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Docket Number 50-346
License Number NPF-3
Serial Number 1-1405

March 4, 2005

Mr. James L. Caldwell, Administrator
United States Nuclear Regulatory Commission
Region III
2443 Warrenville Road, Suite 210
Lisle, IL 60532-4352

Subject: Resubmittal of Redacted Organizational Safety Culture and Safety Conscious Work Environment Independent Assessment Report and Actions Plans for the Davis-Besse Nuclear Power Station

Dear Mr. Caldwell:

The purpose of this letter is to resubmit the Organizational Safety Culture and Safety Conscious Work Environment (SC/SCWE) Independent Assessment Report for the Davis-Besse Nuclear Power Station (DBNPS) with confidential/sensitive unclassified information related to the facility's physical protection redacted. This resubmittal was initially discussed with Ms. Christine Lipa and Mr. Monte Phillips of your staff on February 16, 2005. Additional follow-up discussions were held with Ms. Christine Lipa on February 24, 2005.

The original SC/SCWE Independent Assessment Report for the DBNPS was submitted on February 4, 2005, via DBNPS letter Serial Number 1-1401. This resubmittal, DBNPS letter Serial Number 1-1405, is in accordance with the Nuclear Regulatory Commission (NRC) letter dated March 8, 2004, "Approval to Restart the Davis-Besse Nuclear Power Station, Closure of Confirmatory Action Letter, and Issuance of Confirmatory Order."

The SC/SCWE Independent Assessment data gathering and interviews were conducted from November 2 to November 18, 2004. The information was analyzed and the results presented to the DBNPS management on December 21, 2004, marking the end of the assessment. The Assessment was performed in accordance with the Assessment Plan submitted via letter Serial Number 1-1383 dated August 4, 2004. The enclosed report contains the results of the Independent Assessment as well as action plans to address the Areas For Improvement (AFI) identified by the Assessment.

The information contained in Section 1 of the Assessment Report submitted in DBNPS letter Serial Number 1-1401, specifically page 22, is the type of information that is requested to be maintained confidential and withheld from public disclosure as it is confidential/sensitive unclassified information related to the facility's physical protection. The commitments contained in the Attachment and the AFI Action Plans are unchanged.

FENOC understands that DBNPS letters Serial Number 1-1401, dated February 4, 2005, and Serial Number 1-1403, dated February 21, 2005, are to be withheld from public disclosure under 10CFR2.390. The confidential/sensitive unclassified information has been redacted in this resubmittal. As previously stated, this resubmittal has been discussed with Ms. Christine Lipa and Mr. Monte Phillips of your staff.

If you have any questions or require additional information, please contact Mr. Clark A. Price, Manager - Regulatory Compliance at (419) 321-8585.

Sincerely yours,

Barry S. Allen
for Mark B. Bezilla

JCS

Attachment - Commitment List

Enclosure - Independent Assessment of the Davis-Besse Organizational Safety Culture (Including Safety Conscious Work Environment)

cc:

USNRC Document Control Desk
S. A Reynolds, Chairman, NRC 0350 Panel
DB-1 NRC/NRR Senior Project Manager
DB-1 Senior Resident Inspector
Utility Radiological Safety Board

COMMITMENT LIST

The following list identifies those actions committed to by the Davis-Besse Nuclear Power Station (DBNPS) in this document. Any other actions discussed in the submittal represent intended or planned actions by the DBNPS. They are described only for information and are not regulatory commitments. Please notify the Manager - Regulatory Compliance at (419) 321-8585 at the DBNPS with any questions regarding this document or associated regulatory commitments.

COMMITMENTS	DUE DATE
1. Davis-Besse commissioned an independent team to facilitate an internal assessment of the results obtained from the annual internal SCWE survey conducted in October 2004. Employees from all levels of the organization participated in sessions facilitated by the independent assessment team to identify drivers and themes contributing to the survey results to help direct and focus improvement. Several areas for improvement, identified by this initiative, have also been incorporated into the following actions.	Completed - 1/14/05
2. Davis-Besse provided the opportunity for a cross-section of site employees to hear the direct presentation (formal debrief) of the results of the COIA on Organization Safety Culture and SCWE. On December 21, 2004, the presentation of the COIA results was made by the Independent Assessment Team Lead to management and representatives of the workforce, providing the opportunity for direct employee interaction with the Team Lead for questions and answers. Note: This in effect began addressing AFIs 1, 2, 5, & 6.	Completed - 12/21/04

COMMITMENTS	DUE DATE
3. Davis-Besse asked for feedback from the employees present at the December 21, 2004, COIA presentation in regards to their recommendation for the most effective forum for communicating the COIA results to the remaining site employees. A recommendation was made and accepted for a site all-hands meeting. On January 5, 2005, the COIA results were presented to site employees in an all-hands meeting. The presentation was again made by the Independent Assessment Team Lead with opportunities for direct employee interaction for questions and answers. Note: This in effect continued addressing AFIs 1, 2, 5, & 6.	Completed - 1/5/05
4. To begin addressing AFIs 1, 2, 3, 4, & 5, and the cross-cutting issue areas, the management team adopted the following areas of focus to demonstrate a clear overriding priority for Nuclear, Industrial, Radiological, and Environmental Safety for the 2005 Steam Generator Inspection Mid-Cycle Outage: - Safety vs. Schedule Focus - Overall Communication Quality - Openness of Communication of Emergent Issues - Openness for Employee Ideas for Solutions to Emergent Plant Issues - Resolution and Disposition of Emergent Issues - Engagement of the Workforce A follow-up employee survey will be performed within 30 days of completion of the Steam Generator Inspection Mid-Cycle Outage to see how actions and behaviors were perceived by the organization.	Within 30 days of completion of the Steam Generator Inspection Mid Cycle Outage
5. To address AFI 6, FENOC will review the organizational hierarchy of the Employee Concerns Program (ECP).	Complete by 5/31/05

COMMITMENTS	DUE DATE
6. To address AFI 6, Actions will be taken to develop and implement a communication campaign to re-familiarize employees with the FENOC Employee Concerns Program (ECP) and the Safety Conscious Work Environment Review Team (SCWERT) functions.	Complete by 5/31/05
7. To address AFIs 1 - 6, and the four cross-cutting issue areas, Davis-Besse will engage the workforce through the TOP (Teamwork, Ownership, Pride) Team, supplemented by other employees from the organization, to work as a multidiscipline/ cross-functional team for the purpose of developing alignment and communication tools to facilitate the communication and continued learning of FENOC/Davis-Besse vision, values, standards and expectations, priorities, including short and long-term goals for the organization. Facilitated department/section level organizational alignment sessions will be held utilizing employee-developed alignment maps designed to enhance communications, safety culture, organizational effectiveness and individual performance through: - Communication of Vision, Values, Standards & Expectations - Communication of FENOC and Davis-Besse priorities and goals - Discussion of Inter and Intra department working relationships - Refresher training on Safety Culture & SCWE - Refresher training on Accountability & Ownership	Complete by 6/30/05
8. Perform a modified mid-period SCWE Survey following the organizational alignment sessions to evaluate the initial effectiveness of this initiative.	Complete by 7/31/05

COMMITMENTS	DUE DATE
9. To additionally address AFIs 1, 2, 3, 4, & 5, actions will be developed and implemented to devote more time in the work-week for manager/supervisor and manager/employee interactions for listening to and addressing issues and concerns. This action is to develop a more structured administrative approach to site meetings and activities to make additional time available during the work week for management interaction with the workforce.	Complete by 6/30/05

Docket Number 50-346
License Number NPF-3
Serial Number 1-1405
Enclosure

INDEPENDENT ASSESSMENT OF THE
DAVIS-BESSE
ORGANIZATIONAL SAFETY CULTURE
(INCLUDING SAFETY CONSCIOUS WORK ENVIRONMENT)

(43 pages follow)

Independent Assessment of the Davis-Besse Organizational Safety Culture (Including Safety Conscious Work Environment)

Assessment Number:

2004-0104

December 21, 2004

Team Members:

Dr. Sonja B. Haber, Human Performance Analysis, Team Leader
Dr. Deborah A. Shurberg, Independent Consultant (Human Performance Analysis)
Rear Admiral (Ret.) Whitney Hansen, Independent Consultant (Dolphin Enterprises)
Aldo Capristo, Fleet Employee Concerns Program Manager, Nuclear Management Co.

Submitted by:

Sonja B. Haber – Independent Assessment Team Lead

Assessment Action Plans (Section II) Approved:

DBNPS Vice President - Nuclear Date 2/4/05

Assessment Action Plans (Section II) Reviewed:

FENOC Vice President - Oversight Date 2/4/2005

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EXECUTIVE SUMMARY

In March of 2002, the FirstEnergy Nuclear Operating Company (FENOC) discovered a significant degradation of the Davis-Besse Nuclear Power Station (the Station) reactor pressure vessel head and entered an extended shutdown. The Station was placed under the U.S. Nuclear Regulatory Commission's (NRC) Inspection Manual Chapter 0350 process for restart. Prior to Restart, FirstEnergy performed reviews and took actions to develop a model of Safety Culture and Safety Conscious Work Environment. Assessment and actions were taken to ensure that these important attributes supported the decision to restart the Davis Besse Station. As part of the FENOC Restart Plan, the Station committed to perform an independent evaluation of the safety culture at Davis-Besse. That evaluation was conducted during February 2003. On March 8, 2004 Confirmatory Order Modifying License No. NPF-3 was issued by the U.S. NRC requiring FENOC to conduct independent assessments of four different performance areas at the Station. One of the identified areas is Organizational Safety Culture, including Safety Conscious Work Environment. This assessment and report satisfies that requirement.

This assessment was conducted in November 2004 seven months after restart. This report describes the results of an independent assessment of the status of the existing Organizational Safety Culture, including the Safety Conscious Work Environment (SCWE), at the Davis-Besse Nuclear Power Station. The primary objective of the assessment was to provide information regarding the presence or absence of safety culture characteristics at Davis-Besse. Observations regarding the Station's safety culture characteristics and areas in need of attention with respect to those characteristics are presented. The assessment also examined the rigor, criticality, and overall quality of Davis-Besse internal self-assessment activities in this performance area.

Safety culture characteristics that are important for the existence of a positive safety culture within a nuclear facility have been identified to include:

- **Safety is a clearly recognized value in the organization.**
- **Accountability for safety in the organization is clear.**
- **Safety is integrated into all activities in the organization.**
- **A safety leadership process exists in the organization.**
- **Safety culture is learning driven in the organization.**
- **A process for establishing a strong and effective SCWE is in place.**

Measurable performance objectives associated with each of the safety culture characteristics and particular behaviors and attitudes have been identified to evaluate these objectives.

Using a methodology originally developed with the support of the U.S. Nuclear Regulatory Commission, and the same one that was applied at the Station during February 2003, an assessment of selected organizational behaviors and attitudes was conducted to evaluate the Station in terms of these safety culture characteristics and their associated performance objectives. The methodology involves obtaining a variety of quantitative and qualitative information, using multiple data-gathering methods. The information collected is largely based

upon the perceptions of the individuals in the organization. The evaluation is a 'point in time' snapshot of the Davis-Besse Station, but cultural beliefs and assumptions do not change quickly.

Overall, the Team found that the Davis-Besse Safety Culture and Safety Conscious Work Environment had not significantly changed since the last independent assessment conducted in February 2003. While several initiatives designed to facilitate and promote the behaviors important to a positive safety culture and safety conscious work environment were observed in the course of the evaluation, the results of the assessment also indicated that the six safety culture characteristics are not yet fully developed in the behavior and attitudes of station personnel. Safety Culture behavior and attitudes are not something that are changed in the short term; and initiatives by management must be continually assessed to ensure long term changes. In order to ensure a long-term self-sustainable safety culture is created and maintained at Davis-Besse, it is recommended that an Action Plan be developed addressing the Areas for Improvement.

Initiatives important to promoting a positive safety culture that were observed include:

- FirstEnergy and FENOC have allocated some additional needed funding for the backlog reduction effort;
- FENOC management has developed business practices to monitor and assess safety culture and safety conscious work environment (SCWE) attributes:
- Multiple mechanisms have been put into place at the Station to communicate the value of safety; and
- Significant efforts through the development of common processes are being made to improve fleet wide performance.

The results from this assessment were evaluated against the six characteristics identified to be important for the promotion of a positive safety culture and the following conclusions were identified as Areas for Improvement:

- Although safety is a recognized value in the organization, it is inconsistently internalized across all levels of personnel. Challenges still exist in the transmission, comprehension and implementation of the safety message.
- Accountability and ownership for safety are not yet universally accepted at all levels within the organization. Recent events and a widespread perception of inconsistent application of accountability standards have created reluctance on the part of individuals to willingly accept responsibility for safety.
- Safety is not consistently integrated into all activities in the organization. Attitudes reflecting differences in beliefs about safety impede the internalization of the behaviors necessary for long term and continuous safety performance.
- An integrated and cohesive organizational safety leadership process is not clearly evident. The values and attitudes of the workforce have generally remained consistent since the last evaluation conducted in February 2003. Differences between work groups, and between management and staff, indicate that personnel are not yet fully aligned with a common set of values. Management's safety goals have not been effectively communicated, modeled or understood by Station personnel.

- A learning-driven organization is still not fully developed. Efforts to improve future performance by learning from the Station's past performance, from industry performance, and from the day-to-day implementation of the organization's programs and processes, are not effectively implemented nor recognized to be of high value at all levels of the organization.
- The process for establishing a strong, effective and sustainable SCWE continues to need management attention. Many employees still do not perceive that the attributes of such a program currently exist at Davis-Besse.

Additionally, four cross-cutting issues should be considered in the development of the Action Plan:

- FENOC and Davis-Besse Senior Management need to develop a long-term strategic vision and plan for safety culture and safety conscious work environment. Emphasis should be placed on an integrated corrective action plan and the development of more predictive and leading performance measures that are related to behaviors and attitudes. An engineering culture approach to non-engineering problems will not provide the necessary solutions.
- A focus on trust needs management attention at all levels in the FENOC and Davis-Besse organizations. The development of skills for resolving non-technical issues that will demonstrate respect and recognition to individuals needs to be accomplished. The use of the talents, knowledge and overall competence of all employees will improve the commitment and resolve to improve the behaviors necessary for promoting safety culture.
- Challenges in communication in the Davis-Besse organization with respect to clear and consistent expectations, standards, and values, continue to require management actions. The values and attitudes of the workforce have generally not changed since the last evaluation conducted in February 2003 or have slightly declined. Differences between work groups indicate that personnel are not yet aligned with a common set of values.
- A management focus should be placed on safety being internalized by all employees as a way of doing business. The modeling of the right behaviors by management, supervision, and staff are a critical part of the development and maintenance of a positive safety culture and safety conscious work environment.

The monitoring and assessment of Safety Culture and Safety Conscious Work Environment (SCWE) by Davis-Besse were also evaluated as part of this assessment. Results obtained by Davis-Besse on the November 2004 SCWE Survey were similar to the SCWE results obtained in this assessment. The results obtained by Davis-Besse in their Annual Safety Culture Report 2004 were not consistent and generally less insightful than the results obtained in this independent assessment. Recommendations for improvement of the Safety Culture Monitoring and Assessment tools currently being used by the Station are identified.

SECTION 1: Scope, Methodology and Conclusions

1.1 Introduction

In March of 2002, the FirstEnergy Nuclear Operating Company (FENOC) discovered a significant degradation of the Davis-Besse Nuclear Power Station (the Station) reactor pressure vessel head and entered an extended shutdown. The Station was placed under the U.S. Nuclear Regulatory Commission's (NRC) Inspection Manual Chapter 0350 process for restart. As part of the FENOC Restart Plan, the Station committed to perform an independent evaluation of the safety culture at Davis-Besse. That evaluation was conducted during February 2003. On March 8, 2004 Confirmatory Order Modifying License No. NPF-3 was issued by the U.S. NRC requiring FENOC to conduct independent assessments of four different performance areas at the Station. One of the identified areas is Organizational Safety Culture, including Safety Conscious Work Environment.

This report describes the results of an independent and comprehensive assessment of the status of the existing Organizational Safety Culture, including the Safety Conscious Work Environment (SCWE), at the Davis-Besse Nuclear Power Station. The assessment was performed in accordance with the requirements of the March 8, 2004, Confirmatory Order Modifying License No. NPF-3, and Davis-Besse Business Practice DBBP-VP-0009, Management Plan for Confirmatory Order Independent Assessments. The primary objective of the report is to provide information regarding the presence or absence of safety culture characteristics. Observations regarding the characteristics of the Station's safety culture that should be sustained are presented. Areas in need of attention and management focus to improve the Station's safety culture are also presented. The report also describes the assessment of the rigor, criticality, and overall quality of Davis-Besse internal self-assessment activities in this performance area.

1.2 Background

Evaluating the safety culture of a particular organization poses some challenges. Cultural assumptions, which influence behavior and, therefore, safety performance, are not always clearly observable. Schein (1992) presents a model of culture that helps in understanding how the concept can be assessed. In Schein's model, culture is assumed to be a pattern of shared basic assumptions, which are invented, discovered or developed by an organization as it learns to cope with problems of survival and cohesiveness.

According to Schein's three-level model, an organization's safety culture can be assessed by evaluating the organization's artifacts, claimed values, and basic assumptions. On the first level of the model are the organization's artifacts. Artifacts are the visible signs and behaviors of the organization, such as its written mission, vision, and policy statements. The second level consists of the organization's claimed or espoused values. Examples of claimed values might include mottos such as, "safety first" or "maintaining an open reporting work environment." The third level is comprised of the basic assumptions of the individuals within the organization.

Basic assumptions are the beliefs and attitudes that individuals bring into the organization or that are developed because of experience within the organization. Examples of basic assumptions may include, "safety can always be improved" or "everyone can contribute to safety." The organization's basic assumptions regarding safety culture are less tangible than the artifacts and claimed values. They are often taken for granted within the organization that shares the culture.

Artifacts, claimed values, and basic assumptions are evaluated to identify the presence or absence of the characteristics that have been found to be important for the existence of a positive safety culture within a nuclear facility (INSAG-15, 2002). These characteristics include:

- **Safety is a clearly recognized value in the organization.**
- **Accountability for safety in the organization is clear.**
- **Safety is integrated into all activities in the organization.**
- **A safety leadership process exists in the organization.**
- **Safety culture is learning driven in the organization.**

Performance objectives are associated with each of the safety culture characteristics. Particular behaviors and attitudes have been identified to evaluate the extent to which the organization has attained these objectives. The relationship between the five characteristics identified as important for promoting a positive safety culture, the performance objectives associated with each characteristic, and the organizational behaviors that can be measured to assess the safety culture characteristics is depicted in Figure 1. This framework provides the basis for the evaluation of safety culture that was conducted.

A sixth characteristic was added to the framework to specifically evaluate the absence or presence of a Safety Conscious Work Environment (SCWE):

- **A process for establishing a strong and effective SCWE is in place.**

The performance objectives associated with this characteristic are based directly upon the U.S. NRC Policy Statement issued in the Federal Register, Vol. 61 #94 dated May 14, 1996, and the U.S. NRC March 26, 2003 Staff Requirements Memorandum on Safety Conscious Work Environment:

- Employees at all levels in the organization understand and perceive the SCWE Program to be effective.
- Responsibility for raising concerns is not avoided because of fear of retaliation.
- The SCWE Program is clearly supported by management.
- An effective process is available for employees to raise their concerns.

This methodology was originally developed with the support of the U.S. Nuclear Regulatory Commission (1991) to assess the influence of organization and management on safety performance. The methodology entails collecting a variety of information that is largely based upon the perceptions of the individuals in an organization, as well as conducting structured observations of individuals performing work activities. Perceptions are often reality when it

comes to influencing behavior and understanding basic assumptions. Therefore, the data collected regarding individuals' perceptions are critical to this type of evaluation.

1.3 Scope of Safety Culture Evaluation

The scope of this safety culture evaluation was defined to include all of the functional areas at the Davis-Besse Nuclear Power Station, the FirstEnergy Nuclear Operating Company (FENOC) and some corporate functions of FirstEnergy Corporation (FE). The evaluation team was on site at the Davis-Besse Nuclear Power Station from November 2 – 4, 2004 to administer an Organizational and Safety Culture Survey and again from November 8 – 18, 2004 to conduct the interviews and observations.

The on-site team was comprised of three independent consultants, two from Human Performance Analysis, Corp. (HPA) and one from Dolphin Enterprises. One additional team member was an industry peer representative from the Nuclear Management Company. Abbreviated biographies of the team members are presented at the end of this report.

This Safety Culture Evaluation is a 'point in time' snapshot of the Davis-Besse Nuclear Power Station. Although the team recognizes that FE, FENOC and Davis-Besse have made organizational and process changes to continue improving the Station's safety culture since the point in time at which the evaluation was conducted, the team has not assessed the impact of these actions. Therefore, changes that have occurred subsequent to the time of the evaluation are not discussed in this report.

1.4 Methodology

The complete details of the methodology used in this evaluation are presented elsewhere (Haber and Barriere, 1998), but are briefly described in this section. Five methods are used to collect information on the organizational behaviors identified in Figure 1. These methods are:

- Functional Analysis
- Structured Interviews
- Behavioral Anchored Rating Scales (BARS)
- Behavioral Checklists
- Organizational and Safety Culture Survey

The use of multiple methods to assess any organizational behavior assures adequate depth and richness in the results obtained. In addition, confirming the results obtained through the use of one method with results obtained through the use of another method provides convergent validity for the results. A brief description of each method is provided below.

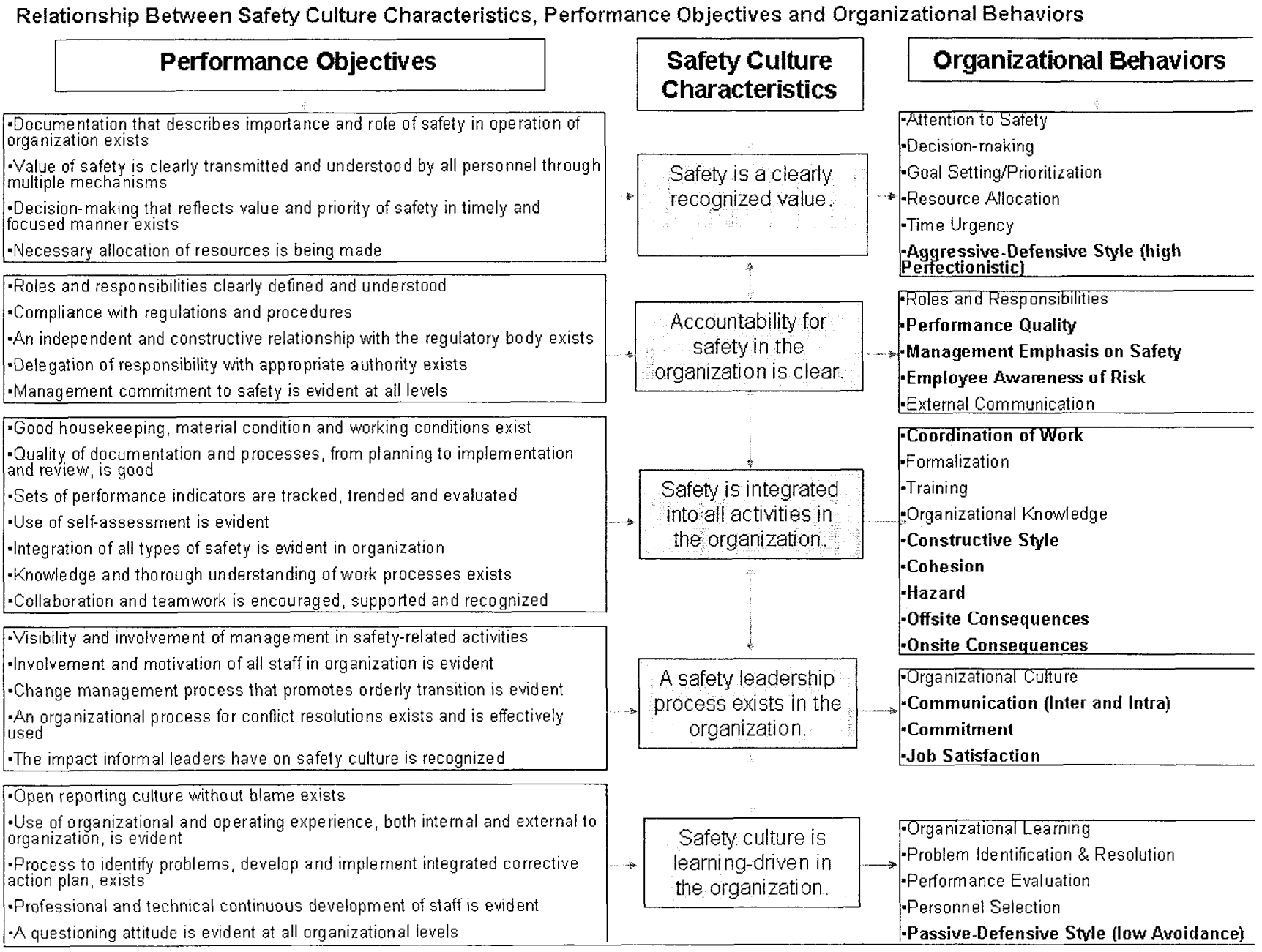

Figure 1. Relationship between safety culture objectives, characteristics and organizational behaviors

1.4.1 Functional Analysis

The purposes of the Functional Analysis were to: (1) clearly identify the organizational units of FE, FENOC, and the Davis-Besse Nuclear Power Station, (2) gain an understanding of each organizational unit's functions and interfaces, (3) examine the way in which information flows among and within units, and (4) identify the key supervisory and managerial positions of each organizational unit. Information to support this activity was obtained primarily through the review of the documentation identified below, some semi-structured interviews, and some observations of organizational activities. The organizational behaviors to be evaluated were identified from the information collected during this analysis.

Documentation Review

Prior to the team's activities on site, the following documents were reviewed:

- Safety Culture Monitoring (Rev. 00), NOBP-LP-2502, 3/2/04
- Safety Culture Assessment (Rev. 00), NOBP-LP-2501, 11/24/03
- NRC Special Inspection – Management and Human Performance Corrective Action Effectiveness Report No. 50-346/2003012(DRP)
- Davis-Besse Nuclear Power Station Operational Improvement Plan, Operating Cycle 14, Rev5, 6/21/04.
- Davis-Besse Nuclear Power Station Results as of 6/30/04 – SCWE Overall Health Assessment Results
- Employee Concerns Program 2004 Results – Davis-Besse
- "Safety Culture Long-Term Improvement Plan" dated 9/8/03
- Monthly Performance Indicators for Safety Culture (last quarter)
- Annual QA Assessment
- FENOC's SCWE Action Plan
- Internal to External Safety Culture Assessment Comparison, Rev 0, 6/11/03
- Business Practice, FENOC Safety Culture Performance Indicators, Rev. 1, 2/3/02
- SCWERT Charter
- Score Program Safety Behavior Safety Criteria for Trending, 3/03
- Monthly monitoring of safety behavior attributes and goals
- Results of most recent quarter of the safety culture monitoring activities
- Business Plan Reports documenting any management criteria concerns that come out of quarterly Safety Culture monitoring activities.
- Condition Reports documenting any declining commitment areas based on the safety culture monitoring activities.
- Safety Culture Assessments performed to date at DB
- Any red indicator corrective actions to be formally presented to the Senior Leadership Team

Organizational Charts for DB

Various other documents were requested and reviewed while the team was on site. The team also had access to the Plant's intranet system which included the Condition Reporting System (CREST).

Organizational Behaviors

Based upon the results obtained from the Functional Analysis, the following organizational behaviors were identified for evaluation:

Attention to Safety – Attention to safety refers to the characteristics of the work environment, such as norms, rules, and common understandings that influence personnel's perceptions of the importance that the organization places on safety. It includes the degree to which a critical, questioning attitude exists that is directed toward organizational improvement.

Communication – Communication refers to the exchange of information, both formally and informally, primarily between different departments or units. It includes both the top-down (management to staff) and bottom-up (staff to management) communication networks.

Coordination of Work – Coordination of work refers to the planning, integration, and implementation of work activities of individuals and groups.

Formalization - Formalization refers to the extent to which there are well-identified rules, procedures, and/or standardized methods for routine activities as well as unusual occurrences.

Goal Setting/Prioritization – Goal setting/prioritization refers to the extent to which facility personnel understand, accept, and agree with the purpose and relevance of goals.

Organizational Learning – Organizational learning refers to the degree to which individual personnel and the organization, as whole, use knowledge gained from past experiences to improve future performance.

Performance Evaluation – Performance evaluation refers to the degree to which facility personnel are provided with fair assessments of their work-related behaviors. It includes regular feedback with an emphasis on improvement of future performance.

Performance Quality – Performance quality refers to the degree to which facility personnel take personal responsibility for their actions and the consequences of the actions. It also includes commitment to and pride in the organization.

Problem Identification and Resolution – Problem identification and resolution refers to the extent to which the organization encourages facility personnel to draw upon knowledge, experience, and current information to identify and resolve problems.

Roles and Responsibilities – Roles and responsibilities refer to the degree to which facility personnel's job positions and departmental work activities are clearly defined and carried out.

Training – Training refers to the degree to which personnel are provided with the knowledge and skills required to perform tasks safely and effectively. It includes personnel's perceptions regarding the general usefulness of the training program.

1.4.2 Structured Interview Protocol and Behavioral Anchored Rating Scales (BARS)

The Structured Interview Protocol was derived from a database of interview questions. A particular subset of questions can be selected to provide a predefined focus to an interview session. The evaluation team members selected a set of questions to gather information related to the safety culture characteristics and to assess the organizational behaviors identified from the Functional Analysis.

A total of 93 interviews were requested and conducted as part of the evaluation. Each interview lasted approximately one hour and a few less formal follow-up interviews were conducted to provide further clarification when necessary.

The Behavioral Anchored Rating Scales (BARS) were administered to those individuals who participated in the structured interviews. Each interviewee was administered the BARS belonging to four organizational behaviors. The BARS provided the opportunity to quantitatively summarize qualitative data associated with the interviewee's perceptions of the organization. Approximately 360 BARS were collected representing 11 organizational behaviors.

Job positions were placed in categories labeled as Directorates, based upon the Director to whom the functional group reports. The Strategic Level was defined as the FE Chairman and CEO, the Corporate Officers of FENOC, and the Directors of the Davis-Besse Station. Senior Management was defined as the subset of the Strategic Level group comprised of the Site Vice President and the Station Directors.

1.4.3 Behavioral Checklists

The use of behavioral checklists provides an unobtrusive assessment of particular organizational behaviors and structures observations of critical processes including shift turnovers, work planning, management meetings, work unit meetings, and responses to planned or unplanned events. The appropriate behavioral checklists to be implemented were selected based upon the type of meeting or activity being observed.

During the course of the evaluation, over 55 station observations were made. The data represent observations of Control Room Turnovers, Operations Shift Turnover Meetings, Management Alignment and Ownership Meetings (MAOM), Fleet Calls, Work Scheduling Meetings, Shop Morning Briefings, Corrective Action Review Board Meeting, Senior Management Team Meetings, 4Cs Meeting, Supervisors' Briefings, Pre-Job Briefings, Plant Safety Committee Meeting, Plant Health Committee Meeting, Duty Calls, Mid-Cycle Outage Meeting, CNRB Review Meeting, TOP Team Meeting, and a Fire Pump Post Maintenance and Annual Performance Test.

1.4.4 Organizational and Safety Culture Survey

The primary purpose of administering a paper-and-pencil survey is to measure, in a quantitative and objective way, topics related to organizational culture, safety culture, coordination of work, job satisfaction, communications, work group cohesion, organizational commitment, perceived

hazardous nature of work, environment, safety and health issues, and attention to safety. By conducting a survey, a broad sample of the individuals in the organization can be obtained and it is possible to gather information from a larger number of personnel than can be reached through the interview process alone.

The total population of 715 full-time, permanent Station personnel was invited to participate in the survey. A total of 592 individuals actually completed the survey, which represents an 83% response rate. This response rate is acceptable for the purpose of drawing accurate conclusions regarding the perceptions of Davis-Besse personnel.

1.5 Conclusions

The conclusions presented below summarize the insights gained from the evaluation team's analyses of the structured interviews, BARS, checklists and survey data. The conclusions are presented in terms of the six Safety Culture Characteristics and their associated Performance Objectives. Observations and Areas in Need of Attention related to each Performance Objective are presented.

1.5.1 Safety is a clearly recognized value in the organization.

Performance Objective 1.1: Documentation that describes the importance and role of safety in the operation of the organization exists.

Observations

- Documentation exists that demonstrates the clear and high priority the organization places on safety, such as the FENOC Safety, Safety Culture and SCWE Policies.
- FENOC has developed a well-documented process to assess Safety Culture across their facilities.
- Industrial safety messages and human performance strategies are documented and communicated daily during the shift turnovers and Management Alignment and Ownership Meetings (MAOM).
- Functional groups have documentation describing expectations and standards with respect to safety, such as the Conduct of Operations, the Conduct of Maintenance, and Engineering Principles.
- FE has incorporated safety into its strategic vision statement which is posted on its public internet website. Safety has always been identified as a core value on the FE and FENOC internal intranet websites.
- The Team considers this an area of performance that has improved since the 2003 Evaluation.

Areas in Need of Attention

- Many individuals interviewed across all groups and organizational levels in the Station, are still not clear about the differences between the concepts of Safety Culture and Safety Conscious Work Environment (SCWE). Additional communication needs to be provided so that the concepts are clearly understood and utilized properly.

Performance Objective 1.2: The value of safety is being clearly transmitted and understood by all personnel through multiple mechanisms.

Observations

- Multiple mechanisms exist to communicate the value of safety throughout the organization. These mechanisms include shift turnovers, stand-downs, group meetings, town hall meetings, 4Cs meetings, safety committee meetings, TOP team meetings, newsletters, and training.
- The Station's industrial safety performance continues to be recognized by employees as a significant accomplishment.
- Some behaviors are occurring which continue to indicate that the value of safety is understood.
    - Personnel continue to write Condition Reports (CRs) to raise issues related to safety.
    - Operators in training articulated a strong focus on nuclear safety.
    - Many individuals indicate that it has not been a problem to raise safety issues in the past, and they do not perceive it to be a problem now.
- Results from the survey data indicate that the groups in the Operations Directorate (i.e., Operations, Radiation Protection, Chemistry, and Maintenance) and the Security work group understand the hazardous nature of their work and the need to pay attention to potential danger more so than other groups.
- The overall score for the Davis-Besse employee population on the Attention to Safety Scale in the survey indicates that the general employee population at the Station believes that the organization highly values attention to safety in its work activities. In particular, behaviors identified as 'doing one's job well', 'learning from mistakes', and 'asking questions whenever necessary' were perceived to be highly valued. The results also indicated that there was alignment across all work groups and job positions on this value.
- The survey results indicated a very high overall mean score on the Perfectionistic Scale, suggesting that individuals perceive they need to work extremely hard to avoid all mistakes.

Areas in Need of Attention

- Performance of some behaviors that indicate that the value of safety is consistently demonstrated and understood by all members of the organization should be improved.
    - Unresolved safety issues exist with respect to housekeeping and storage, e.g., extended storage of steam generator mockups and excess materials in the warehouse, and the volume of stored radioactive material in the radwaste building.
    - Safety Committee efforts to get resolution on several items have been ineffective, e.g., guardrail placed around the pond near the training building.
    - The communication of a daily safety message is not highly effective since it is often not emphasized or made relevant to the day's planned work activities.
- Senior Management at the Station perceives that the staff believes that schedule adherence is equivalent to production pressure whereas most of the staff acknowledges that having a meaningful and realistic schedule would be very helpful. This difference provides an example of a lack of alignment within the organization that needs to be addressed.

- Many personnel have the perception that management continues to transmit inconsistent messages with respect to the value of safety over production.
    - Staff reports still 'hearing' messages about how they should not take the plant down at any cost, e.g., FW-780 event.
    - Plate steel delivered to the warehouse arrived on broken pallets and was not accepted by the individual on duty because the plates could not be unloaded safely. The individual was later told by his supervision that he was wrong to reject the plates because it created a 24 hour delay in the project.
    - One of the Station's top priorities is to work down the backlog and several individuals indicated that there is unspoken pressure not to write new CRs.
    - The exceptionally high mean score on the Perfectionistic Scale of the survey, in combination with the other data obtained, may reflect some of this perceived production pressure with a heightened sensitivity not to make any mistakes.

Performance Objective 1.3: Decision making that clearly reflects the value and priority of safety in a timely and focused manner exists.

Observations

- Examples of conservative decision-making with respect to safety were observed during this evaluation, including:
    - The decision to delay post maintenance testing on the fire pump until appropriate resources were available;
    - Detailed pre-job briefs that included discussions on contingency planning.
    - Contingency planning for RCP seal replacement during the mid-cycle outage.
- The implementation of the Nuclear Operating Procedure (NOP) on Decision Making and Problem Solving is a positive example of efforts to facilitate the decision making process.

Areas in Need of Attention

- The level of trust between Senior Management and all levels of the organization must be improved to facilitate ownership and commitment to the decisions that must be made. Decision making in the organization is still a very top-down process and is primarily based upon the perception reported to the team by Senior Management that there is a lack of trust in the ability of Station managers and supervisors to make effective decisions.
    - Almost all meetings observed in which representatives of multiple organizational levels were present were conducted in a very top-down manner. Most of the communication that occurred in those meetings was initiated by the more senior members present. Resolution on identified issues was primarily decided by senior personnel. Less senior personnel typically did not volunteer additional information, raise alternatives, or challenge assumptions underlying the decisions.
    - Several recently initiated activities are perceived by managers and supervisors to be indicative of the lack of trust by Senior Management, e.g., additional surveillance reviews by off-shift SROs, frequency of duty calls, and reviews of all ECRs by supervisors.
- The Feedwater Valve 780 event has been well documented and analyzed with respect to the lack of conservative and effective decision making that contributed to the event. The resolution of this issue remains a barrier to the promotion of trust within the organization.

- Several additional examples of decision making that do not clearly reflect the value and priority of safety were identified and need to be addressed.
    - The pre-start up test of the auxiliary feed water pump at normal operating pressure and temperature.
    - Senior Management requesting shift management to conduct activities without a procedure related to transformer X01.
    - The request by management to remove the covers of the RCP motors while they were running to work on an oil leak.
    - Notifications that are closed out without the appropriate corrective actions, e.g., barricade around steam leak until plume grew sufficiently to contact an electrical panel.
    - The absence of Independent Oversight as an active participant in many activities.
- The development of the Fleet Value Rating Scale to prioritize work does not include a high enough consideration for personnel safety, e.g., identification of safety issue on refueling canal ladders by another Site Vice President visiting the Station, only received 38 out of the 300 points needed to get a high enough priority to get the work done. It is understood that this is being reviewed.

Performance Objective 1.4: The necessary allocation of resources, including time, equipment, personnel and money, is being made.

Observations

- FENOC has allocated additional monies to Davis-Besse, for this year and next, to assist efforts in the reduction of the backlog.
- Transitional assignments have been allocated to help alleviate some of the resource staffing issues that occurred as a result of the August 2004 FENOC reorganization.

Areas in Need of Attention

- The perception by Davis-Besse employees that the FENOC reorganization was implemented without consideration given to activities that were being performed needs to be clarified by Senior Management, e.g., programs related to breakers and motors that were not being implemented at the other FENOC plants were not considered in the new staffing levels and benchmarking against industry top quartile performing plants that do not have the same level of commitments and issues to address that Davis-Besse currently has.
- The Station personnel expressed concerns about the impact of the August 2004 FENOC reorganization on Davis-Besse's ability to meet some significant milestones in the coming year because of its special status, e.g., mid-cycle outage, 0350 commitments, especially backlog reduction. These concerns need to be addressed by Senior Management.
- The implementation of the FENOC policy on resource sharing needs to be better communicated and understood by Station personnel. Employees described sending personnel to support the Beaver Valley outage and then hiring contractors in to Davis-Besse to support scheduled work. Planning and scheduling was not adjusted to support resource sharing and in some cases work groups only had one week notification that personnel would be leaving. Many employees also believe that FENOC intends to change the intent of the policy to cover all company needs and not just outage periods.

1.5.2 Accountability for safety in the organization is clear.

Performance Objective 2.1: Roles and responsibilities are clearly defined and understood.

Observations

- The FENOC reorganization which occurred in August 2004 re-aligned the three nuclear sites with a common organizational structure and similar organizational positions.
- Personnel in the Operations Directorate have the clearest perception of their roles and responsibilities.
- There is a push toward common processes across all three FENOC sites to streamline and improve overall performance.

Areas in Need of Attention

- The FENOC reorganization has created some accountability issues that need to be clearly identified and addressed.
    - Several individuals at all levels in the organization have acquired dual responsibilities. They have been assigned new positions with new responsibilities but have had to maintain their old job responsibilities as well, e.g., IT, engineering, document control.
    - Several individuals identified the absence of an effective turnover of their new job responsibilities.
    - Several job responsibilities have been identified to have been 'lost' in the reorganization, e.g., procedures group, work group CR analysts, post work order testing reviews.
    - The responsibilities being performed by individuals in transitional positions will need to be assigned to others when their terms end.
    - Current organizational charts need to be made available to all personnel.
- Generic job descriptions exist within FE, but job descriptions for specific positions within FENOC and Davis-Besse need to be more readily available to employees.
- The difference in the roles and responsibilities of the Site Vice President and the Director of Operations needs to be more clearly defined, communicated, and implemented.
- The push toward common processes across all three FENOC sites has created some issues that need to be addressed. For example, at Davis-Besse the FENOC Conduct of Operations Process has not been implemented because of some unique needs that Davis-Besse has that are not included in the NOP.
- Employees described the reorganization and implementation of common processes as examples of the lack of planning and thought that has resulted in prior performance issues at the Plant. Although management described the detailed benchmarking and organizational involvement at their level in the organization, the absence of involvement and ownership by the individuals actually conducting the work needs to be addressed.

Performance Objective 2.2: Delegation of responsibility with appropriate authority exists in the organization.

Observations

- Overall, individuals surveyed believe that taking responsibility is not something to be avoided. In addition, interviewees generally indicated a willingness to take personal responsibility for their actions and the consequences of the actions.

Areas in Need of Attention

- While efforts are being made to push accountability and responsibility down into the organization, Senior Management needs to disengage itself more from the day to day activities of the plant and provide the appropriate authority and trust that will make engagement efforts successful.
    - Employees described that the Site Vice President needs to review and approve any order over $100.
    - Employees stated that Directors are reviewing all time cards even though no overtime is being paid.
    - Daily plant status e-mail messages, while described as very useful, are perceived to be coming from individuals too high in the organization.
    - Several activities which involve shift management are perceived to be indicative of a lack of trust, e.g., duty calls, increased surveillance reviews, and frequent need for alpha-paging.
- Mixed messages given by management with regard to taking responsibility have resulted in uncertainty within some groups in the workforce as to the true expectations of management in this area. These messages need to be clarified.
    - Individuals in the Union/Represented and Specialist job categories believe that avoiding responsibility is a more valued behavior than individuals in other job categories believe.
    - Many individuals expressed the opinion that they would rather not step up to supervisory positions or take on new or additional responsibilities, e.g., the RO who refused an SRO position after getting his SRO license.
- Standards and expectations regarding taking responsibility should be developed and communicated to all work groups, consistent with the criterion of delegating responsibility with the appropriate authority.

Performance Objective 2.3: A management commitment to safety is evident at all levels in the organization.

Observations

- Personnel perceive that management is placing an emphasis on issues related to environment, safety and health and that the Station's employees generally have a good awareness of the risks in their work environment.
- Some efforts to institute common processes across the FENOC organization are intended to promote safety.
- Increased management presence in the field was identified by most of the individuals interviewed. All medium and high risk jobs are observed by at least a supervisor and often a superintendent.

Areas in Need of Attention

- A long-term strategy to ensure the organization's continued commitment to safety should be effectively communicated to Station personnel. Most individuals perceive that management's actions concerning safety issues are generally reactive to externally driven requirements, e.g., the increased attention and resources for the upcoming training accreditation evaluation.
- Expectations and standards need to be implemented in a more rigorous and consistent manner, e.g., implementation of DBBP- VP-0010, 'What One Can Expect to Occur When a Mistake/Error Occurs, performance management, event-free tools.
- Enhanced foresight and planning efforts are necessary in implementing common processes if they are to have the intended impact on safety performance.
    - The frequency and quantity of the common processes that have been rolled out over a relatively short period of time presents problems for effective implementation.
    - Applicability of some common processes to Davis-Besse's current practices needs additional review and evaluation, e.g., Conduct of Operations.
- There is a significant perception of "them versus us" within the organization, particularly among some senior managers with regard to Station personnel. This issue must be addressed if Davis-Besse is to move forward in their development of a positive safety culture.
    - The Strategic Level of the organization possesses a negative perception of the ability of Station personnel to have what it takes to get the job done. Senior Managers indicated that supervisors, 'they', need to have better communications, 'they' need to take ownership and accountability, and that 'they' may never develop the behaviors necessary for a positive safety culture.
    - This negative perception existed among previous Senior Management at the Station, it is still perceived to exist by Station personnel, and it continues to be communicated, either intentionally or unintentionally, to the organization. Many personnel believe that it is undermining the staff's confidence and willingness to accept responsibility.
    - There is also a negative perception on the part of many Staff that Senior Managers cannot be trusted to make the right decisions for safety. Employees still talk emotionally about the potential consequences of both the head event and the FW 780 event.

- Alignment within the organization regarding management responsibility and accountability for the Feedwater Valve 780 event needs to occur.
    - Senior Management believes they have acknowledged their accountability and responsibility for the FW 780 event as identified by the root cause analysis and case study training sessions that have been conducted. Many individuals expressed concern that the RCE did not really address the root cause of the problem and minimized the potential injury that could have occurred.
    - In contrast, many personnel interviewed perceive that Senior Management has not acknowledged their accountability and responsibility for the event. These personnel expressed disappointment and frustration that this has not taken place. Staff points out that some of the managers directly involved in the event remain in the organization. This is perceived as indicating that the managers have not been held accountable by the organization.

1.5.3 Safety is integrated into all activities in the organization.

Performance Objective 3.1: Good housekeeping, material condition, and working conditions exist in the organization.

Observations

- In general, most employees interviewed described that housekeeping and material condition had improved because of the time and focus placed on those areas during the head outage.

Areas in Need of Attention

- Housekeeping and material condition still present issues for the Davis-Besse Station in some areas. The volume of radioactive waste stored in the Radwaste Building is especially high. Storage of the steam generator mockups in the Warehouse has presented some safety concerns for individuals working in that facility.
- Many Station personnel stated that although they have been working fewer hours than during the head outage, many did not believe they had yet achieved a better quality of life. The balance between work time and personal time was often disrupted with pagers, duty calls, and for the SROS often 14 hour days and coming in on a day off.

Performance Objective 3.2: The quality of documentation and processes, from planning to implementation and review, is good.

Observations

- Overall perceptions of the coordination of work at Davis-Besse have improved since the head outage. All work groups were aligned in this belief. Several initiatives may be contributing to the perception, the integration of Radiation Protection into the work schedule, the addition of licensed personnel on the Fix It Now Team, the quality of pre-job briefings, and the continued follow-through on parts even if the job is removed from the schedule.
- Overall perceptions of the formalization process at Davis-Besse were fairly positive.

- Personnel in the Performance Improvement Directorate and the FE/FENOC Matrix Group have a more favorable perception of the formalization process at the Station than other Directorates.

Areas in Need of Attention

- The expectations for consistency in the common processes across the three sites needs to be further reviewed. Members of this evaluation team identified differences in common processes related to fitness for duty and access authorization. The expectations for developing and implementing common processes need to be better established, communicated, and measured for improvements in effectiveness and efficiency.
- Although the perception of the coordination of work across the Davis-Besse Station has improved, many individuals still identified areas in need of improvement.
    - There is a lack of input by the craft in the planning process. This is especially true with respect to resource loading, e.g., valve certification work scheduled for 1.5 days at 8 hrs/day actually took 4 days at 12 -16 hrs/day.
    - Poor planning contributes to the problem of parts availability, e.g., if a valve failed, a full set of valve internals and a duplicate valve would be ordered. When the job is completed and only a few parts have been used, the rest are returned to the warehouse. Periodic reduction of inventory would eliminate those excess parts and they are often sold for scrap at a loss.
    - The schedule needs to consider time for additional factors such as the completion of tours, OJT and JPMs, emergency issues, the results of walk downs, resource sharing, and qualified people in training that are unavailable to work.

Performance Objective 3.3: Sets of performance indicators that are tracked, trended, and evaluated exist.

Observations

- Performance indicators exist for many groups and processes.
- The Management Team periodically reviews many of the performance indicators in their Operational Improvement Plan meetings.
- Databases exist for many performance measures, e.g., supervisory observations.

Areas in Need of Attention

- Performance indicators need to be more effective for improving performance. They need to be more timely and consistently evaluated and assessed for the information that they can provide.
- Individuals perceive that they have insufficient time and resources to devote to tracking and trending performance indicators.
- Databases for performance measures are not consistently used to obtain information, only to enter the required data. For example, no clear examples could be provided of how information obtained from the observation program has been trended or tracked.
- The perception exists that there is a lack of integration across the various databases, which may also be inhibiting their effective use for performance improvement.

Performance Objective 3.4: The use of self-assessment is evident.

Observations

- A self-evaluation process exists at the Davis-Besse Station.
- Business practices have been developed that are used to monitor and assess safety culture and safety conscious work environment across the FENOC Fleet.
- The need to conduct systematic self-assessment activities is recognized.
- Many employees report being comfortable with and seeing the value in peer checking.

Areas in Need of Attention

- Expectations regarding the continuous use of self-assessment need to be established and communicated. Self-assessment is inconsistently used across the organization and some groups do not conduct self-assessments. Few groups perceive that they have the time or resources needed to conduct systematic self-assessment activities.
- The new common process on work management includes an evaluation of the scheduled work that has been completed each week. The focus in the evaluation is not on the quality of the work or determining if the procedures of the process were followed but rather on the amount of work completed.
- The independent oversight group was notably absent in many of the activities that the team observed. Their value to the organization needs to be enhanced to facilitate the assessment process which will ensure that the expectations and standards of the Station are being met.

Performance Objective 3.5: The integration of all types of safety is evident in the organization.

Observations

- Industrial safety statistics indicate that the Station is a good performer.
- Each work group documents and reports on their daily radiological dose and contaminations. ALARA is discussed and integrated into pre-job briefings.
- A risk based inspection/observation system is conducted by Station management and supervision.

Areas in Need of Attention

- An integrated conception of and approach to all types of safety is one of the key attributes of an effective safety culture. This concept needs to be internalized by most management and staff at the Station.
    - Attitudes towards nuclear and industrial safety differ at all levels of the organization.
    - The reporting line for the Station industrial safety specialists is in the training organization.
    - Industrial Safety representatives do not attend the shift turnover meetings and only occasionally attend the MAOM.
    - The perception that if a safety issue does not impact my job, I don't have to worry about it, does not promote long term safety performance improvement.
    - [-REDACTED-].

- Although industrial safety statistics indicate that the plant is a good performer, interviewees note that the statistics do not show the complete picture.
    - Data do not include contractor activities and contractors often conduct some of the more hazardous jobs.
    - Data do not include accidents that do not cause lost time at work.

Performance Objective 3.6: A knowledge and understanding of the work processes exists.

Observations

- In general, most of the work groups feel they have a good understanding of and familiarity with the work processes at the Station.
- The field and duty observation programs have facilitated an understanding of many of the work processes.
- Efforts in the area of succession planning for Operations and Engineering have been initiated.

Areas in Need of Attention

- The perception exists that the FENOC reorganization did not consider strategic planning for long-term staffing needs to ensure that personnel are qualified to perform their job responsibilities and that institutional memory is captured as personnel leave the site.
- Individuals from various work groups indicated that the transition to common work processes has not been planned or implemented well.

1.5.4 A safety leadership process exists in the organization.

Performance Objective 4.1: There is visibility and involvement of management in safety-related activities.

Observations

- A management field observation program is in place. Observation cards, including human performance pre and post job critique cards and KIP human performance observation cards, are used to assess work in the field. Examples were given that demonstrated the value of the observations in improving performance, e.g., grinding wheel almost rated for use on the wrong grinder.
- Management presence in the field was indicated by a number of individuals to have increased.
- The Operations Directorate and Oversight work groups tended to have the most positive perceptions regarding communications within the organization.

Areas in Need of Attention

- The coding categories for the observations to be performed, e.g., SAT, SAT COACH, UNSAT COACH need to be modified and clarified to be more reliable and useful. Confusion in the use of these terms has resulted in limited value to some of the data being collected.
- The field and duty observation programs need to be more effective in demonstrating their role and involvement in improving performance.
    - Some individuals perceive the observations as being overdone and intrusive in some work activities, e.g., there can be more observers than workers on the job site, and observers on the job site can interfere with supervisory responsibility to perform the task on medium and high level risk tasks.
    - In a work environment where trust is an issue, frequent observations can be perceived as a lack of confidence in the ability of employees.
    - The expectations on managers and supervisors to conduct observations can be time consuming. Some individuals have indicated that it limits the time available to them for supervising their own subordinates.
    - Low standards and expectations observed during field observations are not being challenged by management, e.g., during a debriefing of a field observation, the observer indicated that 90% compliance with 3-way communication was excellent.
- The effectiveness of management involvement in all safety-related activities depends on communications. Results from this evaluation indicate that significant differences exist between work groups on several aspects of communication. These differences include trust in communications from the individuals with whom they interact; perceived accuracy of the communications from individuals with whom they interact; the desire for interaction; and overall satisfaction with their communications. The Maintenance and Security work groups generally had the lowest perceptions within the organization regarding these aspects of communication. The Oversight work group had the highest perceptions of communication.
- As previously noted, communications are most typically initiated by individuals at higher organizational levels in the activities observed as part of this evaluation. Their ownership of communication may be inhibiting the communication mechanisms from being effective and allowing lower level managers to actively participate in more of these activities. Senior managers need to promote and reinforce others in the organization to communicate their message.

Performance Objective 4.2: The involvement and motivation of all staff in the organization is evident.

Observations

- A predominantly constructive cultural style that promotes behaviors related to teamwork, sensitivity to the needs of others, and professional achievement exists in the Davis-Besse organization. These behaviors are perceived to be valued to a greater extent by individuals within the work groups of Technical Services Engineering, Radiation Protection, Maintenance, Oversight and FE/FENOC Matrix.
- Perceptions regarding organizational commitment, work group cohesiveness, and job satisfaction were generally higher within the Radiation Protection, Site Projects, Oversight and FE/FENOC work groups.
- Differences between management and non-management personnel on the variables measured by the survey scales were largely in the direction expected, with managers typically having higher scores on the more positive type behaviors than non-managers. Results based on job position categories were generally consistent with the Management/Non-Management profiles obtained. That is, Directors/Managers and Superintendents/Supervisors had higher scores on the more positive type behaviors than Specialists or Union/Represented personnel.

Areas in Need of Attention

- Some groups perceived that less emphasis is placed on the behaviors related to the constructive cultural style than others. Survey results indicated that these same groups perceived lower levels of organizational commitment, work group cohesion, and job satisfaction than others. In particular, the work groups of Operations, Chemistry, Training, and Security tended to believe the organization places less value on constructive behaviors. The consistency of the results for these work groups suggest that they require additional management attention and oversight to promote behaviors related to a positive safety culture.
- The level of organizational commitment and job satisfaction identified by all survey respondents was significantly lower during this evaluation than that described by respondents in the 2003 evaluation. Within work groups, both commitment and job satisfaction dropped significantly in the Operations and Training groups compared to all others.
- In general, while not all were necessarily statistically significant, the trend of many of the responses on the Organizational and Safety Culture Survey was in a downward direction from the results obtained on the same survey administered at Davis-Besse in February 2003.

Performance Objective 4.3: A change management process that promotes an orderly transition is evident.

Observations

- A formal change management process exists at Davis-Besse to manage programmatic changes.

Areas in Need of Attention

- Senior Management needs to implement a more formal and rigorous change management process to effect behavioral change.
    - The current process is a short-term strategy that will not provide long-term success in promoting continuous improvement.
    - This informal strategy results in the inconsistent application of expectations and standards and can result in the inhibition of upward communication and in employees being unwilling to assume ownership and accountability for problems and to take risks.
    - Pre-identified issues as part of the reorganization change management process have still not been addressed, e.g., changes in organizational titles are impacting the accuracy of documentation.
- The large number of differences identified within and between groups in all of the data collected in this evaluation indicates that a consistent message with respect to desired behavioral changes is not being communicated, understood or accepted throughout the organization.
- Opportunities to facilitate development of change management skills among Station leaders through training have not been consistently implemented. Some training modules have been presented, but the overall program has been cancelled the last several times it was scheduled.

1.5.5 Safety Culture is learning driven in the organization.

Performance Objective 5.1: An open reporting culture without blame exists in the organization.

Observations

- In general, personnel feel that avoiding responsibility for fear of being punished is not a desired behavior within the Davis-Besse organization.
- Most employees report that they feel they can write CRs on any issue.
- Employees generally receive feedback on the status of the CRs they submit.
- Examples of self-reporting were identified, e.g., wipe rag in the air compressor, breaker bump.

Areas in Need of Attention

- The timeliness and effectiveness of the resolution of identified issues is still problematic for the Station. Management must remain focused to ensure that employees do not become complacent about the identification of problems.

- The recently issued Business Practice, 'What One Can Expect to Occur When a Mistake/Error Occurs" (DBBP-VP-0010) needs to be clarified and more consistently implemented.
    - Many individuals perceive the intent of this business practice to punish people for making a mistake.
    - Multiple interpretations of the policy and the definition of 'mistake' have resulted in inconsistent implementation of the practice.
    - Several individuals believe that the way this practice is being used will result in a reluctance to self-report low consequence errors.
    - Employees have questioned whether all individuals are held to the same standards in this practice, e.g., engineering miscalculations, management above supervisory level.
    - Not all personnel were familiar with the business practice. The Site Vice President cited this as a personal responsibility to communicate and did not recognize the failure of the organizational mechanisms as the real problem.
- Although, overall, personnel do not feel that avoiding responsibility out of fear of being punished is a behavior that is valued within the organization, some skepticism still remains with respect to having a truly open reporting environment. Details of these results are presented in the next section on SCWE.

Performance Objective 5.2: The use of organizational and operating experience (OE), both internal and external to the organization, is evident.

Observations

- OE information, both internal and external to the Station, is distributed and communicated throughout the organization by various mechanisms, e.g., turnovers, e-mails, pre-job briefs, work orders, and training lesson plans.
- Individuals in the Strategic Level tended to perceive the organizational learning process in place at the Station in a more favorable manner than individuals from the directorates.
- FENOC has conducted extensive benchmarking in several different areas across the nuclear industry.
- Davis-Besse has been acknowledged as providing the highest amount of shared input to the industry.

Areas in Need of Attention

- The effectiveness of OE as part of a learning process at the Davis-Besse Station needs to be improved.
    - OE information is not effectively used in meetings and turnovers as it is not typically relevant to the day or station activities.
    - Individuals are provided with OE information but must self-identify which is applicable to them. Many individuals acknowledge a backlog of information which reduces the timeliness and effectiveness of the process.
    - CRs are not initiated in a timely or consistent manner in response to OE information.
    - Individuals from all directorates did not perceive organizational learning to be an effectively utilized behavior at the Station.

- Many individuals expressed the concern that events such as FW 780 indicate that the lessons of the head event have not really been internalized. Senior management needs to address this issue.
- Tracking and trending of information and feedback needs to be provided from several programs that can contribute to the learning process, e.g., observations.
- Many individuals described the use of benchmarking results to be ill-timed and unrealistic given the 0350 status of the Station, e.g., staffing levels, performance measurements for industry top quartile performing plants.

Performance Objective 5.3: A process that identifies problems and develops and implements an integrated corrective action plan exists.

Observations

- Most individuals expressed the belief that Davis-Besse is very good at identifying problems.
- The CR process is perceived by most of the individuals interviewed to be an effective way to report problems and that it is now being used more appropriately.
- Multiple opportunities exist to report problems, e.g., supervision, CRs, notifications, ECRs, grievances, meetings.
- The Corrective Action Review Board (CARB) is an effective assessment of the corrective action process.

Areas in Need of Attention

- The perception expressed by some individuals that writing a CR, PCR, or notification contributes to the backlog is troublesome and must be addressed.
- Timeliness of issue resolution is problematic and must be improved for personnel to be convinced of process effectiveness and to ensure their continued involvement.
    - The use of due date extensions for corrective actions based on risk evaluation is perceived to be misused and does not facilitate timeliness of corrective action, e.g., corrective actions to address the June 04 SCWE Survey results have been extended twice and nothing has been done to date.
    - Overdue corrective actions require the approval of Directors and the Site Vice President and the extension process eliminates that step.
    - The CNRB identified 79 outstanding SCAQ CRs scheduled out to 2006 for resolution.
- The Corrective Action Program needs to have a dedicated owner and sponsor from Senior Management.
- Multiple assessments have provided similar information in several areas, e.g., internal and external evaluations of safety culture and SCWE, operations, engineering, corrective action process. This information must be integrated and an overall strategy developed to initiate comprehensive corrective actions as soon as possible. Independent itemized corrective actions to each of these assessments will not be an effective way to enhance and sustain long term performance improvement.

Performance Objective 5.4: The continuous development of staff, both professional and technically, is evident.

Observations

- Some efforts have been made to promote staff development, e.g., INPO assignments, visits to other stations, job rotational assignments.
- Training attendance is monitored and reinforced.
- The Fundamentals of Leadership and Leadership in Action courses are being redesigned for implementation next year.
- The Maintenance Ownership Plan facilitates the performance evaluation of union/represented individuals.
- Criteria related to general safety are included on all performance evaluation forms that are currently used.

Areas in Need of Attention

- Although suspension of training activities is not uncommon across the industry during outages, the length of the head outage and concurrent suspension of training activities has had negative long-term consequences in training that need immediate remediation.
    - Qualification programs are not available for individuals in chemistry, electrical maintenance, mechanical maintenance and engineering.
    - Advancement for senior craftsmen has been delayed because of time constraints in the work schedule.
    - TPE qualified individuals are scarce creating a backlog of individuals who require qualifications to conduct their work activities.
    - A considerable backlog in CRs involving training exists.
- Supervisory training needs to be implemented as soon as possible. Courses have been cancelled several times in the past year.
- Although some staff development efforts do occur, they are not part of a systematic program of professional development. There is also the perception that these activities are being undermined because of the resource needs created by the reorganization and 0350 commitments.
- All employees need to receive the Safety Culture and Safety Conscious Work Environment training. In order to promote the behaviors important for a positive safety culture this must be a high priority among Station activities.
- Performance evaluations need to be conducted consistently across the organization. Some personnel describe an annual, or more frequent, evaluation while others describe not having had an evaluation in a couple of years. Some individuals cannot identify the criteria that they are evaluated on, e.g., safety.
- In order to be effective, the evaluation process needs to be tied to a professional development plan that will be implemented over a defined period of time. Activities may include additional training or oversight as a function of the evaluation.
- Overall, perceptions regarding the implementation of the performance evaluation process at the Station were uniformly low.

Performance Objective 5.5: A questioning attitude at all organizational levels exists.

Observations

- Employees at the Davis-Besse Station generally are not inhibited in raising safety concerns.
- Individuals in the Oversight, Site Projects, Radiation Protection, Technical Services Engineering and FE/FENOC Matrix work groups believed that they could openly challenge decisions made by management to a greater extent than individuals in the other work groups

Areas in Need of Attention

- The behaviors associated with a questioning attitude need to be more consistently performed at the Davis-Besse Station.
    - A general reluctance to pushback and challenge Senior Management was observed during this evaluation.
    - Individuals tend to be reluctant to initiate communication in meetings with individuals from higher organizational levels.
    - Seeking out and incorporating information from OE in other organizations and industries was not generally observed to occur.
- In response to the statement, " I can openly challenge decisions made by management" 64% of all Davis-Besse employees expressed any degree of agreement.
- Seventy-two percent of all Davis-Besse Superintendents and Supervisors believe that they can openly challenge decisions made by management.
- In response to the statement " Constructive criticism is encouraged" 61% of all Davis-Besse employees believed that to be a true statement.
- Seventy-nine percent of all Davis-Besse Superintendents and Supervisors believe that constructive criticism is encouraged.

1.5.6 A process for establishing a strong and effective SCWE is in place.

Performance Objective 6.1: Employees at all levels in the organization understand and perceive the SCWE program to be effective.

Observations

- Most individuals interviewed were aware of the Employee Concerns Program (ECP).
- The SCWERT reviewed all personnel terminations associated with the FENOC reorganization.

Areas in Need of Attention

- Proactive training and reinforcement of the ECP need to be provided.
- Several individuals expressed concerns that the ECP was not really an anonymous mechanism in which to raise concerns.
- Concerns about the way in which individuals were selected for termination during the reorganization still need to be addressed. Many individuals expressed the belief that those individuals that spoke up the most often or identified problems were targeted for termination.

- Many individuals believe the effectiveness of the SCWE program is challenged at Davis-Besse because of several factors, e.g., negative corporate memory of operations events, trust issues related to the FW780 event, lack of management accountability for events, inconsistent implementation of policies, and a lack of responsiveness to identified issues.

Performance Objective 6.2: Responsibility for raising concerns is not avoided because of fear of retaliation.

Observations

- Most individuals interviewed expressed the belief that they could raise safety concerns without fear of retaliation.

Areas in Need of Attention

- Many individuals interviewed expressed that they were reluctant to raise concerns addressing issues related to management behavior without some fear of retaliation.
- In response to the statement that 'management does not tolerate retaliation of any kind for raising concerns,' 21% of Davis-Besse employees disagreed with this statement.

Performance Objective 6.3: The SCWE Program is clearly supported by management.

Observations

- The SCWE Program is administered through the office of the FENOC Vice President for Oversight and has representation at each site. SCWE issues are also reported directly to the Site Vice President.

Areas in Need of Attention

- The perception of the importance and priority of the SCWE Program has been diminished by several actions and needs to be addressed.
    - As part of the FENOC reorganization the ECP representative at each site now reports to a Fleet Supervisor, ECP. Prior to the reorganization these individuals reported to a Manager. There is the perception that this reflects a change in status of the role of the ECP within the organization to one of diminished importance.
    - Individuals in the ECP at Davis-Besse have collateral duties which can consume a significant portion of their time.
    - The position of ECP Lead has been organizationally downgraded.
- In response to the statement, 'management wants concerns reported and willingly listens to problems', 67% of Davis-Besse employees believe that to be true.

Performance Objective 6.4: An effective process is available for employees to raise their concerns.

Observations

- Almost all Davis-Besse employees (94%) understand that they are responsible for identifying problems.

Areas in Need of Attention

- In response to the statement, 'I feel free to approach management with any concerns that I have', 70% of Davis-Besse employees believe that to be a true statement.
- In response to the statement, 'management ensures that any concerns raised are addressed constructively,' 24% of the employees disagreed.
- In comparing the results of all the SCWE responses obtained in this evaluation to those obtained by Davis-Besse in their November 2003 SCWE Survey a general decline in the perception of the effectiveness of the SCWE process was observed. The results of the most recent SCWE Survey conducted at Davis-Besse in October 2004 reflect the same directionality of results that were obtained in this evaluation. Senior management is currently addressing these issues.

1.6 Effectiveness of FENOC Internal Assessment Process for Safety Culture and Safety Conscious Work Environment

The monitoring and assessment of Safety Culture at FENOC facilities is governed by two Nuclear Operating Business Practices: Safety Culture Monitoring (NOBP-LP-2502, 3/2/04) and Safety Culture Assessment (NOBP-LP-2501, 11/24/03). Davis-Besse also monitors the health of the Safety Conscious Work Environment (SCWE) on a quarterly basis. Data from the SCWE monitoring is used as input to the overall Safety Culture Monitoring and Assessment at the facility. The Safety Culture Monitoring Business Practice is intended to be performed on a quarterly basis, while the Safety Culture Assessment Business Practice is intended to be performed nominally every two years.

Internal Safety Culture and SCWE Monitoring and Assessment

FENOC-wide business practices have been developed as internal tools to monitor and assess safety culture. Commitment areas and associated attributes have been developed to determine whether areas are declining, improving, or being maintained. Both subjective and objective criteria are used in the assessments. Each criterion is rated as red, yellow, white, or green using pre-established standards for each rating. The trends of the criteria are also established, i.e., improving, maintaining, or declining.

Observations

- Overall the process considers a wide variety of data sources, with the aim of establishing convergent validity among those sources. Multiple attributes are considered in the assessment of each criterion. Such an approach ensures that the results are complete and more accurate than an approach that only considers single sources of information or attributes.
- Safety culture is assessed via multiple mechanisms within the organization and is assessed and monitored on a continuing basis, e.g., NOBP-LP-2501 and 2502, quality organization assessment of safety culture, SCWE employee surveys, SCWE Health Assessments.
- Trends in the information collected are assessed to give an indication of the direction in which the Station's performance is going.

- The results of the Davis-Besse SCWE Survey conducted in November 2004 were very similar to the SCWE results obtained in this assessment.

  The lack of significant improvement in the results of this independent assessment from the one conducted in February 2003 was indicative to the Team that the measures currently being used to assess and monitor Safety Culture at Davis-Besse are not facilitating the desired improvements in behavior. The Team conducted an evaluation of the process being used and identified some recommendations.

Recommendations

- The approach is an elaborate and fairly mechanical and quantitative assessment of safety culture. A more concerted focus on behaviors and perceptions, two critical indicators of safety culture, will facilitate the recognition of improvement opportunities.
- The standards for the ratings of red, yellow, white, and green need to be reviewed and in some cases more rigorous implementation by management is needed. In the policy commitment area, one of the attributes rated is "employee understanding of policies". A green rating would be warranted if surveys/interviews indicate that more than 90% of employees understand the policies, consider safety a FE value and describe safety as the normal way to do business. Such a rating would not warrant any further action and the highest rating would have been achieved. However, 9% of the employee population not understanding the policies and not considering safety a FE value and the normal way to do business is not acceptable and further action in this area should be taken.
- The focus of the Internal Safety Culture Monitoring and Assessment process is results oriented with a heavy emphasis on lagging indicators, as opposed to behaviors and processes, which are more likely to be leading indicators. Within the Individual Commitment Area, under the Criteria Related to Rigorous Work Control and Prudent Approach, all of the attributes are assessed by results to date, e.g., average duration between resets of event free clock, number of OSHA reportables to date, individual error rates, and significant human performance errors. Such an approach can be misleading and takes a reactive as opposed to proactive and mitigating approach to safety culture. The exception to this is the SCWE survey that is conducted on a quarterly basis. The factoring of the SCWE survey information in with other, more results oriented indicators may be diluting the impact of this information in terms of its significance to overall Safety Culture and SCWE effectiveness.
- In cases where less objective measures are used to assess the attributes, it is not clear what mechanisms are in place to validate the more subjective information. For these measures, it is important that multiple sources of information (e.g., employee interview/surveys, observations, management input) are considered. Within the Management Commitment Area, one of the attributes is input and involvement which assesses employee input and involvement in the setting of department goals and establishing work priorities. It is not clear within the NOBP how this attribute is assessed.

- When the criteria and attributes from the FENOC Safety Culture Business Practices are tracked against the characteristics and objectives used in this independent safety culture assessment, some gaps are noted. Specifically, the following performance objectives from the independent safety culture assessment are not adequately addressed within the FENOC Safety Culture Business Practices:
    - Delegation of responsibility with appropriate authority exists.
    - Management commitment to safety is evident at all levels.
    - A change management process that promotes orderly transition is evident.
    - An organizational process for conflict resolutions exists and is effectively used.
    - The impact informal leaders have on safety culture is recognized.

1.7 Summary

The existing safety culture at the Davis-Besse Nuclear Generating Station was evaluated against the characteristics identified to be important for the promotion of a positive safety culture in a nuclear facility. Based on the results of this evaluation, the team believes that not all of these characteristics are fully developed at the Davis-Besse Station to ensure the long-term promotion of a positive safety culture. Management improvements are still needed in several areas as well as continued assessment of performance.

- Although safety is a recognized value in the organization, it is inconsistently internalized across all levels of personnel. Challenges still exist in the transmission, comprehension and implementation of the safety message.
- Accountability and ownership for safety are not yet universally accepted at all levels within the organization. Recent events and a widespread perception of inconsistent application of accountability standards have created reluctance on the part of individuals to willingly accept responsibility for safety.
- Safety is not consistently integrated into all activities in the organization. Attitudes reflecting differences in beliefs about safety impede the internalization of the behaviors necessary for long term and continuous safety performance.
- An integrated and cohesive organizational safety leadership process is not clearly evident. The values and attitudes of the workforce have generally remained consistent since the last evaluation conducted in February 2003. Differences between work groups, and between management and staff, indicate that personnel are not yet fully aligned with a common set of values. Management's safety goals have not been effectively communicated, modeled or understood by Station personnel.
- A learning-driven organization is still not fully developed. Efforts to improve future performance by learning from the Station's past performance, from industry performance, and from the day-to-day implementation of the organization's programs and processes, are not effectively implemented nor recognized to be of high value at all levels of the organization.
- The process for establishing a strong, effective and sustainable SCWE continues to need management attention. Many employees still do not perceive that the attributes of such a program currently exist at Davis-Besse.

In order to ensure a long-term self-sustainable safety culture is created and maintained at Davis-Besse, increased attention to these characteristics and further corrective measures will be required. In the development of an action plan to address these areas, four cross-cutting issues should be addressed:

- FENOC and Davis-Besse Senior Management need to develop a long-term strategic vision and plan for safety culture and safety conscious work environment. Emphasis should be placed on an integrated corrective action plan and the development of more predictive and leading performance measures that are related to behaviors and attitudes. An engineering culture approach to non-engineering problems will not provide the necessary solutions.
- A focus on trust needs management attention at all levels in the FENOC and Davis-Besse organizations. The development of skills for resolving non-technical issues that will demonstrate respect and recognition to individuals needs to be accomplished. The use of the talents, knowledge and overall competence of all employees will improve the commitment and resolve to improve the behaviors necessary for promoting safety culture.
- Challenges in communication in the Davis-Besse organization with respect to clear and consistent expectations, standards, and values, continue to require management actions. The values and attitudes of the workforce have generally not changed since the last evaluation conducted in February 2003 or have slightly declined. Differences between work groups indicate that personnel are not yet aligned with a common set of values.
- A management focus should be placed on safety being internalized by all employees as a way of doing business. The modeling of the right behaviors by management, supervision, and staff are a critical part of the development and maintenance of a positive safety culture and safety conscious work environment.

1.8 References

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1.9 Team Member Biographies

Following are brief biographies of the team members.

Sonja B. Haber, Ph.D., Psychology, Team Leader (President, Human Performance Analysis, Corp.)

Dr. Haber has been conducting work in the area of human performance analysis for over 25 years. She has been involved in the evaluation and intervention of human performance in various applications. For the last 15 years, Dr. Haber's work has been primarily in the nuclear industry, with an emphasis on the assessment and evaluation of safety culture. She has been extensively involved in conducting fieldwork for the U.S. Nuclear Regulatory Commission, the U.S. Department of Energy, the Canadian Nuclear Safety Commission, and the International Atomic Energy Agency. From 1992 - 1998 she managed and was significantly involved in work related to the organizational and programmatic aspects of training of nuclear power plant personnel in countries of the Former Soviet Union, specifically in the development and transfer of technology related to the Systematic Approach to Training. This work also included cross-cultural analysis of organizational issues in the areas of safety culture and management and supervisory skills. Most recently she has been conducting safety culture evaluations in various nuclear facilities, providing consultation in organizational interventions including leadership and management training, enhanced communication skills, and developing performance measures for organization and management processes critical to safety culture.

Whitney Hansen, Rear Admiral (Dolphin Enterprises)

Rear Admiral Hansen has worked in various aspects of nuclear power since 1957, including the nuclear submarine officer's program, the Lockheed Missiles and Space Company's nuclear rocket program, General Electric's Atomic Power Equipment Division, and Exxon's nuclear fuel fabrication company. Since 1978 he has been an independent consultant to the Nuclear Regulatory Commission, the Department of Energy and the commercial nuclear power industry. Specifically, his experience includes participation in Restart Assessment Team Inspections of the Salem Units 1 & 2 Nuclear Power Plants and an Independent Safety Inspection of the Dresden Nuclear Power Station for NRC Headquarters as a member of the Management & Organization teams. Rear Admiral Hansen also participated in a Diagnostic Evaluation of the Quad Cities Nuclear Power Station, again on the M&O team. He has also performed eight other diagnostic management and organization appraisals under contract to nuclear electric utilities. He also participated in a management effectiveness evaluation of the South Texas Nuclear Project and participated in a retrospective management diagnostic of Northeast Utilities' nuclear program and their 3 Unit Millstone Station under contract to the Connecticut Department of Public Utility Control.

Deborah A. Shurberg, Ph.D., Psychology (Human Performance Analysis, Corp.)

Dr. Shurberg has been working within the nuclear industry for over fifteen years, focusing on human and organizational issues which impact facility safety performance. Dr. Shurberg's primary areas of expertise lie in the development and implementation of methodological tools useful for the evaluation and improvement of organizational functioning and in the assessment and evaluation of human resource practices critical to effective organizational performance. Dr. Shurberg also has significant work experience assisting in the transfer of training technologies and techniques proven effective in organizations that place a high degree of emphasis on safety. She has worked in nuclear organizations in North America, Europe, and countries of the Former Soviet Union. Her work in this area includes cross-cultural analysis of organizational issues, specifically in the area of organizational and safety culture and management and supervisory skills.

Aldo Capristo (Nuclear Management Company)

Aldo (Al) Capristo possesses 23 years of U.S. Nuclear Navy and Commercial Nuclear experience in varying increasing positions of responsibility. Mr. Capristo has expertise in the area of Employee Concerns Program elements, Quality Assurance / Assessment Program Improvement, Corrective Action Program, Organizational Development, and training experience. Mr. Capristo currently directs Nuclear Management Company fleet employee concerns activities which include evaluating needs, establishing process and budget requirements, staffing, and implementing the processes developed. Mr. Capristo interfaces with all levels of the organization including craft employees to executive management. Mr. Capristo's nuclear employment and consulting experience includes: US Navy Submarine Service, Shoreham; Maine Yankee; Point Beach, Prairie Island, Monticello, Palisades, Duane Arnold, Cooper; Kewaunee, Vermont Yankee, San Onofre, Yucca Mountain project and Salem / Hope Creek .Mr. Capristo holds a BS degree in General Technology and a MBA from New Hampshire College. Mr. Capristo served for three years as co-chairman of the National Employee Concerns Program Forum and is active in the area of employee protections, alternative dispute resolution and mediation.

SECTION 2: Action Plans for Identified Areas for Improvement

The Action Plan contained in this section of the report was developed by the Davis-Besse Nuclear Power Station (DBNPS) to address the Areas for Improvement (AFI) identified in Section 1 of the report from the Independent Assessment.

The Confirmatory Order Independent Assessment (COIA) provided an independent and comprehensive review of the Organizational Safety Culture, including Safety Conscious Work Environment (SCWE) at the DBNPS. The Assessment Report identifies six (6) "Areas for Improvement". These AFIs have been entered into the Corrective Action Program. The AFIs and associated Action Plan are presented in this Section. In addition to the AFIs, the Assessment Team identified four (4) cross-cutting issues that have been factored into the Action Plan as recommended. And finally, the Assessment Team provided an assessment of current safety culture monitoring and assessment tools with observations and recommendations which will also be evaluated through the Corrective Action Program.

The following AFIs identified by the Assessment Team will be addressed through the implementation of an Integrated Action Plan. These AFIs have been entered into the Corrective Action Program under Condition Report 05-00724.

2.1 Areas For Improvement

AFI COIA-SC-04-01

Although safety is a recognized value in the organization, it is inconsistently internalized across all levels of personnel. Challenges still exist in the transmission, comprehension and implementation of the safety message.

AFI COIA-SC-04-02

Accountability and ownership for safety are not yet universally accepted at all levels within the organization. Recent events and a widespread perception of inconsistent application of accountability standards have created reluctance on the part of individuals to willingly accept responsibility for safety.

AFI COIA-SC-04-03

Safety is not consistently integrated into all activities in the organization. Attitudes reflecting differences in beliefs about safety impede the internalization of the behaviors necessary for long term and continuous safety performance.

AFI-COIA-SC-04-04

An integrated and cohesive organizational safety leadership process is not clearly evident. The values and attitudes of the workforce have generally remained consistent since the last evaluation conducted in February 2003. Differences between work groups, and between management and staff, indicate that personnel are not yet fully aligned with a common set of values. Management's safety goals have not been effectively communicated, modeled or understood by Station personnel.

AFI-COIA-SC-04-05

A learning-driven organization is still not fully developed. Efforts to improve future performance by learning from the Station's past performance, from industry performance, and from the day-to-day implementation of the organization's programs and processes, are not effectively implemented nor recognized to be of high value at all levels of the organization.

AFI-COIA-SC-04-06

The process for establishing a strong, effective and sustainable SCWE continues to need management attention. Many employees still do not perceive that the attributes of such a program currently exist at Davis-Besse.

2.2 Davis-Besse Action Plan to Address Assessment Areas for Improvement

2.2.1 Background

Prior to plant restart from the extended plant outage Davis-Besse developed a comprehensive Operational Improvement Plan to demonstrate its commitment to continue driving actions for continuous improvement and to anchor sustained performance in nuclear safety and plant operations. One of the ten initiative areas in this plan is Continuous Safety Culture Improvement. Key actions of this initiative are methods of periodic monitoring of Safety Culture and Safety Conscious Work Environment.

In accordance with the Operational Improvement Plan, the Davis-Besse Team conducted Safety Culture/SCWE interviews and a SCWE Survey in October 2004. The results of these interviews and survey were factored into the annual Safety Culture Assessment, also conducted later in October 2004. This annual Safety Culture Assessment concluded that Davis-Besse has sustained a safety-focused environment. However, there were several questions in the interviews and survey that had less positive responses than those received in the November 2003 interviews and survey.

Davis-Besse Management assessed this information and determined that prompt management attention was warranted. As a result, the following actions were taken:

- An external, previously contracted, team led by an organization development consultant was engaged to facilitate management discussion on this topic.
- A plan of action was discussed and meetings were scheduled.
- A series of management sessions were held with the purpose being to gain a shared understanding about the "drivers" contributing to the less positive responses in some questions in the 2004 SCWE Survey results.
- Additionally, sessions were held with a selection of Supervisors and employees.

A number of "drivers" were identified (e.g.: Recent implementation of the "New" FENOC Organization; ongoing union contract negotiations; recent rollout of a case study on an industrial safety near miss). An additional management session was held to determine the underlying causes for the less positive results in a number of the questions in the 2004 SCWE Survey.

In parallel with the above, an independent "look" (see Action Item 1) into the "drivers" and causes was conducted. This independent "look", confirmed the conclusions of the management team, which correlated with the COIA Team's conclusions. The COIA Team's formal debrief was conducted with a cross section of the site employees (see Action Item 2). Based on feedback from this session, an All Hands Session was scheduled and conducted (see Action Item 3).

And finally, the Senior Management Team met and discussed what immediate behavioral changes could be implemented. The result was, Action Item 4 was adopted as the Senior Management Team's focus for the Steam Generator Inspection/Mid-Cycle Outage.

The following Integrated Action Plan addresses the areas for improvement and cross-cutting issue areas identified in the COIA report. It addresses the immediate actions already taken, short term actions currently in progress, and longer-term actions, which have begun or are planned for the upcoming months.

2.2.2 Integrated Action Plan to Address Identified AFIs

Davis-Besse has developed an Integrated Plan to address the results of the COIA of Safety Culture and SCWE. The assessment results have good correlation with the internal surveys and assessments performed by the station during the fourth quarter of 2004. Through both the internal and independent surveys and assessments that were performed in late 2004, employees demonstrated a high degree of willingness to provide candid open responses and to identify issues they perceived were inhibiting continuous improvement in Safety Culture and a SCWE at Davis-Besse.

The COIA also identified positive observations in these areas, stating that most individuals interviewed expressed the belief they could raise safety concerns without fear of retaliation; that employees understand they are responsible for identifying problems; that Davis-Besse is good at identifying problems; and that employees at the station are not inhibited in raising safety concerns. These positive behaviors are also reflected in the October 2004 SCWE results in several key survey questions which indicate strong percentages of employees understand and accept their responsibility to identify problems and raise nuclear safety or quality concerns, even when the cause may have been their personal error.

Although these are strong indications of a healthy Safety Culture and SCWE, FENOC and Davis-Besse management also recognize that there remain opportunities for continued improvement in these important contributors to sustained nuclear, industrial, radiological, and environmental safety.

To address the areas for improvement identified in the COIA report and other internal survey and assessment results, Davis-Besse is implementing the following actions to further enhance and drive long-term improvement. The actions focus on addressing the six areas for improvement and the four cross-cutting issue areas identified in the COIA report.

Immediate

1. Davis-Besse commissioned an independent team to facilitate an internal assessment of the results obtained from the annual internal SCWE survey conducted in October 2004. Employees from all levels of the organization participated in sessions facilitated by the independent assessment team to identify drivers and themes contributing to the survey results to help direct and focus improvement. Several areas for improvement, identified by this initiative, have also been incorporated into the following actions. (Completed 1/14/05)

Immediate

2. Davis-Besse provided the opportunity for a cross-section of site employees to hear the direct presentation (formal debrief) of the results of the COIA on Organization Safety Culture and SCWE. On December 21, 2004, the presentation of the COIA results was made by the Independent Assessment Team Lead to management and representatives of the workforce, providing the opportunity for direct employee interaction with the Team Lead for questions and answers.

   Note: This in effect began addressing AFIs 1, 2, 5, & 6. (Completed 12/21/04)

Immediate

3. Davis-Besse asked for feedback from the employees present at the December 21, 2004, COIA presentation in regards to their recommendation for the most effective forum for communicating the COIA results to the remaining site employees. A recommendation was made and accepted for a site all-hands meeting. On January 5, 2005, the COIA results were presented to site employees in an all-hands meeting. The presentation was again made by the Independent Assessment Team Lead with opportunities for direct employee interaction for questions and answers.

   Note: This in effect continued addressing AFIs 1, 2, 5, & 6. (Completed 1/5/05)

Short Term

4. To begin addressing AFIs 1, 2, 3, 4, & 5, and the cross-cutting issue areas, the management team adopted the following areas of focus to demonstrate a clear overriding priority for Nuclear, Industrial, Radiological, and Environmental Safety for the 2005 Steam Generator Inspection Mid-Cycle Outage:

   - Safety vs. Schedule Focus
   - Overall Communication Quality
   - Openness of Communication of Emergent Issues
   - Openness for Employee Ideas for Solutions to Emergent Plant Issues
   - Resolution and Disposition of Emergent Issues
   - Engagement of the Workforce

   A follow-up employee survey will be performed within 30 days of the completion of the Steam Generator Inspection Mid-Cycle Outage to see how actions and behaviors were perceived by the organization.

Short Term

5. To address AFI 6, FENOC will review the organizational hierarchy of the Employee Concerns Program (ECP). (Action to be completed by 5/31/05.)

Short Term

6. To address AFI 6, Actions will be taken to develop and implement a communication campaign to re-familiarize employees with the FENOC Employee Concerns Program (ECP) and the Safety Conscious Work Environment Review Team (SCWERT) functions. (Action to be completed by 5/31/05.)

Long Term

7. To address AFIs 1 - 6, and the four cross-cutting issue areas, Davis-Besse will engage the workforce through the TOP (Teamwork, Ownership, Pride) Team, supplemented by other employees from the organization, to work as a multidiscipline/cross-functional team for the purpose of developing alignment and communication tools to facilitate the communication and continued learning of FENOC/Davis-Besse vision, values, standards and expectations, priorities, including short and long-term goals for the organization. Facilitated department/section level organizational alignment sessions will be held utilizing employee developed alignment maps designed to enhance communications, safety culture, organizational effectiveness and individual performance through:

    - Communication of Vision, Values, Standards & Expectations
    - Communication of FENOC and Davis-Besse priorities and goals
    - Discussion of Inter and Intra department working relationships
    - Refresher training on Safety Culture & SCWE
    - Refresher training on Accountability & Ownership

    Action to be completed by 6/30/05.

Mid-term Assessment

8. Perform a modified mid-period SCWE Survey following the organizational alignment sessions to evaluate the initial effectiveness of this initiative. (Action to be completed by 7/31/05.)

Long Term

9. To additionally address AFIs 1, 2, 3, 4, & 5, actions will be developed and implemented to devote more time in the work-week for manager/supervisor and manager/employee interactions for listening to and addressing issues and concerns.

    This action is to develop a more structured administrative approach to site meetings and activities to make additional time available during the work week for management interaction with the workforce. (Action to be completed by 6/30/05.)

2.3 Additional Assessment Method Action (Non-AFI Related)

The COIA questioned the effectiveness of the current tools being used to assess and monitor safety culture. These tools utilize both qualitative and quantitative inputs to evaluate the strengths of attributes that contribute to a healthy safety culture. Employee behaviors, opinions and performance weigh into a number of the attributes.

To that end, FENOC and Davis-Besse will assess the following Safety Culture and SCWE monitoring and assessment tools to identify opportunities to enhance their effectiveness. This initiative will include utilization of the new industry principles document defining essential attributes of a healthy nuclear safety culture.

- Evaluation of the FENOC Safety Culture Monitoring and Assessment Business Practices.
- Evaluation of the quarterly Safety Conscious Work Environment Performance Indicators to assess their effectiveness in monitoring the Health of the SCWE Pillars.
- Review and modification of the Annual SCWE Survey questions to improve clarity to mitigate confusion and multiple interpretation of survey questions by those surveyed and by those analyzing survey results.
- Evaluation of the Davis-Besse weekly 3-Question survey questionnaire for continuation, modification, or discontinuation of this survey method.

This action is currently scheduled for completion in the 3rd quarter of 2005.