



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

October 23, 2008

EA-03-0214
EA-07-0199

Mr. Barry Allen
Site Vice President
FirstEnergy Nuclear Operating Company
Davis-Besse Nuclear Power Station
5501 North State Route 2, Mail Stop A-DB-3080
Oak Harbor, OH 43449-9760

**SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION NRC INTEGRATED INSPECTION
REPORT 05000346/2008-004**

Dear Mr. Allen:

On September 30, 2008, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Davis-Besse Nuclear Power Station. The enclosed inspection report documents the inspection findings which were discussed on October 15, 2008, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, one NRC-identified finding of very low safety significance was identified. The finding involved a violation of NRC requirements. However, because of the very low safety significance, and because the issue was entered into your corrective action program, the NRC is treating the issue as a Non-Cited Violation (NCV) in accordance with Section VI.A.1 of the NRC Enforcement Policy.

If you contest the subject or severity of a NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Davis-Besse Nuclear Power Station.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of

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Sincerely,

/RA/

Jamnes L. Cameron, Chief
Branch 6
Division of Reactor Projects

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

Enclosure: Inspection Report 05000346/2008-004
w/Attachment: Supplemental Information

cc w/encl: The Honorable Dennis Kucinich
J. Hagan, President and Chief
Nuclear Officer - FENOC
J. Lash, Senior Vice President of
Operations and Chief Operating Officer - FENOC
Manager - Site Regulatory Compliance - FENOC
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Director, Fleet Regulatory Affairs - FENOC
Manager - Fleet Licensing - FENOC
C. O'Claire, State Liaison Officer, Ohio Emergency Management Agency
R. Owen, Administrator, Ohio Department of Health
Public Utilities Commission of Ohio
President, Lucas County Board of Commissioners
President, Ottawa County Board of Commissioners

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SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION NRC INTEGRATED INSPECTION
REPORT 05000346/2008-004

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000346/2008-004

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Davis-Besse Nuclear Power Station

Location: Oak Harbor, OH

Dates: July 1, 2008, through September 30, 2008

Inspectors: J. Rutkowski, Senior Resident Inspector
A. Wilson, Resident Inspector
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Approved by: Jamnes L. Cameron, Chief
Branch 6
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000346/2008004; 7/1/2008 – 9/30/2008; Davis-Besse Nuclear Power Station;
Post-Maintenance Testing

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. The report also covers a routine inspection by a regional inspector of Temporary Instruction (TI) 2515/172, "Reactor Coolant System Dissimilar Metal Butt Welds" activities. One Green finding was identified by the inspectors. The finding was considered a NCV of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for work planning and reviewing licensee personnel's failure to identify applicable post-maintenance testing requirements listed in the Post-Maintenance Testing Manual (PMTM) following replacement of the lube oil cooler for the Motor Driven Feed Pump (MDFP). Use of the PMTM and other sources for identifying testing was specified as a requirement in Section 4.2 of procedure NOP-WM1005, "Work Management Order Testing Process."

The finding was determined to be more than minor because the finding was associated with the Mitigating System Cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The inspectors determined that the finding was of very low safety significance (Green) because it did not result in a loss of function per Generic Letter 91-18, did not represent an actual loss of safety function, and was not potentially risk-significant due to external events. Although not confirmed by planned testing, the replacement of the lube oil cooler did not significantly change the bearing cooling capability of the MDFP. This finding has a cross-cutting aspect in the area of human performance with the component of work practices because the licensee did not ensure proper supervisory and management oversight of the work planning activities (H.4(c)). (Section 1R19)

B. Licensee-Identified Violations

No violations of significance were identified.

REPORT DETAILS

Summary of Plant Status

At the beginning of the inspection period, the plant was operating at 100 percent power.

On July 16, 2008, the licensee increased generating capacity by approximately 1.6 percent power by a measurement uncertainty recapture (MUR) power uprate. The MUR was based on using a more accurate means of measuring feedwater flow than that assumed in the original plant design.

On September 6, 2008, the licensee reduced power to about 92 percent to perform main turbine valve testing and returned to 100 percent power on September 7, 2008.

At the end of the inspection period, the plant was operating at approximately 100 percent power.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.5 Readiness For Impending Adverse Weather Condition – Severe Thunderstorm Warning and High Wind Conditions

a. Inspection Scope

Since thunderstorms with potential tornados and high winds were forecast in the vicinity of the facility for July 8, 2008, the inspectors reviewed the licensee's overall preparations/protection for the expected weather conditions. On July 8, 2008, the inspectors walked down the equipment near the switchyard and the exteriors of safety related structures, in addition to the licensee's emergency alternating current (AC) power systems, because their safety-related functions could be affected or required as a result of high winds or tornado-generated missiles or the loss of offsite power. The inspectors evaluated the licensee staff's preparations against the site's procedures and determined that the staff's actions were adequate. During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to respond to specified adverse weather conditions. The inspectors toured the plant grounds to look for any loose debris that could become missiles during a tornado. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. The inspectors also reviewed a sample of corrective action program items to verify that the licensee identified adverse weather issues at an appropriate threshold and dispositioned them through the corrective action program in accordance with station corrective action procedures. Documents reviewed are listed in the Attachment.

This inspection constitutes one readiness for impending adverse weather condition sample as defined in Inspection Procedure (IP) 71111.01-05.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment - Quarterly Partial System Walkdowns (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- Auxiliary feedwater train 2 on July 1, 2008, during a planned maintenance outage on train 1; and
- Decay heat system train 2 on July 8 and 9, 2008, during a planned maintenance outage on train 1.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, UFSAR, Technical Specification (TS) requirements, outstanding work orders, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Documents reviewed are listed in the Attachment.

These activities constituted two partial system walkdown samples as defined in IP 71111.04-05.

b. Findings

No findings of significance were identified.

1R05 Fire Protection - Routine Resident Inspector Tours (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Mechanical Penetration Room 2 (Room 236; Fire Area A);
- Cable Spreading Room (Room 422A; Fire Area DD);
- Diesel Fire Pump Room and Service Water Pump Room (Rooms 51 and 52; Fire Area BE and BF);
- Low Voltage Switchgear Rooms (Rooms 428 and 429; Fire Area X and Y); and
- Component Cooling Water Heat Exchanger and Pump Room (Room 328; Fire Area T).

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events (IPEEE) with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the Attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed, that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's corrective action program. Documents reviewed are listed in the Attachment to this report.

These activities constituted five quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

.1 Annual Sample of Heat Sink Performance

a. Inspection Scope

The inspectors evaluated the licensee's execution of biofouling controls for the service water system and the circulating water system. As part of this inspection, the inspectors performed a walkdown of the chemical injection systems and reviewed the operating procedures for the system. Additionally, the inspectors reviewed the as-found tube conditions of the service water side of both a turbine plant cooling water heat exchanger and a control room emergency ventilation system heat exchanger and the general condition of the impellers and shaft of a previously used service water pump. The inspectors review considered if the as-found conditions indicated issues with the biofouling controls particularly for the service water system. The inspectors also reviewed condition reports to determine if there was indication of conditions in other service-water-cooled heat exchangers that were inconsistent with conditions in the examined turbine plant cooling water and emergency ventilation heat exchangers. The inspectors reviewed the purpose of the chemicals used for biofouling control in the service water system and circulating water system, as well as the effectiveness of the chemicals as indicated by system conditions. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes one sample as defined in IP 71111.07-05.

b. Findings

No findings of significance were identified.

.2 Triennial Review of Heat Sink Performance

a. Inspection Scope

The inspectors reviewed completed surveillances, vendor manual information, associated calculations, performance test and inspection results associated with the No. 2 emergency core cooling system (ECCS) room cooler and No. 2 component cooling water (CCW) heat exchanger. These heat exchangers/coolers were chosen based on their risk significance in the licensee's probabilistic safety analysis, their important safety-related mitigating system support functions and their relatively low margin.

For the CCW heat exchanger, the inspectors verified that testing, inspection, maintenance, and monitoring of biotic fouling and macrofouling programs were adequate to ensure proper heat transfer. This was accomplished by verifying the test method used was consistent with accepted industry practices, or equivalent, the test conditions were consistent with the selected methodology, the test acceptance criteria were consistent with the design basis values, and results of heat exchanger performance testing. The inspectors also verified that the test results appropriately considered differences between testing conditions and design conditions, the frequency of testing based on trending of test results was sufficient to detect degradation prior to loss of heat

removal capabilities below design basis values and test results considered test instrument inaccuracies and differences.

For the ECCS room cooler, the inspectors verified the methods used to inspect and clean heat exchangers were consistent with as-found conditions identified and expected degradation trends and industry standards, the licensee's inspection and cleaning activities had established acceptance criteria consistent with industry standards, and the as-found results were recorded, evaluated, and appropriately dispositioned such that the as-left condition was acceptable. In addition, the inspectors verified the licensee evaluated the potential for water hammer.

The inspectors verified the performance of ultimate heat sink (UHS) and its subcomponents such as piping, intake screens, pumps, valves, etc. by tests or other equivalent methods to ensure availability and accessibility to the inplant cooling water systems.

The inspectors verified that the licensee's inspection of the UHS was thorough and of significant depth to identify degradation of the shoreline protection or loss of structural integrity. This included verification that vegetation present along the slopes was trimmed, maintained and was not adversely impacting the embankment. In addition, the inspectors verified that the licensee ensured sufficient reservoir capacity by trending and removing debris or sediment buildup in the UHS.

The inspectors reviewed the licensee's operation of service water system and UHS. This included the review of the licensee's procedures for a loss of the service water system or UHS. In addition, the inspectors verified that macrofouling was adequately monitored, trended, and controlled by the licensee to prevent clogging. The inspectors verified that the licensee's biocide treatments for biotic control were adequately conducted and the results monitored, trended, and evaluated. The inspectors also verified that the licensee maintained adequate pH and calcium hardness.

The inspectors reviewed the licensee's performance testing of service water system and UHS results. This included the review of the licensee's performance test results for key components and service water flow balance test results. In addition, the inspectors compared the flow balance results to system configuration and flow assumptions during design basis accident conditions.

The inspectors performed a system walkdown of the service water intake structure to verify the licensee's assessment of structural integrity and component functionality. This included the verification that the licensee ensured proper functioning of traveling screens and strainers, and structural integrity of component mounts. In addition, the inspectors verified that service water pump bay silt accumulation is monitored, trended, and maintained at an acceptable level by the licensee. The inspectors also verified the licensee's ability to ensure functionality during adverse weather conditions.

In addition, the inspectors reviewed condition reports related to the heat exchangers/coolers and heat sink performance issues to verify that the licensee had an appropriate threshold for identifying issues and to evaluate the effectiveness of the corrective actions. Documents reviewed are listed in the Attachment to this report.

These inspection activities constituted two heat sink inspection samples as defined in IP 71111.07-05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program - Quarterly Review (71111.11Q)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On August 8, 2008, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification examinations to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes one quarterly licensed operator requalification program sample as defined in IP 71111.11.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness - Routine Quarterly Evaluations (71111.12Q)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

- Station and instrument air system; and
- Radiation monitors.

The inspectors reviewed events associated with the systems listed above and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2) or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified that maintenance effectiveness issues were entered into the corrective action program with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes two quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

.1 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- Scheduled work and risk assessments for the week of July 13, 2008, which involved the measurement uncertainty recapture power uprate from a rated thermal power of 2772 MWt to 2817 MWt, concurrent with scheduled work activities on high pressure injection train 2 and scheduled testing of the Station Blackout Diesel Generator and auxiliary feedwater system train 2;
- Scheduled work and risk assessments for the week of July 27, 2008, which involved problem solving of a failed inverter, YVB, which supplies normal power to a 125 VAC instrument bus, concurrent with a trip of Station Air Compressor 2, and a scheduled orange risk activity for auxiliary feedwater train 1 testing;
- Scheduled work and risk assessments for the week of July 8, 2008, which involved scheduled work for decay heat/low pressure injection Train 1; and
- Scheduled work and risk assessments for the week of September 8, 2008, which included an outage of several major components in the fire protection system and development of plans should air voids been detected in the common suction line from the Borated Water Storage Tank to both trains of emergency core cooling system pumps during pipe checks for USNRC Generic Letter 2008-01.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

These activities constituted four samples as defined in IP 71111.13-05.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- CR 08-42937 which addressed the acceptability of motor operated valve test data for the decay heat pump 1 discharge valve;
- CR 08-42775 which addressed the operability of control room emergency ventilation system train 1 after a compressor low oil pressure trip upon start-up of the system for testing; and
- CR 08-46052 which addressed the operability of component cooling water train 1 during the approximate two-year period of time that the fan in ventilation system for train 1 was incorrectly wired and would run in the reverse direction.

The inspectors selected these potential operability issues based on the risk-significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the Technical Specifications (TS) and Updated Safety Analysis Report (USAR) to the licensee's evaluations, to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors also reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes three samples as defined in IP 71111.15-05.

b. Findings

Introduction: The inspectors determined that an unresolved item (URI) existed concerning the past operability of component cooling water (CCW) train 1 due to issues with the ventilation fan, MC75-1, provided for that equipment train. On September 10, 2008, during a maintenance planning walkdown for future work, licensee personnel observed that the ventilation fan MC75-1 was running in the reverse direction. This would cause the fan to deliver, when required, less than the design ventilation flow rate and would also cause the ventilation supply to be from a source that could be hotter than the design source. This condition apparently existed since a maintenance activity in March 2006 and was not discovered until the maintenance planning walkdown.

Description: The plant has two trains of component cooling water with one pump and heat exchanger dedicated to each train. The plant additionally has a third pump and heat exchanger that can be aligned for use in either train thus permitting the dedicated equipment to be made available for maintenance. The pumps and the heat exchangers are located in one room. That room has a ventilation system for maintaining temperatures within a band that would not cause inoperability of the pumps or heat exchangers or associated valves within the room. That ventilation system was composed of Train 1 ventilation components and Train 2 components. Each train has its own fan and associated ventilation dampers.

Each ventilation fan, when running, draws outside air into the room and then can either fully or partially discharge the heated air into the heater bay of the turbine building. The ventilation dampers were setup to permit recirculation of part of the fan discharge. With the fan running in the reverse direction, less than design flow will be produced and air from the heater bay of the turbine building can be drawn into the room. The heater bay air temperature can be higher than the maximum temperature of the outside air assumed in the system design.

Licensee's procedure DB-OP-6513, "Auxiliary Building Non-Radioactive Areas Ventilation," stated that the "CCW room ventilation systems are required support systems for their respective CCW trains." It further stated that "if a train of CCW room

ventilation becomes inoperable the respective CCW train shall also be declared inoperable.” Licensee personnel, during a walkdown for planning upcoming maintenance activities, found that air from CCW Train 1 ventilation dampers was flowing in the wrong direction. Once it was determined that the Train 1 fan was running in the reverse direction, the licensee declared Train 1 CCW ventilation and CCW Train 1 inoperable. Operability was restored as documented in Section 4OA3 of this report.

The licensee determined that the condition with the Train 1 CCW ventilation most likely existed since March 2006. The condition existed longer than the inoperability time permitted by the licensee’s Component Cooling Water Technical Specifications for modes the plant operated in since 2006. The licensee had several existing calculations that potentially indicated that the reverse flow was sufficient for cooling of the CCW system under design accident conditions. The licensee developed a calculation that specifically looked at the ability of the Train 1 ventilation system, with reverse flow, to cool CCW Train 1 under accident conditions. That calculation was provided to the inspectors after the end of the inspection period. Therefore, this issue is considered an unresolved item (URI 05000346/2008004-01) pending completion of inspector review of the past operability evaluation and determination of risk significance.

1R18 Plant Modifications - Temporary Plant Modifications (71111.18)

.1 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following temporary modifications:

- ECP 08-0416, “Leak Sealing Clamp for Main Generator Number 1 Rectifier Cabinet Stator Cooling Piping Elbow”; and
- ECP 07-0141, “Temporary Jockey Fire Pump.”

The inspectors compared the temporary configuration changes and associated 10 CFR 50.59 screening and evaluation information against the design basis, the UFSAR, and the TS, as applicable, to verify that the modification did not affect the operability or availability of the affected systems. The inspectors, as applicable, performed field verifications to ensure that the modifications were installed as directed; the modifications operated as expected; modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications did not impact the operability of any interfacing systems. Lastly, the inspectors discussed the temporary modification with operations and engineering personnel to ensure that the individuals were aware of how extended operation with the temporary modification in place could impact overall plant performance.

This inspection constitutes two temporary modification samples as defined in IP 71111.18-05.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the following post-maintenance (PM) activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- Testing of auxiliary feedwater train 1 on July 1, 2008, after replacement of the governor speed changer and other scheduled preventive maintenance tasks;
- Testing of the Motor Driven Feedwater Pump on July 23, 2008, after replacement of the lube oil cooler and other scheduled preventive maintenance tasks on July 22, 2008;
- Testing of makeup system train 1 on August 6, 2008, after preventive maintenance activities were performed on the system including the pump discharge valve, pump motor, and pump outboard bearing;
- Testing of Emergency Diesel Starting Air Compressor 2 and associated discharge piping on September 9, 2008, after preventive maintenance activities were performed on the compressor and two check valves were replaced in the discharge lines to train 2 diesel air starting receivers;
- Testing of the Electric Fire Pump and associated piping and valves on September 11, 2008, after replacement of several valves and repacking of several valves which required draining of the Fire Water Storage Tank;
- Testing of the Station Blackout Diesel Generator on September 17 and 18, 2008, after completion of various scheduled preventive maintenance tasks including replacement of several diesel support system components; and
- Testing of control room emergency ventilation system (CREVS) train 1 on September 26, 2008, after installation of a new fitting connection on the refrigerant inlet to the condensing unit, replacement of sensing lines to the condenser, and other preventive maintenance tasks.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion), and test documentation was properly evaluated. The inspectors evaluated the activities against TS, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes seven samples as defined in IP 71111.19-05.

b. Findings

Introduction: A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for work planning and licensee reviewing personnel's failure to identify applicable post-maintenance testing requirements listed in the Post-Maintenance Testing Manual (PMTM). Use of the PMTM and other sources for identifying testing was specified as a requirement in Section 4.2 of procedure NOP-WM-1005, "Work Management Order Testing Process."

Description: On July 22, 2008, the lube oil cooler for the Motor Driven Feed Pump (MDFP) was replaced to address a pitting issue previously observed on the installed cooler. The work was conducted in accordance with the requirements specified in work order 200267560. That work was one of several activities associated with a planned maintenance outage of the MDFP. The MDFP is a Maintenance Rule system and a TS required piece of equipment. The scheduled work rendered the MDFP inoperable and unavailable and required testing after completion of the maintenance to establish operability. The MDFP quarterly surveillance test (procedure DB-SS-3091) was specified as a required post-maintenance test.

Criterion V (Instructions, Procedures, and Drawings) of 10 CFR Part 50, Appendix B, requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings and that those activities be accomplished in accordance with those documents. The licensee has numerous procedures to schedule, plan, and control maintenance activities and the testing of components after maintenance. Procedure NOP-WM-1001, "Order Planning Process," established the requirements and administrative controls for the planning of maintenance activities. The procedure specifically lists what should be contained within work order packages and lists the reviews that should be accomplished prior to actual accomplishment of the maintenance work.

NOP-WM-1001 specified in section 4.3.4.1 that post-maintenance testing requirements are part of the work package. Section 4.3.4.5.g stated that, for post-maintenance testing, the guidance of NOP-WM-1005, "Work Management Order Testing Process," should be considered and that responsible engineering and operations personnel should be contacted as necessary to facilitate identification of testing requirements. Section 4.2.1 of NOP-WM-1005 stated the planner shall use the PMTM and other documents for identifying testing requirements. It also instructed the planner to consult with appropriate operations or engineering staff as needed to ensure that the scope of testing is adequate.

The PMTM provided guidance for specifying testing for maintenance activities. Instructions contained within the PMTM stated to find the maintenance activity and note any required testing. The PMTM's "Tech Spec Pump Matrix" had an activity of "Repairs affecting pump bearing coolant." A note that applies to that activity stated that it should be noted on the work order that bearing coolant/flow checks or bearing stabilization testing is required. Procedure DB-SS-3091 did have a section for bearing stabilization testing but that section was marked as not applicable for the post-maintenance testing.

Additionally there was no documented verification of bearing coolant/flow checks prior to declaring the MDFP operable or prior to questioning by the inspectors.

NOP-WM-1001, Section 4.3.10, listed how work orders shall be reviewed. The section provided for multiple reviews prior to actual work accomplishment. The required reviews included a peer review and reviews by the lead work group and by operations personnel that hold or have held a Senior Reactor Operator License. Engineering review was listed as a planner discretionary item although the system engineer told the inspectors that he did conduct a review of the testing requirements. Section 4.3.11 of NOP-WM-1001 stated that engineering reviews shall validate the accuracy of testing requirements.

The inspectors did not identify any documentation that showed that bearing stabilization testing was identified as a testing requirement or, if identified, that bearing stabilization was not required. Additionally, the inspectors were not able to identify that the licensee's personnel, prior to questioning by the inspectors, verified that bearing response temperatures after the maintenance were consistent with bearing temperature responses observed after the previous successful stabilization testing and prior to the replacement of the lube oil cooler. The licensee provided, in response to the inspectors' questions, previous bearing temperature response readings that appeared consistent with the bearing temperature response after the lube oil cooler replacement.

Analysis: The inspectors determined that not reviewing the need for testing of MDFP bearing cooling, contrary to existing procedure requirements, was a performance deficiency. The finding was determined to be more than minor because the finding was associated with the Mitigating System Cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Specifically, the licensee failed to show, with the planned testing, that the replacement of the lube oil cooler did not affect the bearing cooling capability of the MDFP.

The inspectors determined the finding could be evaluated using the Significance Determination Process (SDP) in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of findings," Table 4a for the Mitigating System Cornerstone. The inspectors determined that the finding was of very low safety significance (Green) because it did not result in a loss of function per Generic Letter 91-18, did not represent an actual loss of safety function, and was not potentially risk-significant due to external events. Although not confirmed by planned testing, the replacement of the lube oil cooler did not significantly change the bearing cooling capability of the MDFP. This finding has a cross-cutting aspect in the area of human performance with the component of work practices because the licensee did not ensure proper supervisory and management oversight of the work planning activities (H.4(c)). Specifically the licensee did not ensure that the review and approval of the work package and testing requirements for the MDFP adequately addressed the testing requirements specified in the PMTM. The licensee entered the issue into their corrective action program.

Enforcement: Title 10 CFR, Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and be accomplished in accordance with these instructions, procedures,

or drawings. Contrary to the above, post-maintenance testing on July 23, 2008, for MDFP work accomplished on July 22, 2008, was not reviewed and accomplished as specified in licensee maintenance planning procedures. Specifically, licensee personnel did not identify or address the requirement contained in their PMTM to conduct a bearing stabilization test after replacement of the lube oil cooler on the MDFP. Because this violation was of very low safety significance, and it was entered into the licensee's corrective action program as CR 08-43860, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000346/2008004-02).

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- DB-OP-1101; "Containment Entry," on July 16, 2008 (routine);
- DB-SC-4271; "SBODG Monthly Test," on July 17, 2008 (routine);
- DB-SP-3357; "RCS Water Inventory Balance," on July 21, 2008 (RCS);
- DB-SP-3337; "Containment Spray Train 1 Quarterly Pump and Valve Test," on July 30, 2008 (IST);
- DB-SP-4150; "AFP 1 Monthly Test," on September 3, 2008 (routine); and
- DB-MI-03205/03206; "Channel Functional Test of RCP Monitor to SFRCS LCH 1/3 and RPS CH 1/3," on September 25, 2008 (routine).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine whether: any preconditioning occurred; effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing; acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis; plant equipment calibration was correct, accurate, and properly documented; as-left setpoints were within required ranges; the calibration frequency were in accordance with TSs, the USAR, procedures, and applicable commitments; measuring and test equipment calibration was current; test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied; test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used; test data and results were accurate, complete, within limits, and valid; test equipment was removed after testing; where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers (ASME) Code, and reference values were consistent with the system design basis; where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable; where applicable for safety-related instrument control surveillance tests,

reference setting data were accurately incorporated in the test procedure; where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished; prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test; equipment was returned to a position or status required to support the performance of its safety functions; and all problems identified during the testing were appropriately documented and dispositioned in the corrective action program. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes four routine surveillance testing samples, one inservice testing sample, and one reactor coolant system leak detection inspection sample, as defined in IP 71111.22, sections -02 and -05.

b. Findings

No findings of significance were identified.

CORNERSTONE: Emergency Preparedness

1EP6 Drill Evaluation - Emergency Preparedness Drill Observation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on September 18, 2008, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulated control room, technical support center, and emergency operations facility to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also reviewed the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the licensee's critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment to this report.

This inspection constitutes one sample as defined in IP 71114.06-05.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01)

.1 Plant Walkdowns and Radiation Work Permit Reviews

a. Inspection Scope

The inspectors assessed the adequacy of the licensee's internal dose assessment process for internal exposures in excess of 50 millirem committed effective dose equivalent. However, there were no actual internal exposures >50 millirem committed effective dose equivalent during the inspection period.

This inspection constitutes one sample as defined in IP 71121.01-5.

The inspectors also reviewed the licensee's physical and programmatic controls for highly activated and/or contaminated materials (non-fuel) stored within spent fuel or other storage pools.

This inspection constitutes one sample as defined in IP 71121.01-5.

b. Findings

No findings of significance were identified.

.2 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed a sample of the licensee's self-assessments, audits, Licensee Event Reports, and Special Reports related to the access control program to verify that identified problems were entered into the corrective action program for resolution.

This inspection constitutes one sample as defined in IP 71121.01-5.

The inspectors reviewed licensee documentation packages for all Performance Indicator (PI) events occurring since the last inspection to determine if any of these PI events involved dose rates >25 R/hr at 30 centimeters or >500 R/hr at 1 meter. Barriers were evaluated for failure and to determine if there were any barriers left to prevent personnel access. Unintended exposures >100 millirem total effective dose equivalent (or >5 rem shallow dose equivalent or >1.5 rem lens dose equivalent), were evaluated to determine if there were any regulatory overexposures or if there was a substantial potential for an overexposure.

This inspection constitutes one sample as defined in IP 71121.01-5.

b. Findings

No findings of significance were identified.

.3 Job-In-Progress Reviews

a. Inspection Scope

The inspectors reviewed radiological work in high radiation work areas having significant dose rate gradients to evaluate whether the licensee adequately monitored exposure to personnel and to assess the adequacy of licensee controls. These work areas involved areas where the dose rate gradients were severe; thereby increasing the necessity of providing multiple dosimeters or enhanced job controls.

This inspection constitutes one sample as defined in IP 71121.01-5.

b. Findings

No findings of significance were identified.

2OS2 As Low As Reasonably Achievable (ALARA) Planning And Controls (71121.02)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed the outage work scheduled during the inspection period and associated work activity exposure estimates for the following work activities which were likely to result in the highest personnel collective exposures:

- Alloy-600 projects;
- Reactor disassembly and assembly activities;
- Steam Generator activities;
- Reactor fuel shuffle and support work;
- Scaffolding activities; and
- Temporary shielding and insulation activities.

This inspection constitutes one required sample as defined in IP 71121.02-5.

The inspectors reviewed documents to determine if there were site-specific trends in collective exposures and source-term measurements.

This inspection constitutes one required sample as defined in IP 71121.02-5.

b. Findings

No findings of significance were identified.

.2 Radiological Work Planning

a. Inspection Scope

The inspectors evaluated the licensee's list of work activities ranked by estimated exposure that were in progress and reviewed the following work activities of highest exposure significance:

- Reactor Alloy-600 decay heat suction overlay;
- Incore tank work activities;
- Steam Generator activities;
- Reactor fuel shuffle and support work;
- Scaffolding activities; and
- Temporary shielding and insulation activities.

This inspection constitutes one required sample as defined in IP 71121.02-5.

For these six activities, the inspectors reviewed the ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements in order to verify that the licensee had established procedures and engineering and work controls that were based on sound radiation protection principles in order to achieve occupational exposures that were ALARA. This also involved determining that the licensee had reasonably grouped the radiological work into work activities, based on historical precedence, industry norms, and/or special circumstances.

This inspection constitutes one required sample as defined in IP 71121.02-5.

The inspectors compared the results achieved including dose rate reductions and person-rem used with the intended dose established in the licensee's ALARA planning for these work activities. Reasons for inconsistencies between intended and actual work activity doses were reviewed.

This inspection constitutes one required sample as defined in IP 71121.02-5.

b. Findings

No findings of significance were identified.

.3 Declared Pregnant Workers

a. Inspection Scope

The inspectors reviewed dose records of declared pregnant workers for the current assessment period to verify that the exposure results and monitoring controls employed by the licensee complied with the requirements of 10 CFR Part 20.

This inspection constitutes one required sample as defined in IP 71121.02-5.

b. Findings

No findings of significance were identified.

.4 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, and Special Reports related to the ALARA program since the last inspection to determine if the licensee's overall audit program's scope and frequency for all applicable areas under the Occupational Cornerstone met the requirements of 10 CFR 20.1101(c).

This inspection constitutes one required sample as defined in IP 71121.02-5.

The inspectors reviewed the licensee's corrective action program (CAP) to determine if repetitive deficiencies and/or significant individual deficiencies in problem identification and resolution had been addressed.

This inspection constitutes one required sample as defined in IP 71121.02-5.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Safety System Functional Failures

a. Inspection Scope

The inspectors sampled licensee submittals for the Safety System Functional Failures performance indicator for the period of the third quarter of 2007 through the second quarter of 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73" definitions and guidance, were used. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, issue reports, event reports and NRC Integrated Inspection reports for the period of July 2007 through June 2008 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the Attachment to this report.

This inspection constitutes one safety system functional failures sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.2 Mitigating Systems Performance Index - Emergency AC Power System

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - Emergency AC Power System performance indicator for the period of third quarter of 2007 through the second quarter of 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator narrative logs, MSPI derivation reports, issue reports, event reports and NRC Integrated Inspection reports for the period of July 2007 through June 2008 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the Attachment to this report.

This inspection constitutes one MSPI emergency AC power system sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.3 Mitigating Systems Performance Index - High Pressure Injection Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index - High Pressure Injection Systems performance indicator for the period of the third quarter of 2007 through the second quarter of 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, MSPI derivation reports, event reports and NRC Integrated Inspection reports for the period of July 2007 through June 2008 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the Attachment to this report.

This inspection constitutes one MSPI high pressure injection system sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.4 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspectors sampled licensee submittals for the Reactor Coolant System (RCS) Specific Activity performance indicator for the period from the second quarter 2007 through the second quarter of 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's RCS chemistry samples, TS requirements, issue reports, event reports and NRC Integrated Inspection Reports for the period of September 2007 through August 2008 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a reactor coolant system sample. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one reactor coolant system specific activity sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of items Entered Into the Corrective Action Program

a. Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action program (CAP) at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: the complete and accurate identification of the problem; that timeliness was commensurate with the safety significance; that evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent

recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the attached List of Documents Reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings of significance were identified.

.2 Daily Corrective Action Program (CAP) Reviews

a. Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings of significance were identified.

.3 Annual Sample: Review of Operator Workarounds (OWAs)

a. Scope

The inspectors evaluated the licensee's implementation of their process used to identify, document, track, and resolve operational challenges. Inspection activities included, but were not limited to, a review of the cumulative effects of the OWAs on system availability and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents.

The inspectors performed a review of the cumulative effects of OWAs. The documents listed in the Attachment were reviewed to accomplish the objectives of the inspection procedure. The inspectors reviewed both current and historical operational challenge records to determine whether the licensee was identifying operator challenges at an appropriate threshold, had entered them into their corrective action program and proposed or implemented appropriate and timely corrective actions which addressed each issue. Reviews were conducted to determine if any operator challenge could increase the possibility of an Initiating Event, if the challenge was contrary to training, required a change from long-standing operational practices, or created the potential for inappropriate compensatory actions. Additionally, all temporary modifications were reviewed to identify any potential effect on the functionality of Mitigating Systems,

impaired access to equipment, or required equipment uses for which the equipment was not designed. Daily plant and equipment status logs, degraded instrument logs, and operator aids or tools being used to compensate for material deficiencies were also assessed to identify any potential sources of unidentified operator workarounds.

The above constitutes completion of one operator workarounds annual inspection sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

.4 Selected Issue Follow-Up Inspection: Licensee Assessment of NRC Identified Cross-Cutting Aspects

a. Scope

During a review of items entered in the licensee's CAP, the inspectors recognized a corrective action item documenting the licensee's assessment of the conditions that resulted in NRC-identified findings with cross-cutting aspects in human performance. The assessment was conducted as part of the evaluation for CR 08-41699, "Cross-Cutting Theme for Human Performance Aspect H.2.(c), Documentation." The inspectors reviewed the assessment including the licensee's finding of causes and the licensee's proposed actions for addressing the causes. Additionally, the inspectors observed a presentation of assessment findings to a licensee review committee.

The above constitutes completion of one in-depth problem identification and resolution sample as defined in IP 71152-05.

b. Findings

Introduction: No findings of significance were identified. The inspectors concluded that the licensee's analysis of causes and proposed corrective actions appeared reasonable but noted that the implementation of the corrective actions was not complete. Also, the inspectors concluded that the effectiveness of the corrective actions remained to be determined but found that the licensee, in accordance with their CAP procedures, would conduct an effectiveness review after implementation of the corrective actions.

Description: Licensee procedure DB-RC-10, "Cross-Cutting Aspects of Inspection Findings," established the licensee's methodology for identifying regulatory trends associated with cross-cutting aspects of findings in NRC inspection reports. The procedure requires that, with three or more NRC findings with cross-cutting aspects with the same theme, a condition report be initiated. The purpose of this condition report would be to drive a review of common aspects of findings with the same theme. This is in addition to the reviews done under a condition report for each individual NRC finding.

In June, 2008, the licensee wrote CR 08-41699, "Cross-Cutting Theme for Human Performance Aspect H.2.(c), Documentation." That CR documented that for a 12-month rolling window the NRC had identified three findings with a common cross-cutting theme associated with complete and accurate documentation. Additionally, the CR noted that

the NRC had identified another similar cross-cutting issue that would be documented in a soon-to-be-issued inspection report. The licensee determined that the common issues would be investigated using a full apparent cause methodology.

The licensee's analysis concluded that, in the similar-theme cross-cutting issues identified by the NRC, there was a common theme of "misjudgment through mindset, assumptions, or the lack of a questioning attitude" The licensee also determined that this theme of misjudgments was involved in other findings by the NRC and was involved with 36 percent of the human performance success clock-resets reviewed by the licensee's analysts. During the period of August 2007 through April 2008, the licensee averaged 2.5 organizational clock-resets per month.

The licensee concluded that plant departments, in response to issues within departments, had individually taken steps to reduce misjudgments and other human errors through the better use of human performance event free tools. Most of steps involved training on the use of the tools and reinforcement of the need to use the tools. The assessment concluded that a needs analysis should be conducted to verify that the ongoing training was meeting the needs of the station. Additionally, the assessment concluded that the licensee's Davis-Besse Human Performance Team should regularly review clock-reset evaluations for evidence of inadequate use of human performance tools.

Some of the licensee's corrective actions were not complete at the end of the inspection period. The licensee and inspectors also had not concluded that the ongoing actions were effective or if the future actions would be effective. In accordance with their procedures, the licensee, through their CAP program, scheduled an "interim effectiveness review" for completion by December 9, 2008, and a "final effectiveness review" to be completed by March 31, 2009.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 Inoperability of Component Cooling Water Train 1 Ventilation

a. Inspection Scope

The inspectors reviewed the plant's response to the identification of the component cooling water train 1 ventilation fan running backwards. Documents reviewed in this inspection are listed in the Attachment.

This inspection constitutes one sample as defined in IP 71153-05.

b. Description

On September 10, 2008, licensee personnel were walking down component cooling water Train 1 ventilation for planning the replacement of the ventilation fan motor. During that walkdown the personnel observed that the airflow from the fan was in the wrong direction. Based on the Train 1 ventilation not operating correctly, the licensee declared component cooling water Train 1 inoperable but available at 1150 hours on September 10, 2008.

The licensee developed work order 200338779 to perform circuit checks on the fan and correct the condition. The licensee determined that the most likely cause of the fan running in the improper direction was a reversal of electrical leads during a maintenance activity conducted in 2006. Once the electrical leads were switched and the fan verified to be running in the proper direction, component cooling water Train 1 was declared operable at 2357 hours on September 10, 2008.

c. Findings

No findings of significance were identified by the inspectors for the activities associated with restoring operability of the component cooling water Train 1. The inspectors reviewed the past operability of the system and documented that review in Section 1R15 of this report.

4OA5 Other Activities

.1 Licensee Activities and Meetings

The inspectors observed select portions of licensee activities and meetings and met with licensee personnel to discuss various topics. The activities that were sampled included:

- Corporate Nuclear Review Board Meeting on July 11, 2008;
- Containment Entry at Power ALARA Briefing on July 16, 2008;
- Corrective Action Review Board Meeting on July 28, 2008;
- Maintenance Rule Expert Panel Meeting on August 7, 2008;
- Duty Team Weekend Preparation Meeting on September 12 and 19, 2008; and
- Davis-Besse Monthly Performance Review Meeting on September 19, 2008.

.2 Review of Engineering Program Effectiveness Independent Assessment Plan

a. Inspection Scope

As part of the inspection activities performed to verify the licensee's compliance with the requirements for independent assessments, as described in the March 8, 2004, Confirmatory Order Modifying License No. NPF-3, the inspectors verified that the licensee had submitted the required inspection plan for the Engineering Program. The licensee submitted its plan 90 days prior to the performance of the assessment (onsite start date of September 22, 2008) in a letter to the NRC dated June 24, 2008. The inspectors reviewed the licensee's letter describing the assessment plans and evaluated the scope and depth of the plans, including the credentials, experience, objectivity, and independence of the designated assessors.

b. Observations and Findings

The inspectors verified that the individuals designated to perform the assessment were independent from FENOC and that they brought the appropriate credentials and experience necessary to accomplish the assessment. The plan included six team members over a period of two weeks. Three of the team members are from Marathon Consulting Group, the other three are peer reviewers from the St. Lucie, Seabrook, and D.C.Cook facilities. The purpose of the plan was to provide an independent and

comprehensive assessment of the Engineering Program effectiveness. The plan included details to assess Engineering effectiveness in the following areas:

- Plant Modification Process;
- Calculation Process;
- System Engineering Programs and Practices;
- Corrective Action Program Implementation;
- Corrective actions taken in response to the five Areas in Need of Attention (ANAs) identified during the 2007 Independent Assessment of the Davis-Besse Engineering Program Effectiveness; and
- Self Assessment Effectiveness.

The scope and depth of the proposed plan appeared adequate to accomplish the objective of assessing Engineering Program effectiveness. The NRC inspectors will observe portions of the on site assessment activities and attend the exit meeting at the conclusion of on site activities. The NRC will review the team report when it becomes available.

.3 Independent Effectiveness Assessment of the Training Required by the NRC's August 15, 2007, Confirmatory Order

a. Inspection Scope

On August 15, 2007, the NRC issued Confirmatory Order EA-07-199 (Order) that formalized commitments made by the FirstEnergy Nuclear Operating Company (FENOC). FirstEnergy Nuclear Operating Company's commitments were documented in its July 16, 2007, letter responding to the NRC's May 14, 2007, Demand for Information (DFI).

The Order required in part that the licensee conduct regulatory sensitivity training for selected FENOC and non-FENOC First Energy employees to ensure those employees identified and communicated information that has the potential for regulatory impact at any FENOC nuclear site or within the nuclear industry to the NRC. This requirement was inspected and documented in IR 05000346/2007005. Inspection Report 05000346/2007005 also lists all required Order actions.

As part of the NRC's ongoing activities to monitor the licensee's implementation of the Order, the inspectors interviewed ten individuals who had received the training in November 2007, to determine how effective the training had been in delivering its message. The inspectors posed four questions to each individual:

1. What did you take away from the training?
2. Has it changed your daily work activities?

3. Do you have any specific examples?
4. Has the training changed how you interact with your peers?

In addition, to determine whether the licensee was following its Business Practice, the inspectors reviewed the assessment forms generated when an issue was brought to FENOC's Regulatory Affairs group for evaluation.

b. Observations and Findings

Based on the documentation reviews and observations, the inspectors concluded that the training was effective at instilling within the FirstEnergy management an enhanced awareness/sensitivity to issues and the need to ensure that any issues that could potentially impact Davis-Besse, Perry, or Beaver Valley are promptly brought to FENOC's attention. Each of the ten individuals interviewed indicated that they were much more sensitive to ensuring all potentially affected organizations or individuals are aware of issues and ongoing activities with specific emphasis in those issues potentially affecting the nuclear facilities. Each individual indicated that asking who else needs to be aware of an issue has become a standard practice in day-to-day activities. While there were few examples of specific issues actually being brought to the attention of Regulatory Affairs, individuals identified numerous items in which they or others had raised the questions of who else needs to be aware of the issue. All individuals indicated that it has become an expected practice during peer meeting/interactions to question the extent to which potentially impacted organizations have been informed of issues.

Issues raised to the Regulatory Affairs organization are appropriately reviewed for applicability to the nuclear facilities. Further, in a pro-active move, the Regulatory Affairs organization has implemented a practice of attending meetings where issues that could affect the nuclear facilities would likely arise.

These results are being documented in Inspection Reports for Davis-Besse (05000346/2008004), Perry (05000440/2008004) and Beaver Valley (05000334/2008004 and 05000412/2008004).

No findings of significance were identified.

.4 Review of the 2008 CAP Independent Assessment Activity

a. Inspection Scope

The inspectors reviewed the licensee's independent assessment plan for the 2008 CAP Independent Assessment. The inspectors reviewed the assessment plan and the roster of individuals who conducted the assessment contained in the licensee's April 8, 2008, letter and the final assessment report dated September 15, 2008. In addition, the inspectors observed the independent assessment team's activities during its assessment activities. The reviews were conducted to assess whether the independent assessment was consistent with the plan, whether the team was independent from the site and corporate headquarters, and whether areas for improvement (AFI) were appropriately addressed.

b. Observations and Findings

The 2008 CAP Independent Assessment plan included the following areas:

- Identification, classification, and categorization of conditions adverse to quality;
- Evaluation and resolution of problems;
- Corrective action implementation and effectiveness;
- Trending program Implementation and effectiveness;
- Impact of program backlogs; and
- Effectiveness of internal assessment activities.

The review concluded that the scope of the plan and the individuals selected to perform the independent assessment were appropriate. The inspectors noted without comment that one of the individuals originally scheduled to be on the independent team was unable to participate. The licensee had informed the NRC prior to the start of the assessment of the change in the team's composition.

At the conclusion of the 2008 CAP Independent Assessment activities, the inspectors observed the independent assessment team debriefing the assessment results with the licensee. The licensee submitted the final report for the "Independent Assessment Report of the CAP Implementation for the Davis-Besse Nuclear Power Station – Year 2008." The independent assessment team concluded that the licensee's overall implementation of the corrective action program was effective. Of the general areas assessed, five were rated as Effective and two were rated as Highly Effective. No AFIs were identified.

The independent assessment team identified several Areas in Need of Attention (ANA). An ANA was defined as an identified performance, program, or process element within an area of assessment that, although sufficient to meet its basic intent, management attention was required to achieve full effectiveness and consistency. The ANAs were not required to be addressed by formal Action Plans submitted to the NRC, but were entered into the corrective action program by the licensee. For completeness, the inspectors reviewed the condition reports associated with the ANAs and did not identify any issues requiring further NRC evaluation.

Based on the reviews and observations, the inspectors concluded that the 2008 independent assessment of the licensee's CAP was conducted by individuals independent of the licensee's organization, that the assessment team's members were all qualified to perform the assessment, that the assessment was conducted in accordance with the licensee's plan, and that issues identified by the assessment had been appropriately addressed through the CAP.

Based on NRC observations on the 2007 Independent CAP Assessment, documented in Inspection Report 05000346/2007005, the licensee included an assessment of condition reports for human performance issues. The inspectors reviewed the independent team's assessment and had no comments.

.5 Evaluation of the 2008 Independent Operations Assessment Final Report

a. Inspection Scope

The March 8, 2004, Confirmatory Order Modifying License No. NPF-3 (EA-03-0214) required, in part, that the licensee perform annual independent assessments, for a period of five years, in the areas of operations performance; organizational safety culture, including safety conscious work environment; corrective action program implementation; and engineering program effectiveness. This section of the report documents the additional inspection activities associated with the operations performance assessments that were completed during this inspection period.

On July 17, 2008, the licensee submitted the "Independent Assessment Report of Operations Performance for the Davis-Besse Nuclear Power Station, Year 2007." The inspectors reviewed the report for consistency with assessment results presented at the assessment exit and debrief meetings. Additionally, the inspectors verified that the report adequately covered areas identified in the assessment plan, that conclusions were consistent with and adequately supported by information in the report, and that the licensee entered all deficiencies identified in the report into their corrective action program if the issue was not already covered by existing condition reports.

b. Observations and Findings

The independent assessment of Operations Performance and the final report from that assessment addressed the following topics:

- Shift turnovers;
- Control manipulations;
- Communications;
- Interdepartmental interfaces;
- Procedural use;
- Housekeeping;
- Awareness of plant and equipment status and workarounds;
- Pre-job/post-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; and
- Observation of operator simulator training to compare crew performance, demeanor, and communication skills with actual control room operations.

These topics were grouped into five general areas:

- Shift and Meeting Observations;
- Interviews;
- Condition Report Review;
- Licensed Operator Continuing Training; and
- Davis-Besse Self-Assessments.

Overall, the assessment team concluded that the Operations Department performance was rated Effective. 'Effective,' as used by the assessment team, means that performance, programs, and processes are sufficient to obtain the desired results with consistency and effectiveness but that there may be one or several specific areas where improvement is needed and potentially other items that need additional attention.

The majority of individual items and topics reviewed by the team were assessed as 'Effective' including the majority of the licensee's actions to address areas identified in the 2007 assessment as needing attention. There were no areas identified in the 2007 assessment that required improvement. In the 2008 assessment, the assessment team concluded that the licensee's actions were marginally effective in addressing the 2007 identified item on configuration control and component mispositionings and that the problem continues to be an ANA.

The 2008 assessment report did not identify any AFIs. Since there were no issues that rose to the level of an AFI, the licensee did not include formal corrective action plans as part of the Independent Assessment Report submittal. Minor issues addressed in the report were documented in the licensee's CAP.

During the review, the assessment team identified several processes and practices that they considered strengths and some areas that the team considered as requiring a comment. Those included:

- Material and housekeeping conditions were acceptable with opportunities for improvement; and
- Teamwork between Chemistry and Operations needed improvement.

c. Conclusions

The licensee complied with the March 8, 2004, Confirmatory Order requirement for the year 2008 independent assessment of Operations Performance. The results of the assessment, including the overall assessment, were consistent with the information reviewed and documented in the final report. The inspectors did not identify any inconsistencies between the overall independent assessment of Operations Performance and NRC inspection findings associated with this area of licensee performance. No findings of significance were identified.

.6 Reactor Coolant System Dissimilar Metal Butt Welds (TI 2515/172, Revision 0)

a. Inspection Scope

The inspectors conducted a review of the licensee's activities regarding dissimilar metal butt weld (DMBW) mitigation and inspection implemented in accordance with the industry self-imposed mandatory requirements of Materials Reliability Program (MRP) -139, "Primary System Piping Butt Weld Inspection and Evaluation Guidelines." Temporary Instruction (TI) 2515/172, "Reactor Coolant System Dissimilar Metal Butt Welds," was issued February 21, 2008, to support the evaluation of the licensees' implementation of MRP-139.

The documents reviewed by the inspector for this inspection are listed in the Attachment to this report.

From September 8, 2008 through September 10, 2008, the inspectors performed a review in accordance with TI-172, which included the following:

(1) Licensee's Implementation of the MRP-139 Baseline Inspections

The inspectors verified that the licensee's inspection program included inspections of the pressurizer, hot leg and cold leg temperature DMBWs, and that the schedules for these baseline inspections are consistent with the requirements stated in MRP-139. If any baseline inspection schedules deviated from MRP-139 guidelines, the inspectors also determined what deviations were planned, and what the general basis for the deviation was.

The inspectors verified that the licensee had completed MRP-139 baseline inspections of all pressurizer DMBWs by December 31, 2007.

(2) Volumetric Examinations

The inspectors reviewed the following volumetric examinations of welds completed during the previous outage and verified the examinations were performed in accordance with the guidelines in MRP-139, Section 5.1 or consistent with the NRC staff relief request authorization for the overlay, if applicable.

- Weld RC-MK-B-56-1-FW10B (2.5" Safe End to High Pressure Injection (HPI) Nozzle Weld) not mitigated, January 9, 2008; and
- Weld DH-33A-CCA-4-1-FW1 Overlay (12" Branch Connection to Elbow Overlay Weld), January 22, 2008.

The inspectors verified that the above examinations were performed by qualified personnel and that any deficiencies identified were appropriately dispositioned and resolved.

(3) Weld Overlays

The inspectors observed activities pertaining to this Section (03.03) during the last outage (1R15) and are detailed in integrated Inspection Report 05000346/2008002 (ML081270558).

(4) Mechanical Stress Improvement (SI)

No SI activities have been performed for DMBWs nor did the licensee plan to perform SI as a mitigation strategy for DMBWs to comply with MRP-139.

(5) Inservice Inspection (ISI) Program

The licensee does not have an independent MRP-139 ISI program but rather incorporates MRP-139 into their Alloy 600/690 Management Program and schedules examinations of applicable welds through their ISI program. The inspectors verified that the program includes those welds in a category consistent with MRP-139 guidelines. The inspectors verified that the licensee's inspection program and procedures specified inspection frequencies consistent with Tables 6-1 and 6-2 of MRP-139. The inspectors also determined if any welds were categorized as H or I, and for those welds reviewed the licensee's basis for the categorization and the licensee's plans for addressing potential primary water stress corrosion cracking (PWSCC). The inspector also determined if any deviations were planned from the inspection guidelines of MRP-139.

b. Observations

Summary: Davis-Besse is a Babcock and Wilcox (B&W) design with two loops consisting of a steam generator, hot leg, cold leg, and core flood nozzles. Seven penetrations have been mitigated by Structural Weld Overlay (SWOL) and have received volumetric examinations. Further mitigation or replacement is planned for the remaining susceptible welds. In accordance with requirements of TI 2515/172, Revision 0, the inspectors evaluated and answered the following questions:

(1) Licensee's Implementation of the MRP-139 Baseline Inspections

1. a. Have the baseline inspections been performed or are they scheduled to be performed in accordance with MRP-139 guidance?

Yes. Baseline inspections of all pressurizer and hot leg components have been performed. All cold leg welds are scheduled for inspection and/or mitigation in spring 2010 in accordance with MRP-139 guidance.

- b. Were the baseline inspections of the pressurizer temperature DMBW's of the nine plants listed in 03.01.b completed during the spring outages?

Davis-Besse was not one of the nine plants listed in 03.01.b.

2. Is the licensee planning to take any deviations from the MRP-139 baseline inspection requirements? If so, what deviations are planned, what is the general basis for the deviation, and was the NEI- 03-08 process for filing a deviation followed?

No. The licensee was not planning to take any deviations from the MRP-139 baseline inspection requirements. A deviation from MRP-139 inspection requirements to delay inspections to spring of 2008 was approved but not implemented.

(2) Volumetric Examinations

1. Performed in accordance with the examination guidelines in MRP-139, Section 5.1, for unmitigated welds or mechanical stress improvement welds and consistent with NRC staff relief request authorization for weld overlaid welds?

Unmitigated Weld: Yes. The inspectors performed a records review of the UT data for the unmitigated safe-end to high pressure injection (HPI) nozzle Inconel weld. The licensee's vendor use a Performance Demonstrated Initiative (PDI) qualified manual UT technique and achieved the ASME Code Section XI required weld volume and MRP-139 required volume.

SWOL Weld: The inspectors performed a records review of the UT data for the post overlay examination for the hot leg decay heat nozzle weld overlay. The licensee's vendor used a PDI qualified manual UT technique and achieved 100 percent coverage of the required volume.

2. Performed by qualified personnel? (Briefly describe the personnel training/qualification process used by the licensee for this activity.)

Unmitigated Weld: Yes. The licensee's vendor staff that analyzed the UT data for the unmitigated safe-end to HPI nozzle weld, was certified to UT Level II requirements in accordance with a vendor procedure (Framatome ANP Administrative Procedure 54-ISI-30-03 (UT)) to meet the training and certification requirements of the ASME Code Section XI, Appendix VII, and VIII. The inspectors also confirmed that the analyst had certification records issued by the PDI program established by Electric Power Research Institute, which documented successful performance testing required to meet the applicable ASME Code Section XI, Appendix VIII supplement for examination of this weld.

SWOL Weld: The licensee's vendor staff that analyzed the UT data for the hot leg decay heat nozzle overlay weld, was certified to UT Level II requirements in accordance with a vendor procedure (Structural Integrity Associated Procedure SI-NDE-08, Revision 1) to meet the training and certification requirements of the ASME Code Section XI, Appendix VII, and VIII. The inspectors also confirmed that the analyst had certification records issued by the PDI program established by Electric Power Research Institute, which documented successful performance testing required to meet the applicable ASME Code Section XI Appendix VIII supplement for examination of this weld.

3. Performed such that deficiencies were identified, dispositioned, and resolved?

Unmitigated Weld: Not applicable. No deficiencies or recordable indications were identified in the unmitigated HPI nozzle Inconel weld.

SWOL Weld: Yes. An indication was detected outside of the Code boundary, evaluated, and found to be acceptable per ASME Section XI, IWB-3514.

(3) Weld Overlays

1. Performed in accordance with ASME Code welding requirements and consistent with NRC staff relief request authorizations? Has the licensee submitted a relief request and obtained NRR staff authorization to install the weld overlays?

Performed during winter 2008 outage and reported in Integrated Report 05000346/2008002.

2. Performed by qualified personnel? (Briefly describe the personnel training/qualification process used by the licensee for this activity.)

Performed during winter 2008 outage and reported in Integrated Report 05000346/2008002.

3. Performed such that deficiencies were identified, dispositioned, and resolved?

Performed during winter 2008 outage and reported in Integrated Report 05000346/2008002.

(4) Mechanical Stress Improvement

No stress improvement activities have been performed for DMBWs nor did the licensee plan to perform mechanical stress improvement as a mitigation strategy for DMBWs.

(5) Inservice Inspection Program

1. Has the licensee prepared an MRP-139 inservice inspection program? If not, briefly summarize the licensee's basis for not having a documented program and when the licensee plans to complete preparation of the program.

No. The licensee does not have an independent MRP-139 program but rather incorporates MRP-139 into their Alloy 600/690 Management Program and schedules examinations of applicable welds through their ISI program. However, the licensee had scheduled baseline and inservice inspections of DMBWs at frequency consistent with the MRP-139 guidelines and the ASME Code Section XI requirements. The licensee does have an Alloy 600 Management Program which identifies MRP-139 welds. The program identifies and categorizes the welds, addresses mitigation and replacement strategy, and also identifies inspection plans.

2. In the MRP-139 inservice inspection program, are the welds appropriately categorized in accordance with MRP-139? If any welds are not appropriately categorized, briefly explain the discrepancies.

Yes. The DMBWs were categorized in accordance with MRP-139.

3. In the MRP-139 inservice inspection program, are the inservice inspection frequencies, which may differ between the first and second intervals after the MRP-139 baseline inspection, consistent with the inservice inspections frequencies called for by MRP-139?

Yes. The inservice inspection frequencies for DMBWs, was consistent with the inservice inspection frequencies required by MRP-139.

4. If any welds are categorized as H or I, briefly explain the licensee's basis of the categorization and the licensee's plans for addressing potential PWSCC.

The pressurizer and hot leg nozzle welds were categorized as H prior to the application of a structural weld overlay. The Category H was assigned due the difficulty of performing a PDI UT examination of these welds. After completing the weld overlay repairs, the licensee indicated that these DMBWs would be re-categorized as Category F in accordance with MRP-139 guidance.

The core flood nozzles and the Reactor Coolant Pump (RCP) cold leg inlet and outlet nozzles are categorized as I as a PDI examination has not yet been performed or adequate coverage could not be obtained respectively. The licensee indicated that the core flood nozzles will either be inlaid or receive a SWOL. The licensee also indicated that the RCP cold leg nozzles will receive an optimized Weld Overlay (WOL).

5. If the licensee is planning to take deviations from the inservice inspection "requirements" of MRP-139, what are the deviations and what are the general bases for the deviations? Was the NEI 03-08 process for filing deviations followed?

Not applicable. The licensee is not planning to take deviations from the MRP-139 guidelines (see question No. 1.2 above).

d. Findings

No findings of significance were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On Wednesday, October 15, 2008, the inspectors presented the inspection results to Mr. B. Allen, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- Access Control to Radiologically Significant Areas/ALARA Planning and Control and Performance Indicator RCS Specific Activity with Mr. B. Allen on August 29, 2008;
- The triennial heat sink inspection results with Mr. B. Allen and other members of the licensee staff on August 29, 2008; and
- The results of the Temporary Instruction 2515/172 with Mr. C. Daft, Staff Nuclear Engineer, on September 10, 2008.

The inspectors confirmed that none of the potential report input discussed was considered proprietary and that any proprietary information reviewed during the inspection was returned to the licensee prior to the inspectors leaving the site.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

B. Allen, Site Vice President
D. Blakely, Staff Engineer, Engineering Analysis
B. Boles, Director, Site Maintenance
C. Daft, Staff Nuclear Engineer
G. Ellithorpe, Supervisor, Nuclear Security Support
L. Harder, Radiation Protection Manager
B. Hennessy, Supervisor, Nuclear Performance Improvement
R. Hovland, Manager, Technical Services
V. Kaminskis, Director, Site Operations
J. Kemp, Senior Nuclear Engineer, Design Engineering
P. Mainhardt, GL 89-13 Program Manager
D. Moul, Director, Site Engineering
D. Noble, Radiation Protection/ALARA Supervisor
S. Plymale, Manager, Plant & Equipment Reliability Engineering
C. Price, Director, Site Performance Improvement
J. Rinckel, Vice-President, Fleet Oversight
L. Strauss, Advanced Nuclear Specialist
G. Wolf, Regulatory Compliance Engineer
D. Wuokko, Acting Manager, Regulatory Compliance

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000346/2008004-01	URI	Inoperability of Component Cooling Water Train 1 Ventilation
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Opened and Closed

05000346/2008004-02	NCV	Failure to Schedule and Perform Procedurally Required Post-Maintenance Test
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Closed

TI 2515/172	TI	Reactor Coolant System Dissimilar Metal Butt Welds
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LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1R01 Adverse Weather

Other:

- USAR; Section 3.3; Revision 0
- USAR, Section 3.5; Revision 0

1R04 Equipment Alignment

Procedures:

- DB-OP-6012; Decay Heat and Low Pressure Injection System Operating Procedure; Revision 37
- DB-OP-6233; Auxiliary Feedwater System; Revision 24

Drawings:

- OS- 4, SH 1; Decay Heat Removal/Low Pressure Injection System; Revision 45
- OS-17A, Sheet 1; Auxiliary Feedwater System; Revision 20

Other:

- USAR; Section 6.3; Revision 22

1R05 Fire Protection

Procedures:

- DB-PFP-AB-236; No. 2 Mechanical Penetration Room, Room 236; Revision 3
- DB-PFP-AB-328; Component Cooling Water Heat Exchanger and Pump Room, Room 328; Revision 3
- DB-PFP-AB-422A; Cable Spreading Room, Room 422A; Revision 3
- DB-PFP-AB-422B; Cable Spreading Room Ladder Space, Room 422B; Revision 3

Drawings:

- A-224F; Fire Protection, General Floor Plan Elevation 603'; Revision 22
- A-223F; Fire Protection General Floor Plan Elevation 585'; Revision 20
- A-230F; Fire Protection, Intake Structure; Revision 9

Other:

- Davis-Besse Fire Hazards Analysis Report

1R07 Annual Heat Sink Performance (71111.07Q)

Condition Reports:

- CR 08-43718; Minor Sodium Hypochlorite Exposure Due to Equipment Failure

Drawings:

- OS-48A, Sheet 1; Chlorination System; Revision 10

Procedures:

- DB-CH-6013; Station Chlorination System; Revision 24
- DB-CH-6075; Dechlorination Skid Operations; Revision 0

Work Orders:

- WO 200228139; PM 2169 – S33-1 Inspect Control Room Emergency Ventilation System 1
- WO 200292684; PM 975 – E8-2 Clean and Inspect TPCW Heat Exchanger

1R07 Triennial Heat Sink Performance (71111.07T)

Condition Reports:

- CR 06-10131; ECCS Room Cooler E 42-2 Beginning to Show Signs of Service Water Fouling
- CR 08-41203; ECCS Room Cooler E 42-2 Suspected to Have Less Than Acceptable Flow
- CR 08-45141; Noteworthy Item From Snapshot Assessment DB-SA-08-090

Procedures:

- DB-CH-06900; Service Water and Component Cooling Water Chemical Surveillance; Revision 24
- DB-OP-02200; Intake Alarm Panel 200 Annunciators; Revision 0

Drawings:

- DWG. NO. SK-5461; ECCS Room Coolers 1, 2, 3, 4, 5; November 17, 2003

Work Orders:

- WO 200220528; PM 4894 *Insp* Intk Canal/Forebay
- WO 200222729; Component Cooling Water System Heat Exchanger 2 Performance Test
- WO 200235617; ECCS Rm Cooler Monit Test
- WO 200235618; ECCS Rm Cooler Monit Test
- WO 200280704; Service Water Train 1 Design Flow Verification

Calculations:

- 12501-M-001; UHS Pond Thermal Performance analysis for Pond Water Area and Volume to Station 10+00; July 14, 1998
- 12501-M-004; UHS Thermal Performance Analysis for Maximum Evaporation Meteorological Conditions; Revision R00
- C-ICE-011.01-002; Service Water Flow/Pressure Indications
- C-ME-011.01-141; Maximum Allowable Pump Curve for the Service Water Pumps; Revision R01
- C-ME-11.03-002; ASME Code Sect. VII Tube Side Calculation for CCW HX E22-1, 2 & 3
- C-ME-016.04-041; Evaluation of the Temperature Increase of CCW System;
- C-ME-016.04-044; CCW Heat Exchanger – Normal Cooldown; Revision 0
- C-NSA-032.02-006; ECCS Pump Room Heatup During Post LOCA; Revision 3
- C-NSA—060.05-010; Containment Analysis: Loss of Service Water; Revision R06

Other:

- 03-015; Service Water System Relief Valve Analysis; March 13, 2003
- ECR 05-0086-02; Containment Air Cooler Service Water Modifications; Revision 0
- GL 89-13 Service Water Reliability Program Manual; Revision 0
- Spec No. M-411Q; ECCS Rm Cooler; Revision 0

1R11 Licensed Operator Regualification Program

Procedures:

- DBBP-TRAN-17; Conduct of Simulator Training; Revision 4
- DBBP-TRAN-502; Development and Conduct of Continuing Training Simulator Evaluations; Revision 5

Other:

- ORQ-EPE-S236; Makeup Pump Trip, D2 Bus Lockout, Loss of Instrument Air and Reactor Trip, Loss of all Feedwater; Revision 0

1R12 Maintenance Effectiveness

Condition Reports:

- CR 03-06387; RE4598AB Channel 1 and 2 Parameter 09 Values Found to be Incorrect
- CR 06-00152; RE4597AB Containment Accident Range Radiation Monitor
- CR 07-13018; RE4598AB has no Flow Indication at RIC
- CR 07-13733; RE4598AB Parameter 10 Found to be Wrong Value
- CR 07-20538; RE4597AA Locked up with Comm Line Failure
- CR 07-21026; Parameter 09 for RE4598BB (Ch 1) was Found to be Incorrect
- CR 07-21335; Auto Start of RE4598BB
- CR 07-24664; SAC 1 Failed to Load
- CR 07-28428; RE4598BA Comm Failure
- CR 07-29625; #1 Station Air Compressor Failure to Load
- CR 07-30000; EIAC Cooling Pumps Fail To Start
- CR 07-30744; Maintenance Rule (a)(1) Evaluation For Station/Instrument Air System
- CR 08-32755; RCM5328 CREVS Train 2 Pulley Failure
- CR 08-33140; RMS has Exceeded its MR Performance Criteria in Cycle 15
- CR 08-39738; SAC 2 Failed Periodic Test DB-SS-04013
- CR 08-40113; Proc Function Light Lit on RE4597BA
- CR 08-40155; RE4597AA Early Unexpected Low Flows
- CR 08-40814; RI8404, Area Monitor, has an Alert Setpoint Outside of the Acceptable Range
- CR 08-41216; SAC 2 Tripped
- CR 08-42018; RE4598AA Experiencing Frequent Equipment Fail Lights
- CR 08-43956; Station Air Compressor 2 Trip
- CR 08-44072; Intermittent Connection in SAC 2 Control Panel (C3409) For TE6487
- CR 08-39704; RE4597BB (HS4597) Tripped on Overload – Local Green Off Light not on
- CR 08-44488; RE5405B Switched From Analyze to Gross
- CR 08-45156; RCM5052 has Filter Tear Light Again
- CR 08-42161; RCM5052 Filter Tear Light is Lit
- CR 08-45156; RCM5052 has Filter Tear Light Again

Procedures:

- DB-OP-06412; Process and Area Radiation Monitor; Revision 26

Work Orders:

- WO 200195529; PM 5898, Replace Low Pressure Oil Pump Pressure Control Valve
- WO 200278142; Replace contacts/relay in C3403 SAC1 Panel
- WO 200287963; #1 SAC Failed to Load

Calculations:

- MPR Calculation 0200-0080-HDG-01; Safety Injection System Suction Piping Hydraulic Model; Revision 0 (May 9, 2005)
- MPR Calculation 0200-0080-HDG-02; Safety Injection System Transient Analysis with Void in Suction Piping; Revision 0 (May 9, 2005)
- MPR Calculation 0200-0080-HDG-03; Analysis of Voids in Decay Heat Suction Piping; Revision 0 (June 10, 2005)

Other:

- Station and Instrument Air System Unavailability Database
- Maintenance Rule Program Manual; Revision 24
- Plant Health Report; 2nd Quarter 2008
- USAR Section 9.3.1; Station and Instrument Air System
- SD-001; System Description for Station and Instrument Air System; Revision 4

1R13 Emergent Work

Condition Reports:

- CR 05-1605; Air Intrusion to DH Emergency Sump Suction Piping
- CR 05-1642; Decay Heat Train 2 Suction Piping – Refilling/Restoration Deficiency
- CR 08-43843; Inverter YVB Failed – YBU Transferred to Alternate as Expected

Procedures:

- DB-NE-3230; RPS Daily Heat Balance Check; Revision 10
- DB-NE-4231; Verification of Computer Calculations; Revision 5
- DB-NE-6202; Reactivity Balance Calculations; Revision 4
- DB-OP-6203; Moisture Separator-Reheater Operating Procedure; Revision 12
- DB-PF-10141; Davis-Besse Measurement Uncertainty Recapture Power Uprate (Caldon); Revision 0
- DBBP-OPS-3; On-line Risk Management Process; Revision 7
- DBBP-OPS-11; Protected Train Room Sign Posting; Revision 1
- DB-0138-2; Checklist for Protected Train Room Signs
- NOP-OP-1007; Risk Determination; Revision 5

Drawings:

- E-1040A Section 10.2, Sheet 37; 120V AC UPS Instrumentation Panel YBU; Revision 27
- E-643A, Sheet 3; Distribution Panel “YBU”; Revision 23
- E-643A, Sheet 6; Distribution Panel “YBR”; Revision 8
- 20-107575; Schematic 50KVA (YVA, YVB) Inverter 250VDC, 123VAC, 60 HZ; April 4, 2001

Other:

- Maintenance Risk Summary; Week Starting July 6, 2008; Revision 0
- Maintenance Risk Summary; Week Starting July 13, 2008; Revision 0
- Maintenance Risk Summary; Week Starting July 27, 2008; Revision 3
- Maintenance Risk Summary; Week Starting September 8, 2008; Revision 0
- Maintenance Risk Summary for week of August 18, 2008

- Work Implementation Schedule, Subsystem Sort; produced on July 15, July 16, and July 17, 2008
- Work Implementation Schedule, Subsystem Sort; produced on July 31, 2008, and August 1, 2008;
- Work Implementation Schedule, Subsystem Sort; produced on September 5, 2008, and September 8, 2008;
- Davis-Besse MUR Project Phase 2 Post-SER Implementation Level 3 Schedule; July 11, 2008
- Davis-Besse MUR Project Phase 2 Post-SER Implementation Level 3 Schedule; July 15, 2008
- Failure Mode Analysis and Problem Solving Plan; YVB Deenergized Due to Abnormal Audible Noise and Varying Frequency; August 1, 2008
- Unit Log, Night Shift; Friday August 1, 2008
- NRC Generic Letter 2008-01; Managing Gas Accumulation In Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems

1R15 Operability Evaluations

Condition Reports:

- CR 08-42775; Compressor Trip During Performance of Control Room EVS Train 1 Monthly Test
- CR 08-42937; DH1B Cannot Be Set Up To The Current Data Package Settings
- CR 08-42939; Work Order Not Performed as Planned for DH1B
- CR 08-43115; Duplicate Calculation for MOV DH1B
- CR 08-46052; MC75-1 Experiencing Reverse Airflow Conditions

Procedures:

- DB-OP-2533; Control Room Emergency Ventilation System Load Shedding; Revision 10
- DB-OP-6505; Control Room Emergency Ventilation System Procedure; Revision 11
- DB-OP-6513; Auxiliary Building Non-Radioactive Areas Ventilation; Revision 16
- EN-DP-1082; Limitorque Motor Operated Valve Thrust/Torque Calculation; Revision 2

Drawings:

- M-658; Motor Operated Valves; Revision 10
- OS-32B; Control Room Emergency Ventilation System; Revision 16

Calculations:

- Calculation C-ME-016.05-001; CCW Pump Room Ventilation; Revision 5 – April 17, 2006
- Calculation C-ME-049.01-128; Target Thrust Calculation for DH1A and DH1B; Revision 7
- Calculation C-NSA-099.16-097; CCW Room Heatup Without Ventilation; Revision 0 – April 10, 2007

Other:

- MOV Dynamic Test Report for DH1B; November 18, 1998

1R18 Plant Modifications

Condition Reports:

- CR 08-43480; Leakage on Number 1 Generator Field Rectifier Bank Inlet Piping
- CR 08-45818; Configuration Control of Temporary Jockey Fire Pump

Procedures:

- NG-EN-309; Plant Modification; Revision 3

- NOBP-LP-4003A; FENOC 10CFR50.59 User Guidelines; Revision 5
- NOP-CC-2003; Engineering Changes; Revision 14

Work Orders:

- WO 200214212; Install TM 06-19 Temporary Jockey Fire Pump
- WO 200214592; Remove TM 06-19 Temporary Jockey Fire Pump

Other:

- Engineering Change Package 08-0416-000, -001, and -002; Temporary Modification of Number 1 Rectifier Cubicle, Stator Cooling Water Piping Elbow; Revision 0
- Engineering Change Package 07-0141-00 and -01; Temporary Modification for Temporary Jockey Pump; Revision 0

1R19 Post Maintenance Testing

Condition Reports:

- CR 08-42680; Pressure Gauge Overranged During AFW Testing
- CR 08-43860; Missed PMT Per PMT Manual
- CR 08-44279; Wiring Discrepancies Found on MU6419
- CR 08-44320; #1 MUP Coupling Torque Values Different in Two Different Procedures
- CR 08-46467; SBODG AC Turbo Oil Piping Leak
- CR 08-46474; SBODG Cyl 12 Camshaft Bearing Streaming Oil
- CR 08-46257; SBODG Soakback Pump Replacement Incorrect
- CR 08-46266; SBODG AC Turbo Oil Pump Coupling Degradation
- CR 08-46267; Station Blackout Diesel Generator Strainer Found to be Dirty
- CR 08-46770; HA14 Has a Body to Bonnet Leak
- CR 08-46968; Minor Leaks Discovered on CREVS Train 1
- CR 08-46978; CREVS #1 Outage Lessons Learned

Procedures:

- DB-SC-4109; EDG Air Compressor 2 Charging Test; Revision 4
- DB-SC-4271; SBODG Monthly Test; Revision 15
- DB-PF-3016; EDG Valve Testing; Revision 6
- DB-PF-4048; Electric Fire Pump Test
- DB-MM-9320; Emergency and Station Blackout Diesel Engine Maintenance; Revision 15
- DB-MM-9343; Emergency and Station Blackout Diesel Engine 2 Year Maintenance of Lube Oil Filter, One Revolution and Other Inspections; Revision 1
- DB-SP-3152; AFW Train 1 Level Control, Interlock, and Flow Transmitter Test; Revision 22
- DB-SP-3151; AFP 1 Quarterly Test; Revision 17
- DB-SP-3371; Quarterly Makeup Pump 1 Inservice Test and Inspection; Revision 10
- DB-SS-03041; Control Room Emergency Ventilation System Train 1 Monthly Test; Revision 10
- DB-SS-3091; Motor Driven Feed Pump Quarterly Test; Revision 11
- NOP-WM-1001; Order Planning Process; Revision 10
- NOP-WM-1005; Work Management Order Testing Process; Revision 1
- NOPL-WM-1001; Work Management Policy; Revision 0
- DB-OP-6334; Station Blackout Diesel Generator Operating Procedure; Revision 15

Drawings:

- OS-2, Sheet 3; Operational Schematic Makeup and Purification System; Revision 30
- OS-41B; Emergency Diesel Generator Air Start/Engine Air System; Revision 35
- OS 47A, Sheet 1; Fire Protection System; Revision 23

Work Orders:

- WO 200092175; Replace Valve FP1
- WO 200227027; PM 6438: Makeup Pump #1 Motor Testing
- WO 200227036; Replace Check Valve DA38 and D39 in Diesel Starting Air System
- WO 200242078; PM 2522: MP242 and P242 – Lubricate MDFP and Motor
- WO 200224382; Preventive Maintenance – Emergency Diesel Generator Starting Air Compressor 1-2
- WO 200224809; PM 4768 for Station Blackout Diesel Generator
- WO 200228139; PM 2169; S33-1 Inspect CTRM EVS #1
- WO 200267560; E183 Replacement Due to Pitting
- WO 200296171; PI4823 Has a Pinched Sensing Line
- WO 200298716; Replace Governor Speed Changer
- WO 200316613; S33-1 – Replace Sensing Lines
- WO 200339568; Inspect CAM Shaft Bearing for SBODG Cylinder 12

Other:

- Engineering Change Package 08-0180-00; CREVS Condensing Units S33-1 and S33-2 Refrigerant Inlet Piping; Revision 01
- Engineering Change Package 08-0180-01; CREVS Condensing Units S33-1 and S33-2 Refrigerant Inlet Piping; Revision 01
- Engineering Change Package 08-0180-02; CREVS Condensing Units S33-1 and S33-2 Refrigerant Inlet Piping; Revision 01PTMT; Post Maintenance Test Manual; Revision 31
- Motor Driven Feed Pump Temperature Responses (from Plant Process Computer) on April 29, 2008, and July 23, 2008
- Operations Evolution Order; Fill/Vent and FP System Restoration from FWST Outage; September 9, 2008

1R22 Surveillance Testing

Condition Reports:

- CR 08-43314; Cycle 16 Containment Green Dust Condition Update
- CR 08-43377; Deficiency During Station Blackout Diesel Run
- CR 08-43448; Identification of Critical Step – Enhancement Opportunity
- CR 08-44013; Steps in DB-SP-03337 Had to be Repeated Due to Fitting Leaks
- CR 08-45592; 10-4-G AFP 1 TRBL Will Not Clear Following AFW Train 1 Functional

Procedures:

- DB-PF-6704; Pump Performance Curves; Revision 25
- DB-MI-3205; Channel Functional Test/Calibration and Response Time of RCP Monitor (RC3601) to SFRCS LCH 1 and RPS CH 1; Revision 14
- DB-MI-3206; Channel Functional Test/Calibration and Response Time of RCP Monitor (RC3603) to SFRCS LCH 3 and RPS CH 3; Revision 17
- DB-OP-1101; Containment Entry; Revision 7
- DB-SC-04271; SBODG Monthly Test; Revision 13
- DB-SP-3357; RCS Water Inventory Balance; Revision 12

- DB-SP-3337; Containment Spray Train 1 Quarterly Pump and Valve Test; Revision 16
- DB-SP-4150; AFP 1 Monthly Test; Revision 10

Drawings:

- OS-5; Operational Schematic Containment Spray System; Revision 11
- OS-17A, Sheet 1; Operational Schematic Auxiliary Feedwater System; Revision 22

Work Orders:

- WO 200236299; SBODG Monthly Test

Other:

- Calculation C-ME-061.01-078; Acceptable Containment Spray Pump DP Range for Testing; Revision 1
- ISTEP3; Third Ten Year Inservice Testing Program Manual

1EP6 Drill Evaluation

Condition Reports:

- CR 08-46697; EP Drill – Paging System Issues
- CR 08-46761; EP Drill – EOF Lead Controller – Improvement Opportunity for RA-EP-2220
- CR 08-46726; EP Drill – Simulator Lead Controller – Improvement Opportunities for DB-OP-2544
- CR 08-47722; EP Drill – ERF Communications Improvement Opportunities

Other:

- Davis-Besse Emergency Preparedness Integrated Drill Manual; September 18, 2008

2OS2 Planning and Controls

Condition Reports:

- CR 08-45404; Dose Rate Alarm While Transporting Make Filter 1-1 From Bunker to the Shielded Cask; dated August 27, 2008
- CR 08-32303; Rework-Deep End of Reactor Canal and Adverse Condition to Outage Dose; dated January 2, 2008
- CR 08-33806; AREVA Worker was Contaminated However, Other Worker was not contaminated; dated January 18, 2008
- CR 08-43352; Containment Entry Dose Delta Versus Areas of Improvement; dated July 16, 2008
- CR 08-42772; Preliminary Dose Estimate for Refueling Outage (RFO) 16 Exceeds the Guidance Provided in the Milestone Description; dated July 3, 2008
- CR 08-35909; SAC Approval Was Not Obtained Prior to RWP 2008-5601 Dose Estimate Being Increased; dated February 25, 2008
- CR 08-35909; Corrective Action; Revised SAC Meeting Minutes for January 10, 2008 to Reference CR 08-35909 Stating that 5 Rem was Approved by the SAC Committee to Support Work Continuation for RWP 2008-5601; dated March 26, 2008
- CR 08-34413; High Radiation Areas in the Decay Heat Cooler Room, MPR 2, and ECCS 2, dated January 28, 2008
- CR 08-33143; Worker Received an Accumulated Dose Alarm (ADA) while worker was Working in Installing Insulation for Snubber When the Alarms Occurred; Dated January 10, 2008

- CR 08-36906; Dose Rate Alarm Received During Capped Valve Check in MPR 2; dated March 15, 2008

Procedures:

- DB-SA-08-048; Davis Besse Nuclear Power Station 15 RFO Outage Execution Assessment Final Report; dated May 11, 2008
- NOP-WM-7002; Operational ALARA Program; dated September 17, 2007
- NOP-WM-7001; ALARA Program; dated September 17, 2007
- DB-HP-01801; DBNPS Radiation Protection Procedure; ALARA Design Review; dated October 11, 2005
- NOP-WM-7003; Radiation Work Permits; dated December 3, 2007
- DBBP-RP-0018; Guidance for Work in Progress ALARA Review; dated July 16, 2007
- NOP-WM-7025; High Radiation Area Program; dated March 10, 2008
- DB-HP-01109; Radiation Protection Procedure; High Radiation Area Access Control; dated June 25, 2008
- DB-HP-01802; Radiation Protection Procedure; Control of Shielding; dated October 3, 2007
- ALARA Plan 2008-5600-1; WO 200260265; 200249948; Pressurizer Weld Overlay on Surge Line to PZR Surge Line to Hot Leg Work Includes Support Such as Scaffolding; Insulations; Shielding; RP Coverage; Welding and Oversight; Revision 0

Other:

- 2008-5107; Radiation Work Permit (RWP) For Refueling Activities; Revision 0, dated January 1, 2008
- 2008-5107-6; Radiation Work Permit for High RAD - High Risk Drain Water from Transfer Tubes; Revision 0; dated January 1 to March 1, 2008
- 2008-5107-3; Radiological Work Permit for High Rad to Medium Risk associated with Refueling Core Off Load and Reload; Revision 0
- 2008-5107; ALARA Plan With Job description for Refueling Activities, to Include Spent Fuel Pool/Reactor Refuel PM and Associated Work Activities and Scaffold Erection; Transfer Tube Cover Removal and Installation; LLRT; Underwater Work to support Refueling, etc.; dated September 18, 2007
- 2008-5109; Incore Tank Work (Decon/Park & Pull Incores/Set Up for Incore Cutting); dated January 1, 2008
- 2008-5102; RWP for Under Reactor Vessel Inspection of Incore Nozzles; dated January 1, 2008
- 2008-5601; RWP For Alloy-600 – Decay Heat Suction Line Overlay; Revision 0; dated January 1, 2008
- ALARA Post Job Review for Work Activities Greater Than 5000 mrem, for RWP 2008-5107; Refueling Activities; dated January 23, 2008

40A1 Performance Indicator Verification

Procedures:

- NOBP-LP-4012; NRC Performance Indicator; dated April 21, 2008
- NOBP-LP-4012-52; Reactor Coolant System Specific Activity; Reporting Periods from July 2007-August 2008

Other:

- DB Form NOBP-LP-4012-45; Safety System Functional Failures; July 2007 through June 2008
- DB Form NOBP-LP-4012-46; Mitigating System Indicator (Emergency AC Power); July 2007 through June 2008

- DB Form NOBP-LP-4012-47; Mitigating System Indicator (High Pressure Injection); July 2007 through June 2008
- Davis-Besse Integrated NRC Inspection Reports 2007-04, 2007-05, 2008-002 and 2008-003
- Chemistry Analysis Status for Dose Equivalent Iodine; dated August 28, 2008

40A2 Problem Identification and Resolution

Condition Reports:

- CR 08-34644; Increase Trend in Number of Maintenance Related Human Performance Issues
- CR 08-41699; Cross-Cutting Theme for Human Performance Aspect H.(C), Documentation

Procedures:

- NOBP-OP-12; Operator Work-Arounds, Burdens and Control Room Deficiencies; Revision 0

Other:

- Action Plan for Response to Cross-Cutting Aspect H.2(C) – Documentation; Undated
- DB-SA-08-025; Snapshot Assessment: Cross-Cutting Aspects of NRC Inspection Report Findings for the Period of January 1, 2007 – December 31, 2007; February 2008
- Operations Department Quarterly Operator Workaround/Control Room Deficiencies Aggregate Impact Report; June 19, 2008
- Operations Department Quarterly Operator Workaround/Control Room Deficiencies Aggregate Impact Report; March 21, 2008
- Performance Indicator D-RPO-15; Control Room Deficiencies; August 2008
- Performance Indicator D-RPO-16; Operator Work Arounds; August 2008
- Performance Indicator D-RPO-17; Operator Burdens; August 2008
- Listing of Temporary Modification Engineering Change Packages; Generated from SAP Work Order System; September 16, 2008

40A3 Follow-Up of Events and Notices of Enforcement Discretion

Condition Reports:

- CR 08-46052; MC75-1 Experiencing Reverse Airflow Conditions

Procedures:

- DB-OP-6513; Auxiliary Building Non-Radioactive Areas Ventilation; Revision 16

Work Orders:

- WO 200338779; MC75-1 Running Backwards

40A5 Other Activities

Condition Reports:

- CR 08-40452; COIA-OPS-2008 Not All Field Component Manipulation Were Being Peer Observed
- CR 08-40481; COIA-OPS-2008 – Simulator Instructor Facility Operators Communications Realism

Other:

- Maintenance Rule Expert Panel Meeting Agenda; August 7, 2008
- CREVS Maintenance Rule (a)(1) Evaluation Form; Revision 1
- Chilled Water System Maintenance Rule (a)(1) Evaluation Form; Revision 0

NDE Records:

- 15-UT-024; UT of 2.5 in. Safe End to HPI Nozzle Weld MK 47 to MK 46; dated January 9, 2008
- 15-VENDOR-050; UT of 12 in. Branch Connection to Elbow Overlay; dated January 22, 2008
- 15-VENDOR-059; UT of 12 in. Branch Connection to Elbow Weld; dated January 12, 2008
- PDI-UT-10; Table 2; dated July 6, 2006
- Protocol PDI-UT-10; Table 1; Revision 28
- PDI Protocol PDI-UT-2, Table 1; Revision 23
- PDI Protocol SI-UT-126, Table 1; Revision 0
- Structural Integrity Associates; Certificate of Personnel Qualification of Personnel Qualification; Revision 10

Procedures:

- SI-UT-126; Procedure for the Phased Array Ultrasonic Examination of Weld Overlaid Similar and Dissimilar Metal Welds: Revision 3
- 54-ISI-829-08; Manual Ultrasonic Examination of Dissimilar Metal Piping Welds; Revision 8

References:

- DB-PF-00108; Alloy 600/690 Management Program; Revision 2
- 51-5069606-000; Davis-Besse Unit 1 Alloy 600 Program Review – August 2005; Revision 0
- 1010087; Materials Reliability Program: Primary System Piping Butt Weld Inspection and Evaluation Guideline (MRP-139); dated July 14, 2005
- 1009561; Materials Reliability Program: Generic Guidance for Alloy 600 Management (MRP-126); dated November 2004
- FENOC Letter; Davis-Besse Unit 1, “Response to Request for Additional Information Regarding Summary of Design and Analyses of Weld Overlays for Pressurizer and Hot Leg Nozzle Large Bore Dissimilar Metal Welds (TAC No. MD8105)”; dated July 21, 2008
- FENOC Letter; “Davis-Besse 10 CFR 50.55a Request Regarding Inservice Inspection Requirements Third Ten-Year Interval (RR-A29)”; dated March 29, 2006
- NRC Letter; “Davis-Besse Unit 1 – Evaluation of Request for Relief Re: Full Structural Weld Overlay (TAC No. MD0683); dated October 19, 2006
- NRC Letter; “Davis-Besse Unit 1 – Relief Request for Alternative No. A30, Revision 2, for Application of Structural Weld Overlay on Dissimilar metal Welds of Pressurizer Nozzles and Hot Leg Branch Connections (TAC No. MD4452)”; dated December 20, 2007

Drawings:

- 152027E; List of Material Coolant Piping; Revision 4
- 136497E; Reactor Coolant Piping Arrangement Plan; Revision 9
- 152031E; Sub-Assemblies for 28” I.D. Coolant Inlet Piping; Revision 4
- 152032E; Details for 28” I.D. Coolant Inlet Piping; Revision 4
- 152042E; Ass’y & Detail for 2 1/2” Pressure Injection Nozzle: Revision 4

LIST OF ACRONYMS USED

AC	Alternating Current
AFI	Areas For Improvement
ALARA	As-Low-As-Is-Reasonably-Achievable
ANA	Areas In Need of Attention
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CR	Condition Report
CREVS	Control Room Emergency Ventilation System
DFI	Demand For Information
DMBW	Dissimilar Metal Butt Weld
DRP	Division of Reactor Projects
ECCS	Emergency Core Cooling System
HPI	High Pressure Injection
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPEEE	Individual Plant Examination of External Events
IR	Inspection Report
ISI	Inservice Inspection
kV	Kilovolt
MDFP	Motor Driven Feed Pump
mrem	Millirem
MRP	Materials Reliability Program
MSPI	Mitigating Systems Performance Index
MUR	Measurement Uncertainty Recapture
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
OWA	Operator Workaround
PARS	Publicly Available Records
PDI	Performance Demonstrated Initiative
PI	Performance Indicator
PM	Planned or Preventative Maintenance
PMTM	Post-Maintenance Testing Manual
PWSCC	Primary Water Stress Corrosion Cracking
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RFO	Refueling Outage
RWP	Radiation Work Permit
SBODG	Station Blackout Diesel Generator
SDP	Significance Determination Process
SI	Stress Improvement
SSC	Systems, Structures, and Components
SW	Service Water
SWOL	Structural Weld Overlay
TI	Temporary Instruction
TS	Technical Specification

UFSAR	Updated Final Safety Analysis Report
UHS	Ultimate Heat Sink
URI	Unresolved Item
USAR	Updated Safety Analysis Report
UT	Ultrasonic Testing
Vac	Volts Alternating Current
Vdc	Volts Direct Current
WOL	Weld Overlay