March 31, 2004

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

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION
NRC SPECIAL INSPECTION - MANAGEMENT AND HUMAN PERFORMANCE
CORRECTIVE ACTION EFFECTIVENESS - REPORT
NO. 05000346/2004003(DRP)

Dear Mr. Myers:

On February 12, 2004, the NRC completed a Special Inspection at FirstEnergy Nuclear Operating Company's (FENOC) Davis-Besse Nuclear Power Station. The purpose of this inspection was to review FENOC's actions to resolve item 4.b of the NRC's Restart Checklist, Revision 3, the effectiveness of corrective actions to assure the adequacy of organizational effectiveness and human performance.

Following the identification of organizational effectiveness and human performance as one of the principle causes of the reactor pressure vessel head degradation, the NRC's Davis-Besse Oversight Panel determined that the evaluation of the effectiveness of FENOC's corrective actions in this area was necessary to have confidence in the safe restart and operation of the facility. A series of special inspections of the management and human performance area was completed. The overall inspection plan was designed to assure that an appropriate root cause analysis had been completed (Phase 1), that appropriate corrective actions (CA) had been identified and implemented (Phase 2), and that the effectiveness of those CAs was assessed (Phase 3).

Based on the Phase 1 and 2 inspections (reference Inspection Report Nos. 05000346/2002015 and 2002018), the NRC concluded that FENOC's overall assessment of the causes of organizational and human performance problems was of appropriate depth and breadth and that the identified corrective actions if properly implemented and monitored should appropriately address the issues identified through the cause assessments.

Based on the Phase 3 inspection (reference NRC Inspection Report No. 2003012), the NRC concluded that the tools FENOC developed to monitor the effectiveness of its corrective actions were appropriate and provided valuable insights into the safety culture and safety conscious work environment (SCWE) at the site. The NRC also concluded based on its inspections and the results from FENOC's survey tools, that FENOC's corrective actions have had an overall positive effect on the safety culture and SCWE at Davis-Besse.

However, during the final stages of the Phase 3 inspection, FENOC provided the NRC with detailed results from its November 2003 SCWE survey. Because a number of key organizations had provided more negative responses to some questions than in March 2003, the Panel determined that a follow up inspection would be conducted to obtain a better understanding of the causes for the increase in negative responses and any actions FENOC was taking to address identified issues. The attached inspection report addresses our review of the causes of the increase in negative responses. No findings were identified during this inspection.

During the inspection, we evaluated FENOC's actions to identify the causes for the increased negative responses, short and long term CAs, and FENOC's proposed actions to monitor the effectiveness of the corrective actions. The Team concluded that the licensee's process for identifying the causes of the decline, the actions taken to address some of the causes, and the proposed methods for assessing the effectiveness of those actions were appropriate. The Team also concluded, based on review of the licensee's investigation report and notes, validated by personal interviews and group discussions, that the Davis-Besse facility staff understood and would implement their responsibilities to identify and raise any safety concerns for resolution. The Team also identified where previous CAs had not always been effectively implemented. For example, Davis-Besse management did not always effectively anticipate the consequences of their actions or comments to the staff and had not been fully effective in the implementation of its change management policy regarding certain organizational changes. Further, the licensee did not fully understand and effectively deal with the staff's concerns regarding work hours. These issues contributed to a negative staff perception in certain departments regarding safety culture and SCWE.

Based on the results of the series of inspections in this area and the NRC's assessment of the results of implementation of FENOC's self-assessment tools for safety culture and safety conscious work environment at the facility, the Team recommended to the Davis-Besse Oversight Panel that Restart Checklist Item 4.b should be closed. The Panel considered the Teams recommendation and closed the restart checklist item.

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

Sincerely,

/RA/

John A. Grobe, Chairman
Davis-Besse Oversight Panel

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

Enclosure: Inspection Report 05000346/04-03

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-346
License No:	NPF-3
Report No:	05000346/2004003
Licensee:	FirstEnergy Nuclear Operating Company
Facility:	Davis-Besse Nuclear Power Station
Location:	5501 North State Route 2 Oak Harbor, OH 43449-9760
Dates:	January 12, 2004, through February 12, 2004
Inspectors:	G. Wright, Team Lead, Region III
Team Members:	J. Persensky, RES C. Goodman, NRR L. Jarriel, OE J. Cai, NRR D. DeSaulniers, NRR M. Keefe, RES J. Heller, Region III H. Eichenholz, Region I E. Miller, RES M. Brothers, Consultant J. Beck, Consultant
Approved by:	J. Grobe, Chairman Davis Besse Oversight Panel

Enclosure

SUMMARY OF FINDINGS

IR 05000346/2004003, FirstEnergy Nuclear Operating Company, on 01/12/2004 to 02/12/2004, Davis-Besse Nuclear Power Station. Special Inspection.

This report covers a special inspection continuing the NRC's review of the licensee's root cause evaluation and corrective actions (CA) for the management and human performance aspects of the reactor coolant system pressure boundary leakage and degraded reactor vessel head. The inspection was conducted by NRC inspectors and specialists, and consultants.

Based on the information gained through the above activities:

> The Inspection Team identified that Davis-Besse and FirstEnergy management's implementation of its communication and assessment tools to improve safety culture, safety conscious work environment, and communications had not been fully effective in some key recent situations. This resulted in a number of activities taken to improve facility performance being construed negatively by the licensee's staff. For example, emphasis on meeting work schedules without ensuring all work activities were included resulted in a production over quality response. Actions taken to improve operating crew performance were taken as retaliatory, and statements made by some managers were taken as derogatory, intimidating, and inconsistent with the licensee's Leadership-in-Action program. All totaled, the Team concluded that the staff and management have not been aligned on a number of key issues, the very condition the CAs were designed to prevent. In the cases described to the NRC, it was apparent that at times, management had neither properly assessed the implications of their actions nor developed effective strategies to mitigate the potential negative impacts of those actions. While management's action evoked negative responses in a number of key organizations, the Team did not identify any performance deficiencies attributable to the decline.
>
> The Team also identified that the licensee's assessment of the causes for the increase in negative responses was appropriate. The licensee had used an appropriate approach to determine the causes of the decline and interviewed an acceptable sample of staff from the affected departments. The Team also noted, while the licensee is developing additional CAs in response to their assessment, that the licensee's immediate CAs were adequate for restart and there were no outstanding issues in this area that would preclude restart.
>
> Throughout the NRC interview process, the Team noted a less positive tone by the licensee's staff when responding to questions dealing with the behavior and effectiveness of their management, than the Team noted during interviews in May 2003. The staff's responses related in large part to management comments that appeared to be inconsistent with the licensee's Leadership In Action training, work hours, and schedule credibility. The Inspection Team also noted that interviewees personally exhibited a high focus on safety and indicated that their management placed an equally high priority on addressing safety concerns.

This was a follow up inspection to the originally planned three phase Management and Human Performance inspection. By combining the results of the three phases and the Follow Up

inspections, the Management and Human Performance Team concluded that the licensee's root cause analyses and associated CAs for the safety culture issues were appropriate. The Team also concluded that the CAs and associated monitoring activities, have been sufficiently effective to provide reasonable assurance to preclude recurrence of the conditions which led to the degradation of Davis-Besse's reactor vessel head. While additional actions are planned for continued improvement in the safety culture at Davis-Besse, no issues were identified that would preclude unit restart. Therefore, the Team recommended closure of restart checklist item 4.b.

Inspection Details

I. Scope

To assess the licensee's compliance with 10 CFR 50 Appendix B Criterion XVI, by evaluating the effectiveness of the licensee's corrective actions (CA) in the human performance area developed from its root cause analyses into the reactor head degradation condition. The licensee contracted with a number of individuals to perform a team (evaluation team) review of results from the November 2003 safety conscious work environment (SCWE) survey. The inspection focused on the licensee's assessment of the increase in negative responses from specific plant organizations in the November 2003 SCWE survey over the number of negative responses from the same survey in March 2003.

II. Objective

The objective of the Follow-up Inspection of the Management and Human Performance Assessment was to independently validate the licensee's assessment of the causal factors responsible for the decline in performance between the March and November SCWE surveys and to assess the CAs proposed to address the factors. The NRC's team used a modified Management and Human Performance Phase 3 inspection plan to accomplish the task (Attachment 2). The inspection was accomplished by a special inspection team consisting of NRC inspectors, specialists, and consultants (Inspection Team).

III. Assessment Process

A. Inspection Basis

The Follow-up Inspection plan consisted of a review of the method the licensee used to assess the survey findings, independent verification/validation of the data obtained by the licensee using a confirmatory approach, assessment of the data reduction, and review and assessment of the CAs identified by the licensee.

The basic activity of the inspection was interviews with both focus groups and individuals, along with document review. The Inspection Team conducted interviews with six focus groups and a 25 percent random sample of individuals from the staff in operations, plant engineering, maintenance and quality assurance. The Inspection team also reviewed related documents.

B. Inspection Approach

The Inspection Team used the following techniques to perform the inspection:

1. Independent review of documents, e.g.;

   a. March 2003 SCWE survey results
   b. November 2003 SCWE survey results

c. Comments provided by individuals taking the March and November 2003 SCWE surveys
d. Licensee's external assessment team's notes
e. Licensee's evaluation team's report

2. Interviews of staff and supervisors selected by the NRC

Those aspects of the interview findings related to each element of the inspection are discussed in the following sections of this report. A detailed discussion of the interview findings is in Attachments 3 and 4.

3. Discussion with the licensee's evaluation team

IV. Assessment, Observations, and Conclusions

A. Licensee's Evaluation

1. Scope

The scope of this portion of the inspection was to perform an assessment of the input parameters, evaluation techniques, and methods used by the evaluation team to determine the cause(s) of the increase in negative responses to the SCWE survey from March to November.

The Inspection Team evaluated the assessment performed by the evaluation team. The assessment was documented in the evaluation team's final report, "Davis-Besse SCWE Survey Review Team Final Report," 1/12/04, and a summary was presented to the Inspection Team on January 13, 2004. The Inspection Team's assessment included a review of interview questions, an evaluation of the appropriateness of the focus group technique, the appropriateness of the sampling plan, and the relevance of the documents reviewed. In addition, the qualifications of the evaluation team members were evaluated. As part of the qualification assessment, the independence of the contractor was also examined. Further, the methodology used to develop results and conclusions from the data was evaluated to determine: if the methodology was appropriate, applicable, and comprehensive; if the methodology was applied consistently; and if the statistical techniques applied to sampling and to the results were appropriate.

The Inspection Team also evaluated the results of the assessment and the data collected by the evaluation team to determine: if the results drawn from the assessment were consistent with the data collected; how the results drawn from the assessment compare with data from the SCWE survey; if the overall conclusions drawn from assessment were consistent with the data collected by the licensee; and if the results of the Inspection Team's efforts confirmed the licensee's results.

To perform the assessment, the Inspection Team was briefed by the licensee and their contractor, conducted focus group and individual interviews, and reviewed documents. Sections B. and C. of this report include details of the interviews and document review. This section is an assessment of the licensee's evaluation process.

2. Observations

The evaluation team used a structured process to ask the participants why they believed there was an increase in the number of negative responses from their organization on a particular question. The questions the evaluation team focused on during its group interviews, were the questions from the survey that saw an increase in the number of negative responses from March to November 2003. The questions probed were limited to those that were significant to the organization being interviewed, i.e., Operations, Nuclear Quality Assurance (NQA), Maintenance, and Plant Engineering. The Inspection Team found this approach to be appropriate for the situation.

The licensee's contractor interviewed 100 percent of plant staff, from Quality Assurance, Chemistry, Plant Engineering, Operations, and Maintenance who were onsite and available to be interviewed during the last week of December 2003. The interviews were conducted in group sessions referred to as focus groups. This was an adequate sample based on time and staff availability.

To assess the focus group approach used by the evaluation team, the Inspection Team conducted both focus group and individual interviews to determine if focus groups alone would elicit unbiased answers. The Inspection Team noted little difference between the findings derived from focus group interviews alone versus focus group and individual interviews. Therefore, the Inspection Team found that the focus group technique was appropriate for this application.

The Inspection Team also reviewed the resumes of each member of the licensee's evaluation team. The review determined that each of the member's qualifications were sound and appropriate. The Inspection Team also reviewed the independence of the licensee's evaluation team. Because some evaluation team members had a strong affiliation with Davis-Besse and FENOC in other contracting relationships related to safety culture and SCWE, the Inspection Team did not consider the team to be completely independent. However, the Inspection Team also noted that the prior relationships did not appear to have influenced the outcome of the evaluation team's review.

The Inspection Team also reviewed the evaluation team's analysis technique used to identify significant themes that described the decline in responses from March to November 2003. The Inspection Team used a confirmatory approach to perform this review. By comparing the evaluation team's findings with its own, the Inspection Team determined that the evaluation team's technique led to essentially the same conclusions as those reached by the Inspection Team at

the general level. There are more details regarding the focus group and interview comparisons and the document reviews in the next two sections, a brief comparison is presented here.

The evaluation team identified five cross-cutting themes from the data they collected: 1) Schedule Credibility; 2) Communications; 3) Low CR threshold; 4) Working hours; and 5) Management Comments. While the Inspection Team agreed with the cross-cutting themes, it would have used different descriptive terminology for each of these themes. The Inspection Team noted that the themes by themselves were not sufficiently detailed to derive comprehensive CAs. For example, Management Comments was limited by the licensee to specific comments made by particular Davis-Besse or FENOC managers that were considered to be inappropriate or intimidating. The Inspection Team identified that while this was true, when combined with other items, a case could be made that Davis-Besse management did not always effectively assess the consequences of their comments and actions, and implement effective mitigation strategies to deal with the potential negative impacts of those actions. Communications as an issue was too broad to determine what CAs would be appropriate.

The Inspection Team identified an area that cut across both the communications and management themes. As mentioned above, that area is the failure to recognize the potential consequences that actions may have on safety culture and safety conscious work environment. For instance, the Inspection Team identified concerns that were related to failure to announce and describe a realignment of operating crews after the problems identified during the NOP/NOT testing, and problems associated with failure to communicate why preventive maintenance activities and other routine activities were not scheduled. In addition, the Inspection Team identified issues related to shift realignment, organizational changes, and schedule pressure that were not stressed by the licensee's evaluation team.

Another theme where the Inspection Team identified additional information was "Low CR Threshold." The Inspection Team identified that this was not limited to the threshold associated with the CR process, but included the process itself. Staff at the plant identified this issue as a prioritization and staffing problem, but did not seem to have a problem with the number of CRs being written. The Inspection Team interpreted this primarily as a procedural or process problem, rather than a problem of the volume or the reason for preparing a CR.

The most common issue identified across the organizations for the increase in the number of negative responses, during both the focus groups and the individual interviews, was working hours, fatigue, and the attendant life style effects. Almost all of the staff interviewed talked about fatigue, family issues, and health problems associated with the long hours and mandatory overtime they had been working since the plant shutdown in 2002. Several individuals interviewed indicated that they had to compensate for fatigue through self-styled mitigation measures, of which their management was unaware. This was a

significant issue that the evaluation team identified, but characterized as a working hours issue and not a fatigue issue.

3. Conclusions

The Inspection Team's assessment concluded that the interview questions, focus group technique, and sampling plan, used by the evaluation team, were appropriate to the task. The statistical techniques applied to selecting questions for use in the focus groups were appropriate. The qualifications of the evaluation team members were appropriate, although the Inspection Team did not consider them independent.

The Inspection Team's assessment indicated that the results and the overall conclusions drawn by the evaluation team were consistent with the data collected. Further, the Inspection Team's efforts generally confirmed the evaluation team's results.

There were details that the Inspection Team found that were not present in the evaluation team's report. There were items that the Inspection Team found that were not present in the evaluation team's report. For example, 1) the distinction between long work hour concerns and fatigue-related concerns, given that the former can be fixed with simply reducing hours, while the latter may require further compensatory actions, and 2) that Davis-Besse management did not always effectively assess the consequences of their comments and actions or put into place effective mitigation strategies to deal with the potential negative impacts of those actions.

B. Interviews

1. Scope

To evaluate the licensee's methods and conclusions, the Inspection Team independently conducted interviews of randomly selected licensee staff in individual and focus group settings. The randomly selected staff and first line supervisors were from the departments which showed the most increase in negative responses on the November 2003 SCWE survey. These departments were operations, plant engineering, maintenance, and NQA. In addition, individuals from the training department were selected as a control group.

One focus group consisted entirely of supervisors, with eight supervisors chosen randomly and proportionally representative of the departments' sizes. The other five focus groups were made up of six to eight staff members selected from each of the five work groups to form that department's focus group. All focus group participants were removed from the selection list for the individual interviews, and approximately 20 percent from the remaining individuals for each work group, both supervisors and staff, were randomly selected to be interviewed individually. The Inspection Team did not select any one from above the first line supervisor level. Overall the Inspection Team conducted seventy five individual

interviews and six focus groups consisting of six-eight individuals each, this included five individuals who requested to talk to the Inspection Team.

The list of interview questions can be found in Attachment 5. Detailed discussion of the individual interview and focus group findings are in Attachment 3 and Attachment 4, respectively.

2. Observations

The licensee identified five cross-cutting themes associated with the decline in the November 2003 survey results and presented those to the Inspection Team: Long work hours, work scheduling issues, management comments, communications problems, and a low threshold for generating CRs. The Inspection Team found support for each of these factors from its interviews but also identified additional areas where interviewees had additional concerns, e.g., decreased priority on training and problems with staffing levels.

The Inspection Team also gained information and insights in some areas in comparison to what was described by the evaluation team. For instance, in addition to confirming that they had been working long hours, interviewees provided insights to the Inspection Team on the effects of those long hours on their physical and mental conditions (i.e. fatigue, illnesses) and their personal and family life. Overall, the Inspection Team observed a general decrease in the quality of life for most individuals due to the work hours and schedules. Additionally, some individuals described taking countermeasures, such as scheduling critical activities earlier in the day and using peer checks, due to their concerns about committing errors because of fatigue. The Inspection Team also noted staff frustration toward management for not appropriately addressing concerns regarding the long work hours when previously brought up through various forums, e.g., CRs, public meetings, and ECP.

In regard to scheduling of work activities, interviewees described problems with the schedule not addressing all required activities, not being able to accommodate emergent issues, and not being realistic for plant conditions. They also felt that resource loading was not appropriately incorporated into the schedule, leading to insufficient resources to meet schedule demands. In addition, some interviewees described difficulties they experienced in requesting activities be added to the schedule, especially if the activity did not directly support startup. However, some individuals explained that scheduling had been improved and that those managing the schedule were attempting to schedule more realistically.

In the area of management comments, the Inspection Team received information regarding manager comments that the staff considered to be inappropriate or degrading. In general, the comments and behaviors appeared to be inconsistent with the licensee's Leadership-in-Action principles. Some staff also described receiving contradictory information from management, mostly in reference to schedule versus safety. From these responses, the Inspection Team concluded that some individuals in management positions had failed on

many occasions to adequately consider the extent of the potential effects, as well as appropriateness, of their comments to the staff.

Furthermore, although many of the individuals felt that communications at the site overall had improved, they identified shortcomings in management providing the basis for actions taken and for decisions that affect personnel. For example, many expressed concern that management had not explained the recent organizational changes and why the plant was held in Mode 3 following identification of a problem with the regulator for the turbine driven auxiliary feedwater pump, which some interviewees believed to not be appropriate for conditions at that time. The Inspection Team noted many positive responses regarding recently implemented actions to improve communication, e.g., twice daily plant status e-mails.

Regarding the corrective action program, in addition to verifying the lowered threshold for writing CRs and consequently the increased volume, most of the staff expressed concerns that were more aligned with process or implementation problems. The problems included sufficient staff to accommodate the additional volume and the potential for duplicate CRs. Interviewees offered suggestions for improvements including filtering and tracking CRs and improving staffing. Many individuals also discussed the effects of the increased volume on workload and work scheduling. Only a few individuals made negative comments about inappropriate or insignificant CRs that had been placed in the system.

Throughout the interview process, the Inspection Team, in general, noted a more negative tone in responses to questions dealing with management behavior and effectiveness than during similar interviews in May 2003. When concerns were raised, the responses were often considered to be presented in an intimidating manner or the individuals did not believe the issues had been satisfactorily addressed. The Inspection Team concluded that, in combination, the five cross cutting items described above led to the increase in levels of staff frustration observed; however, the Inspection Team did not identify any performance deficiencies which could be attributed to the frustration. The Inspection Team noted that interviewees personally exhibited a strong focus on safety and indicated that management placed the highest priority on addressing safety concerns. The Inspection Team also noted that the conditions around which the November 2003 survey was administered, which was soon after the Normal Operating Pressure/Normal Operating Temperature testing, could have affected the survey responses, and many individuals did explain that some problem areas, such as scheduling and communications, have experienced some improvements.

3. Conclusions

The Inspection Team's findings from the interviews were generally consistent with the licensee's determination of cross-cutting themes but contained additional information and broader insights. Specifically, in the area of the CA program, the staff received information which did not appear to have been provided to the licensee's evaluation team, which narrowed their original

conclusions. Further, in the work hours area, the issue of compensating for fatigue did not appear to have been raised to the evaluation team. Although the results of the interviews indicate that assuring nuclear safety was not a concern, the Inspection Team did observe that management and staff were not aligned in a number of areas, and certain management actions appear to have caused individuals in some organizations to have less confidence in the management as compared to May 2003.

From the collective responses of the interviews and focus groups, the Inspection Team concluded that some individuals in management positions had failed, on occasion, to adequately consider the potential effects and appropriateness of their comments on the staff.

The combination of the contributing factors as described above led to an overall increase in levels of frustration among the staff as observed by the Inspection Team. However, the Inspection Team did note that interviewees personally exhibited a strong focus on safety and generally believed that management placed the highest priority on addressing safety concerns.

C. Documents Review

1. Scope

The Inspection Team reviewed the documents listed in the attached "List of Documents Reviewed" to assess whether the documents the evaluation team reviewed were an adequate sample of materials to understand the conditions that led up to their review, that their interpretation and use of those documents was appropriate, and to confirm that the findings of the Inspection Team were similar to the findings of the licensee's contractor. These documents included the results of the SCWE surveys conducted in March 2003 and November 2003, the licensee's comparison of the March and November SCWE surveys, a number of CRs, the set of documents reviewed by the evaluation team, and other documents identified during the conduct of the inspection. Of particular relevance was the Davis-Besse SCWE Survey Review Team Final Report dated January 12, 2004. This document was the evaluation team's report on their findings from their focus group interviews and document review. The Inspection Team focused on the documents reviewed by the evaluation team, and referenced in its report and briefing to the Inspection Team. The Inspection Team also interviewed evaluation team members to obtain information on how they used the reports.

2. Observations

The Inspection Team agreed with the selection and sample of the documents that the evaluation team reviewed. Additional documents reviewed by the Inspection Team revealed little new or different information, only more detail. The evaluation team's conclusions were consistent with the content of the documents, though the Inspection Team's conclusions in some areas were more inclusive. The evaluation team's primary purpose for review of the documents

was to focus the questions for their interviews. For that purpose, their use of the information in the documents was consistent with their objective. However, the Inspection Team concluded that broader use could have been made of the information in some of the documents. For instance, the information from the written response to the SCWE survey and the NQA interviews could have been used to better define issues related to CRs and associated CAs.

The most relevant documents reviewed were the results from the March and November SCWE surveys. The evaluation team did a thorough analysis of the data and determined which questions showed the greatest increase in the number of negative responses and selected the most relevant questions to use in their focus group interviews. They only used the questions identified as most negative to each specific department. The Inspection Team independently selected the same questions from the SCWE surveys but used all of the identified questions for all departments.

The Inspection Team's review of the detailed written responses to both of the SCWE surveys and two NQA interview reports identified a number of details that expanded on the survey ratings. The Inspection Team identified that these detailed responses contained important information that not only confirmed the results of the Inspection Teams interviews but contained details that would help formulate CRs and CAs. For example, the evaluation team identified working hours as an issue, but did not focus on the fatigue aspects since that was not brought up in their focus groups; fatigue was mentioned several times in the written responses.

Condition reports were also reviewed by the Inspection Team. No CR was prepared for the findings from the November 2003 SCWE survey differences until the NRC identified their importance. However, the licensee had begun to take some actions to respond to the findings, e.g., the ECP manager conducted a limited set (40 people) of focus group interviews to determine the reasons for the increase in the number of negative responses to the survey. Because of this, the Inspection Team had questions regarding the licensee's use of its CAP for safety culture related findings. After the evaluation team reported the findings from their interviews, the licensee prepared CRs for each of the five cross-cutting issues. The level of detail contained in the CRs by themselves did not appear to be sufficient to develop comprehensive CAs. The Inspection Team did note that sufficient information existed in the related documents to develop appropriate CAs. The licensee also generated CRs for the issues unique to the affected organization. At the time of the inspection, few CAs for these CRs had been entered into the CAP program, though some actions had been taken to address the issues, e.g., working hours reduced (1/20/04), daily plant status e-mails from the site Vice President.

The Inspection Team also reviewed a licensee analysis of the amount of overtime worked by each Davis-Besse department during 2003. The analysis included statistics for the average overtime worked by department, the highest average overtime worked by an individual in each department, and the number of individuals in each department exceeding 50 percent overtime. The

Inspection Team noted that for the majority of the departments, average work hours were between 50 and 60 hours per week, and that several departments had substantial numbers of individuals averaging in excess of 50 percent overtime, including Radiation Protection (23 people), Operations (52 people), and Work Management (108 people). The Inspection Team also observed that the average work hours for some individuals were as high as 74 hours per week for 2003. The Inspection Team reviewed individual work hour records from June through December 2003 for selected departments. The Inspection Team found that individual work weeks of 72 hours or more were common in the Radiation Protection, Operations, and Nuclear Maintenance departments, though average work hours and the incidence of long work weeks declined from October through December 2003.

In response to the issues identified by the evaluation team, the licensee implemented a number of immediate actions though they may not have been entered into the CAP: 1) provided refresher training on SCWE; 2) re-emphasized Leadership-in-Action philosophies; 3) established a "people" team; 4) provided twice daily plant status e-mail from management to all staff; 5) reduced working hours; and 6) made improvements in the credibility of the work schedule. Corrective action for individual organization issues were being developed and the licensee planned to conduct an effectiveness review during the 2nd quarter of 2004. Future monitoring was planned to include independent outside contractors.

3. Conclusions

The Inspection Team found that the evaluation team reviewed an adequate sample of appropriate materials to understand the conditions that led up to their review. The interpretation and use of those documents was appropriate for their objective. The results of the Inspection Team's document review confirmed the evaluation team findings.

Review of personnel work hours substantiated comments from interviewees regarding long work hours during the past year. Although some individuals averaged more than 72 hours per week during the past year, work weeks of 60 hours were more common than 72 hour weeks.

While the licensee had used the CAP program in the past to document human performance issues and track CAs, they were not as pro-active this time. Given the licensee's low threshold for entering issues into the CAP and the breadth of issues being currently included in the CAP, the Inspection Team was concerned that the licensee had not used the CAP to document the declined survey results.

IV. Restart Checklist Item 4.b, "Effectiveness of Corrective Actions"

The Inspection Team concluded, based on the results of the three phases of the Management and Human Performance inspection and the Follow Up inspection, that the licensee's root cause analyses and associated CAs for the safety culture issues were appropriate. The Inspection Team also concluded that the CAs and associated

monitoring activities, have been sufficiently effective to provide reasonable assurance to preclude recurrence of the conditions which led to the degradation of Davis-Besse's reactor vessel head. While additional actions were planned for continued improvement in the safety culture at Davis-Besse, no issues were identified that would preclude unit restart. Therefore, the Inspection Team recommended to the Davis-Besse Oversight Panel that restart checklist item 4.b be closed. The Panel discussed the Team's recommendation and approved closure of Item 4.b on February 5, 2004.

V. Exit Meeting

The Inspection Team met with Mr. Lew Myers and members of his staff on February 12, 2004, to discuss the results of this inspection. Mr. Myers acknowledged the Inspection Team's conclusions.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Fred von Ahn, Vice President - FENOC Oversight
Clark Price, Manager - FENOC Business Services
Paul J. Zaffuts, Morgan Lewis
John M. Griffin, Kestrel Group
Connie M. Lincoln, The Lincoln Consulting Group
Linda Cook, The Lincoln Consulting Group
Alan B. Fox, The Lincoln Consulting Group

LIST OF ACRONYMS

CFR	Code of Federal Regulations
CR	Condition Report
DRP	Division of Reactor Projects
ECP	Employee Concerns Project
EDG	Emergency Diesel Generator
FENOC	FirstEnergy Nuclear Operating Company
HIRD	Harassment, Intimidation, Retaliation, Discrimination
LCO	Limiting Condition for Operation
NOP	Normal Operating Pressure
NOT	Normal Operating Temperature
NRC	Nuclear Regulatory Commission
PCR	Procedure Change Request
SCWE	Safety Conscious Work Environment

LIST OF DOCUMENTS REVIEWED

- SCWE Survey Question 23 Corrections – Charts showing color-coded percentages for March and November with formula correction

- CR 03-11306 documenting incorrect formula used in survey analysis

- MARCH SURVEY
  - Survey Results - By Company
  - Survey Results – FENOC and Contract Employees
  - Survey Results – FENOC Employees
  - Survey Comments
  - Follow-up Interviews, May 5, 2003 (RP/Chem, PE, Maint)
  - Follow-up Evaluation Results
  - CR 03-03247 "SCWE Survey Results and Recommended Actions"

- NOVEMBER SURVEY
  - Department Breakdowns – # of FE/FENOC Employees/Total # of Survey Respondents
  - Survey Results – By Company
  - Survey Results – FENOC and Contract Employees
  - Survey Results – FENOC Employees
  - Bar Graph showing Agree, Don't Know, Disagree by question, by section
  - SCWE Survey Results graphs provided to the ROP at 11/10/03 public meeting

- MARCH/NOV COMPARISON
  - List of Questions Determined (Qualitatively) to Have a More Negative Response by Group
  - Operations March v. November Survey (Positive Delta Values are Improvements)
  - Plant Engineering March v. November Survey
  - QA March v. November Survey
  - Maintenance March v. November Survey (Positive Delta Values are Improvements)
  - Chemistry March v. November Survey
  - Design Engineering March v. November Survey
  - Proj Mgmt March v. November Survey
  - Chemistry March v. November Survey
  - Graphs – Distribution of Question Responses for QA and Maint (FENOC Only)

- SCWE SURVEY REVIEW TEAM FOLLOW-UP COMMENTS
  - Interview Comments from Chemistry, Plant Engineering, Operations, Maintenance, Maintenance Contractors

- CONDITION REPORTS
  - Chart of CRs and CAs Resulting from Nov. 2003 Survey Results

    03-03247 Safety Conscious Work Environment Survey Results and Recommended Actions

03-11315	November 2003 SCWE Survey Identified Declining Trends in Some Departments
04-00245	SCWE Survey Review Team Cross-Cutting Theme - Management Comments
04-00246	SCWE Survey Review Team Cross-Cutting Theme - Low CR Threshold
04-00247	SCWE Survey Review Team Cross-Cutting Theme - Schedule Credibility
04-00291	SCWE Survey Review Team Cross-Cutting Theme - Work Hours
04-00292	SCWE Survey Review Team Cross-Cutting Theme - Communications
04-00226	March to Nov 2003 SCWE Survey Results - Decline in Certain Response Areas - NQA
04-00253	March to Nov 2003 SCWE Survey Results - Decline in Certain Response Areas - Chem
04-00256	March to Nov 2003 SCWE Survey Results - Decline in Certain Response Areas - PES
04-00271	March to Nov 2003 SCWE Survey Results - Decline in Certain Response Areas - Maintenance
04-00411	March to Nov 2003 SCWE Survey Results - Decline in Certain Response Areas - Operations
04-00382	March to Nov 2003 SCWE Survey Results - QS
04-00392	SCWE: March - November 2003 Survey Results Discussion: Reactor Engineering Unit
04-00407	SCWE November 2003 Survey Results Discussion: Outage Management and Work Control
04-00416	Results of SCWE Survey Discussion with Regulatory Affairs Personnel
04-00544	SCWE: March - November 2003 Survey Results Discussion: Human Resources
04-00405	SCWE: March - November 2003 Survey Results Discussion: Security
04-00486	SCWE: March - November 2003 Survey Results Discussion: Radiation Protection
04-00393	2003 March to November SCWE Results - DES
04-00369	SCWE Comparison of Results from March 2003 to November 2003
04-00307	SCWE: March - November 2003 Survey Results Discussion: - PRS
04-00301	March to November 2003 Survey Results Decline in Certain Areas

- SCWE SURVEY REVIEW TEAM REFERENCES
  - Four Pillars graphic
  - SCWE Review Team Process Methodology Flow Chart, Rev. 1
  - Team Charter dated 12/21/03, including Survey Questions
  - Graph of External Factor Influencing SCWE Survey
  - Mgmt Personnel Changes March – Nov 2003
  - Overtime by Department 2003
  - Work Schedule and Extra Hour Compensation memo, dated 2/28/03

- Upcoming Weekend and Holiday Work Schedule memo, dated 11/20/03
- Exempt Extra Hour Compensation memo, dated 9/3/03
- Davis Besse Org Chart, dated 12/03
- QA Survey of Nov. 2003

Additional Information

- DB SCWE Survey Review Team Final Report, 1/12/04
- Questions and Responses from November 03 Survey focus group meetings with Linda Griffith and Linda Cook on 12/12/03
- Table of identified cause (theme) with associated corrective actions
- Davis-Besse Work History for Paul Zaffuts, John Griffin, Alan Fox, Linda Cook and Connie Lincoln
- Davis-Besse Org Chart dated 1/12/04
- The Positive Leader newsletter, dated 11/03 (Supv. Continuing training which included SCWE)
- One week sampling of Mark Bezilla am and pm e-mails
- Mark Bezilla e-mail regarding SCWE inspection feedback, dated 1/14/04
- Overtime spreadsheets John Griffin prepared – Jan – Nov 2003 and Sept – Nov 2003 data
- Overtime reports showing straight time, overtime and total per week for each employee in targeted areas – Ops, Maint, RP, Plant Engineering
- Verbatim comments from November 2003 survey
- Overtime reports the DB Review Team used for their conclusions
- All CRS written on the recent issues with both CTMT Spray Pumps
- Information resulting from daily 3-question face-to-face supervisor sessions, from MCTM package of 1/23/04
- Operations manning information from Feb. 02 and December 03
- Revised SCWE 4th Quarter Collective Assessment Report, 1/29/04
- Change Management Policy and Guideline
- Copy of the Reduced Work Hours Announcement, dated 1/20/04
- Technical Specification for OT (6.0) and associated admin procedures (NOP-LP-1002 and NOP-LP-1005)

APPROVAL SHEET FOR
MANAGEMENT & HUMAN PERFORMANCE ASSESSMENT
FOLLOW UP INSPECTION

Inspection Dates: Jan 12 through Jan30

Exit: Jan 21 (tentatively)

Applicable Inspection Procedures:

93812, “Emergency Response”

Inspection Procedure:

Prepared by: ***/RA by C. Lipa for/***
G. C. Wright, RIII, DRP
Project Engineer/Team Lead

Reviewed by: ***/RA/***
Christine Lipa
Chief, Projects Branch 4, DRP
Oversight Manager

Approved by: ***/RA/***
Jack Grobe, Chairman,
Davis-Besse 0350 Oversight Panel

Follow Up Inspection:

The Follow Up Inspection of the Management and Human Performance Assessment is to independently verify the licensee's assessment of the causal factors responsible for the decline in performance between the March and November SCWE surveys and to assess the corrective actions proposed to address the factors. The team proposes to use a modified Phase 3 to accomplish the task. The inspection will be accomplished by a special inspection consisting of NRC inspectors, specialists, and consultants noted below.

The Follow Up Inspection plan consists of a review of the method the licensee used to assess the survey findings, independent verification/validation of the data obtained by the licensee, assessment of the data reduction, and review and assessment of the corrective actions identified by the licensee.

The basic activity of the inspection will be interviews with both focus groups and individuals. We expect to conduct 6 focus groups and a 25% random sample of individual interviews from staff in operations, plant engineering, maintenance and quality assurance.

I. Inspection Team:

Team Leader:	Geoffrey Wright, Region III
Team Members:	Clare Goodman, NRR
	June Cai, NRR
	Dave DeSaulniers, NRR
	Julius Persensky, RES
	Molly Keefe, RES
	Lisamarie Jarriel, OE
	James Heller, RIII
	Michael Brothers, Consultant

II Inspection Activities:

Docket	=	05000346
Report No.	=	50-346/2004003
Insp. Proc.	=	93812
Inspection IPE	=	ER
Preparation IPE	=	SEP
Documentation IPE	=	SED
Travel	=	AT

III Inspection Deliverables:

This special inspection is designed to provide the NRC's 0350 Panel (Panel) with an evaluation of (1) the processes the licensee used to assess changes in the results of the safety culture and safety conscious work environment (SCWE) survey (ECP survey) conducted in March and November 2003, (2) the corrective actions the licensee plans for improving their safety culture and SCWE, and (3) the monitoring activities the licensee plans to undertake associated with continued assessment of its safety culture and SCWE. The input from this inspection, when combined with other inputs, e.g.,System Health inspections, Program Review inspections, Containment Health inspections, and the Corrective Action Team Inspection, will allow the Panel to make an informed decision on the effectiveness of the licensee's Management and Human Performance corrective actions. To that end, the following deliverables are expected from this special inspection.

A. Independent Assessment

The inspection team will provide the 0350 Panel with an assessment of the input parameters, evaluation techniques, and methods to determine the root cause and to develop conclusions used by the licensee's assessment team.

B. Assessment of Licensee Corrective Actions

The inspection team will provide the 0350 Panel with an assessment of the actions the licensee plans to implement to improve the their safety culture and SCWE.

C. Future Monitoring Activities

In light of the decline in survey results between March and November, the team will revisit the licensee's proposed monitoring plans for 2004 to evaluate their appropriateness.

IV Inspection Details

A. Independent Assessment, i.e., the assessment performed by the contractor.

1. Evaluate suitability of the following tools used by the independent assessment team, relative to the data from the November ECP survey:

a. interview questions
c. appropriateness of the focus group technique;
d. documents reviewed
e. sampling plan for all above

2. Evaluate implementation of the licensee's safety culture evaluation techniques

   a. how individuals were selected to participate as described in the process; and
   b. the qualifications and independence of the assessment team

3. Evaluate the methodology used to develop results and conclusions from the data to determine:

   a. if the methodology is appropriate, applicable, and comprehensive;
   b. if the methodology was applied consistently; and
   c. if the statistical techniques applied to sampling and to the results were appropriate.

4. Evaluate the results of the assessment and the data collected by the licensee's evaluation team to determine:

   a. if the results drawn from the assessment are consistent with the data collected;
   b. how the results drawn from the assessment compare with data from the ECP survey
   c. if the overall conclusions drawn from assessment are consistent with the data collected by the licensee's evaluation team
   d. If the results of the inspections teams efforts confirm the licensee's results

B. Review the licensee's response to the findings from the ECP survey and the independent assessment to determine:

1. If planned actions are appropriate for resolving identified issues
2. If appropriate monitoring methods are in place to identify similar problems in the future
3. If appropriate criteria for qualifications of personnel who will conduct and evaluate the results of future periodic safety culture and SCWE assessments have been established;
4. If appropriate criteria for action based on the results of future periodic safety culture and SCWE assessments have been established

V Methods

A. Interviews

1. The inspection team will use a combination of individual and focus group application specific interviews to achieve a random sample of approximately 25% of target working groups for individual interviews, with

a control sample from one other work group. The focus groups will consist of from six to eight individuals randomly selected from each work group. These individuals would not be exempt from selection for individual interviews. The team will also be available for confidential interviews off-site for individuals who want that level of confidentiality.

a. Interview six focus groups,

1) one focus group each of staff from operations, plant engineering, maintenance, and quality assurance
2) one focus group from training - as a control group
3) one conglomerate focus group of supervisors from operations, plant engineering, maintenance, training and quality assurance

b. Interview individuals from operations, plant engineering, maintenance, quality assurance, and training

1. The team will interview members of the independent assessment team

2. The team will interview licensee staff and managers responsible for the implementation of corrective actions resulting from the independent assessment and future assessments of safety culture and SCWE

B. Document Review

1. The inspection team will review the documents described in the process diagram developed by the licensee's independent assessment team

2. The inspection team will review any written reports resulting from the licensee's independent assessment

3. The inspection team will review condition reports and corrective actions resulting from the licensee's independent inspection

4. The inspection team will review licensee documents and procedures that describe their implementation of corrective actions and continued monitoring of safety culture and SCWE

VI Brief 0350 Oversight Panel on findings and conclusions from inspection.

VII. Exit Meeting with licensee

Individual Interview Results

The Inspection Team independently conducted interviews of randomly selected licensee staff in individual and focus group settings. The randomly selected staff and first line supervisors were from the departments which showed the most increase in negative responses on the November 2003 SCWE survey. These departments were operations, plant engineering, maintenance, and nuclear quality assurance (NQA). In addition, individuals from the training department were selected as a control group.

One of the focus groups consisted entirely of supervisors, with eight supervisors chosen randomly and proportionally representative of the work groups' sizes. The other five focus groups were made up of eight staff members selected from each of the five work groups to form that department's focus group. All focus group participants were removed from the selection list for the individual interviews, and approximately 20 percent from the remaining individuals for each work group, both supervisors and staff, were randomly selected to be interviewed individually. The Inspection Team did not select any one from above the first line supervisor level.

Two Inspection Team members conducted the focus groups, with one to three additional Inspection Team members recording discussion points and/or observing. For the individual interviews, two to three Inspection Team members interviewed each individual and alternated between asking questions and recording responses. The Inspection Team also interviewed five additional individuals at their request. In total, the Inspection Team conducted seventy five individual interviews and six focus groups consisting of six-eight individuals each. To ensure confidentiality, names were not recorded with any of the responses. All data was then categorized and transferred into an electronic database, and all original recordings and documentation was destroyed. Five individuals that were not on the interview list requested to be interviewed and were included in the total sample.

The interviews administered by the Inspection Team consisted of several question formats, including yes/no, choose an option from a list, open ended, and combinations of all these.. The Inspection Team recorded each participant's verbal responses, and the results were categorized and stored without the participant's identity. A few clarifications must be made in regards to the results. First, not all interviewees were asked every question due to time constraints, and individuals may not have provided answers to all the questions they were asked. Also, interviewees did not always provide additional details to follow-up questions, while in contrast, some volunteered responses even when not prompted to by the interviewer. Therefore, the number of responses to each question varies and does not always equal the total number of interviewees. Most of the percentages in this report are calculated out of the total number of interviewees, unless otherwise noted, e.g., "of those who answered yes" or "for those who agreed".

Background/Demographics

The Inspection Team conducted a total of 75 individual interviews (5 at the individuals' request and the rest selected randomly) with both staff and first line supervisors from five plant departments. The breakdown was: 25 from Maintenance, 25 from Operations, 13 from Plant Engineering, 5 from Quality Assurance, and 7 from Training. The majority of interviewees were plant employees, with only two contractors interviewed, and approximately 25 percent were first

line supervisors. The length of employment with Davis-Besse varied, ranging from less than 5 years (23 percent), to 6 to 10 years (8 percent), to 11 to 20 years (33 percent), and finally to over 20 years (36 percent).

Almost half (46 percent) of the interviewees had participated in some type of focus group in December. Of those, 64 percent participated in sessions held by the independent consultants during the last week of December, and 24 percent participated in ones held by the ECP on December 12th. The rest (12 percent) had participated in both. When asked about the focus groups held by the consultants, some individuals (9 percent) made negative comments about the use of a group setting, and others (9 percent) criticized the length of time being too short.

The interviewers then asked about the November 2003 Safety Conscious Work Environment (SCWE) survey conducted by the licensee. Only 7 percent answered that they had attended the December 29th public meeting where the results were presented, but many (29 percent) had attended other meetings where survey results were provided. In terms of how they answered the survey questions, the majority (70 percent) responded that they answered for themselves, 4 percent answered for their own work group, 5 percent answered for the entire plant, and 20 percent explained that it depended on the question or varied. Some individuals (36 percent) felt there were ambiguities in some of the survey questions and provided examples of such (i.e. acronyms, confusion over terminology).

Reasons for Decline

This series of questions asked the interviewees why they believed responses had declined for certain questions in the November 2003 survey as compared to results from March 2003. The Inspection Team presented the exact questions from the November 2003 survey and explained that these questions had received more negative responses from some of the plant departments, but not necessarily the individual's own department. The Inspection Team asked the interviewee to explain what they thought the reasons for the decline might be, if possible. Not all interviewees were able to provide explanations for every question, but overall this set of questions elicited many insightful responses. Due to the open ended nature of the questions, quantitative summaries were not possible, so more general, qualitative descriptions will be provided here.

Willingness to Raise Concerns

The first set of questions presented were in regards to willingness to raise concerns. In response to a question about management caring about safety versus cost and scheduling, the majority believed that the recent focus and push on the schedule and scheduling problems had led to the decline in responses. Comments about long work hours and fatigue as well as mixed or negative messages from management were also noted.

The Inspection Team then asked about management expectations on safety and quality being reflected in appraisals, rewards, and discipline. Approximately half of the interviewees could not explain the decline. Comments that were provided related to how appraisals and rewards had not been conducted recently due to the push for schedule and budgeting as well as long work hours with no pay. A few examples were also provided about what some individuals perceived to be punishment.

Regarding management tolerance for raising concerns, the majority did not understand reasons for the decline or felt that concerns could be raised. Possible reasons provided were the long work hours, scheduling problems, and negative management comments and behaviors. Some examples of what could be viewed as retaliation were also provided. Likewise, the majority could not explain the decline in response to management willingness to address concerns brought to them. Those who did provide answers explained that issues could be raised but actions may not necessarily be taken as a result. Some believed that issues could be raised to immediate supervisors, but they were not as certain about higher levels of management. Negative management behavior and comments were also cited by a few individuals. About management addressing the concerns that are brought to them, approximately half did not know why responses declined or felt that the statement was true. The remainder explained that issues are not always satisfactorily resolved and that the situation depended on the issues involved and individual perceptions. A few comments about fatigue and problems with the Condition Reports (CRs) process were also made.

For belief in the work environment being free of Harassment, Intimidation, Retaliation, and Discrimination (HIRD), most could not explain or felt their work environments were free of HIRD. Those who could provide explanations described examples of inappropriate management behavior and issues with scheduling pushes, and a few described problems due to fatigue and stress. Finally, in response to being able to raise nuclear safety or quality concerns without fear of retaliation, most could not offer explanations, but a few examples were provided about being able to challenge first line supervisors but uncertainty regarding higher levels of management.

Normal Problem Resolution Process (CRs)

The next set of questions asked about the CR process. Asked if using CRs to identify nuclear safety or quality issues is effective in their organization, about half felt the statement was true and could not explain the decline. Most who offered comments described process problems, especially in dealing with the increased number of CRs, and a few commented on schedule pressures. The next question asked if the resolution of nuclear safety and quality issues, including Root Cause, is effective, and again half did not understand reasons for the decline or they believed the statement to be true. Those who could provide reasons described similar process problems as in the responses to the previous question, particularly the dilution of important issues due to the increased volume. A few individuals made specific comments about management not responding appropriately to recent issues with the auxiliary boiler. That last question asked if the CR process is being utilized effectively to resolve quality issues in a timely manner. Many could not provide an explanation or believed it was true. Process problems were described, including high volume, problems with timeliness, and lack of prioritization of issues in the system. A few individuals commented that work scheduling and the focus on restart activities could have affected the responses. The Inspection Team also received feedback that if issues were related to safety, they would receive resolution in a timely manner.

Employee Concerns Program (ECP)

The Inspection Team used the next few questions to ask about declines in questions about the ECP. Regarding the ECP keeping identities confidential at the individual's request, the majority answered that they did not have any experiences with or knowledge about the ECP, so they could not explain why responses declined. The ones who did provide answers described lack of satisfactory resolutions or questioned the effectiveness of the program. Some stated that

identities can be found out if one wanted to using other sources. A few made positive comments about the program. Asked if upper management supports the ECP, again the majority did not know reasons for the decline and expressed agreement with the statement. A few individuals described lack of trust in the sincerity of the management in their support of the program or provided examples of issues that were not satisfactorily resolved. The effectiveness of the program was also questioned by some. Overall, the responses showed that most interviewees had not used the program and had little knowledge about it.

Preventing and Detecting Retaliation

The last question asked if the individual is aware of others who have been subjected to HIRD within the last 6 months. The majority of interviewees were not aware of any instances of HIRD and could not explain the decline to the Inspection Team. The remainder gave examples of possible explanations, such as newspapers creating the perception of HIRD, reassignment that had been viewed as retaliation, examples of negative management comments, the response received by the operator raising the issue of long work hours from management, and compensation problems.

Five Cross-cutting Themes

The next section of questions dealt with the five cross-cutting themes the licencee's evaluation team attributed to the increase in negative responses on the November 2003 survey. Specifically, those five areas were: communications, work hours, work scheduling, low threshold for CRs, and management comments.

Communications

Regarding overall communications about site issues or events, 17 percent felt that current communications were ineffective or provided negative examples, and 23 percent felt there could be improvements in certain areas, such as providing the basis for decisions and explaining changes affecting personnel. A larger percentage (36 percent) responded that communications had improved and gave some positive examples, such as the daily plant status e-mails and morning meetings, while the reminder (24 percent) felt that information is available for those who wish to seek it out.

Work Hours

In the area of work hours, the majority (81 percent) indicated that they had been affected by the scheduling of six 12-hour shifts, or more, per week. Of those who did not state that the work hours had affected them, a large number (43 percent) nevertheless discussed some negative effects of working long hours. When asked in general to describe the effects, most interviewees offered several responses, including feeling tired, irritable or stressed out (39 percent), family and social life affected negatively (54 percent), general decrease in quality of life (18 percent), personal health affected detrimentally (8 percent), committing more errors (5 percent), and personal strategies for coping (5 percent). A few (3 percent) did make positive comments regarding the extra pay for overtime, but they were all made in conjunction with negative comments. In regards to pay, not all interviewees had been paid for all overtime work, especially for employees in certain categories (e.g. supervisors and engineers), and due to recent changes in compensation policy for some groups. A follow up question asked if the work hours had

affected the individual's ability to perform his or her job. About half answered they had been affected (49 percent), and their additional responses related to being less efficient, needing longer to perform tasks, and choosing to take countermeasures, such as peer checks, to prevent errors. Interestingly, those who answered their performance had not been affected (51 percent) provided similar responses (decreased efficiency and using barrier-like peer checks to prevent errors).

Work Scheduling

The next series of questions examined the work scheduling of the site. Many (45 percent) felt that scheduling of work activities was not realistic, while 32 percent believed scheduling is on target. When prompted for further details, 23 percent felt the scheduling had been improving, 21 percent discussed staffing or manpower problems, equal numbers (18 percent each) offered examples of unrealistic scheduling or frequent changes, and 6 percent explained that emerging issues were not addressed by the schedule. When asked if their work group's activities were appropriately included in the schedule, equal numbers (33 percent each) answered in the affirmative as in the negative. Of those who answered positively, many (43 percent) felt the situation was improving, but a larger number (57 percent) discussed lack of scheduling for emerging issues or provided other negative responses. For those who answered their workgroup's activities were not scheduled appropriately, the majority (58 percent) gave examples of activities, such as emerging items, that are not scheduled, and 25 percent felt the schedule did not accurately reflect the staffing or resources available. The rest (17 percent) gave other types of responses.

In response to time available to perform work safely, 44 percent felt enough time was available, while a smaller number (13 percent) did not agree and provided examples of activities not included in the schedule. A similar question was asked in regards to time available to complete tasks with quality, and 33 percent agreed time was adequate. In contrast, 15 percent did not think there was sufficient time, while 72 percent of those individuals provided additional negative details (i.e., schedule does not accommodate changes).

The last question in this set asked if the current issues regarding schedule versus safety (if any) were transient or a permanent part of the culture at the plant. Most (49 percent) answered that these issues were transient, 20 percent considered them to be a part of the culture, and 4 percent did not believe such issues exist. The follow-up question asked if the individual expected changes after restart of the plant. The majority (67 percent) of those who felt the issues were transient answered that the issues should stop after the restart, while 22 percent felt they would continue. For those who answered that the issues were part of the plant culture, the majority (73 percent) believed the issues would continue. Overall, 33 percent provided additional comments regarding belief that the situation would improve, while 23 percent felt conditions would stay the same or become even worse after restart.

Condition Reports

The next set of questions focused on CR issues. When asked about the threshold for generating CRs, 60 percent felt it was too low. However, the majority (73 percent) of those individuals described problems or offered suggestions in regards to the processes available to deal with the increase number of CRs generated, and only 16 percent complained about

insignificant or inappropriate CRs being in the system. Some (29 percent) felt that the threshold was not too low, but several of these individuals (23 percent) also described process problems.

In regards to the effect of the increased volume of CRs on workload, the majority (61 percent) admitted their workload had increased as a result, with some (28 percent) of those individuals again describing process problems. In contrast, 21 percent answered that their workload has not been affected by CRs, but some (19 percent) of these individuals offered examples of others who had been affected. In regards to the effect of increased CRs on time available to perform other tasks, 44 percent answered that they have experienced an effect, with 39 percent of those individuals describing negative effects and 15 percent making negative comments about the CR process. A smaller group (32 percent) indicated that their time available had not been affected by the number of CRs. Regarding the effect of CRs on the organization's ability to schedule realistically, more (35 percent) felt that there has been an effect than the opposite (29 percent). Of those providing additional comments, 50 percent described increased workload or similar effects, 40 percent made negative comments on the CR process, and 10 percent discussed the effect of emerging issues on workload.

Management Comments

When asked about management comments as a contributor to the increase in negative responses on the November 2003 survey, the majority (65 percent) provided examples of negative comments (several specific examples were repeated) or complained about the management. A smaller number (20 percent) answered that they were not aware of or did not have any personal experiences with such comments. The remainder (7 percent) gave other responses, such as, "the situation depends on people's perception." The next question asked if the individual had personally experienced any mixed messages or expectations from management. 40 percent answered they had, and most (72 percent) of these individual gave specific examples, which mostly concerned schedule versus safety issues, or made general negative comments (28 percent). In contrast, 36 percent answered they had not experienced any mixed messages, with 11 percent of those individuals providing examples of mixed messages experienced by someone else.

Finally, the interviewees were asked if they had personally received comments from management they considered to be inappropriate. To this question, more (35 percent) answered that they had not than that they had (17 percent). Overall, 13 percent provided additional information in the form of specific examples or descriptions of what they had heard from others. For those who had experience inappropriate comments, most (57 percent) felt this had affected their work, while 42 percent did not experience any such effects. For those who felt their work had been affected by inappropriate comments, 90 percent cited negative effects such as decreased morale and motivation and increased frustration.

Suggested Corrective Actions

The interviewees were then asked to select one of the five factors they felt to be most important and to describe corrective actions they would take to address the associated problems. Work hours was chosen most often (46 percent), followed by schedule credibility (27 percent), communications issues (15 percent), management comments (12 percent), and finally low CR threshold (5 percent). Several individuals (15 percent) selected more than one. For corrective actions, those who chose work hours suggested decreasing hours, giving workers time off, and

hiring more staff and/or contractors to provide support. For schedule credibility, suggestions were to improve planning, schedule more realistically, add additional staff, and improve scheduling of emerging issues. In communications, the interviewees wanted to see improved treatment of employees, better exchange of information, and management requesting staff input. Regarding management comments, replacing managers who make inappropriate comments and monitoring management comments were offered as corrective actions. Finally, for the low CR threshold, the suggestion was to pre-sort or prioritize them as they came in.

Final Questions

The next question asked if the survey had missed any areas that the interviewee felt should have been asked. Most (61 percent) could not provide any additional questions, although 15 percent did offer additional information. This was mostly related to training issues and concerns regarding what the survey may not have covered. In addition, there were some comments on the need for the Nuclear Regulatory Commission (NRC) to take a strong and continuing role in the oversight of culture issues at the plant.

The final question asked if the interviewee believed an event of the same magnitude as the vessel head corrosion could happen again at the plant. Of those who were asked the question, the majority (70 percent) gave several reasons as to why such an event would not occur again, with the most common reason being that the management had changed. However, 10 percent did answer the potential for such an event to happen again exists, and the most common explanation offered for that view was the potential for management to lose focus in the future or having inadequate management returning to positions in charge. The rest were uncertain or could not provide a definite answer. Overall, most individuals discussed how improvements in the behavior and attitudes of workers at the plant would prevent such an event from occurring again, and any negative or cautionary comments focused on the management of the plant instead of the staff.

Focus Group Interview Results

As part of the interview process, the Inspection Team conducted six, 2 hour focus groups with 6-8 individuals each. Five of the groups were composed of staff from the following departments: plant engineering, maintenance, operations, nuclear quality assurance/quality control, training, and the one group consisted of first line supervisors from all those departments. The Inspection Team first asked participants why they believed results declined in certain areas on the November 2003 Safety Conscious Work Environment (SCWE) as compared to results from the same survey in March 2003. The Inspection Team also asked for information and feedback regarding the five cross-cutting themes identified by the licensee as the contributing factors to the increase in the number of negative responses. The themes were: communications, work hours, work scheduling, low Condition Report (CR) threshold, and management comments.

Supervisors

Regarding willingness to raise concerns, the responses of the supervisors reflected the perception that the decline in survey results might be attributed to workers feeling tired and stressed. One supervisor noted that individuals were working long hours and told them to get rest on their days off, but individuals were not always getting their promised days off. It was also noted that some engineers resented receiving an "ethics" e-mail at the same time that they were being asked to work overtime without compensation. Another supervisor suggested that fatigue had begun to affect worker performance, noting that the rate of minor errors doubled late in the outage. Some supervisors believed that recent changes to licensee programs compounded the stress of long work hours. Others noted that during November 2003, the schedule kept compressing to meet a set date for a plant mode change, which may have caused a perception of management emphasizing schedule over safety. One supervisor suggested that the decline may have been related to frustration in obtaining a satisfactory response from management to personnel safety concerns associated with an auxiliary boiler. Individuals may also have reacted adversely to "reshuffling operations" and the interviewing of operators to determine if they were "part of the problem or solution."

On the Corrective Action Program (CAP) effectiveness, the supervisors principally attributed the negative results to concerns associated with the adequacy of resources to address the growing backlog of CRs. Regarding the effectiveness of the Employee Concerns Program (ECP), few supervisors had opinions on the potential basis for a decline in survey ratings. Most noted that they had no knowledge of problems with ECP confidentiality. One supervisor noted that some problems cannot be fixed by ECP or that addressing the problem would have the effect of identifying the individual who raised the concern. One individual noted that the ECP may be perceived as not adequately affecting change, indicating that certain personnel issues and work hours concerns that had been brought to the ECP had not been effectively resolved.

Finally, regarding instances of Harassment, Intimidation, Retaliation, and Discrimination (HIRD), in general the supervisors believed that workers felt free to raise concerns without fear of HIRD. They noted that workers are now more aware of actions that might be perceived as HIRD following training on this issue. It was noted that management's reasons for reassignment of personnel in operations had not been communicated to the staff and that some may perceive the action as retaliation rather than an appropriate realignment of skills.

Regarding the cross-cutting themes, the supervisors provided detailed responses for communications and low CR threshold. For communications, members of the focus group expressed the opinion that licensee management had improved their communication of "what" but not "why," noting that individuals continue to question the basis for management's actions and decisions. Regarding the CR threshold, a supervisor commented that the solution to concerns regarding the threshold was to provide the necessary resources, not to change or better communicate the threshold. The Inspection Team noted that the group had also provided comments that addressed the other cross-cutting themes (i.e., work hour scheduling, schedule credibility, and management comments) in response to the previous set of questions.

Plant Engineering Department

Regarding willingness to raise concerns, several individuals attributed the ratings decline in this area to challenges individuals experienced when attempting to add work to the outage schedule. Most of these comments focused on the management style or comments of an individual that may have been intimidating to some individuals. However, most in the group thought that their management encouraged them to push back in such situations rather than figuring out ways not to do a job and the work, if proven necessary for restart or safety. In those cases the work was placed in the schedule.

For the CAP, some participants attributed the decline in survey ratings to engineering receiving CRs that should have been assigned to other organizations. Other members of the group believed that there were many repeat CRs in the database because individuals were not checking the database to see if a condition has already been reported.

For effectiveness of the ECP, most participants did not have any insights regarding the declines and suggested that the program was still too new to judge. One individual suggested a possible reason could be the perception that the ECP had not responded effectively to concerns regarding management comments. Most had a positive impression of the emphasis the ECP placed on maintaining confidentiality. One individual believed the ECP had been thorough and effective in addressing concerns.

Finally, regarding instances of HIRD, the participants noted that they are not seeing instances of retaliation and do not believe they would hesitate to raise concerns. One individual could think of one instance of supposed retaliation but did not believe there were any cases of true retaliation. In general the group did not have any insights concerning why survey ratings declined in this area.

Regarding the cross cutting themes, the group offered responses to communications, work hours scheduling, scheduling credibility, and low CR threshold. In the area of communications, some participants suggested that communications concerning why certain events (e.g., organizational changes) have transpired has been lacking. The need for these communications was attributed to a lack of trust or confidence in management.

For work hour scheduling, participants were generally of the opinion that worker fatigue contributed to the decline in survey ratings, noting that many workers had been working 60-72 hours per week, and that some had been unable to take vacations. Some individuals noted that they are now working approximately 50 hours per week and believe they are more productive. Others expressed concern about work schedules after the plant restarts, stating that

they believe 40 hour work weeks are a dream and that they expect 50-55 hour weeks to be the norm.

Regarding schedule credibility, one individual expressed frustration with the schedule, describing it as needlessly cycling people. Others expressed similar views, noting that restart was always 1-2 months away. Some expressed the belief that there is a need to realign resources and workload. Finally, for the CR threshold, although some individual expressed a need for "filters" for CRs, most expressed other process or resource concerns. One individual noted that resolving CRs was a collateral duty and that the increase in volume of conditions reports was becoming a distraction from performing primary job duties. Others expressed the need for improving the process to ensure that the CRs are directed to the correct individual. One individual expressed frustration with having to get others to accept responsibility for a CR if it was not initially assigned to the correct individual.

Maintenance Department

In regards to willingness to raise concerns, a potential cause for the more negative responses provided by the group was hesitancy of individuals to make the declaration that they are too tired to work. However, some felt that time off would be granted if the individual requested it. The group also mentioned a positive resolution related to a manufacturing concern and overall did not have any concerns about support from higher level management. Likewise, the group did not have any examples of instances of HIRD.

For the decrease in positive responses on the CAP, individuals felt that the system had been slowed down with the increase in issues and that the process had not been timely in resolving issues of personal interest or ownership to them. Additionally, comments were made regarding the inflexibility of the system to handle Procedure Change Requests (PCR), and some noted that the restart schedule has affected the time frame of CR resolutions.

About the decline in responses regarding the ECP, the comments offered by the group were generally negative. Some cited poor personal experiences with the program and indicated mistrust of the program management. Others stated that they would not use the program. Unsatisfactory resolution of concerns and unresolved issues due to departure of contractors were also mentioned. Regarding confidentiality, some did not have any problems with confidentiality of the program, but others believed that information is shared with the Human Resources (HR) department and that specific issues essentially identifies the person who raised the concern.

For the cross-cutting themes, the group provided insights on communications, work hours, and management comments. For communications, individuals indicated that they were not receiving sufficient information about organizational changes. The group also provided the specific example of management failing to provide the reasons for removing the sign which read "Through these doors walk world class nuclear professionals." Some indicated they had heard informally about individuals in management positions not following the performance appraisal process and that some managers recently received evaluations of "less than effective."

For work hours, the group believed a 60 hour work week would continue, even after restart, with no end in sight. The group also indicated that they would recommend working at Davis Besse to

others with the exception of the work hours. Finally, in the area of management comments, individuals felt that managers needed to improve their people skills.

Operations Department

In the area of willingness to raise concerns, the Operations group offered many insights and several specific examples. For instance, individuals felt that management refused to acknowledge that the workforce is tired and frustrated due to the work hours and to recognize associated problems. In addition, workers have been hesitant to declare being unfit for duty due to fatigue. The group also raised the issue of the schedule. They indicated that the schedule was able to accommodate items which were risk significant, but other items were deferred with no reasons communicated to the staff. In providing specific examples, individuals asserted that management did not address workers' concerns regarding the auxiliary boiler and the building of scaffolding over the Emergency Diesel Generator (EDG). Both of these actions were seen as non-conservative by the operators. The group also displayed frustration at certain management actions, such as starting the reactor coolant pumps contrary to advice from Operations, performing less conservative Normal Operating Temperature (NOT) testing due to shift managers perceived pressures from upper management, and specific insults made by some upper managers about operators . In contrast, the group did indicated that they felt comfortable with their shift managers and had not experienced similar types of problems.

Regarding effectiveness of the CAP, the group expressed frustration with inappropriate issues being entered in the program and felt that dealing with minor issues had been very time consuming. In addition, individuals felt time pressures because the majority of CRs had to be reviewed within 24 hours. Finally, on the topic of HIRD, the group provided the example of inappropriate treatment received by a system engineer for raising issues related to preventative maintenance.

On the cross-cutting issues, the group offered comments on communications, work hour scheduling, and low CR threshold. For communications, the example of management response to operators raising the issue of long work hours in a public meeting was cited. Specifically, management responded by making the comment that only a small number of operators had been working 72 hour weeks, while the group explained that almost everyone had been working 72 hours a week.

In regards to work hour scheduling, the group described a 2002 root cause analysis which indicated that overtime had been too high in Operations due to an insufficient number of employees. However, according to the group, the department now had fewer people than in 2002. The issue of fatigue was also discussed, including being able to observe how tired people appeared to be during turnovers. Finally, for the low CR threshold, the group did not agree that the threshold is the problem with the CAP, but instead they indicated that the processes to handle the issues needed to be more efficient and less redundant.

Quality Assurance (QA)/Quality Control (QC) Department

The group offered several possible reasons for declines in responses to willingness to raise concerns. For example, the group indicated that the staff believed management had been less conservative as recent milestones approached, such as for the auxiliary feed pump, containment spray pump breaker, and under-vessel inspection, as well as during the Normal Operating

Pressure (NOP) testing. Long work hours were also discussed, and a worker who was fired for refusing to work more than 40 hours a week was mentioned.

For the decreases in responses regarding the CAP, the group discussed repeated problems with inadequate resolution of issues and provided the example of the RC-46 valve leakage issue. Individuals indicated that the process needed to be fixed and improved. Regarding the ECP, the group felt that management supports the program and was surprised at the decrease in the survey responses regarding its effectiveness. The group offered possible reason for the decline, which was the program not having adequately resolved submitted issues regarding the long work hours.

Finally, the group believed that the concerns about retaliation resulted from many people hearing about a single instance. The group also described possible situational influences on the survey results, such as the QC group moving to QA between March and November, the March survey following layoffs, the November survey following the push for restart, and workers being required to work over holidays.

For the cross-cutting themes, the group offered information on all five factors. In the area of communications, the group noted that upper management explanations regarding issues related to safety culture had not been pro-active but instead were reactions to NRC comments. Regarding work hour scheduling, the group explained that everyone onsite had been put on the 72 hour per week work schedules because it was easier for management than calculating the necessary scheduling for each area separately. In addition, individuals, even with seniority, have only been allowed minimal vacation time. Overall, the group felt that management had been not responsive to the issue of fatigue and had not responded to the CRs written on the topic. However, the group could not claim that the work hours could be considered a condition adverse to quality and explained that people are released if it seemed necessary.

For schedule credibility, the group felt that the managers only considered the immediate few months in the future, but not any further. Regarding the CR threshold, the group explained that issues with low significance have diluted the system and taken the focus away from the more important issues. Finally, for management comments, the group described the type of negative responses individuals have received when they raised issues about the work hours.

Training Department

On the decrease in survey results in relation to willingness to raise concerns, the group offered the possible explanation of management not paying for overtime work being perceived as placing cost over safety. Overall, the group did not fully understand why the responses were more negative regarding being able to challenge management decisions. For CAP effectiveness, individuals explained that the problem has been in people's ability to recognize problems and not in taking the correct responses to address them. The group also indicated that the lowered threshold for CRs has diluted the ability to address more significant concerns and that repeat CRs are submitted when individuals are not satisfied with the solution, which adds to the increased volume. Finally, the group asserted that CR classifications have often been changed by senior management.

Regarding the effectiveness of the ECP, most in the group did not have any experience with the program. The suggestions offered for the decline in response were dissatisfaction with

responses and difficulty in maintaining confidentiality when using the program. However, overall the group felt that the new process has been much better than the previous program. Regarding examples of HIRD, the group could not provide any specific instances but stated that the survey results could be attributed to situational factors such as its timing, recent pay decisions, and organizational changes. The group also noted that some of the survey questions were ambiguous and used inconsistent terminology (e.g. “safety” versus “nuclear safety”).

In response to the cross-cutting themes, the group offered insights on communications, work hour scheduling, and the low CR threshold. For communications, the group indicated that using the schedule as a tool to maintain safety is not being effectively communicated. In regards to work hour scheduling, individuals felt that management cited the company policy as rationalization for not paying the staff for overtime hours, but managers themselves did not hesitate to ask for overtime pay. Finally, regarding the low CR threshold, the group explained that procedure changes were needed to stop CRs from being viewed as creating unnecessary burden.

Davis-Besse Follow Up Inspection
Individual Interview Questions

I. **General/Demographic**

A. Department: operations, training, maintenance, plant engineers, QA, other, none
B. Contractor: yes/no
C. Supervisor: yes/no
D. Length of employment with Davis Besse: 0-5 years, 6-10 years, 11-20 years, 20+ years
E. Did you participate in any focus groups in December?

1. If yes, was it on December 12th or in the last week of December?
2. If yes for participants in current focus group:

a. Did you feel free to answer questions without fear of reprisal and that your answers would be held in confidence? If not, why not?
b. Were you able to fully answer questions and/or provide follow-up information? If not, why not?

F. Did you attend the December 29th public meeting?

1. Have you attended other meetings where the cross cutting issues were discussed?
2. Which ones?

G. Were the responses you gave on the SCWE surveys in March and in November related to you, your own group, or in terms of the entire plant?
H. On those surveys, were there any questions or issues you felt were ambiguous? (If need clarification, give example, i.e. management versus supervisors) If yes, please explain.

II. **Questions regarding negative trend in SCWE March – November survey responses**:

A. In the results from the November Davis-Besse SCWE survey as compared to the same survey conducted in March, there is a noticeable negative trend in the responses to the following questions. Why do you think this is? Do you have an example? (Try to obtain source of information, if applicable).

1. Willingness to raise concerns

a. Management cares more about safety than cost schedule.
b. Management expectations on safety and quality are reflected in appraisals, rewards, and discipline. (Probe why)
c. Management does not tolerate retaliation of any kind for raising concerns.
d. I could challenge a non-conservative management decision.
e. Management will address concerns brought to them.
f. My work environment is free of HIRD.

g. I can raise nuclear safety or quality concern without fear of retaliation.

2. Normal problem resolution process

a. Identification of nuclear safety or quality issues using CRs is effective in my organization.
b. Resolution of nuclear safety and quality issues, including Root Cause, is effective in our organization.
c. CR process is effectively utilized by DB to resolve quality issues in a timely manner.

3. Employee concerns program (ECP)

a. ECP will keep my identity confidential at my request.
b. Upper management supports the ECP.

4. Preventing and detecting retaliation

a. I am not aware of others who have been subjected to Harassment, Intimidation, Retaliation, and Discrimination (HIRD) within the last 6 months.

III. **Questions regarding "cross cutting themes" for less positive response from December 29 meeting slides**

A. Communication

1. How effectively is management communication about site issues or events?

B. Work hours/scheduling

1. How many hours per week are you currently working?
2. When you were working six 12 hour days between March and November, did this affect you?

a. If yes, how did this affect you?
b. If yes, has this affected your ability to do your job safety and competently? If yes, please describe how.
c. (Ops) Do you believe your shift schedule rotation contributed to the less positive responses in the November survey? Please explain.
d. (Ops) Did you receive pay for work performed?

C. Schedule credibility

1. Do you believe the current schedule is realistic for a safe restart? Why/why not?

2. Are all of your workgroup's work activities appropriately included in the current schedule? Please explain.
3. Does the current schedule allow adequate time for you to perform your tasks safely? Please explain. With quality? Please explain.
4. Are the issues regarding placing schedule over safety transient or part of the plant culture? Do you believe this will continue after restart? Please explain.

D. Regarding the low threshold/high volume policy on CRs:

1. Do you believe that the threshold for CRs is too low? If yes, please explain.
2. Has the number of CRs increased your workload? If yes, please describe.
3. Has the number of CRs affected time available to perform your other tasks? If yes, please describe.
4. Has the number of CRs affected the organization's ability to schedule realistically? Overall? If yes to either, please describe.

E. Management comments

1. "Management comments" was cited as one of the "cross cutting themes contributing to less positive responses" on the November Davis-Besse SCWE survey. Why do you think this is?
2. Have you experienced any mixed messages or expectations from management? If yes, please describe. If yes, has this affected your work? If yes, please describe.
3. Have you received any comments from management that you considered inappropriate? If yes, please explain.

IV. **Questions regarding corrective actions**

A. Choose the "cross cutting theme contributing to less positive responses (communications, work hours, schedule credibility, management comments, low CR threshold) that is most important to you and how you would fix it.

V. **Additional Questions**

A. Are there any questions you were expecting that we did not ask? If yes, please explain.
B. Do you think an incident of the same magnitude as the vessel head problem could happen at Davis-Besse again? Please explain.

IV. **Questions regarding corrective actions**