safety by Managers. Refer to CA 02-00891-45.	
					44	1. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	111	Rebaseline Standards and Expectations in the Support Services Department and issue policies/handbook stating the standards/expectations with emphasis on lessons learned from this root cause evaluation (ie, procedure compliance, commitment identification in TERMS, hazards analysis, safety focus).			

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					3	Effectiveness Review Area: Review Boric Acid Corrosion Control Program for procedural compliance and training of BACC Inspectors. Refer to CA 02-00891-60, -61, -66, -67, 68, 70.	60	a. Provide training to applicable personnel (BACC Inspectors and ISI/IST VT-2 Inspectors) and managers on the need to remove boric acid from components, to inspect for signs of corrosion, and to perform inspections for signs of boric acid in component internals. This training shall consider periodic refresher training and revision to the JFG for new BACC Inspectors and ISI/IST VT-2 Inspectors.	61	b. Reinforce standards and expectations for procedure compliance and the need for work practice rigor with BACC Inspectors and ISI/IST VT-2 Inspectors.	66
					3	Effectiveness Review Area: Review Boric Acid Corrosion Control Program for procedural compliance and training of BACC Inspectors. Refer to CA 02-00891-60, -61, -66, -67, 68, 70.	60	a. Provide training to applicable personnel (BACC Inspectors and ISI/IST VT-2 Inspectors) and managers on the need to remove boric acid from components, to inspect for signs of corrosion, and to perform inspections for signs of boric acid in component internals. This training shall consider periodic refresher training and revision to the JFG for new BACC Inspectors and ISI/IST VT-2 Inspectors.	61	b. Reinforce standards and expectations for procedure compliance and the need for work practice rigor with BACC Inspectors and ISI/IST VT-2 Inspectors.	66

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					78	Provide periodic assessments of the CR categorization and CR evaluation methods assigned to determine if the site is categorizing conditions appropriately. Minimal numbers of basic and root causes could be indicators of inappropriate standards. Develop Performance Indicators to trend data.	51	Review open existing long-standing/recurring issues for potential nuclear safety-related concerns and initiate SCAQ CRs for each issue identified. If any SCAQ issues are discovered use root cause evaluation techniques to obtain resolution of the issues.	44	a. The MHPIP also has the following relevant actions: 1. Management will ensure standards of excellence are communicated and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	24 Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	25	Review Standards and Expectations in the Quality Assessment Department with emphasis on lessons learned from this root cause evaluation (ie: procedure compliance, adequacy of [illegible] audits/surveillances, oversight of DB Departments activities, safety focus). Refer to CA 02-00891-32, -72, -109, 46, -104, 75, -109.	28	Review Standards and Expectations in the Work Management Department with emphasis on lessons learned from this root cause evaluation (i.e., procedure compliance, hazards analysis, safety focus). Refer to CA 02-00891-46, -48, -104, -83, -62, -75, -110.	33

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHPIP also has the following relevant actions: 1. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	84	Assess the number of personnel that should be qualified and utilized to perform root cause analysis (e.g. a broad number of people [infrequent application], or a small dedicated group [frequent application], or a combination of the two). Implement the recommendation from assessment. Provide justification for why the course chosen will improve the effectiveness of root causes.	49
					44	a. The MHPIP also has the following relevant actions: 1. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	84	Assess the number of personnel that should be qualified and utilized to perform root cause analysis (e.g. a broad number of people [infrequent application], or a small dedicated group [frequent application], or a combination of the two). Implement the recommendation from assessment. Provide justification for why the course chosen will improve the effectiveness of root causes.	49

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					82	Define and implement training on evaluation (basic and apparent cause evaluation) techniques associated with equipment problem analysis to heighten expertise in this analysis area.	52	a. Require the use of formal cause determination techniques for root and basic cause evaluations to ensure analytical rigor is applied to the analysis (i.e., revise CAP Guideline). A tiered approach to the number and type of techniques applied should be considered.			
					44	a. The M-RIP also has the following relevant actions: 1. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	84	Assess the number of personnel that should be qualified and utilized to perform root cause analysis (e.g. a broad number of people [infrequent application] or a small dedicated group [frequent application], or a combination of the two). Implement the recommendation from assessment. Provide justification for why the course chosen will improve the effectiveness of root causes.	49

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					84	Assess the number of personnel that should be qualified and utilized to perform root cause analysis (e.g. a broad number of people [infrequent application], or a small-dedicated group [frequent application], or a combination of the two) implement the recommendation from assessment. Provide justification for why the course chosen will improve the effectiveness of root causes.	52	a. Require the use of formal cause determination techniques for root and basic cause evaluations to ensure analytical rigor is applied to the analysis (i.e., revise CAP Guideline). A tiered approach to the number and type of techniques applied should be considered.			
					82	Define and implement training on evaluation (basic and apparent cause evaluation) techniques associated with equipment problem analysis to heighten expertise in this analysis area.	63	a. Review, benchmark and revise the NOP and Corrective Action Program Guideline against industry standards.			
					82	Define and implement training on evaluation (basic and apparent cause evaluation) techniques associated with equipment problem analysis to heighten expertise in this analysis area.					

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHPI also has the following relevant actions: 1. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	84	Assess the number of and personnel that should be qualified and utilized to perform root cause analysis (e.g. a broad number of people [infrequent application] or a small dedicated group [frequent application], or a combination of the two). Implement the recommendation from the assessment. Provide justification for why the course chosen will improve the effectiveness of root causes.	49
					82	Define and implement training on evaluation (basic and apparent cause evaluation) techniques associated with equipment problem analysis to heighten expertise in this analysis area.	52	a. Require the use of formal cause determination techniques for root and basic cause evaluations to ensure analytical rigor is applied to the analysis (i.e., revise CAP Guideline). A tiered approach to the number and type of techniques applied should be considered.			

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The M-IPIP also has the following relevant actions: 1. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	84	Assess the number of personnel that should be qualified and utilized to perform root cause analysis (e.g. a broad number of people [infrequent application], or a small dedicated group [frequent application], or a combination of the two). Implement the recommendation from assessment. Provide justification for why the course chosen will improve the effectiveness of root causes.	49
					44	a. The M-IPIP also has the following relevant actions: 1. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	84	Assess the number of personnel that should be qualified and utilized to perform root cause analysis (e.g. a broad number of people [infrequent application], or a small-dedicated group [frequent application], or a combination of the two). Implement the recommendation from assessment. Provide justification for why the course chosen will improve the effectiveness of root causes.	49

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHRIP also has the following relevant actions: 1. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP Complete program review and implement changes as approved by the DB Senior Management Team.	84	Assess the number of personnel that should be qualified and utilized to perform root cause analysis (e.g. a broad number of people [infrequent application], or a small dedicated group [frequent application], or a combination of the two). Implement the recommendation from assessment. Provide justification for why the course chosen will improve the effectiveness of root causes.	49
					44	a. The MHRIP also has the following relevant actions: 1. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP Complete program review and implement changes as approved by the DB Senior Management Team.	84	Assess the number of personnel that should be qualified and utilized to perform root cause analysis (e.g. a broad number of people [infrequent application], or a small dedicated group [frequent application], or a combination of the two). Implement the recommendation from assessment. Provide justification for why the course chosen will improve the effectiveness of root causes.	49

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					78	Provide periodic assessments of the CR categorization and CR evaluation methods assigned to determine if the site is categorizing conditions appropriately. Minimal numbers of basic and root causes could be indicators of inappropriate standards. Develop Performance Indicators to trend data.	57	a. Develop and implement a site wide equipment trending program. This program should define what is to be trended periodically (e.g. vendor, failure mode, failure mechanism, environmental, material issues). Additonal clarification: Programmatically define guidance to establish and define areas for trending. Examples could include: component failures by vendor, performance criteria, and component type. Guidance should define how to document trends and develop conclusions. The value of trends should also be programmatically assessed to ensure trends are providing the station with meaningful information for improvement. Note: CAFs should not be closed to open work orders to protect trending information (such as age of open CAF).			

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHPI also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	59	a. Develop and implement the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants.	63	Review, benchmark and revise the NOP and Corrective Action Program Guideline against industry standards.	115

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					57	a. Develop and implement a site wide equipment trending program. This program should define what is to be trended periodically (e.g. vendor, failure mode, failure mechanism, environmental, material issues). Additional clarification: Programmatically define guidance to establish and define areas for trending. Examples could include: component failures by vendor, performance criteria, and component type. Guidance should define how to document trends and develop conclusions. The value of trends should also be programmatically assessed to ensure trends are providing the station with meaningful information for improvement. Note: CAFs should not be closed to open work orders to protect trending information (such as age of open CAF).	64	Review the Management Oversight Monitoring Process/Standards and Effectiveness in monitoring and trending the performance of involvement/oversight activities and emphasis on nuclear safety by Managers. Refer to CA 02-00891-45.	71	Review the Corrective Action Program Guideline to identify whether it contains appropriate provisions for ensuring the timely resolution of conditions, and revise the Program as appropriate.	44

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					50	a. Review and revise, as necessary, the criteria for CR categorization of repeat equipment failures to ensure they are appropriately categorized and utilized by station personal. These criteria should be sufficient to elevate repeat Condition Adverse to Quality (CAQ) failure CRs to a Significant Condition Adverse to Quality (SCAQ) categorization, which requires utilizing of a higher evaluation method. Repeat conditions are to be treated as SCAQs	55	a. Improve the CAP Guideline guidance on reviews of the effectiveness of corrective actions with focus on verifying that causes have been fixed, and provide training on the revised guidance.	64	Effectiveness Review Area: Review the Management Monitoring Process/Standards and Effectiveness in monitoring and trending the performance of involvement/oversight activities and emphasis on nuclear safety by Managers. Refer to CA 02-00891-45	78

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MRPR also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	51	Review open existing long-standing/recurring issues for potential nuclear safety-related concerns and initiate SCAQ CRs for each issue identified. If any SCAQ issues are discovered, use root cause evaluation techniques to obtain resolution of the issues.	55	a. Improve the CAP Guideline guidance on reviews of the effectiveness of corrective actions with focus on verifying that causes have been fixed, and provide training on the revised guidance.	85

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					79	Evaluate/enhancement to the CAP NOP/Guideline to eliminate performing a basic cause analysis for an issue categorized as an SCAQ, relative to ensuring actions to prevent recurrence is effective. Revise the Guideline as necessary.	44	a. The MSIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	49

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					71	a. Review the Corrective Action Program Guideline to identify whether it contains appropriate provisions for ensuring the timely resolution of conditions, and revise the Program as appropriate.	44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	49
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.			47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	49

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.			47	The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	49

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	40	b. The Senior Management Team shall review and endorse all root causes. Revise the CAP Guideline to include this SMT review.	78	Additional actions: Provide periodic assessments of the CR categorization and CR evaluation methods assigned to determine if the site is categorizing conditions appropriately. Minimal numbers of basic and root causes could be indicators of inappropriate standards. Develop Performance Indicators to trend data.	82
					50	a. Review and revise, as necessary, the criteria for CR categorization of repeat equipment failures to ensure they are appropriately categorized and utilized by station personal. These criteria should be sufficient to elevate repeat Condition Adverse to Quality (CAQ) failure CRs to a Significant Condition Adverse to Quality (SCAQ) categorization, which requires utilizing of a higher evaluation method. Repeat conditions are to be treated as SCAQs.	52	a. Require the use of formal cause determination techniques for root and basic cause evaluations to ensure analytical rigor is applied to the analysis (i.e., revise CAP Guideline). A tiered approach to the number and type of techniques applied should be considered.	78	Additional actions: Provide periodic assessments of the CR categorization and CR evaluation methods assigned to determine if the site is categorizing conditions appropriately. Minimal numbers of basic and root causes could be indicators of inappropriate standards. Develop Performance Indicators to trend data.	82

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MRIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	109	Rebaseline Standards and Expectations in the Quality Assessment Department and issue policies/handbook stating the standards/expectations with emphasis on lessons learned from this root cause evaluation (ie, procedure compliance, adequacy of audits/surveillances, oversight of DB Departments activities, safety focus)	110	Rebaseline Standards and Expectations in the Work Management Department and issue policies/handbook stating the standards/expectations with emphasis on lessons learned from this root cause evaluation (i.e., procedure compliance, hazards analysis, safety focus)	111

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					50	a. Review and revise, as necessary, the criteria for CR categorization of repeat equipment failures to ensure they are appropriately categorized and utilized by station personal. These criteria should be sufficient to elevate repeat Condition Adverse to Quality (CAQ) failure CRs to a Significant Condition Adverse to Quality (SCAQ) categorization, which requires utilizing of a higher evaluation method. Repeat conditions are to be treated as SCAQs.	52	a. Require the use of formal cause determination techniques for root and basic cause evaluations to ensure analytical rigor is applied to the analysis (i.e., revise CAP Guideline). A tiered approach to the number and type of techniques applied should be considered.	78	Additional actions Provide periodic assessments of the CR categorization and CR evaluation methods assigned to determine if the site is categorizing conditions appropriately. Minimal numbers of basic and root causes could be indicators of inappropriate standards. Develop Performance Indicators to trend data.	82

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					59	Develop and implement the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants. 1. Establish policy for the use of external information that is specific enough for the user to understand. 2. Establish policy for internal OE information that will establish the connection between the information and the applicable process or program. The information should be considered for inclusion into existing station procedures, and it should also be referenced for easy retrieval for future use. 3. Improvements to the Industry OE program will be made to ensure the appropriate actions identified from other plants or sources of information are properly tracked and implemented.	34	The Program Compliance Plan includes a detailed review of the OE program. Review and implement changes.	98	Effectiveness Review Area: Review the Policies and Standards for analysis of safety issues (the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants), including external information and internal OE. Refer to CA 02-00891-59.	44

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					103	Revise the Morning Management Communications and Teamwork Meeting agenda to regularly discuss procedural compliance at the MCTM meetings.	25	Review Standards and Expectations in the Quality Assessment Department with emphasis on lessons learned from this root cause evaluation (ie, procedure compliance, adequacy of audits/surveillances, oversight of DB Departments activities, safety focus). Refer to CA 02-00891-32, -72, -109, 46, -104, 75, -109.	28	Review Standards and Expectations in the Work Management Department with emphasis on lessons learned from this root cause evaluation (i.e., procedure compliance, hazards analysis, safety focus). Refer to CA 02-00891-46, -48, -104, -83, -62, -75, -110.	33

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	41	Assess the SCWE of D-B based on criteria and attributes derived from NRC policy and guidance, develop recommended actions and implement the action plan to address any adverse conditions identified by the assessment.	96	Perform periodic SCWE Survey and Assessments (Effectiveness Reviews) based on criteria and attributes derived from NRC policy and guidance. Review survey results and take actions where necessary to reinforce the site safety culture	
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	45	a. The MHPIP also has the following relevant actions: 3. A Management Monitoring Process will be implemented to monitor and trend the performance of specific management oversight activities taken on an individual basis. This will demonstrate the level of involvement and nuclear safety focus of individual managers.	53	Define and implement training requirements necessary for root cause evaluations especially for equipment analysis.	36

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	41	Assess the SCWE of D-B based on criteria and attributes derived from NRC policy and guidance, develop recommended actions and implement the action plan to address any adverse conditions identified by the assessment.	96	Perform periodic SCWE Survey and Assessments (Effectiveness Reviews) based on criteria and attributes derived from NRC policy and guidance. Review survey results and take actions where necessary to reinforce the site safety culture	
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	41	Assess the SCWE of D-B based on criteria and attributes derived from NRC policy and guidance, develop recommended actions and implement the action plan to address any adverse conditions identified by the assessment.	96	Perform periodic SCWE Survey and Assessments (Effectiveness Reviews) based on criteria and attributes derived from NRC policy and guidance. Review survey results and take actions where necessary to reinforce the site safety culture	

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	45	a. The MHPIP also has the following relevant actions: 3. A Management Monitoring Process will be implemented to monitor and trend the performance of specific management oversight activities taken on an individual basis. This will demonstrate the level of involvement and nuclear safety focus of individual managers.	47	a. The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					50	Review and revise, as necessary, the criteria for CR categorization of repeat equipment failures to ensure they are appropriately categorized and utilized by station personal. These criteria should be sufficient to elevate repeat Condition Adverse to Quality (CAQ) failure CRs to a Significant Condition Adverse to Quality (SCAQ) categorization, which requires utilizing of a higher evaluation method. Repeat conditions are to be treated as SCAQs	59	Develop and implement the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants. 1. Establish policy for the use of external information that is specific enough for the user to understand. 2. Establish policy for internal OE information that will establish the connection between the information and the applicable process or program. The information should be considered for inclusion into existing station procedures, and it should also be referenced for easy retrieval for future use. 3. Improvements to the Industry OE program will be made to ensure the appropriate actions identified from other plants or sources of information are properly tracked and implemented.	62	Develop and implement the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues, similar to other FENOC plants. 1. Establish policy for the use of external information that is specific enough for the user to understand. 2. Establish policy for internal OE information that will establish the connection between the information and the applicable process or program. The information should be considered for inclusion into existing station procedures, and it should also be referenced for easy retrieval for future use. 3. Improvements to the Industry OE program will be made to ensure the appropriate actions identified from other plants or sources of information are properly tracked and implemented.	68

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	45	a. The MHPIP also has the following relevant actions: 3. A Management Monitoring Process will be implemented to monitor and trend the performance of specific management oversight activities taken on an individual basis. This will demonstrate the level of involvement and nuclear safety focus of individual managers.	47	a. The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	50
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	45	a. The MHPIP also has the following relevant actions: 3. A Management Monitoring Process will be implemented to monitor and trend the performance of specific management oversight activities taken on an individual basis. This will demonstrate the level of involvement and nuclear safety focus of individual managers.	47	a. The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	78

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	45	a. The MHPIP also has the following relevant actions: 3. A Management Monitoring Process will be implemented to monitor and trend the performance of specific management oversight activities taken on an individual basis. This will demonstrate the level of involvement and nuclear safety focus of individual managers.	47	a. The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	50
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	45	a. The MHPIP also has the following relevant actions: 3. A Management Monitoring Process will be implemented to monitor and trend the performance of specific management oversight activities taken on an individual basis. This will demonstrate the level of involvement and nuclear safety focus of individual managers.	47	a. The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	50

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					55	a. Improve the CAP Guideline guidance on reviews of the effectiveness of corrective actions with focus on verifying that causes have been fixed, and provide training on the revised guidance.	82	Define and implement training on evaluation (basic and apparent cause evaluation) techniques associated with equipment problem analysis to heighten expertise in this analysis area.	44	a. The MRIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	53

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					55	a. Improve the CAP Guideline guidance on reviews of the effectiveness of corrective actions with focus on verifying that causes have been fixed, and provide training on the revised guidance.	82	Define and implement training on evaluation (basic and apparent cause evaluation) techniques associated with equipment problem analysis to heighten expertise in this analysis area	44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	53
					55	a. Improve the CAP Guideline guidance on reviews of the effectiveness of corrective actions with focus on verifying that causes have been fixed, and provide training on the revised guidance.	82	Define and implement training on evaluation (basic and apparent cause evaluation) techniques associated with equipment problem analysis to heighten expertise in this analysis area	44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	53

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					3	Review Boric Acid Corrosion Control Program for procedural compliance and training of BACC Inspectors. Refer to CA 02-00891-60, -61, -66, -67, 68, 70.	23	Effectiveness Review Area: Review ISI/IST Program for procedural/program compliance related to identification/resolution of boric acid issues and training of VT-2 Inspectors on boric acid issues. Refer to CA 02-00891-20, -23, 60, -61, 66, -67, 69.	24	Follow-up training will be held over the next 12 months to reinforce technical standards and problem solving skills. This will be required of appropriate management and technical staff.	46

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					71	a. Review the Corrective Action Program Guideline to identify whether it contains appropriate provisions for ensuring the timely resolution of conditions, and revise the Program as appropriate.	44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	85	Provide specific training (such as root cause training, effectiveness reviews) for CARB members. Revise the CARB charter to require specific training for CARB members.	
					71	a. Review the Corrective Action Program Guideline to identify whether it contains appropriate provisions for ensuring the timely resolution of conditions, and revise the Program as appropriate.	44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	53	Define and implement training requirements necessary for cause evaluations, especially for equipment analysis.	85

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					47	a. The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	49	b. The MIPIP also has the following relevant action: The Corrective Action Review Board (CARB), which reviews select corrective action document evaluations, will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB.	50	a. Review and revise as necessary the criteria for CR categorization of repeat equipment failures to ensure they are appropriately categorized and utilized by station personal. These criteria should be sufficient to elevate repeat Condition Adverse to Quality (CAQ) failure CRs to a Significant Condition Adverse to Quality (SCAQ) categorization which requires utilizing of a higher evaluation method. Repeat conditions are to be treated as SCAQs.	89

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					47	a. The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	49	b. The MHPIP also has the following relevant action: The Corrective Action Review Board (CARB) which reviews select corrective action document evaluations will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB.	50	a. Review and revise, as necessary, the criteria for CR categorization of repeat equipment failures to ensure they are appropriately categorized and utilized by station personal. These criteria should be sufficient to elevate repeat Condition Adverse to Quality (CAQ) failure CRs to a Significant Condition Adverse to Quality (SCAQ) categorization, which requires utilizing of a higher evaluation method. Repeat conditions are to be treated as SCAQs.	89
					86	Strengthen and expand the procedural guidance for utilization of quarantine for station events. Training and expectations for this tool should be administered to station personnel.	104	Conduct Case Study training to reinforce standards and expectations for procedure compliance and the need for work-practice rigor and the potential consequence of a failure to do so.	55	a. Improve the CAP Guideline guidance on reviews of the effectiveness of corrective actions with focus on verifying that causes have been fixed, and provide training on the revised guidance.	44

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					47	a. The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	49	b. The MHPIP also has the following relevant action: The Corrective Action Review Board (CARB), which reviews select corrective action document evaluations, will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB.	50	a. Review and revise, as necessary, the criteria for CR categorization of repeat equipment failures to ensure they are appropriately categorized and utilized by station personal. These criteria should be sufficient to elevate repeat Condition Adverse to Quality (CAQ) failure CRs to a Significant Condition Adverse to Quality (SCAQ) categorization, which requires utilizing of a higher evaluation method. Repeat conditions are to be treated as SCAQs.	51
					47	a. The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	49	b. The MHPIP also has the following relevant action: The Corrective Action Review Board (CARB), which reviews select corrective action document evaluations, will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB.	50	a. Review and revise, as necessary, the criteria for CR categorization of repeat equipment failures to ensure they are appropriately categorized and utilized by station personal. These criteria should be sufficient to elevate repeat Condition Adverse to Quality (CAQ) failure CRs to a Significant Condition Adverse to Quality (SCAQ) categorization, which requires utilizing of a higher evaluation method. Repeat conditions are to be treated as SCAQs.	51

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					34	The Program Compliance Plan includes a detailed review of the OE program. Review and implement changes.	59	Develop and implement the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues similar to other FENOC plants. 1. Establish policy for the use of external information that is specific enough for the user to understand. 2. Establish policy for internal OE information that will establish the connection between the information and the applicable process or program. The information should be considered for inclusion into existing station procedures, and it should also be referenced for easy retrieval for future use. 2. Improvements to the Industry OE program will be made to ensure the appropriate actions identified from other plants or sources of information are properly tracked and implemented.	98	Effectiveness Review Area: Review the Policies and Standards for analysis of safety issues (the FENOC Hierarchy of Documents for D-B to ensure consistent policies and standards for analyses of safety issues similar to other FENOC plants), including external information and internal OE. Refer to CA 02-00891-59.	

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					71	a. Review the Corrective Action Program Guideline to identify whether it contains appropriate provisions for ensuring the timely resolution of conditions, and revise the Program as appropriate.			49	b. The MHPIP also has the following relevant action: The Corrective Action Review Board (CARB), which reviews select corrective action document evaluations, will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB	
					71	a. Review the Corrective Action Program Guideline to identify whether it contains appropriate provisions for ensuring the timely resolution of conditions, and revise the Program as appropriate.			49	b. The MHPIP also has the following relevant action: The Corrective Action Review Board (CARB), which reviews select corrective action document evaluations, will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB	

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
							49	b. The MHPIP also has the following relevant action: The Corrective Action Review Board (CARB), which reviews select corrective action document evaluations, will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB.			

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					79	2. Management will ensure [redacted] standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	84		50	a. Review and revise, as necessary, the criteria for CR categorization of repeat equipment failures to ensure they are appropriately categorized and utilized by station personal. These criteria should be sufficient to elevate repeat Condition Adverse to Quality (SCAQ) categorization, which requires utilizing of a higher evaluation method. Repeat conditions are to be treated as SCAQs	78

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	45	a. The MHPIP also has the following relevant actions: 3. A Management Monitoring Process will be implemented to monitor and trend the performance of specific management oversight activities taken on an individual basis. This will demonstrate the level of involvement and nuclear safety focus of individual managers.	47	a. The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	
					44	a. The MHPIP also has the following relevant actions: 2. Management will ensure standards of excellence are communicated, and monitoring will ensure these standards are upheld at all levels. This entails management behaviors, first line supervisor behaviors, and individual worker behaviors. These standards will not only focus on behaviors, but also on the expectations for manager involvement in station activities.	45	a. The MHPIP also has the following relevant actions: 3. A Management Monitoring Process will be implemented to monitor and trend the performance of specific management oversight activities taken on an individual basis. This will demonstrate the level of involvement and nuclear safety focus of individual managers.	47	a. The Program Compliance Plan includes a detailed review of the Corrective Action Program by outside consultants. The Program Compliance Review includes a detailed latent issues review of the CAP. Complete program review and implement changes as approved by the DB Senior Management Team.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					84	Assess the number of personnel that should be qualified and utilized to perform root cause analysis (e.g. a broad number of people [infrequent application], or a small dedicated group [frequent application], or a combination of the two). Implement the recommendation from assessment. Provide justification for why the course chosen will improve the effectiveness of root causes.	53	Define and implement training requirements necessary for cause evaluations, especially for equipment analysis.	82	Define and implement training on evaluation (basic and apparent cause evaluation) techniques associated with equipment problem analysis to heighten expertise in this analysis area.	

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					84	Assess the number of personnel that should be qualified and utilized to perform root cause analysis (e.g. a broad number of people [infrequent application], or a small dedicated group [frequent application], or a combination of the two). Implement the recommendation from assessment. Provide justification for why the course chosen will improve the effectiveness of root causes.	86	Strengthen and expand the procedural guidance for utilization of quarantine for station events. Training and expectations for this tool should be administered to station personnel.	99	Develop and implement root/apparent cause training. (Suggestion is a one or two day problem solving class.) Obtain upper management approval of curriculum. Perform training for all personnel that perform apparent cause evaluations. (Personnel that have completed root cause training should be exempted.)	101
					49	The Corrective Action Review Board (CARB), which reviews select corrective action document evaluations, will be used to enforce higher standards for cause evaluations and effective corrective action. This board will be chaired by the Plant Manager or another director level individual. Revise the CARB charter to indicate that the Plant Manager or a Director level individual shall be the Chairman of the CARB.	77	Effectiveness Review Area: Review the Corrective Action Program for: 1) CARB effectiveness; 2) CR categorization/evaluation level determination; and 3) equipment failure analysis.	85	Provide specific training (such as root cause training, effectiveness reviews) for CARB members. Revise the CARB charter to require specific training for CARB members.	

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
					89	Review the CR 02-00891 root cause management root cause and determine if the Program Compliance Plan adequately addresses the issues identified in the report and revise station programs to meet industry high standards of performance to support safe and reliable operation. Document the findings and implement actions identified.	101	Provide root cause evaluation teams with a formal charter of expectations.	102	Effectiveness Review/Area Review Standards and Expectations in the Plant (Station) Department with emphasis on lessons learned from this root cause evaluation (ie: procedure compliance, operational/decision-making, hazards analysis, safety focus). Refer CA 02-00891-46, -48, -62, -75, -76, -83, -104.	104

Davis-Besse
Corrective Actions Program
Improvement Plan

Description	4884 CAF	Description	4884 CAF	Description	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA	0891 Corrective Action #	CA
Modify NOP-LP-2001 and the CAP Guideline to include the requirements for the (sic) CR Coordinator. Coordinate with other FENOC sites to include the position of line department peer checking (e.g. CR Coordinator) in NOP-LP-2001.	22	Modify CREST to recognize the CR Coordinator. This CAF is created to document an action already complete.			85	Provide specific training (such as root cause training, effectiveness reviews) for CARB members.	87	1. Provide independance of effectiveness reviews. 2. Consider applying effectiveness reviews to basic cause evaluations.	96	Perform periodic SCWE Survey and Assessments (Effectiveness Reviews) based on criteria and attributes derived from NRC policy and guidance. Review survey results and take actions where necessary to reinforce the site safety.	
					84	Assess the number of personnel that should be qualified and utilized to perform root cause analysis (e.g. a broad number of people [infrequent application], or a small dedicated group [frequent application], or a combination of the two). Implement the recommendation from assessment. Provide justification for why the course chosen will improve the effectiveness of root causes.	86	Strengthen and expand the procedural guidance for utilization of quarantine for station events. Training and expectations for this tool should be administered to station personnel.	99	Develop and implement apparent cause training (Suggestion is a one or two day problem solving class.) Obtain upper management approval of curriculum. Perform training for all personnel that perform apparent cause evaluations. (Personnel that have completed root cause training should be exempted)	101

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-06809	CB	3 of 3		Lessons learned from CR 02-0891 root cause analysis & Program Review have not been effectively communicated to site personnel to prevent recurrence.	Infrastructure		Unclear Expectations	The case study training has now been conducted and the MHPIP will reinforce the causes. CR 02-04884 actions address CAP-specific aspects.	
And No Others									

203		Total Issues	69	Issues that can be closed to 0891	61	Yes	30%	Of issues evaluated can be closed to 0891
				Issues that can be closed to 4885	27	4885	13%	Of issues evaluated can be closed to 4885
				Issues that cannot be closed to 0891	5	No	2%	Of issues evaluated cannot be closed to 0891 or 4885

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-06809	CB	1 of 3		Significant CAs in CR 02-00891 coded as enhancements instead of remedial or preventive actions.	Implementation	6.1.2.c 6.2.2	CAs LTA	The root cause and corrective actions of CR02-04884 address this issue. A corrective action will be written in 02-04884 to remove the use of enhancements in the CR process.	
02-06809	CB	2 of 3		CR 02-00891 CAs do not match actions in root cause, specific example CA 02-00891-02	Implementation	6.1.2.c 6.1.2.d	CAs LTA	The root cause and corrective actions of CR02-04884 address this issue. One team member noted:"I don't think this has been addressed. This notes that 02-00891investigation and corrective actions were not adequate. Corrective action needs to decide what intent of CA #51 actually was and how it will be implemented. Referenced corrective actions from management plan do not really focus on this issue. Root cause refresher training, including this "case study", if we really believe this is legitimate, could be corrective action. Could state that CA did not clearly identify the intended action."	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-06300	CF	1 of 1		Incorrect rollover of one CR to another resulting in a cause analysis not being performed.	Cause	6.1.4	Compliance	Root causes and corrective actions for procedure non-compliance and cause analysis are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions.	
02-06418	CF	1 of 1		CR reports sent to Records Management w/o trend Codes	Infrastructure	6.1.4	Compliance	Root causes and corrective actions for procedure non-compliance are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions.	
02-06505	SR	1 of 2		Ineffective CAs for BACC of valve RC-2 & resulted in RPV head damage, there was a lack of aggressive follow-up on their implementation.	Implementation	6.1.1 6.1.2.c 6.1.2.d	CAs LTA	The root cause and corrective actions of CR02-04884 addresses this issue. The issues referenced in CR02-06505 were used in the data analysis of CR02-04884.	
02-06505	SR	2 of 2		Evidence of a systematic weakness in plant culture, not previously addressed, in ineffective CAs for RC-2 leak.	Cause	6.1.1	Unclear Expectations	The root cause and corrective actions of CR02-04884 addresses this issue. The issues referenced in CR02-06505 were used in the data analysis of CR02-04884.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-05958	NA	1 of 1		There is a need to develop, publish and communicate D-B Management expectations on utilization of the CAP to resolve conditions adverse to quality.	Infrastructure	6.1.3 6.2.2	Unclear Expectations	CR 02-05928 has been answered independently and was approved on 10/28/02 w/ 4 corrective actions.	
02-06153	CA	1 of 1		Recommend tracking EDG fuel rack position per INPO SER [Included in this analysis but it is not a PI CAP responsibility (CA to PE)			Trend	Not CAP, CR is assigned to Plant Engineering	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-05928	CA	2 of 2		We don't write CRs for things like work orders, failed surveillance tests, procedure change requests, engineering work requests, troubleshooting and minor work activities. Therefore, D-B has a potential generic issue adverse to quality.	Initiation	6.1 6.1.3 6.2.2	Unclear Expectations	CR 02-05928 has been answered independently by PI and was approved on 10/28/02 w/ 4 corrective actions.	
02-05928	CA		PR/CAP 9.3.43	Eliminate the use of problem identification methodologies that are determined to be inappropriate bypasses to the CR process (PR/CAP 9.3.43).	Initiation		Other	CR 02-05928 has been answered independently by PI and was approved on 10/28/02 w/ 4 corrective actions.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-05460	CA	1 of 1		CRs w/unrelated issues, systems, and assets makes trend coding indeterminate. (Note: This CR was initiated by Performance Improvement).	Infrastructure		Trend		
02-05559	NA	1 of 1		INPO OE documents may not be receiving sufficient review for CAP applicability.	OE	6.1.3	Procedure	This item is being addressed separately by PIU.	
02-05559	NA		PR/CAP 9.3.42	Perform regular reviews of INPO OE for CAP implications (PR/CAP 9.3.42)	OE		Procedure	This item is being addressed separately by PIU.	
02-05928	CA	1 of 2		All CAQs are not entered into the CAP. Some use the Work Order system, the Failed Surveillance Test, Deficiency Reports, Engineering Work Requests, lubrication Monitoring, Troubleshooting and the Fix-it-Now programs instead of writing a CR	Initiation	6.1 6.1.3 6.2.2	Compliance	Root causes and corrective actions for procedure non-compliance are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-05342	CF		PR/CAP 9.3.39	Process changes to the corrective actions programs in accordance with the commitments outlined in the referenced letter to the NRC concerning required hazards analysis for program changes. Note that the commitment extends to the audit and surveillance programs under NQA (PR/CAP 9.3.39)	Infrastructure		Procedure	This item is being addressed separately by PIU.	
02-05390	CA	1 of 2		CRs Rolled over into another, this extended the due dates of the original CRs w/o management approval	Implementation	6.1.1 6.1.3 6.1.2.c	Not Timely	CR 02-05390 has been answered independently. The evaluation was complete and approved on 10/18/02. NQA approval was complete on 11/4/02. There were (4) actions generated and accepted. The root cause of CR02-04884 addresses this issue.	
02-05390	CA	2 of 2		Two examples of rolling over CRs to a different CR on their due dates, effectively extending their required due dates w/o proper approvals.	Implementation	6.1.3 6.1.2.c	Not Timely	CR 02-05390 has been answered independently. The evaluation was complete and approved on 10/18/02. NQA approval was complete on 11/4/02. There were (4) actions generated and accepted. The root cause of CR02-04884 addresses this issue.	
02-05436	CA		PR/CAP 9.3.40	Extent of Condition (i.a.w. CR 02-03754) audit for incorporating QAPM and Q commitments appropriately into programs and procedures (PR/CAP 9.3.40). Assigned to NQA.	Infrastructure		Procedure	This issue was assigned to NQA. Reviews by this team confirmed that an adverse trend with commitment control exists across several departments. CR 02-07808 has captured this issue at the ST category.	
02-05437	CA		PR/CAP 9.3.41	Extent of Condition (i.a.w. CR 02-03754) audit for incorporating ASME QA Manual commitments appropriately into programs and procedures (PR/CAP 9.3.41). Assigned to Maintenance.	Infrastructure		Procedure	This issue was assigned to Maintenance and subsequently rolled to CR 02-04885 from CR 02-03754. The extent of condition for CR 02-05437 is implemented through CAF 04885 - 14.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-05341	CA	2 of 2		CR 01-2862 (on the BACC Program) has an inappropriate cause analysis. Use this example to fix the CAP	Cause	6.1.2.b 6.1.2.c	Compliance	Root causes and corrective actions for procedure non-compliance and for cause analysis LTA are addressed in CR02-04884. The issues were addressed by CR02-00891 corrective actions.	
02-05342	CF	1 of 1		Informed the NRC by Letter that the CAP is reviewed in accordance with 10CFR50.59 & 50.54(a). Since Guideline is a manual and does not have a Procedure Development Process with it, it is not possible to verify that the Guideline is reviewed in accordance with 10 CFR 50.59 as committed to in the referenced letter.	Infrastructure	6.2.2	Procedure	This item is being addressed separately by PIU.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-05025	CA	2 of 2		"Stand downs" are used as a preventative or remedial action their intent is to provide specific training associated w/ an event. However, the informality associated w/ "Stand downs" make them less effective.	Implementation	6.1.2.c 6.1.3 6.1.4 6.2.2	Training	The root cause and corrective actions for CR02-04884 address this issue.	
02-05265	CA	1 of 1		The OE Coordinator does not have written qualification requirements.	OE	6.2.2	Qualification	This item will be addressed separately by the PIU.	
02-05341	CA	1 of 2		CR 01-2862 has an inappropriate cause determination. The cause analysis was superficial, details CAP Review Sec. 4.6 & experience review Q1	Cause	6.1.2.b 6.1.2.c	Cause LTA	The actions of CR's 02-00891 and 04884 will address this issue. The root cause of CR02-04884 addresses this issue.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-05021	CA	1 of 1		The dissemination of OE information is limited by the methods utilized. INPO says: use more.	OE	6.1.3	Procedure	This item is being addressed separately by PIU.	
02-05025	CA	1 of 2		No defined expectations for the use of "Stand down" as a method to accomplish corrective actions	Implementation	6.1.2.d 6.1.3 6.1.4 6.2.2	Training	The root cause and corrective actions for CR02-04884 address this issue.	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-05018	CA	1 of 1		No OED effectiveness review was performed in the last two years.	OE	6.1.3	Compliance	This is an OE issue.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-05017	CA	1 of 1		CA failed to establish a PI for SERs, SENs, and O&MRs	Oversight	6.1.3	Trend	See corrective actions for CR02-05017	

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-05015	CA	1 of 1		Written guidance on extending OE evaluations lacks the requirement & guidance to ensure timely review of OE.	OE	6.1.3 6.2.2	Not Timely	CR 02-05015 has been answered independently. The evaluation was complete and approved on 10/10/02. There were (2) actions generated and accepted.	

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-04941	CA	1 of 1	884	CRs 00-4138 & 01-1335 have potentially inappropriate cause evaluations, superficial analysis resulted in a missed opportunity. This is a 9/5/02 memo addition to CR 02-04884 review.	Cause	6.1.1 6.1.2.b 6.1.2.c	Cause LTA	The actions of CR's 02-00891 and 04884 will address this issue. The root cause of CR02-04884 addresses this issue.	
02-04954	CA	1 of 1	884	Review CAP-related Commitments (to CR 02-04885 group). This is a 9/5/02 memo addition to CR 02-04884 review.	Infrastructure	6.2.2	Procedure	Resolution of the corrective actions assigned in Condition Report 02-04885 will resolve the issues from this analysis. The root cause of CR02-04884 addresses this issue.	
02-04954	CA		PR/CAP 9.3.37.A	Identify CAP commitments and include references to the CAP NOP and Guideline in TERMS (PR/CAP 9.3.37.A).	Infrastructure		Procedure	Will be considered complete/addressed with implementation of the corrective actions assigned in Condition Report 02-04885.	
02-04954	CA		PR/CAP 9.3.37.B	Ensure that CAP commitments are properly addressed, incorporated, and referenced in the CAP NOP & Guideline (PR/CAP 9.3.37.B)	Infrastructure		Procedure	Corrective actions will be processed to close or revise commitments, as necessary, or revise the NOP to include the specifics as written. CAFs 04885 - 04, 09, 10.	
02-04954	CA		PR/CAP 9.3.37.C	Evaluate CAP commitments in TERMS to determine which should be cancelled, changed, or closed (PR/CAP 9.3.37.C).	Infrastructure		Procedure	Corrective actions will be processed to close or revise commitments, as necessary, or revise the NOP to include the specifics as written. CAFs 04885 - 04, 09, 10.	

Master CR List

Davis-Besse
Corrective Actions Program
Improvement Plan

Condition Report	CAT	Item Number		Issue	Functional Barrier	02-00891 Cause	Affinity Category	Issue CA References (CAs don't include extent of condition reviews that may be required by individual CRs	4884 CAF
02-04796	NF		PR/CAP 9.3.36	Create guidance for training and the the development of corrective actions. Including human performance considerations (PR/CAP 9.3.36).	Implementation		Training	This item will be addressed by the establishment of new qualification processes implemented by actions in CR's 02-00891, 04884, and 05960. CR 02-05960, owned by Training, is applying SAT, needs analysis, of the entire CR process, and is intended to determine and provide all required training for the CAP.	
02-04885	CB	1 of 1		CAP was ineffective as CAQs were not appropriately evaluated and resolved. Basis for root cause evaluation of the CAP in areas of infrastructure and programmatic requirements.	Cause	6.1 6.2	CAs LTA	Root causes and corrective actions are addressed in CR02-04884 & 04885.	