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Docket Number 50-346
License Number NPF-3
Serial Number 1-1390

October 8, 2004

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

Subject: Submittal of Independent Assessment Report of Operations Performance for the Davis-Besse Nuclear Power Station

Dear Mr. Caldwell:

The purpose of this letter is to submit the Operations Performance Independent Assessment Report for the Davis-Besse Nuclear Power Station (DBNPS). This submittal is in accordance with the Nuclear Regulatory Commission (NRC) letter dated March 8, 2004, "Approval to Restart the Davis-Besse Nuclear Power Station, Closure of Confirmatory Action Letter, and Issuance of Confirmatory Order."

The Operations Performance Independent Assessment was conducted from August 16 to August 25, 2004 at the DBNPS in accordance with the Operations Performance Independent Assessment Plan submitted via letter Serial Number 1-1385 dated August 5, 2004. The enclosed report contains the results of the Independent Assessment as well as action plans to address areas for improvement raised by the assessment.

If you have any questions or require additional information, please contact
Mr. Robert W. Schrauder, Director – Performance Improvement, at (419) 321-7181.

Sincerely yours,

GMW

Enclosures:
1) Confirmatory Order Independent Assessment of Operations Performance for the DBNPS
2) Commitment List

cc: USNRC Document Control Desk
J. A. Grobe, Chairman, NRC 0350 Panel
J. B. Hopkins, DB-1 NRC/NRR Senior Project Manager
C. S. Thomas, DB-1 Senior Resident Inspector
Utility Radiological Safety Board

Docket Number 50-346
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Enclosure 1

Enclosure 1

CONFIRMATORY ORDER INDEPENDENT ASSESSMENT

OPERATIONS PERFORMANCE

DAVIS-BESSE NUCLEAR POWER STATION

(36 pages follow)

Confirmatory Order Independent Assessment
Operations Performance
Davis-Besse Nuclear Power Station

Report Number 2004-0098

Facility: Davis-Besse

Location: 5501 North State Route 2
Oak Harbor, Ohio 43449-9760

Dates: August 16 – 25, 2004

Final Submittal:
(Sections I and II) Larry E. Briggs **Date:** 10/1/04
Independent Assessor Lead

Assessment Action Plans (Section III) Approved:
[illegible] **Date:** 10/8/04
Site Vice President

Assessment Action Plans (Sections III) Reviewed:
R. A. Hauby, Jr. for R. L. Hansen **Date:** 10/8/2004
Raymond A. Hauby, Jr.
Vice President, Oversight

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A. EXECUTIVE SUMMARY

The efforts to improve the standards and behaviors of the Operations staff are having a positive effect. Overall, understanding of the Operation's Department standards, behaviors, and expectations appear to be uniform throughout the Operations Department.

Expectations for procedure usage and place keeping were well known. Proficiency was evident during both the control room and equipment operator observations.

Operations personnel understand, are on board with, and are working to implement a safety conscious work environment.

Operators consistently performed their shift activities in a professional manner and were knowledgeable of their responsibilities.

Face to face communication between operation's management and operations personnel needs to improve to further develop trust within the department.

Operations personnel do not fully understand the work scheduling process and feel it is driving the plant activities more than the Operations Department. They need to maintain their focus on plant operations and ensure that work activities do not overwhelm them and distract them from their primary function of operating the plant safely and in accordance with the Technical Specifications.

A clear plan has not been developed to reduce the adverse trends in the operations procedure revision backlog and Corrective Action assignments, which hampers the department's ability to further improve.

Cause determinations do not go deep enough and therefore do not address problems in the aggregate. It results in fixing the apparent cause but does not fix the root cause.

Based upon the observations of both simulator and classroom training of licensed operators, the following determinations were made:

- Similarities in performance were noted in both the simulator and the control room.
- Operator performance shortfalls were appropriately identified by the crew and evaluators during scenario critiques.
- Training personnel and licensed operators were professional at all times while in the training environment.
- The continuing training program for licensed operators needs to be provided on a periodic basis with no or few cancellations.
- Improvements, including both classroom and simulator training, are warranted in the following areas:

- Implementation of a continuous Licensed Operator (LO)/Non-Licensed Operator (NLO) training program
- Focus on the operator training feedback program
- Implementation of the shift mentor program
- Clear ownership of the Required Reading Program
- Consistent 3-way communications
- Consistent reference to abnormal alarm response procedures
- Dissemination of information to all crew members
- Frequency and length of crew updates
- The need for Unit Supervisors to be more vocal (speak louder) during simulator scenarios

The Nuclear Review Board and Nuclear Quality Assurance assessments were factual, in-depth, and accurate in identifying various weaknesses within the Operations department. Their findings paralleled the independent assessment teams finding. Findings were being appropriately captured within the Condition Report system. Findings were of substance and identified significant safety issues; however, in many instances, actions to correct the findings were lacking in depth or had yet to be acted upon. In some instances, the assignment of an owner for a specific CR had yet to be assigned. It was noted that a couple of Operations internal self-assessments, i.e., "Operator Competence Assessment" and "Operations Self-Evaluation Report, 1st Quarter Report," were not of substantial substance and appeared to lack depth and rigor.

B. INTRODUCTION

A condition of the March 8, 2004 NRC Confirmatory Order Modifying License No. NFP-3, for restart of the Davis-Besse Nuclear Power Plant following the reactor vessel head degradation event, was to conduct an annual comprehensive, independent outside assessment of the Operations area. The assessment will be used to identify areas for improvement, requiring corrective actions with action plans, and observations for other improvement opportunities. The assessment will also be used to assess the rigor, criticality, and overall quality of available Davis-Besse internal self-assessment activities in this performance area.

C. SCOPE OF ASSESSMENT

The scope of the Operations Assessment was defined to include an evaluation of the following operations activities occurring during the assessment period using current industry standards and applicable Davis-Besse procedures:

- Shift turnovers
- Control manipulations
- Communications
- Interdepartmental interfaces
- Procedural use
- Awareness of plant and equipment status and workarounds
- Pre-job/activity briefings
- Non-shift Operations management interface and oversight
- Shift management command and control
- Shift management's evaluation, prioritization, and disposition of maintenance activities and emergent issues
- Operations behaviors in the areas of questioning attitude and safety
- Shift handling of off-normal operations
- Observation of operator simulator training to compare crew performance, demeanor, and communication skills with actual control room operations

The assessment team also reviewed selected Condition Reports related to Operations Department performance and independently assessed the corrective actions recommended and taken by Davis-Besse.

The assessment team reviewed the referenced procedure/documents listed in Appendix A during the preparation period prior to site arrival and while on-site.

The assessment team also reviewed a number of the Davis-Besse Nuclear Power Plant's self-assessment activities associated with Operations to evaluate:

- The results of their Quarterly Quality Assessments that evaluated Operations performance and to determine if the assessments were comprehensive and if effective actions were taken to correct problems or weaknesses identified.

- The effectiveness of self-assessment capability by reviewing corrective actions associated with self-assessment reports, audits (including audits of both onsite and offsite safety committee activities), and evaluations conducted on Operations performance.
- The significance of a sample of other self-assessment findings to determine the effectiveness of the self-assessment effort.
- The aggressiveness of the Davis-Besse Operations staff in correcting self-assessment findings and to determine whether the corrective actions taken are adequate, timely, and properly prioritized.

The on-site team consisted of two independent consultants and two nuclear industry peer representatives for one week (August 16 through 20, 2004) followed by the two independent consultants over the weekend and part of the following week (August 21 through 25, 2004). Abbreviated biographies of the team members are presented in Attachment 2 of this report.

D. METHODOLOGY

The independent assessment team used the listed references (Attachment 1) as guidance to evaluate performance of the Operations Department personnel. The assessment methodology included, but was not limited to the following:

Observation of licensed, non-licensed and Operations Management personnel in the performance of their assignments. Assessment team member's shift assignments overlapped shift turnovers to compare consistency of crew operations.
The team observed 4 day shifts, 4 backshifts and 2 deep backshifts on the weekend.

The team observed portions of 3 shifts of NLO activities.

Interviewed selected Control Room, Non-Licensed, and Operations Management personnel. The team interviewed 7 licensed operators (reactor operator and senior reactor operator through the Shift Manager position), 5 non-licensed operators and 4 management personnel. The team also informally interviewed several members of the Operations staff during the process of conducting the assessment.

Review of selected Condition Reports (CR) and their corrective actions to evaluate safety perspective, appropriate cause determination, and corrective action effectiveness.
The team reviewed 10 Operations related CRs during the off-site prep weeks. Several other CRs were also reviewed during the assessment.

The team observed portions of simulator training exercises, during routine and abnormal operating conditions, to compare crew behaviors in the simulator to those observed in the control room. The team also observed classroom training, including one session led by the Operations Manager. The team used the guidance of NUREG 1021 as guidance and as a comparison with actual Control Room observations.

E. DETAILS and RESULTS

SECTION I

The details and results are presented in the four major areas of assessment: Shift and Meeting Observations, Interviews, Condition Reports, and Licensed Operator Continuing Training.

Area 1 - Shift and Meeting Observations

Scope - Area 1

The utility has four shifts of Operations personnel. Two shifts alternate on day shift and two crews alternate on night shift. This rotation continues for one month then the day and night shifts change. Watch relief occurs about 6 a.m. and 6 p.m. with a formal shift turnover meeting at 6:30 a.m. and 6:30 p.m. The team observed portions of day and night shift activities daily from Monday August 16 through Monday August 23, 2004 and several of the morning and evening shift turnover meetings. Partial shifts of three non-licensed Equipment Operators were also observed during that period. The team also attended six of the 8 a.m. Management Alignment and Ownership Meetings. The team reviewed the February 18, 2004, and the June 30, 2004, Operator Work Arounds and Control Room Deficiencies Quarterly Aggregate Impact Report.

Observations and Findings - Area 1:

Control Room Shift Observation

- Roles and responsibilities of watch standers are clearly understood, in particular the role of the "At The Controls (ATC) Reactor Operator. Proper turnover of the ATC from one RO to the other was noted several times.
- Observed Unit Supervisors brief crews on Technical Specifications (TS) entry several times, stating the reason for the entry, the actions and the time limits. The SRO also had one of the ROs perform a peer review to ensure that the TS entry was correct.
- Pre job briefs observed were formal, professional and covered all attributes of an effective brief. On one occasion the Unit Supervisor added some internal Operating Experience and contingency plan information at the end of the brief.
- Numerous questions and reminders were provided by those receiving the briefs, indicating they were fully engaged in the information being provided.

- It was noted that a recently licensed SRO carried a copy of "Conduct of Operations" DBBP-OPS-0001, Attachment H. It was well worn indicating this was the norm and that reference to it was frequent.
- Peer checks were used for all control room main control board valve and switch manipulations.
- The Unit Supervisors conducted crew briefs to inform the crew when there was any evolution that could affect the condition of the plant or the operator's indications.
- Reactor Operators conducting the surveillances that are performed each shift verified that the data attachments used to record data were the correct revision but did not review the procedure as directed by NG-DB-00225, Procedure Use and Adherence.
- Night Orders were being implemented as directed.
- Operators consistently performed their shift activities in a professional manner.
- Operations personnel are aware of and know the contingency actions to address Control Room Operator Work Arounds.
- The background noise of the control room from the steam lines running above the control room has a negative impact on communications.

Equipment Operator Shift Observations

Observed two Equipment Operators (EO) on rounds of zone two, which included the main turbine, turbine support equipment, switchgear rooms and the switchyard. Also accompanied a third EO during the partial tag out of the Auxiliary Boiler. The purpose of these observations was to ascertain the level of behaviors, standards and expectations of the non-licensed operators. The following attributes were observed:

- Proper use of personnel protective equipment, including the use of gloves
- Excellent usage of human performance tools. These include the use of STAR, place keeping with procedures, and 3-way communications
- Questioning attitude. Contacted the control room on 2 occasions about equipment issues.
- Equipment Operator obtained a peer check from another EO to ensure that he had the correct procedure and was using the correct section of the procedure.
- Excellent verification of correct valve and required valve position while placing tags.
- When contacting the control room for a test of the Diesel Generator alarm panels, the control room requested he wait 10 minutes, as control was busy. Conclusion drawn from this was that the control room was controlling the number of evolutions being performed.
- Operations personnel are aware of and know the contingency actions to address Equipment Operator Work Arounds.

- The secondary side of the plant was very clean with the exception of portions of the Auxiliary Boiler that had not yet been renovated.
- The team did not identify any equipment deficiency that did not have a deficiency tag attached.
- The Plant Manager was observed in the field watching the maintenance work on a heater sight glass. This evolution was highlighted at the morning meeting as an evolution that had some generation risk.

Shift Turnover Meetings (6:30 a.m. and 6:30 p.m.)

The team attended two 6:30 a.m. and five 6:30 p.m. shift turnover meetings.

- These meetings are controlled by the Shift Manager (SM).
- Morning and evening meetings are attended by supervisors from the various plant departments such as chemistry, health physics, maintenance, etc,. The morning meeting is also attended by senior plant management such as the site vice president, the plant manager and the operations manager.
- The SM discussed activities planned for the shift, any problem areas, any special operating conditions, and any Technical Specification LCOs that were applicable and their time constraints.
- Each EO presented standing issues with their assigned watch stations such as operator work arounds.
- The SM also presents an industry event for discussion during each meeting to make personnel aware of certain industry occurrences in case something similar occurs during their shift.

Management Alignment and Ownership Meeting (8 a.m.)

Team members attended six of the 8 a.m. meetings.

- These meetings had senior management personnel from all site departments.
- The meeting was run by the Operations Manager.
- The SM provided plant status.
- The discussions during the meeting are pertinent and open.
- During one meeting the Chemistry Manager presented a short write-up on his department's human performance clock reset. It was an excellent message and described what happened, the significance, how it happened, why it happened, its impact and some ideas on how to prevent similar events.
- Three way communications when making ownership assignments is almost never used.

Areas for Improvement -Area 1:

None observed.

Other Insights - Area 1:

- The SM should have more involvement with the 8 a.m. meeting. Peer evaluators noted that the SM ran this meeting at their facilities.

- Management should set an example and use three way communication during meetings when an assignment is made.

- The Chemistry Department's clock reset was discussed with the operations crews by their SM. It could have been communicated to more personnel if it had been presented at the 6:30 a.m. and 6:30 p.m. shift turnover meetings as a lesson learned from a recent event.

Conclusions - Area 1:

The efforts to improve the standards and behaviors of the Operations staff are having a positive effect. Overall, understanding of the Operation's Department standards, behaviors, and expectations appear to be uniform throughout the Operations Department.

Expectations for procedure usage and place keeping were well known. Proficiency in this was evident during both the control room and equipment operator observations.

Operations personnel understand, are on board with, and are working to implement a safety conscious work environment.

Operators consistently performed their shift activities in a professional manner and were knowledgeable of their responsibilities.

Area 2 - Interviews

Scope - Area 2:

The team formally interviewed seventeen individuals that were randomly selected by the team leader. Those interviewed were Senior Reactor Operator and Reactor Operator licensed personnel, non-licensed personnel, both on and off shift, and operations management personnel. In addition there were numerous other discussions/interviews during the conduct of the assessment. The following is a summary of issues that were voiced by most personnel (over half of those interviewed) during the formal interviews.

Observations and Findings - Area 2:

- Personnel would not hesitate to identify a problem or concern to their supervisor, although two personnel expressed fear of reprisal if problems were identified.

- The threshold for problem identification has been lowered in the last six months.

- Operations department has gained strength in directing the operations of the plant, but the primary driver continues to be the work schedule. Operators feel that their shift surveillances and repetitive activities should be scheduled into the work schedule to avoid excessively high activity levels during the shift, especially around shift turnover periods. Operators do not believe that their available manpower on each shift is factored into the daily work schedule and this causes uneven work from one shift to another.

  Operators expressed a need to complete all activities scheduled for their shifts. One event that occurred during the assessment seems to be directly related. It concerned tagging of some valves in the Make Up System. The operating crew was not aware that the tagging placed the plant into a Technical Specification LCO. This was noted in the LCO Tracking Log but shift personnel did not thoroughly read the Log and it was not noted on the Tag Out sheet or in the Night Order Book. The on shift personnel commented that the amount of work scheduled for their shift impacted their ability to thoroughly review the Tagging Order. To complete the scheduled work the end of shift briefing was rescheduled for the following day.

  A discussion very late in the assessment indicated that the shift available manpower is factored into the schedule. A subsequent review of "Work Management Process," NOP-WM-2001, Revision 2, Section 4.8, On-Line Scheduling Process, says "Resource-load the schedule, considering Work Group and support organization resources and training qualifications." The procedure is not specific concerning which groups are loaded. Section 4.8.4 provides general instructions concerning Operations review and preparation responsibilities starting seven weeks before the work week which includes an On-Shift Schedule review three weeks prior to the work week.

  The team observed that on-shift personnel primarily used the "Key Work Activities and Surveillances" schedule that is used in the 8 a.m. management meeting. That schedule does list operations surveillances due each day. It does not list the surveillances that are performed by operations each shift.

- The large backlog of 500 operation's procedures is a problem that negatively affects the tools they use to perform their jobs.

- Personnel feel that they can trust management up through their Shift Managers, but do not feel the same level of trust with upper management. This was mostly due to the numerous management changes in recent years.

- Personnel expressed dissatisfaction with the large amount of overtime. It is now about 20 percent, down from about 35 percent.

- Operators do not perceive that the Operations Management conducts many observations of on-shift crew activities or simulator training. The team reviewed security records of the Operations Management's entrances and exits of the control room to evaluate this issue. Operations Management had entered the Control Room at least once on more than 50 days during the May, June, and July 2004 time frame.

- Based on interviews with management there seems to be some misalignment in some management roles, responsibilities and priorities such as the development of a new FENOC Conduct of Operations Procedure and the number and assignment of personnel working on the large backlog of operations procedure changes.

- Operator training, both licensed and non-licensed, had been greatly reduced during the extended outage.

Areas for Improvement - Area 2:

- ***Resolve operators misunderstanding about work scheduling and improve the quality of work scheduling.***

- ***Ensure that Shift Management understands that they have the authority and responsibility to stop work if that activity compromises their ability to safely operate the plant and maintain full knowledge of plant status.***

Other Insights - Area 2:

- The team concluded, based upon the interviews, that Operations personnel were somewhat lacking in trust of management above the shift manager level. Increased and open communications between Operations personnel and Operations management would enhance efficiency and build further trust within the department.

- Several operators believe the department is in the "blame cycle" and a lack of trust and communication in Operations Management is keeping the department from reaching the "fix cycle".

- More interface with Control Room Operations personnel during Management visits might help alleviate the operator's perception that management does not visit the control room or observe training very often.

- Management needs to insure that their priorities and roles are synchronized and well understood by the operators.

- Operators do not believe that their available manpower for each shift is taken into consideration when developing the Work Week schedule.

- Operators feel a need to complete all items scheduled for their shift.

Conclusions - Area 2:

Operations personnel understand, are on board with, and are working to implement a safety conscious work environment.

Face to face communication between operation's management and operations personnel needs to improve to develop trust within the department.

Operations personnel do not fully understand the work scheduling process and feel it is driving the plant activities more that the Operations Department. They need to maintain their focus on plant operations and ensure that work activities do not overwhelm them and distract them from their primary function of operating the plant safely and in accordance with the Technical Specifications.

Area 3 - Condition Report Review

Scope - Area 3

As part of the Assessment Plan the team reviewed 10 Condition Reports (CR) to independently evaluate the cause determination and corrective actions taken. In addition, several other CRs were reviewed during the performance of the assessment.

Observations and Findings - Area 3:

- CR 04-00836: Procedure steps performed out of sequence.
  Comments: No comments on this CR.

- CR 04-00701: AFW pump 1 and 2 never declared operable following maintenance activities prior to entering Mode 3.
  Comments: No comments on this CR.

- CR 03-05523: ETAP results raising minimum bus voltage required for operability.
  Comments: No comments on this CR.

- CR 04-01996: Possibility of ejection of FW780 Stem
  Comments: Team consensus is that root cause was adequate. The team questioned the timeliness of some of the corrective actions, specifically action 5, Planner Behaviors, which has a due date of 9/15/2004. Also, action 6, a presentation of a case study by the senior management team has a due date of 9/15/04. For an event of this significance, it will be 6 months from the time of event to the case study.

- CR 04-02453: Undesired rod motion with reactor diamond and reactor demand in manual.
  Comments: This event caused a 3% power reduction. From the current status of the CR it is unclear if the station understands what caused this reactivity anomaly. The due date has been extended 2 times with the current due date of 9/15/04. Since this event occurred there has been an additional reactor startup where the issue could have been repeated. There were no actions to incorporate interim precautions to prevent reoccurrence in the CR. This issue was brought up in the CNRB meeting by the site Vice President and was presented under the category of "significant safety issues." It does not appear that this CR is being treated as such.

- CR 03-08828: Collective significance evaluation of Operations procedure content deficiencies.
  Comments: This collective significance review was initiated because the preliminary cause evaluation determined that procedure inadequacy was a root cause for two significant events. The conclusion from the significance review investigation concluded that procedures are a driver for events in the station. It recommended two actions be taken, one discontinues the use of PDF's and the second develops a full time procedure unit. This evaluation was approved on 2/20/04 by the Operations Manager. The CR was subsequently closed with no actions. The actions in the significance report were not incorporated.

  Review of the "Condition Report Evaluation and Status Tracking" (CREST) data base indicates that there are about 500 Operations Department Procedure changes waiting to be made. This back log was about 300 procedures at the end of April, 2004.

  With the current procedure backlog increasing, and a number of events in operations still occurring, the conclusion of this report that procedures are a driver of events, corrective actions to prevent reoccurrence is not being addressed.

- CR 04-05174: Boron Injection Flow path Issue:
  Comments: During the attempt to line-up to add water to the Makeup Tank, the Primary Reactor Operator observed that flow indication was present as MU-40 was opened. This was an unexpected indication. Upon further investigation it was determine that MU152 (reach-rod valve) was approximately ¾ turn open allowing back flow from the RCS letdown flow path through MU40, through MU152 and out MU42, Boric acid line drain. The event lasted for about 20 seconds and approximately 37 gallons of water from the makeup tank was drained through MU42 to a floor drain. The crew did not enter abnormal operating procedure (AOP) for this event, DB-OP-02522, Small RCS Leak.

  The Control room staff was unaware that the Clearance for the Boron Injection flow path also removed the Normal Makeup Flow path from the Clean Waste Monitor Tank (CWMT) to the RCS.

  Additional comments: A night order included information that work will be performed on the Boric Injection flow path by the Fix it Now (FIN) team, however critical information contained in the LCO tracking log was omitted from the night order. The critical information in the LCO tracking log for working on MU 363 included the following: Normal Boric Acid addition flow path to the Makeup Tank will be unavailable, Demineralized water and clean wastewater will also be unavailable for RCS makeup.

  Interviews with the Shift Manager and Unit Supervisor concluded that the information contained in the LCO tracking log was not thoroughly reviewed during the shift turnover. During an interview with the nightshift shift engineer concerning the clearance order it was determine that the nightshift did not understand the full impact the clearance order had on RCS makeup. Further impacting the nightshift's ability to assess the impact of the clearance order was the amount of maintenance work activity that had been scheduled for their shift. The shift engineer commented that the end of shift briefing was rescheduled for the next day to support the clearance order.

- CR 04-04425: Operations Collective Significance Investigation.
  Comments: The collective significance review team investigated data associated with the five Tech Spec-related condition reports in terms of commonality. The team performed the review during the timeframe of July 23-July 29, 2004. The Collective Significance Team identified three areas for improvement: (1) Operations Management team has not fully developed the human performance behaviors necessary to prevent errors during routine activities. (2) Shift Manager's roles and responsibilities need clarification to provide the necessary oversight to ensure desired behaviors. (3) A performance management model needs to be fully developed and implemented to change the Shift Manager and crew behaviors to consistently meet Operations Department standards and expectations. The above areas for

improvement as of today have no action plans developed to help improve the shift manager and crew performance. During an interview with the Operations Manager, he indicated that the due date for this condition report is August 21, 2004, at which time he plans on addressing these issues.

This Operations Collective Significance Investigation was signed during the second week of the assessment. Team findings have not been changed from the above information. Some of the cause determinations on CRs do not go deep enough. Most stop at the first level and often point to personnel errors and corrective actions are taken to address that level. The team thinks this is an example of not going deep enough. Other contributing causes to the multiple Technical Specification errors could have been:

- Too much overtime. It was as high as 35 percent and is now at about 20 percent.
- Scheduling pressures. Too many activities for available manpower.
- Lack of operator focus and attention to detail because of distractions.
- Lack of training. Requalification/continuing training was significantly reduced during the extended outage.

- CR 04-04406(Draft): Missed surveillance for RCS flow channel check, RPS Channel 3, Loop B.
  Comments: Although this condition report root cause is still in "draft," the condition report focuses on work practices, especially self-checking and document use practices. The root cause did not address the procedure expectations for performing a Tech Spec channel check. When the operators perform the channel checks they obtain a copy of the procedure cover page. The procedure cover page indicates that the channel check is an "in-field reference use procedure." The requirement for in-field reference is that the procedure should be available for reference at the work location and the user shall refer to the procedure prior to performance and as necessary, based on complexity, familiarity, and verification requirements. The condition report event narrative indicated that the procedure is not normally reviewed prior to performing and only reviewed during performance if determined necessary by the performer or unit supervisor, this practice is contrary to Operations Management expectations and procedure guidance. However, this important piece of information is not currently addressed in the root cause.

  This same practice (not reviewing the procedure prior to performance) was also observed during one of the on shift observations of the performance of routine shift surveillance of miscellaneous instrument readings behind the primary control panels.

- CR 04-01810: Group 2-7 control rods inserted during approach to criticality.
  Comments: During a review of this condition report it was unclear why Group 2-7 reached a rod index of 275% and the reactor did not go critical. The condition report did not explain if the estimated critical position (ECP)

was calculated correctly or did the operators take conservative actions based on an interpretation of redundant indications. Although the condition report was not classified/considered a reactivity management event based on guidance in NG-DB-00230 and DB-OP-06912 this is a difference when compared to best industry practice. Furthermore, the condition report was transferred from the "apparent cause" group to Operations when the category was downgraded to CF (fix) to allow the opportunity for Operations and Reactor Engineering to document any areas for improvement in either the procedures or performance related to the approach to criticality. The team believes this CR is more significant than currently being assessed by the site.

- CR 04-00996: Clearance (Safety Tagging) Quality Issues.
  Comments: The clearance required the operator hanging the clearance to cycle the strainer blow down valve WT6006 to ensure it is closed prior to hanging the clearance. The correct valve to cycle for this task is WT6007 instead of WT6006. There is no corrective action assigned to correct this valve discrepancy.

- CR 04-02174: Documents in Control Room Improperly Verified.
  Comments: No comments on this CR.

- CR 04-02248: RPS Shutdown Bypass Condition not Recognized.
  Comments: This event occurred on March 24, 2004. It had 3 corrective actions assigned. As of the close of the assessment only the Lessons Learned discussions with the individuals involved had taken place. The lessons learned discussion should have been presented to all shift operating personnel. The two recommended procedure changes were not indicated as being complete. Subsequent to this event there have been additional startups that presented the possibility of event recurrence.

- CR 04-02184: Unexplained Change in MUT Level During Plant Heatup.
  Comments: No comments on this CR.

- CR 04-00058: Plant Heatup Procedure…Removal of RPS.
  Comments: No comments on this CR.

- CR 04-01217: Ops Red Tagging Component Not Under Their Control.
  Comments: No comments on this CR.

- CR 04-01981: Ops Inattention to Detail.
  Comments: No comments on this CR.

As a part of the assessment in this area the team reviewed the Operations Department Corrective Action (CA) Assignment Backlog. During the first week of the assessment there were 118 CAs that were unassigned. Thirty-

three of those were categorized as condition adverse to quality requiring apparent cause evaluations. CR 04-05225 was issued to address this issue. On August 23, 2004, another review of the unassigned CA was conducted. At that point there were 197 unassigned CAs. Of those, 58 were categorized as conditions adverse to quality requiring an apparent cause evaluation or SCAQs, significant conditions adverse to quality. The trend is going in the wrong direction.

Areas for Improvement - Area 3:

- ***Develop and aggressively pursue a plan to reduce the large number of Operations Procedure changes in the system.***

- ***The timelines of corrective actions taken on Operation's Condition Reports does not always match the importance of the CR. Operations department should evaluate open CRs and appropriately prioritize them to correct the important ones first.***

- ***Reduce the large number of unassigned CAs so work can begin to address identified problems.***

- ***Cause determination does not go deep enough. Use the methodology of asking the "five whys."***

Other Insights - Area 3:

- Lessons learned should be presented to all shifts, not just those involved with the event.

- CR 04-02453: Undesired rod motion with reactor diamond and reactor demand in manual caused a 3% power reduction. The treatment of this CR does not reflect the current industry reaction to unplanned reactivity events.

- Clearance CR 04-05174: Boron Injection Flow path Issue. Greater attention to detail and better communications is needed at all levels of operations and between departments.

Conclusions - Area 3

A clear plan has not been developed to address the adverse trends in reducing the operations procedure revision backlog and CA assignments, hampering the department's ability to improve.

Cause determinations do not go deep enough and therefore do not address the problems in the aggregate. It results in fixing the apparent cause but does not fix the root cause.

Area 4 - Licensed Operator Continuing Training

Scope - Area 4

Through a series of observations and discussions, the team observed simulator and classroom training to assess the effectiveness and usefulness of licensed operator continuing training. Also, reviews were performed in various areas in an effort to ensure that program requirements were being met. Discussions were held with both licensed operators, instructors and management personnel. These observations were compared with what the team observed in the control room during normal operations to verify that the demeanor of the crew and the way that they performed was consistent and standardized in both environments.

The following areas were assessed:

- Conduct of simulator training
- Conduct of classroom training
- Post scenario critiques
- Classroom and simulator participant's demeanor
- Scenario content
- Lesson plan objectives
- Student/Instructor interaction
- Classroom environment
- Management oversight
- Simulator scenario team communications

Observations and Findings - Area 4

Simulator

The following observations of four scenarios by two different crews, were noted during the team's observations of operator performance. Consistency of performance is needed between crews and cannot be achieved if training is cancelled or postponed. With the addition of a fifth crew and other crew personnel changes, it is imperative that licensed operator continuing training be implemented on a regular basis. Both crews performed substantially better in the second scenario than in the first. The first scenario for both crews included a crew composition of newly licensed SRO's and RO's., whereas the second scenario crew composition was made up of more experienced licensed individuals. More consistent, regularly scheduled training will help the crews perform better as a team.

- 3-way communications were consistently used, however exceptions were noted.
- Alarm acknowledgements by members of the crew were performed and announcements were appropriately made.
- Briefs and mini-briefs were made when warranted.
- Consistent use of the phonetic alphabet was observed.
- Use of STAR was observed.
- Peer checking was observed.
- Adherence to procedures was observed.

Post-Simulator Scenario Critiques

Following the conduct of each simulator scenario, the crew, together with the operations superintendent, the training simulator evaluator, and off-crew (peer) evaluators, the scenario was critiqued. The crew's respective shift manager led the critique. The following observations were noted.

- For the most part, the crews were very self-critical of their performance
- The operations superintendent interjected on numerous occasions to reinforce his expectations
- The weaknesses observed by the team evaluators were also identified by the crew
- In all instances, the crews felt that emphasis on improvement was needed in the following areas:
- Communications, especially with the Unit Supervisor keeping the team informed on a consistent basis
    - Vocalizing (talking louder) all directives, requests, and repeatbacks
    - Transient peer checking needs to be consistently enforced
    - Briefings need to be announced, and presented in a short, concise manner

Classroom

Classroom instructors were well prepared for their presentations. Classroom interaction between students and the instructors was noted. Available training tools were effectively utilized during the presentation. Course objectives were discussed initially and again covered at the end of the session to ensure that they had been adequately covered.

During the observation of one training session, which dealt with the execution of briefs prior to commencing work, it was noted that the instructor was utilizing a procedure titled "JOB BRIEFS". This procedure had not been approved, and was appropriately marked as DRAFT, dated 6/02/04. Numerous questions were asked by the students, however, in many instances, the instructor was unable to answer their questions. Often, the only answer he was able to provide was that a final decision had not been made. To complicate matters even more, the example that the instructor used to demonstrate pre-job briefs for a simple, repetitive low risk

task, was considered by all of the students to be a medium risk task. Follow-up discussion with the instructor following completion of the task indicated that the Operations department had insisted on this topic being discussed prior to the approval of the procedure. As noted by the team, a training presentation of this draft procedure only created confusion and open-ended questioning by the students.

Through interviews and discussions with licensed operators and training personnel, it was determined that the following concerns existed in the area of training:

- Feedback suggestions and concerns following continuing training sessions were seldom acted upon. Also, the feedback loop was seldom closed.
- The shift training mentor program was not being implemented.
- Continuing licensed operator training has not been regularly scheduled for the past nine months to one year.

Follow-up discussion with the Nuclear Training Manager indicated that he was aware of these concerns. He also revealed that the above three issues had been previously identified and captured via Condition Reports (CR). Actions addressing these areas of concern were in place, however, not complete at the time of this review. These CRs were as follows:

- 04-04604 - "Operations Training Feedback Packages Not Being Processed Per Policy P-OPS-13."
- 04-05131 - "Tracking CR For Cycle14 Operational Improvement Plan Initiatives, Item 2.2."
- 03-08418 - "Operations Training Curriculum Should Develop a Long-term Intensive Skills Training Program Schedule for 2004 through 2006."

Licensed operator continuing training has not been implemented on any consistent basis. Just-in-time training had been conducted as necessary prior to the startup from the prolonged outage, and occasionally a day or two of training did occur when plant conditions did not mandate the cancellation of training, however there has been no regularly scheduled continuing training for the past nine months. Once the operations department shifts to a regular 5-shift crew rotation, slated for the early part of September, 2004, plans are in place for each crew to regularly attend a week of continuing training every 5-6 weeks.

The team also noted that there is no clear ownership of the Read and Sign program for operations personnel. Although, the Operations Manager claims ownership, and the program is implemented under TR-01, "Operations Section Required Reading", a conflict exists between Training and Operations. Procedure NT-OT-07011, "Required Reading For Licensed/Operations Personnel", clearly states that the training department is responsible for ensuring that certain plant information is provided and tracked to verify that operations personnel have been

informed. Although, Operations is currently managing the Read and Sign program via TR-01, Operations Section Required Reading, it was apparent that certain conflicts and omissions currently exist between the two procedures. The team noted that the Read And Sign matrix, designating that personnel had read certain information, had on occasion been missed as indicated by signature omissions, thereby indicating that program ownership had not been clearly identified or implemented. Also, the training Procedure NT-OT-07011, "Required Reading For Licensed/Operations Personnel", dated 5/27/1994, and the Operations procedure, TR-01, dated 5/5/04 indicates that a problem exists between the two.

Areas For Improvement - Area 4

- ***Implementation of a continuous LO/NLO training program***
- ***Focus on the operator training feedback program***
- ***Implementation of the shift mentor program***
- ***Clear ownership of the Required Reading Program***

Other Insights - Area 4

None observed.

Conclusions - Area 4

Based upon the observations of both simulator and classroom training of licensed operators, the following determinations were made:

- Similarities in performance were noted in both the simulator and the control room.
- Operator performance shortfalls were appropriately identified by the crew and evaluators during scenario critiques.
- Training personnel and licensed operators were professional at all times while in the training environment.
- The continuing training program for licensed operators needs to be provided on a periodic basis with no or few cancellations.
- Improvements, including both classroom and simulator training, are warranted in the following areas:
    - Implementation of a continuous LO/NLO training program
    - Focus on the operator training feedback program
    - Implementation of the shift mentor program
    - Clear ownership of the Required Reading Program
    - Consistent 3-way communications

- Consistent reference to abnormal response procedures
- Dissemination of information to all crew members
- Frequency and length of crew updates
- The need for Unit Supervisors to be more vocal (speak louder) during simulator scenarios

SECTION II

Davis-Besse Self Assessments

Scope

The team reviewed several assessments dealing with the conduct of operations within the operations department at Davis-Besse plant. The purpose of these reviews was to assess the rigor, criticality, and overall quality of these assessments. These assessments included a review of the following:

- Nuclear Review Board Minutes (July 15, 2004, April 15, 2004, and November 20, 2003)
- Nuclear Quality Assessment Quarterly Assessment Reports (July 2, 2004, April 3, 2004, and January 5, 2004)
- Nuclear Quality Assessment DB-C-04-02, Post Assessment Conference, Second Quarter 2004
- Integrated Restart Test Plan Final Effectiveness Review
- Operation's Department Internal Self Assessments Reports

Observations and Findings

The team, following their review of above listed reports, concluded that the Nuclear Review Board (NRB) and the Nuclear Quality Assessment (NQA) group were appropriately identifying and prioritizing areas of concern within the operations department. Findings were being appropriately captured within the CR system.

However, for the two Operations department internal self-assessments available for review by the team, it was felt that these assessments and associated reports were lacking substance and were not of sufficient depth, particularly, the "Operator Competence Assessment." Much of this report dealt with stating and reiterating operator performance effectiveness criteria, which in essence was stated over five times within the report. The team felt that the following weaknesses of internal self-assessments were noted during their review:

- Internal self-assessments lacked depth and rigor.
- Self assessment criteria set too high, ie. No SFAS actuations occurred due to operator error or procedure problem.
- Apparent causes, identified in associated CRs, as a result of the self-assessments, do not go deep enough. A methodology of asking the "5 whys" in addressing an issue does not appear to be robust, thus the apparent causes, in some cases, lack depth.
- Reiteration of performance criteria within one assessment report contributed little to the overall analysis of operator competence report.

- The DB Operations Self-Evaluation report essentially reiterated NQA and NRC insights. Little value was added from a self-assessment aspect.

The Nuclear Quality Assessment Group identified the need for the Training Department and Operations Department to become more focused on implementing a continuing training program for licensed operators. Training for the past year had dealt with a response to emergent plant issues or concerns identified by outside agencies. These concerns had previously been identified in two Quarterly Assessment Reports, DB-C-03-04 and DB-C-04-02. This identified issue coincided with that of the assessment team. Indicating that the NQA group is aggressively identifying issues that may have an effect on plant safety.

Areas for Improvement:

None identified.

Other Insights:

Enhance internal Operations Self Assessments rigor and criticality by lowering the threshold for problem identification.

Conclusions:

The NRB and NQA assessments were factual, in-depth, and accurate in identifying various weaknesses within the Operations department. Their findings paralleled the independent assessment teams findings. Findings were being appropriately captured within the Condition Report system. Findings were of substance and identified significant safety issues; however, in many instances, actions to correct the findings were lacking in depth or had yet to be acted upon. In some instances, the assignment of an owner for a specific CR had yet to be assigned. It was noted that operation's internal self-assessments, i.e., "Operator Competence Assessment" and "Operations Self-Evaluation Report, 1st Quarter Report," were not of substantial substance and appeared to lack depth and rigor.

SECTION III

The Confirmatory Order assessment provided an independent and comprehensive review of Operations performance at Davis-Besse Nuclear Power Station. The Assessment Team identified ten Areas for Improvement (AFI). The AFIs and the associated Action Plans are presented in this Section. In addition to the AFIs, there were 50 other Insights identified by the Assessment Team. These Insights provided valuable opportunities and have been captured in the Corrective Action Program. For example, three-way communication, use of abnormal alarm response procedures, crew updates and the Unit Supervisor communication volume during simulator scenarios will be emphasized in training.

Davis-Besse Action Plans to Address Areas for Improvement

AFI COIA-OPS-04-01

- ***Resolve operator's misunderstanding about work scheduling and improve the quality of work scheduling.***

Action Plan for AFI 04-01

1. Develop and distribute communication for Operations describing the work implementation scheduling process. Due: October 29th, 2004.
2. Incorporate work implementation schedule training module for Operations Cycle training. Due by end of Cycle training immediately after Mid-cycle outage.
3. Review Operations activities and ensure that the appropriate Operations activities are included in the work implementation schedule. Due December 1st, 2004.
4. Re-emphasize monitoring of the effectiveness of the work implementation schedule utilizing the work week critique. Due: October 29th, 2004.
5. Perform an assessment of the Operators understanding of the work implementation schedule. Due: July 1st, 2005

AFI COIA-OPS-04-02

- ***Ensure that Shift Management understands that they have the authority and responsibility to stop work if that activity compromises their ability to safely operate the plant and maintain full knowledge of plant status.***

Action Plan for AFI 04-02

1. Utilize end of shift critiques to enhance the crews' ability to monitor the progress of work activities and current plant status and improve turnover. End of Shift Critiques were implemented and added to the work implementation schedule on September 20th, 2004.

2. Operations Work Support Licensed Operators will attend the weekly work implementation planning meetings to ensure that adequate time is allocated for safe performance of tasks. Complete September 20th, 2004.
3. Reinforce with the Shift Managers that they have the authority and responsibility to stop work if that activity compromises their ability to safely operate the plant and maintain full knowledge of plant status. Due: October 29th, 2004.
4. Increase interaction between Operations Management, Shift Management and the crews to enhance communications.
   - Establish routine Shift Manager meetings. Completed on September 30th, 2004.
   - Operations Management presentations during the training cycle have been implemented. Operations Management presentation for Training Cycle 04-03 commenced on September 7th, 2004 and will complete by November 15th, 2004.
5. Issue a reminder memo to Operations that communicates their authority and responsibility for safe operation of the plant. Due January 31st, 2005.

AFI COIA-OPS-04-03

- ***Develop and aggressively pursue a plan to reduce the large number of Operations procedure changes in the system.***

Action Plan for AFI 04-03

1. Review and evaluate the existing backlog of Procedure Change Requests for risk and safety significance. Due: November 15th, 2004.
2. Develop and implement a plan to address the existing Operations procedure backlog by the end of Cycle 14. The Implementation Plan was approved October 6th, 2004, with implementation scheduled to begin October 12th, 2004. Due: End of Cycle 14.
3. Monitor the progress of the backlog implementation plan monthly to ensure progress is meeting expectations. Due: Monthly until End of Cycle 14.

AFI COIA-OPS-04-04

- ***The timeliness of corrective actions taken on Operation's Condition Reports does not always match the importance of the CR. Operations department should evaluate open CRs and appropriately prioritize them to correct the important ones first.***

Action Plan for AFI 04-04

1. Review Operations open Condition Reports (CR) and open preventive and remedial Corrective Actions (CA) to re-evaluate priorities commensurate with the safety significance and adjust any due dates as necessary. Due: October 29th, 2004.

2. Reaffirm with the Management Review Board the requirements and expectations of the Corrective Action Program for prioritization and categorization of CRs and CAs. Due: October 29th, 2004.

AFI COIA-OPS-04-05

- ***Reduce the large number of unassigned CAs so work can begin to address identified problems.***

Action Plan for AFI 04-05

1. Identify Operations existing unassigned CAs and ensure that CAs are each assigned an owner. Complete August 27th, 2004.

AFI COIA-OPS-04-06

- ***Cause determination does not go deep enough. Use the methodology of asking the "five whys."***

Action Plan for AFI 04-06

Apparent cause evaluators are trained on the "why staircase" methodology for cause determinations. The Confirmatory Order Independent Assessment of the Corrective Action Program Implementation, conducted September 13th- October 1st, 2004, has identified a potential Areas for Improvement relating to the depth of cause determinations. This Operations AFI will be evaluated and addressed within the response to the Corrective Action Program Implementation Independent Assessment submittal, so that a more comprehensive resolution can be developed. Additionally, the following will be completed:

1. The Corrective Action Review Board will re-review the Operations Condition Reports evaluated by the assessment team to determine the adequacy of the cause determination and make recommendations on any deficient evaluations. Due: November 15th, 2004.
2. Utilize the Corrective Action Review Board to review Operations Apparent Cause evaluations for rigor and quality for a period of one year. Due: On-going until October 15th, 2005.

AFI COIA-OPS-04-07

- ***Implementation of a continuous LO/NLO training program***

Action Plan for AFI 04-07

1. A five-shift crew rotation was established and implemented. Complete September 1st, 2004.
2. Reestablished Licensed Operator and Non-Licensed Operator accredited continuing training. Continuing Training Cycle 04-03 began September 7th, 2004 and is scheduled to complete for all crews by October 22nd, 2004. Cycle

04-03 consists of technical training and live fire-fighting training for both licensed and non-licensed operators.

AFI COIA-OPS-04-08

- ***Focus on the operator training feedback program***

Action Plan for AFI 04-08

1. Implement the FENOC common process for student feedback. Nuclear Operating Business Practice, NOBP-TR-1109, FENOC Evaluation of Training Programs and Courses, was implemented on September 30th, 2004.
2. Operator training feedback will be monitored as part of the Operations Training Review Committee. Due: December 15th, 2004.

AFI COIA-OPS-04-09

- ***Implementation of the shift mentor program***

Action Plan for AFI 04-09

1. Evaluate the Shift Training Mentor Program. Completed on August 31st, 2004.
2. Conduct a Shift Training Mentor kick-off meeting. Completed on September 14th, 2004.
3. Develop a Shift Training Mentor Program Business Practice incorporating the recommendations made in the evaluation. Due: December 29th, 2004.

AFI COIA-OPS-04-07AFI 10

- ***Clear ownership of the Required Reading Program***

Action Plan for AFI 04-10

1. There are currently two procedures governing required reading. Operations accepts full ownership of this program. To ensure compliance with regulatory commitments, the two procedures governing Required Reading will be evaluated and the appropriate procedure cancelled. Due: November 1st, 2004.

Attachment 1 - References

Document	Rev/Date
Accreditation Update Volume 1 Issue 1	
Change Management Plan	
CNRB meeting minutes	11/20/03 4/15/04 7/15/04
Collective Significance Self-Assessment - Davis-Besse Operations Self Evaluation 1st Quarter 2004	
Comments from Operations Observations Conducted between 8/4/04 and 8/9/04	
CR 04-00181, Missed Tech Spec Action Statement	
CR 04-0058, Plant Heatup procedure....removal of RPS	
CR 04-00836, Procedure Steps performed out of sequence	
CR 04-00996. Clearance (Safety Tagging) Quality Issues	
CR 04-01217, OPS red tagging component not under their control	
CR 04-01230, Failure to Recognize Tech Spec Entry for Radiation Elements 4597	
CR 04-01810, Group 2-7 Control Rods Inserted	
CR 04-01981, OPS inattention to detail	
CR 04-02174, Documents in control room improperly verified	
CR 04-02184, Unexplained change in MUT level during plant heatup.	
CR 04-02248, RPS Shutdown Bypass condition not recognized.	
CR 04-02641, EG Air Receiver Leak	
CR 04-02767, Failure to Perform Re-stroke of Aux Feedwater Valve Following Stroke Time	
CR 04-02905, T. S. 6.2.3 Facility Staff Overtime	
CR 04-03800, Failure to Perform the Correct Electrical Alignment Surveillance for Mode 1,2	
CR 04-04406, Failure to Perform a Proper Tech Spec Surveillance for RCS flow	
CR 04-04425, Collective Significance of Tech Spec Events	
CR 04-05225, Operations Failed to Promptly Assign Individual CR and CA Owners	
CR 04-0996, Clearance Quality Issues	
CR 4-00701, AFW Pump 1 and 2 never declared operable	
CRs initiated between 8/24/03 and 8/24/04	
DB Cycle 14 Post-Restart Commitments - June 2004 Review	06/04/04
DBBP-OPS-0004, Operations Continuous Improvement	2
DBBP-TRAN-0008, Training Team Charter	1
DBBP-TRAN-013, Conduct of Training	1
DB-DP-00007, Control of Work	6
DB-OP-00000, Conduct of Operations	10
DB-OP-00004, Operator Aids Control	5

Document	Rev/Date
DB-OP-00005, Operators Logs and Rounds	12
DB-OP-00006, Night Orders and Standing Order Log	6
DB-OP-00016, Temporary Configuration Control	8
DB-OP-00018, Inoperable Equipment Tracking Log	7
DB-OP-00100, Shift Turnover	9
DB-OP-00200, Shift Engineer	5
DB-OP-01002, Component Operation and Verification	1
DB-OP-01003, Operations Procedure Use Instructions	5
DB-OP-01200, Reactor Coolant Leakage Management	5
DB-OP-03006, Misc. Instrument Shift Check	16
DB-OP-06316, Diesel Generator Operations Procedure	15
DB-SC-03200, Shift Channel Check of Radiation Monitoring System	7
DB-SC-04187, Daily Check of Radiation Monitoring System	4
Functional Descriptions and Primary Duties, The New FENOC	07/26/04
Gap Assessment completed in Jan 2004	01/04/04
G-OPS-0003, Instructor In-plant Observation/Shift Mentor/License Candidate Mentor Program	1
GP-3, Conduct of Pre-Job Briefs and Post-Job Reviews	8
Index of Condition Reports	7/13/04
Index of Site Procedures/Policies/Guidelines	
Integrated Restart Test Plan Critique	
Interview Schedule	
Licensed Operator Training Schedule	Week of Aug 16 and 23
NG-DB-00018, Operability Determinations	5
NOBP-LP-2604, Job Briefs – 6/2/04 (draft)	0
NOP-LP-2001, Condition Report Process	7
NOP-OP-1002, Conduct of Operations	0
NOP-WM-2001, Work Management Process	2
NRC Inspection Report 71707-01, Plant Operations	12/31/98
NRC Inspection Report 71715-01, Sustained Control Room	4/14/92
NRC Inspection Report 93802-01, OSTI	11/27/89
NRC Inspection Report 93806-01, Ops Readiness Assessment	9/29/98
NT-OT-07002, Direct Senior Reactor Operator Training Program	6
NT-OT-07003, Senior Reactor Operator Training Program	5
NT-OT-07008, Shift Engineer Training Program	7
NT-OT-07017, Shift Manager Training Program	3
Open DB Site Documents	
Operations Collective Significance Investigation - Operations Events Involving Tech Spec Identified in CR 04-04425	
Operations Section Procedure Deficiencies	
Operator Work-Arounds and Control Room Deficiencies Quarterly Aggregate	1st Qtr dated 2/18/04 & 2nd Qtr dated 6/30/04

Document	Rev/Date
Ops Org Chart and August schedule	
Ops Staffing (draft)	
P-ADM-005, Nuclear Training Self-Assessment	3
P-OPS-013, Operations Department & Operations Training Feedback	3
Post-Restart Commitments	4-Jul
QA quarterly assessments	4th quarter 03 1st quarter 04 2nd quarter 04
SA 2004-0060, Ops Improvement Implementation Action Plan Effectiveness Review	
SA 2004-0084, Ops Improvement Implementation Action Plan Assessment	
SA 2004-0086, Operator Competence Assessment	
SA 2004-0099, Integrated Restart Test Plan Effectiveness Review	
Safety Culture Evaluation of the Davis-Besse Nuclear Power Station	
TR-01, Operations Section Required Reading (Ops procedure)	5
Work Week Schedule (Logic and Non Logic)	Week of Aug 16 and 23
WPG-2, Operations Equipment Issues	6

Attachment 2 - Assessors Biographies

Larry E. Briggs

Independent Consultant
Silver Fox Synergies, LLC

- 2001 - Present: *Onsite Inc.*; Senior Consultant - Developed NRC written examination for the Oyster Creek Facility (May 2002 examination).
- 1977 - 2001: *U. S. Nuclear Regulatory Commission (NRC)*; Held various positions with the NRC. Duties included: Senior Operations Engineer (Chief License Examiner and Senior Inspector) - Certified Chief Examiner on General Electric (GE), Westinghouse, and Combustion Engineering plants. Responsible for review, oversight, and administration of licensed operator examinations. Scheduled and made personnel assignments for Region I licensed operator examinations and re-qualification inspections. Responsible for leading team inspections as assigned, such as maintenance rule and for cause re-qualification inspections. Also led numerous NRC routine operator licensing examination teams and re-qualification inspections. Participated in nuclear event response both in Region 1 and at the facility.
- NRC Senior Resident Inspector - Responsible for NRC inspection program at assigned facility and maintained constant interface with utility and NRC concerning plant activities and status; Senior Engineer - Responsible for oversight of NRC pre-operational testing inspection program for Region I facilities; Project Engineer - Responsible for general inspection of assigned NRC Region I facilities and coordinated NRC inspection activities at assigned facilities.
- 1972 - 1977: *Burns and Roe Inc*; Senior Startup Engineer - Responsible for development, implementation, and coordination of pre-operational test and startup procedures for assigned systems at Three Mile Island (TMI) Units 1 and 2. Also, provided on-site engineering resolution to Unit 2 problem reports during construction.
- 1960 - 1972: *U. S. Navy*; Leading CPO (USS Whale SSN 638) for Reactor Control Division. Leading In-hull instructor/Reactor Control Division Officer on D1G Prototype. Engineering Office of the Watch (EOOW) qualified on D1G Prototype. Qualified on S3G Prototype, S2Wa, and S5W Navy power plants.

Paul Bissett

Independent Consultant
Silver Fox Synergies, LLC

- 1989-2003: *U. S. Nuclear Regulatory Commission (NRC)*; Senior Operations Engineer (Chief License Examiner/Inspector) - Certified Chief Examiner on Babcock and Wilcox (1990), Westinghouse (1988) and General Electric (1999) facilities. Effectively led and conducted licensing examinations, and requalification examinations/inspections at Region I facilities.
  Assisted in the administration of operator licensing examinations in Region II (Surry) and Region III (Davis-Besse).

  Responsible for leading team inspections, including, but not limited to, operator licensing requalification, maintenance rule, problem identification and resolution, Event-V, PRA, Emergency Operating Procedure (EOPs) and operational startup inspections.

  Participated in numerous Region I plant restart inspections (TMI-1, IP-2, Salem 1/2, etc.), primarily focusing on operational safety assessments.
- 1982-1989: *U. S. Nuclear Regulatory Commission (NRC)*; Responsible for the conduct of reactor operations inspections, including the areas of maintenance, surveillance and calibration, and in-service testing of pumps and valves, including the review and approval of a licensee's 10 year In-service Test program submittal. Responsible for the review of licensee QA plan submittals and subsequent inspection of licensee QA/QC programs.
- 1977-1982: *U. S. Nuclear Regulatory Commission (NRC);* Responsible for the accountability and security of special nuclear materials at fuel fabricating facilities, including the decommissioning of one major nuclear facility, utilizing non-destructive assay techniques.
- 1970-1976: *U. S. Navy*; Four year assignment on the USS California (CGN-36) included the participation in the construction and testing of the engineering plant, nuclear core installation, pre-critical testing, initial criticality, power range testing and sea trials. As the Leading Machinery Watch (LMW), supervised aft engine room mechanical work activities. Administered preventive maintenance program.

Freddie Forrest

Operations Manager
Arkansas Nuclear (ANO) - Unit One

- 2003 - present: *ANO-Unit One (B&W)*; Operations Manager - Provides planning, direction and overall supervision of Unit One Operations Department.
- 2002 - 2003: *ANO-Unit 2 (CE plant);* I&C Superintendent - Ensured accountability in accordance with established standards and expectations including efficient and timely work scheduling, comprehensive outage preparation, attention to detail, ALARA considerations, compliance with quality assurance requirements, and aggressive corrective actions.
- 2001 - 2002: *Institute of Nuclear Power Operations (INPO)*; Operations Evaluator - Part of team that evaluated the operations, maintenance, work management, human performance, industrial safety and safety culture at nuclear power plants. Lead teams of operation and training evaluators to evaluate operating crews on plant specific simulators.
- 2000 - 2001: *ANO-Unit 2 (CE plant)*; Assistant Project Manager Unit 2 Steam Generator Replacement - Coordinated the scheduling and interface of departments/groups and contract personnel during Unit 2 S/G replacement outage. Assistant Operations Manger - assist the Operations Manager in planning, direction, control and overall supervision of Operations.
- 1998 - 2000: *ANO-Unit 2 (CE plant)*; Shift Manager - Managed operations of 900-megawatt electric nuclear generating station. Analyzed and resolved operating problems to ensure continuity and economy of operations within Technical Specifications and corporate policy. Responsible for safe operation, adherence to procedures and regulatory requirements. Ensured Operating Crew was properly trained an qualified to perform duties, supervised preparation of work schedules and records for nuclear plant operating personnel to assure effective administrative control.
- 1996 - 1998: *ANO-Unit 2 (CE plant)*; Planning and Scheduling Liaison - Responsible for managing, planning and directing on-line maintenance activities to ensure compliance with probabilistic risk assessment and business goals. Responsible for implementation of forced outage schedules a transition from outage to on-line maintenance activities.
- 1992 - 1996: *ANO-Unit 2 (CE plant)*; Control Room Supervisor - Supervised licensed and non-licensed operators, directed performance of normal, abnormal, and emergency procedures to maintain plant in a safe condition, and approved all plant safety tagging and work order releases.
- 1988 - 1991: *ANO-Unit 2 (CE plant)*; Reactor Operator - Responsible for reactivity manipulations and operations of secondary plant equipment to produce electricity. Monitored plant instrumentation to maintain unit in a safe condition.
- 1984 - 1988: *ANO-Unit 2 (CE plant)*; Waste Control Operator - Responsible for all operational activities executed outside of the control room associated with reactor auxiliary components and systems including radioactive waste treatment.
- 1981 - 1984: *ANO-Unit 2 (CE plant);* Auxiliary Operator - Responsible for all operational activities executed outside of the control room associated with secondary auxiliary components and systems.

Gene St. Pierre

Station Director
Seabrook Station

- 2000 - present: *Seabrook Station*; Station Director - Responsible for the following departments: Operations, Mechanical and Electrical Maintenance, I&C, Planning and Scheduling, Chemistry, Health Physics, Radiological Waste, Outage Management, Training, Modifications and Projects and administrative staff. Chairman of the Station Operating Review Committee (SORC) and member of the Station's Nuclear Safety Advisory Review Committee (NSARC).
- 1996 - 2000: *Seabrook Station;* Operations Manager - Responsible for all licensed activities on a day to day operational basis and the senior licensed individual for the Station. Member of the Station Resource Review Committee and Management Review Team.
- 1992 - 1996: *Seabrook Station*; Assistant Operations Manager for North Atlantic Energy Service Corporations, the managing agent for Seabrook Station and Northeast Utilities Company - Responsible for overall management of the individuals who hold NRC licenses to operate the controls of Seabrook Station. Also responsible for departmental budget planning. Served on the Station Modification Resource Committee and Station Operating Review Committee.
- 1986 - 1992: *Seabrook Station*; Shift Manager - Senior management representative on shift, providing management direction to station personnel. Shift superintendent for hot functional testing and initial reactor criticality (startup). Also, functioned as the senior license holder for initial core load.
- 1982 - 1986: *Seabrook Station*; Unit Shift Supervisor - Responsibilities included review of test startup procedures, Final Safety Analysis review and supervision of the development of plant operating procedures necessary to obtain an operating license.
- 1979 - 1982: *Seabrook Station*; Control Room Operator - Involved in cold licensing training for a Senior Nuclear Regulatory license to operate the controls of Seabrook Station.
- 1977 - 1979: *Yankee Atomic Power Station*; Nuclear Systems Operator - Responsible for safe operation of conventional and nuclear support systems for the electrical generating plant. Actively participated in two reactor refuelings including fuel inspection, fuel movements.
- 1971 - 1977: *U. S. Navy*; Served six years as an enlisted man attaining the rank of First Class Petty Officer. Assigned to the USS Sam Rayburn, a nuclear powered ballistic missile submarine. Served as the electrical division leading petty officer, Engineering Duty Chief, Engineering Watch Supervisor. Received a Commanding Officer's Commendation for outstanding qualifications and electrical division leadership, which resulted in an above average operational reactor safeguards inspection for the submarine.

COMMITMENT LIST

The following list identifies those actions committed to by the Davis-Besse Nuclear Power Station in this document. Any other actions discussed in the submittal represent intended or planned actions by Davis-Besse. They are described only as information and are not regulatory commitments. Please notify the Director – Performance Improvement (419) 321-7181 at Davis-Besse of any questions regarding this document or associated regulatory commitments.

COMMITMENTS	DUE DATE
AFI COIA-OPS-04-01:	
1. Develop and distribute communication for Operations describing the work implementation scheduling process.	October 29, 2004
2. Incorporate work implementation schedule training module for Operations Cycle Training.	End of Cycle training immediately after Mid-Cycle Outage
3. Review Operations activities and ensure that the appropriate Operations activities are included in the work implementation schedule.	December 1, 2004
4. Re-emphasize monitoring of the effectiveness of the work implementation schedule by utilizing the work week critique.	October 29, 2004
5. Perform an assessment of the Operator's understanding of the work implementation schedule.	July 1, 2005
AFI COIA-OPS-04-02:	
1. Utilize end of shift critiques to enhance the crews' ability to monitor the progress of work activities and current plant status and improve turnover.	Completed on September 20, 2004
2. Operations Work Support Licensed Operators will attend the weekly work implementation planning meetings to ensure that adequate time is allocated for safe performance of tasks.	Completed on September 20, 2004

COMMITMENTS	DUE DATE
3. Reinforce with the Shift Managers that they have the authority and responsibility to stop work if that activity compromises their ability to safely operate the plant and maintain full knowledge of plant status.	October 29, 2004
4. Increase interaction between Operations Management, Shift Management and the operating crews to enhance communications:	
• Establish routine Shift Manager meetings.	Completed on September 30, 2004
• Operations Management presentations during the training cycle have been implemented for Training Cycle 04-03 that commenced September 7, 2004	November 15, 2004
5. Issue a reminder memo to Operations that communicates their authority and responsibility for safe operation of the plant.	January 31, 2005
AFI COIA-OPS-04-03:	
1. Review and evaluate the existing backlog of Procedure Change Requests for risk and safety significance.	November 15, 2004
2. Develop and implement a plan to address the existing Operations procedure backlog by the end of Cycle 14.	Implementation Plan approved October 6, 2004. To be completed at end of Cycle 14
3. Monitor the progress of the backlog implementation plan monthly to ensure progress is meeting expectations until Implementation Plan is completed.	End of Cycle 14
AFI COIA-OPS-04-04:	
1. Review Operations open Condition Reports and open preventative and remedial Corrective Actions to re-evaluate priorities commensurate with the safety significance and adjust any due dates as necessary.	October 29, 2004

COMMITMENTS	DUE DATE
2. Reaffirm with the Management Review Board the requirements and expectations of the Corrective Action Program for prioritization and categorization of Condition Reports and Corrective Actions.	October 29, 2004
AFI COIA-OPS-04-05:	
1. Identify Operations existing unassigned Corrective Actions and ensure that Corrective Actions are each assigned an owner.	Completed on August 27, 2004
AFI COIA-OPS-04-06:	
Evaluate AFI COIA-OPS-04-06 and address within the response to the Corrective Action Program Implementation Independent Assessment submittal so that a more comprehensive resolution can be developed.	November 15, 2004
1. The Corrective Action Review Board will re-review the Operations Condition Reports evaluated by the assessment team to determine the adequacy of the cause determinations and make recommendations on any deficient evaluations.	November 15, 2004
2. Utilize the Corrective Action Review Board to review Operations Apparent Cause evaluations for rigor and quality for a period of one year.	October 15, 2005
AFI COIA-OPS-04-07:	
1. Establish and implement a five-shift crew rotation.	Completed on September 1, 2004
2. Reestablish Licensed Operator and Non-Licensed Operator accredited continuing training.	Completed on September 7, 2004
AFI COIA-OPS-04-08:	
1. Implement the FENOC common process for student feedback.	Completed September 30, 2004
2. Monitor Operator training feedback as part of the Operations Training Review Committee	December 15, 2004

COMMITMENTS	DUE DATE
AFI COIA-OPS-04-09:	
1. Evaluate the Shift Training Mentor Program.	Completed on August 31, 2004
2. Conduct a Shift Training Mentor kick-off meeting.	Completed on September 14, 2004
3. Develop a Shift Training Mentor Program Business Practice incorporating the recommendations made in the evaluation.	December 29, 2004
AFI COIA-OPS-04-10:	
1. Evaluate the two procedures governing Required Reading and cancel the appropriate procedure.	November 1, 2004