September 27, 2004

Mr. Mark B. Bezilla
Vice President - Nuclear, Davis-Besse
FirstEnergy Nuclear Operating Company
Davis-Besse Nuclear Power Station
5501 North State Route 2
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION
NRC INTEGRATED INSPECTION REPORT 05000346/2004012

Dear Mr. Bezilla:

On August 14, 2004, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Davis-Besse Nuclear Power Station. The enclosed inspection report documents the inspection findings which were discussed on August 13, 2004, with Mr. L. Myers, 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. During this inspection, we also evaluated the effectiveness of several commitments contained in your Cycle 14 Operational Improvement Plan.

For the entire inspection period, the Davis-Besse Nuclear Power Station was under the Inspection Manual Chapter (IMC) 0350 Process. The Davis-Besse Oversight Panel assessed inspection findings and other performance data to determine the required level and focus of followup inspection activities and any other appropriate regulatory actions. Even though the Reactor Oversight Process had been suspended at the Davis-Besse Nuclear Power Station, we continue to use the ROP as guidance for inspection activities and to assess findings. Based on the results of this inspection, no NRC-identified or self-revealed findings of significance were identified.

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

Sincerely,

/RA/

John A. Grobe, Chairman
Davis-Besse Oversight Panel

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

Enclosure: Inspection Report 05000346/2004012
w/Attachment: Supplemental Information

cc w/encl: The Honorable Dennis Kucinich
G. Leidich, President - FENOC
J. Hagan, Senior Vice President
Engineering and Services, FENOC
L. Myers, Chief Operating Officer, FENOC
Plant Manager
Manager - Regulatory Affairs
M. O'Reilly, Attorney, FirstEnergy
Ohio State Liaison Officer
R. Owen, Administrator, Ohio Department of Health
Public Utilities Commission of Ohio
President, Board of County Commissioners
of Lucas County
C. Koebel, President, Ottawa County Board of Commissioners
D. Lochbaum, Union Of Concerned Scientists
J. Riccio, Greenpeace
P. Gunter, N.I.R.S.

DOCUMENT NAME: C:\ORPCheckout\FileNET\ML042720142.wpd

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RIII		RIII				
NAME	CLipa:dtp		JGrobe				
DATE	09/24/04		09/27/04				

OFFICIAL RECORD COPY

ADAMS Distribution:
AJM
DFT
SPS1
RidsNrrDipmIipb
GEG
HBC
CST1
CAA1
C. Pederson, DRS (hard copy - IR's only)
DRPIII
DRSIII
PLB1
JRK1
ROPreports@nrc.gov (inspection reports, final SDP letters, any letter with an IR number)

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-346
License No:	NPF-3
Report No:	05000346/2004012
Licensee:	FirstEnergy Nuclear Operating Company (FENOC)
Facility:	Davis-Besse Nuclear Power Station
Location:	5501 North State Route 2 Oak Harbor, OH 43449-9760
Dates:	July 1, 2004, through August 14, 2004
Inspectors:	S. Thomas, Senior Resident Inspector J. Rutkowski, Resident Inspector M. Salter-Williams, Resident Inspector J. House, Senior Radiation Specialist D. Passehl, Senior Project Engineer, Region III J. Jacobson, Senior Engineer, Region III
Approved by:	Christine A. Lipa, Chief Branch 4 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000346/2004012; 7/1/2004 - 8/14/2004; Davis-Besse Nuclear Power Station; Routine Integrated Inspection Report.

This report covers a 7 week period of baseline and special inspection. The inspection was conducted by Region III inspectors and resident inspectors. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. Inspector-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee Identified Findings

No findings of significance were identified.

REPORT DETAILS

Summary of Plant Status

At the beginning of the inspection period, the plant was at approximately 100 percent power. On August 4, 2004, the plant tripped due to a fuse failure during planned reactor trip breaker surveillance testing (see Section 4OA3). The plant restarted following the trip and re-entered Mode 2 on August 7, 2004 and achieved Mode 1 and approximately 100 percent power on August 8, 2004. During this inspection period, the following brief power reductions also occurred:

- reduction in power to approximately 94 percent power to address equipment issues with the Integrated Control System;
- reduction in power to approximately 95 percent power to address a steam and water leak on a high pressure heater drain isolation valve; and
- reduction in power to approximately 98 percent power to address equipment issues with the plant computer system.

On each occasion, the maintenance activities were completed and power was restored to approximately 100 percent. The plant operated at approximately 100 percent power for the remainder of the inspection period.

For the entire inspection period, the Davis-Besse Nuclear Power Station was under the IMC 0350 Process.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

On July 2, the control room received annunciator 11-5-D (Traveling Screen DP>1). The cause of the alarm was high differential pressure conditions on service water system traveling screens #2 and #3. In accordance with the alarm procedure, the operators washed all of the screens to reduce the differential pressure. In response to the condition, the licensee formed a problem solving team to investigate the problem and recommend corrective action. Upon further investigation, the team discovered that the differential pressure was the result of a planktonic algae bloom in the western basin of Lake Erie. The late and prolific bloom was attributed to late rains which provided increased agricultural run-off during warm water conditions. The bloom was determined not to be localized to Davis-Besse, but a regional phenomena affecting the Maumee Bay Area. The inspectors reviewed the associated condition report, the problem solving plan and discussed the condition with the issue sponsor to verify that the condition did not

affect the ability of the service water system or the component cooling water system to perform their required functions.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

.1 Partial Walkdowns (71111.04Q)

a. Inspection Scope

The inspectors verified equipment alignment to identify any discrepancies that impacted the function of system components. The inspectors also verified that the licensee had properly identified and resolved any equipment alignment problems that would cause initiating events or impact the availability and functional capability of the mitigating system. Documentation reviewed as part of this inspection included reviewing plant procedures, drawings, and the Updated Safety Analysis Report (USAR), to determine the correct system lineup.

During the walkdown, the inspectors also evaluated the material condition of the equipment to verify that there were no significant conditions not already in the licensee's corrective action system. The following four samples were selected:

- turbine plant cooling water system after partial system tagout and then restoration on July 12, 2004;
- high pressure injection pump 1 during a planned train 2 work outage on July 12, 2004;
- makeup pump 1 and injection lineup during a makeup pump 2 outage on July 27, 2004; and
- auxiliary feedwater train 2 during a train 1 planned work outage on August 10 and 11, 2004.

b. Findings

No findings of significance were identified.

.2 Complete Walkdowns (71111.04S)

a. Inspection Scope

The inspectors verified equipment alignment to identify any discrepancies that impacted the function of system components within the containment spray system. The inspectors also verified that the licensee had properly identified and resolved any equipment alignment problems that would cause initiating events or impact the availability and functional capability of this mitigating system. Documentation reviewed as part of this inspection included reviewing plant procedures, drawings, and the

Updated Safety Analysis Report (USAR), to determine the correct system lineup. Additionally, the inspectors evaluated outstanding maintenance work requests and condition reports on the system and any deficiencies that would affect the ability of the system to perform its function. A majority of the inspectors' time was spent performing a walkdown inspection of the system. Key aspects of the walkdown inspection included verifying for this one sample of the containment spray system that:

- valves were correctly positioned and did not exhibit leakage that would impact their functionality;
- electrical power was available as required;
- major system components were correctly labeled, lubricated, cooled, and ventilated;
- hangers and supports were correctly installed and functional;
- essential support systems were operational;
- ancillary equipment or debris did not interfere with system performance; and
- valves were locked as required by the licensee's locked valve program.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection inspections focused on the availability, accessibility, and condition of fire fighting equipment, the control of transient combustibles, and the condition and status of installed fire barriers. The inspectors selected fire areas for inspection based on their overall contribution to internal fire risk, as documented in the Individual Plant Examination of External Events, and their potential to impact equipment which could initiate a plant transient. 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 that fire doors, dampers, and penetration seals appeared to be in satisfactory condition.

The following six areas were inspected:

- fire area DG in the number 1 electrical penetration room;
- fire area II in the vicinity of the turbine driven main feedwater and feedwater booster pumps;
- fire area AB in the mechanical penetration room 3;
- fire area V in the corridor between penetration rooms 3 and 4;
- fire area AB in the makeup pump room and makeup pump room vestibule; and
- fire area E and F in the auxiliary feedwater pump 1 and 2 rooms.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11Q)

a. Inspection Scope

On August 4, 2004, the inspectors observed operating crews during simulator annual requalification and attended the post-session licensee critique. The inspectors reviewed crew performance in the areas of:

- clarity and formality of communications;
- ability to take timely action in a safe direction ;
- ability to prioritize, interpret and verify alarms;
- procedure use;
- oversight and direction from supervisors; and
- group dynamics.

Crew performance in these areas was compared to licensee management expectations and guidelines as presented in Davis-Besse operational and administrative procedures. The operational scenario included a dropped control rod and a large break loss of coolant accident.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors verified the licensee's appropriate handling of performance issues associated with the main feedwater pumps and turbines, including the support systems for those components. This inspection consisted of evaluating the following specific activities:

- licensee's work scheduling practices including consideration of risk of transient initiation while performing work on operating components;
- licensee's use of the condition report process and work order notification system in identifying deficiencies and issues with the equipment;
- problem solving and issue resolution associated with the failures and degradations of components associated with the main feedwater pumps and turbines;
- that maintenance activities on the components had been assigned appropriate risk classification;
- that observed deficiencies were captured in either the condition report system or the work order system;

- that goals and corrective actions for the long term reliability were appropriate;
- that short term corrective actions were appropriate for deficiencies with potential for significant operator workarounds or potential for pump and turbine trips; and
- that maintenance rule system status determination appeared appropriate for the equipment's recent history and current open work items.

The inspectors also attended the pre-job brief and observed in-process work for the replacement of a duplex strainer on main feedwater pump and turbine 1. The evolution was conducted with the feedwater pump and turbine operating at normal full feedwater flow conditions. Additionally the inspectors walked down the components while operating and shutdown, to evaluate the effectiveness of pump repair activities.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation (71111.13)

.1 Integrated Control System Rod Control System

a. Inspection Scope

On July 15, 2004 the licensee was in the process of restoring from reactor protection system breaker D testing. Power was approximately 100 percent, producing 923 MW, with Tavg about 582 degrees F, and regulating rod group 7 at 90.1 percent withdrawn. The reactor diamond (rod control system) and the integrated control system (ICS) reactor demand station were in manual according to plant procedures. When the reactor operator transferred the reactor diamond/rod control to automatic with the reactor demand station remaining in manual/hand, the indicated neutron error unexpectedly went to +10 percent and a signal was generated to drive in control rods. Upon recognition of this error, the operator returned rod control to manual. Plant conditions stabilized at approximately 99 percent power, producing about 914 MW with a Tave of 582 degrees F and regulating rod group 7 at about 89 percent withdrawn. The licensee formed a problem solving team to investigate the problem and recommend corrective action. The inspectors reviewed the licensee's evaluation of the event, corrective actions, risk assessment of the abnormal condition, and post maintenance testing. Additionally the inspectors periodically observed the activities of the problem solving team.

b. Findings

No findings of significance were identified.

.2 Borated Water Storage Tank Low Level Alarm

a. Inspection Scope

On July 9, 2004, the control room received annunciator 3-1-C (BWST [borated water storage tank] LVL LO). The low level set point is 39.83 feet however, all control room level indicators indicated a level greater than 40 feet with the highest indicator indicating 40.9 ft. The licensee initiated Engineering Change Request 04-0089-00 to revise the tolerance for instrument LSL1525A1 and LSL1525B1 to 0.5 percent (3 inches) and the reset to 0.5 percent (3 inches). The inspectors reviewed the engineering change request and associated 10 CFR 50.59 screening against system requirements, including the USAR and Technical Specifications, to determine if there was any effect on system operability or impact on plant risk, and to verify the change was consistent with plant documentation and procedures.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-Routine Plant Evolutions (71111.14)

a. Inspection Scope

On July 15, 2004, the inspectors attended the prejob brief and observed the maintenance activity which replaced the reactor coolant pump seal injection filter 2 and makeup filter 2. Additionally the inspectors observed the placement of filters in the high integrity container in the auxiliary building crane bay. The makeup filter had not been replaced for a significant period of time and the inspectors verified that appropriate precautions were taken, that aspects of the job similar to more frequent evolutions were discussed during the pre-job brief, and that appropriate supervision and management were involved with monitoring the evolutions. The inspectors also verified that lessons learned from the July 1, 2004, event with the letdown filter (Section 4OA3.2) were considered in the planning of this activity.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors selected condition reports which discussed potential operability issues for risk significant components or systems. These condition reports and applicable licensee operability evaluations were reviewed to determine whether the operability of the components or systems was justified. The inspectors compared the operability and design criteria in the appropriate sections of the Technical Specifications and USAR to the licensee's evaluations of the issues to verify that the components or systems were

operable. Where compensatory measures were necessary to maintain operability, the inspectors verified that the measures were in place, would work as intended, and were properly controlled. The two issues evaluated were:

- auxiliary feedwater and the potential requirement for operator action to restore auxiliary feedwater in the event of low suction pressure sufficient to trip the main steam to auxiliary feedwater turbine supply valves; and
- Operability Evaluation 04-0019 (CR 04-03857 - Unexpected High Pressure in #1 CTMT Spray Pump Discharge Piping); Revision 01.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

.1 Inability to Transfer Control Rods to the Auxiliary Power Supply From the Diamond Panel

a. Inspection Scope

On August 7, 2004, during the preparations to restart the reactor, the licensee discovered that the reactor operator did not have the capability to transfer any of the control rods to their auxiliary power supply from the control room rod control panel. The capability to transfer the control rods to the auxiliary bus would be required to address several different rod control abnormal situations. Licensee management decided to continue with the reactor startup utilizing the "Infrequent or Special Operations" section of DB-OP-6402, "CRD Operating Procedure," which provided guidance for the manual transfer of Safety Group control rods (groups 1, 2, 3, and 4) to the auxiliary power supply. The inspectors reviewed the impact that this workaround had on the normal operation of the regulating group control rods (groups 5, 6, and 7), the impact of the control room operators to respond to several different potential rod control malfunctions, the impact of this deficiency on the reactor protection system ability to automatically trip the reactor and the operator's ability to manually trip the reactor, and the compensatory actions put in place until the deficiency is corrected.

b. Findings

No findings of significance were noted.

.2 Containment Spray Pump Venting

a. Inspection Scope

The inspectors reviewed the existing operator workaround needed to compensate for pressure trapped between CS 10 [spray pump 1-1 discharge check valve] and CS 1530 [containment spray auto control valve 1-1]. There was no installed pressure relief system for this section of piping and the design pressure rating was 300 psig. As a

compensatory action, periodic venting of the containment spray header was required after performing any evolution that would place BWST water into the containment spray discharge header in order to ensure that the header remained depressurized. The review included the impact of the workaround on the functional capability of the containment spray system and if the workaround impacted the operators' ability to respond to other events. Additionally, the inspectors reviewed the rate of pressure increase seen in the containment spray system to determine if the workaround adversely impacted other required auxiliary operator duties.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed post-maintenance testing activities to ensure that the testing adequately verified system operability and functional capability with consideration of the actual maintenance performed. The inspectors used the appropriate sections of the Technical Specifications and the USAR, as well as the documents listed at the end of this report, to evaluate the scope of the maintenance and verify that the work control documents required sufficient post-maintenance testing to adequately demonstrate that the maintenance was successful and that operability was restored. The inspectors observed and evaluated test activities associated with the following five samples:

- replacement of time delay relay in breaker BE1103 for valve motor HP2C [high pressure injection line 1-1 isolation] on July 13, 2004;
- cleaning and inspecting the motors for valve motor HP2D [high pressure injection line 1-2 isolation] on July 13, 2004;
- lubrication, preventive maintenance, and seal weld repair on threaded makeup water connections on makeup pump 2 on July 28, 2004;
- troubleshooting, repair, and retest of blown fuse in the reactor trip breaker A source interruption device which contributed to a reactor trip on August 4, 2004; and
- troubleshooting, repair, and retest of steam feedwater rupture control system channel 2 which involved replacement of a rectifier bridge on July 31, 2004

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20)

a. Inspection Scope

The inspectors observed licensee performance during the forced outage conducted between August 4 and August 8, 2004. This outage was as a direct result of the reactor

trip that occurred during the testing of reactor trip breaker B. These inspection activities represent one inspection sample.

The inspection consisted of a review of the licensee's forced outage schedule and administrative procedures governing outage activities. Specifically, the inspectors determined whether the licensee effectively managed elements of shutdown risk pertaining to reactivity control, decay heat removal, inventory control, electrical power control, and containment integrity.

The inspectors performed the following activities daily, during the outage:

- attended control room operator and outage management turnover meetings to verify that the current shutdown risk status and planned work activities were fully understood and effectively communicated to licensee staff;
- performed walkdowns of the main control room to observe the alignment of systems important to shutdown risk;
- performed walkdowns of the auxiliary building and turbine building to observe ongoing work activities; and
- reviewed selected issues that the licensee entered into the corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance.

Additionally, the inspectors performed the following specific activities:

- observed the control room staff perform reactor trip response and supplemental actions;
- monitored licensee problem solving efforts to identify the cause of the reactor trip and post maintenance testing to verify the problem was resolved;
- monitored licensee problem solving efforts to resolve the improper operation of one of the steam generator safety relief valves;
- monitored maintenance activities to resolve minor operational issues with several turbine bypass valves;
- observed preparations and accompanied license personnel for containment inspection of selected equipment and locations;
- observed the local manual transfer to their auxiliary power supply, and subsequent withdrawal, of the four safety control rod groups;
- evaluated the estimated critical boron concentration and estimated critical rod position calculations;
- observed the control room operator performance during the approach to criticality;
- observed placing the main generator on the electric grid; and
- monitored escalation of power to 100 percent.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

On July 1, 2004 during the performance of DB-SC-03077, [Emergency Diesel Generator 2 184 Day Test], emergency diesel generator (EDG) 2 exceeded the 10 second time requirement for reaching 900 RPM (60 Hz) during a fast start from the control room with air supplied via valve DA45 to one of two sets of air start motors. EDG 2 was started from the control room, with the Reactor Operator (RO) announcing a count down by gaitronics page, and two Equipment Operators (EO) timing the start in EDG room 2 with stop watches. The licensee formed a problem solving team to investigate the problem and recommend corrective action. The licensee determined that the probable cause of the failure was test methodology. As the RO was completing the countdown, an unrelated gaitronics page was made that partially obscured the countdown announcement. The licensee's conclusion was primarily based on electronic data gathered during the second performance of the 184 day test during which EDG 2 met the 10 second time requirement in 8.8 seconds. The inspectors reviewed the licensee's problem solving plan and verified that sufficient time had elapsed between the tests to minimize the potential for pre-conditioning. Additionally the inspectors periodically observed the activities of the problem solving team.

b. Findings

No findings of significance were identified

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed temporary modification 04-0023, "FW 58 Temporary Leak Seal [high pressure feedwater heater 2-4 outlet line drain valve]." This temporary modification was put in place to address a body to bonnet joint steam leak.

The inspectors reviewed this temporary modification and associated 10 CFR 50.59 screening against system requirements, including the USAR and Technical Specifications, to determine if there were any effects on system operability or availability and to verify temporary modification consistency with plant documentation and procedures.

b. Findings

No findings of significance were identified

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors monitored the licensee's emergency preparedness exercises conducted on July 22, 2004, from various locations and perspectives. The observations included evaluation of drill conduct, adequacy of the drill critiques, and identification of weaknesses and deficiencies. The inspector reviewed the licensee's scenario, preparation, and controller instructions and debriefing. The inspectors noted the reality of the drill scenario and observed personnel performance in the simulator control room, the technical support center, the operations support center and the emergency operations facility. The inspectors also noted the communications, accuracy of situation evaluations, and reporting (simulated) to appropriate agencies. Finally, the inspectors observed the licensee's controller critique to assure that weaknesses and deficiencies were acknowledged and that appropriate corrective actions were identified.

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 identified one radiologically significant work area within a radiation and potential airborne radioactivity area in the plant. The radiation work permit (RWP) and work package, which included radiological controls and surveys of this area, were reviewed to determine if radiological controls including surveys, air sampling data, postings, and barricades were acceptable.

This work area perimeter was walked down and surveyed using an NRC survey meter in order to verify that the prescribed RWP, procedures, and engineering controls were in place, that licensee surveys and postings were complete and accurate, and that air samplers were properly located.

The inspectors reviewed the RWP and associated radiological controls used to access this work area, and evaluated the work control instructions and control barriers that were specified in order to verify that the controls and requirements were complied with. Electronic dosimeter alarm set points for both integrated dose and dose rate were evaluated for conformity with survey indications and plant policy. Workers were interviewed to verify that they were aware of the actions required when their electronic dosimeters noticeably malfunctioned or alarmed.

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring Program (REMP) And Radioactive Material Control Program (71122.03)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed the most current Annual Environmental Monitoring Report and licensee assessment results to verify that the REMP was implemented as required by the Radiological Environmental Technical Specifications (RETS) and the Offsite Dose Calculation Manual (ODCM). The inspectors reviewed the report for changes to the ODCM with respect to environmental monitoring and commitments in terms of sampling locations, monitoring and measurement frequencies, land use census, interlaboratory comparison program, and data analysis. The inspectors reviewed the ODCM to identify environmental monitoring stations and evaluated licensee self-assessments, audits, licensee event reports, and interlaboratory comparison program results. The inspectors reviewed the Updated Final Safety Analysis Report for information regarding the environmental monitoring program and meteorological monitoring instrumentation. The inspectors also reviewed the scope of the licensee's audit program to verify that it met the requirements of 10 CFR 20.1101(c).

This review represented one sample.

b. Findings

No findings of significance were identified.

.2 Onsite Inspection

a. Inspection Scope

The inspectors walked down six of the air sampling stations (>30 percent) and approximately 13 percent of the thermoluminescent dosimeter monitoring stations to determine whether they were located as described in the ODCM and to determine the equipment material condition.

This review represented one sample.

The inspectors observed the collection and preparation of a variety of environmental samples including ground water, surface water, and air. The environmental sampling program was verified to be representative of the release pathways as specified in the ODCM and that sampling techniques were performed in accordance with station procedures.

This review represented one sample.

The inspectors verified that the meteorological instruments were operable, calibrated, and maintained in accordance with guidance contained in the annual report, NRC Safety Guide 23, and licensee procedures. The inspectors verified that the meteorological data readout and recording instruments including computer interfaces and data loggers at the tower were operable; that readouts of wind speed, wind direction, delta temperature, and atmospheric stability measurements were available on the licensee's computer system, which was available in the Control Room, and that the system was operable.

This review represented one sample.

The inspectors reviewed each event documented in the Annual Environmental Monitoring Report which involved missed samples, inoperable samplers, lost thermoluminescent dosimeters, or anomalous measurements for the cause and corrective actions. The licensee reported no positive sample results (i.e., licensed radioactive material detected above the lower limits of detection).

This review represented one sample.

The inspectors reviewed the ODCM for significant changes resulting from land use census modifications, or sampling station changes made since the last inspection. This included a review of technical justifications for changed sampling locations. The inspectors verified that the licensee performed the reviews required to ensure that the changes did not affect its ability to monitor the impacts of radioactive effluent releases on the environment.

This review represented one sample.

The inspectors reviewed the calibration and maintenance records for 5 air samplers. There were no calibrations for composite water samplers. The inspectors reviewed calibration records for radiation measurement (counting room) instrumentation that could be used for environmental sample analysis and was used for the free release of liquids or pourable solids from the radiologically restricted area (RRA). This included verification that the appropriate detection sensitivities would be achieved for counting samples, in that the instrumentation could achieve the RETS/ODCM required environmental lower levels of detection limits. The inspectors reviewed quality control data used to monitor radiation measurement instrument performance, and actions that would be taken if indications of degrading detector performance were observed.

The licensee does not perform radio-chemical analyses of REMP samples. The inspectors reviewed a licensee audit of the vendor laboratory that analyzed these samples. Corrective actions for deficiencies identified in the audit were evaluated along with the vendor's interlaboratory comparison program to verify the adequacy of the vendor's analytical and quality assurance programs. This included a review of the licensee's evaluation of the data for bias and the overall effect on the REMP.

The inspectors also evaluated the results of the licensees' interlaboratory comparison program to verify the adequacy of radio-chemical analyses performed by the licensee, and the quality assurance organization's evaluation of the intercomparison program including corrective actions for deficiencies. The inspectors reviewed quality assurance audit results of the program to determine whether the licensee met the Technical Specification/ODCM requirements.

This review represented one sample.

b. Findings

No findings of significance were identified.

.3 Unrestricted release of material from the Radiologically Restricted Area

a. Inspection Scope

The inspectors observed the access control location where the licensee monitored potentially contaminated material leaving the radiologically restricted area, and inspected the methods used for control, survey, and release of material from this area. The inspectors observed the performance of personnel surveying and releasing material for unrestricted use to verify that the work was performed in accordance with plant procedures.

This review represented one sample.

The inspectors verified that the radiation monitoring instrumentation was appropriate for the radiation types present and was calibrated with appropriate radiation sources that represented the expected isotopic mix. The inspectors reviewed the licensee's criteria for the survey and release of potentially contaminated material and verified that there was guidance on how to respond to an alarm indicating the presence of licensed radioactive material. The inspectors reviewed the licensee's equipment to ensure that radiation detection sensitivities were consistent with the NRC guidance contained in IE Circular 81-07 and IE Information Notice 85-92 for surface contamination, and HPPOS-221 for volumetrically contaminated material. The inspectors verified that the licensee performed radiation surveys to detect radionuclides that decay via electron capture.

The inspectors reviewed the licensee's procedures and records to verify that the radiation detection instrumentation was used at its typical sensitivity level based on appropriate counting parameters such as counting times and background radiation levels. The inspectors verified that the licensee had not established a "release limit" by altering the instrument's typical sensitivity through such methods as raising the energy discriminator level or locating the instrument in a high radiation background area.

This review represented one sample.

b. Findings

No findings of significance were identified.

.4 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, Licensee Event Reports, and Special Reports related to the radiological environmental monitoring program since the last REMP inspection to determine if identified problems were entered into the corrective action program for resolution. The inspectors also verified that the licensee's self-assessment program was capable of identifying and addressing repetitive deficiencies or significant individual deficiencies that were identified by the problem identification and resolution process.

The inspectors also reviewed corrective action reports from the REMP that affected environmental sampling and analysis, and meteorological monitoring instrumentation. Staff members were interviewed and documents were reviewed to determine if the following activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk:

- Initial problem identification, characterization, and tracking;
- Disposition of operability/reportability issues;
- Evaluation of safety significance/risk and priority for resolution;
- Identification of repetitive problems;
- Identification of contributing causes;
- Identification and implementation of effective corrective actions;
- Resolution of NCVs tracked in the corrective action system; and
- Implementation/consideration of risk significant operational experience feedback.

This review represented one sample.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems (71152)

.1 Daily Review

As required by Inspection Procedure 71152, Identification and Resolution of Problems, and in order to help identify repetitive equipment deficiencies or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This screening was accomplished by a daily review of all condition reports entered into the corrective action program and

review of document packages prepared for the licensee's daily Management Alignment and Ownership Meetings.

4OA3 Event Followup (71153)

.1 Reactor Plant Trip [10CFR50.72(b)(2)(iv)(B)]

On August 4, 2004, with the plant operating in Mode 1, the reactor tripped from full power. At the time of the trip, functional testing of reactor trip breaker B was in progress. As soon as the simulated trip signal was inserted for reactor trip breaker B, the Unit tripped. The plant responded as expected with no significant deviations in reactivity control, pressure control, temperature control, steam generator pressure control, or steam generator inventory.

The apparent cause of the trip was a faulted fuse in a redundant power supply to the source interruption device (SID) for reactor trip breaker A. This faulted fuse removed one source of power to the SID. Once the testing activity opened reactor trip breaker B, the second source of power was removed from the SID for reactor trip breaker A, resulting in the breaker opening. With both reactor trip breakers open (A and B), power was removed from the control rod drive mechanisms and the control rods inserted and shutdown the reactor. [The SIDs are located in both control rod trip breakers A and B and initiate a shunt trip of the breakers if the device senses a control rod drive power system high voltage, under voltage, or high system supply motor return SCR temperature.]

Through testing, the licensee was able to reproduce the fault that caused the reactor trip. There was no evidence that the fuse failed due to an electrical fault. The licensee suspects that the fuse failed due to mechanical failure. The faulted fuse was sent to Beta Labs for further evaluation. Additional correction actions that were implemented by the licensee included the replacement of the two fuses in each of the SIDs and the revision of the reactor trip breaker testing procedures to include a verification step that ensures the SID power supply fuses are not faulted prior to the commencement of reactor trip breaker testing.

The inspectors observed the control room operators perform immediate and supplemental actions for a reactor trip. No significant equipment issues were noted during the transition to operational Mode 3. Additionally, the inspectors reviewed licensee activities focused at determining the cause of the reactor trip. The inspectors determined that the plant shutdown to operational Mode 3 was conducted in a controlled and professional manner and that the licensee problem solving team that was assembled to determine the cause of the reactor trip was very effective at finding and correcting the faulted equipment.

.2 Unanticipated Alarm on Iodine Channel Monitoring Radioactive Waste Ventilation

On July 1, 2004, the licensee experienced alarm conditions on an iodine channel of the radiation monitors in the rad waste ventilation system (supplies and exhausts air from the auxiliary building) and the fuel handling ventilation system. The levels rose to the

high limit which caused the rad waste ventilation system to trip and align itself for emergency ventilation although the emergency ventilation system was not actuated. Just prior to this event the licensee had replaced a makeup and purification system letdown filter and was transporting the replaced filter in a shielding container through the auxiliary building. The licensee formed a problem solving team to research the immediate cause and to plan immediate corrective action. The inspectors reviewed the event chronology, observed a portion of the problem solving team activities, reviewed the problem solving plan, and reviewed the reasonableness of the calculations that estimated that the release to environment was a small fraction of regulatory limits. At the conclusion of the problem solving activities the inspectors attended the job briefing for moving the filter to a high integrity container and observed the actual move. There were no findings of significance.

.3 Plant Computer Failure

On the morning of July 27, 2004, for approximately 6 hours, the control room experienced a loss of the plant computer. During this time period, reactor power was maintained less than 100 percent power on the highest reading nuclear instrument channel. The operators performed appropriate compensatory actions per DB-OP-06434, "Plant Process Computer System Operating Procedure," and DB-NE-03220, "Imbalance, Tilt, and Rod Index Calculations - Group 38 Alarms Inoperable," Attachment 1 [Axial Power Imbalance Alarm Inoperable], Attachment 3 [Quadrant Power Tilt Alarm Inoperable, Conversion from NI to Symmetric Incore QPT], and Attachment 4 [Control Rod/APSR Insertion Alarm Inoperable]. The licensee identified that the problem was that one of the plant process computer's subsystems was not updating properly. The malfunction was corrected by rebooting the plant process computer and the multiplexer server. The licensee was working with the software vendor to identify the cause of the failure. The inspectors determined that this did not challenge the capability to safely monitor, operate, or shutdown the plant.

.4 Industrial Accident [10CFR50.72(b)(2)(xi)]

On July 29, 2004, the licensee made a notification (event number 40906) to the NRC under 10CFR50.72(b)(2)(xi) because of an industrial accident that held the potential for notifications to other government agencies. A contract employee was injured outside the protected area. Cardio Pulmonary Resuscitation (CPR) was performed and the individual was transported by helicopter to a local hospital. The inspectors reviewed the licensee response against NRC reporting requirements. There were no findings of significance.

4OA5 Other Activities

.1 Containment Entry While At Power (71153)

On July 1, 2004, the licensee made a planned containment entry to assess conditions within the containment. During the entry, unit power was maintained at approximately 100 percent. While the unit is at power, the licensee planned to inspect portions of the containment on an approximate quarterly basis unless monitored reactor coolant system

and containment variables indicate the need for more frequent entries. The inspectors attended the pre-job ALARA brief and post-entry critique in addition to accompanying one of the two 3-person teams that made the entry. The inspectors reviewed the results of the tour and the condition reports that were written to document containment observations. There were no findings of significance.

.2 Company Nuclear Review Board Meeting (93812)

On July 15, 2004, the inspectors attended a meeting of the Davis-Besse Company Nuclear Review Board. They observed and evaluated presentations by the following subcommittees of the Board:

- Operate the Plant/Training
- Configuration Control/ Equipment Reliability
- Work Management
- Loss Prevention
- License Amendment Requests

In addition to the discussions of subcommittee activities, the licensee discussed current plant status and presented the results of the root cause evaluation of an improperly controlled maintenance activity on feedwater isolation valve 780. The inspectors noted that the Board was sufficiently critical of the material they reviewed and that the licensee captured several of the Board's recommendations in their corrective action program.

.2 Review of Completed Cycle 14 Operational Improvement Plan Initiatives

As part of the Davis-Besse Integrated Report to Support Restart, the licensee developed a Cycle 14 Operational Improvement Plan. This plan was developed to focus on key improvement initiatives and safety barriers to ensure continued improvements and sustained performance in nuclear safety and plant operations.

To facilitate the evaluation of the licensee's commitments which were documented in the Cycle 14 Operational Improvement Plan, the Davis-Besse Oversight Panel approved an inspection approach which designated lead inspectors in the areas of Operations, Engineering, Corrective Actions, and Safety Culture. Inspectors selected commitments in the areas of: Organizational Effectiveness and Safety Culture; Operations; Maintenance; Engineering; Corrective Actions; Internal and External Oversight; and Procedures, for more detailed evaluation.

a. Operations Department 5 Year Staffing Plan (Operations)

The inspectors evaluated the Cycle 14 Operational Improvement Plan Initiative 2.1.b, for completeness and effectiveness. The inspectors reviewed the following key attributes of the 5 year staffing plan:

- plan to transition to operator five shift manning;
- implementation of the FENOC Standard Organization in Operations;
- the creation of a defined pipeline of new operating personnel; and

- provide for the release of experienced operations personnel from operations to positions throughout the Davis-Besse organization.

In addition to reviewing the closure package for this Initiative, the inspectors had several discussions with the "owner" of the Davis-Besse operations long range staffing plan. The licensee documented the commitment as closed on March 4, 2004. The inspectors reviewed the plan and found it to be acceptable.

b. Operations Department Leadership Improvement Initiatives (Operations)

The inspectors evaluated the Cycle 14 Operational Improvement Plan Initiative 2.1.a, for completeness and effectiveness. The inspectors reviewed the following key attributes of the Operations Leadership plan:

- the installation of a new Operations Manager and Operations Shift Superintendent;
- hiring of individuals with prior SRO qualifications to generate a pool of individuals that have a high potential to fill Operations leadership positions;
- having each of the operating crews perform a benchmarking trip to another FENOC facility; and
- conduct weekly Operations Manager peer calls.

In addition to reviewing the closure package for this Initiative, the inspectors reviewed the trip reports for several benchmarking trips (two trips to the Beaver Valley Nuclear Power Station, Perry Nuclear Power Station, and Braidwood Nuclear Power Station), monitored an Operations Manager peer call, and had several discussions with the "owner" of the Davis-Besse Operations Leadership plan.

The licensee documented the commitment as closed on March 4, 2004. The inspectors noted that several good practices were documented in the benchmarking trip reports and that several of the practices had been or were in the process of being implemented at Davis-Besse. The inspectors reviewed the actions associated with this initiative and found them to be acceptable.

c. Establish the Appropriate Level of Workload for Engineering Change Requests and Develop a Plan to Reduce and Maintain Backlogs to That Level (Engineering)

The inspectors evaluated the Cycle 14 Operational Improvement Plan Initiative 6.7 for implementation and effectiveness.

Design Engineering established that the appropriate level of Engineering Change Requests (ECRs) is that which can be scheduled for design and implementation over the current and subsequent fuel cycle. Currently the number of open ECRs (approximately 1300) exceeds this level by a significant amount.

The Technical Oversight Subcommittee (TOS), consisting of site managers, was assigned the task of reviewing the entire backlog of ECRs and rating those classified as design changes and those expected to cost over $100,000 in accordance with Business

Practice NOBP-ER-1004, rev 0, “Fleet Value Rating Process”. This process provides a methodology for determining the relative value of competing projects. ECRs are screened for their impact on safe operations, financial contribution, impact on material condition, impact on outage performance, and fleet efficiency and effectiveness. The NRC inspectors attended a meeting of the TOS and observed implementation of this rating process. Good safety focus was maintained during the discussions and the reviews identified a significant number of ECRs as candidates for cancellation.

The expectation is that about 350 of the approximately 1300 ECRs in the backlog will be canceled based on low Fleet Value Rating. Approximately 450 document only and equivalent changes will be assigned for implementation based on system based backlog reduction windows or work implementation windows. Approximately 100 design changes will be scheduled for implementation over the next two fuel cycles. The other approximately 400 of the 1300 backlog consist primarily of engineering changes awaiting implementation and setpoint change requests. Of these 400 there are about 130 that have been classified as design changes and will be rated by the TOS.

Business Practice NOBP-ER-3002, “Plant Health Committee” directs the Plant Health Committee to prioritize all system health activities using the Fleet Value Rating process. Business Practice NOBP-ER-1002 defines the process through which projects are approved. All modifications classified as design changes as well as equivalent changes and non-modification projects estimated to cost over $100,000 are defined as projects. Based on this, it is expected that all significant design activities will require valuation in accordance with this Business Practice. These Business Practices outline requirements to establish a value rating and subsequent priority for all significant engineering tasks. Effective implementation of these recently issued Business Practices is expected to limit the number of new ECRs since those with relatively low value will be screened out before engineering resources are expended on design activities.

To date, only modest reductions in the backlog have been achieved. Progress on reducing the backlog is reported in the Quarterly Design Basis Assessment Report. NRC will continue to monitor the licensee’s progress in this area.

d. Establish Criteria and Modify Appropriate Procedures to Restrict the Use of At-Risk Changes in the Plant Modification Process (Engineering)

The inspectors evaluated the Cycle 14 Operational Improvement Plan Initiative 6.12 for implementation and effectiveness.

In an effort to improve control over the use of the At-Risk Change (ARC) process, the following changes were made to NOP-CC-2003, Revision 4, “Engineering Changes”:

- Use of the ARC process is now prohibited to expedite field work unless there is a critical need related to plant safety or reliability.

- All ARCs and revisions now require approval of the Design Engineering Manager. Previously, Engineering Supervisors could approve an ARC.

- Issuance of the formal Engineering Change Package is now required prior to energizing, pressurizing, or loading any modified SSC for testing or any other purpose.

The above changes indicate improved control and increased restriction over the use of the ARC process. The inspectors reviewed the actions associated with this initiative and found them to be acceptable.

e. Implement Actions to Improve Safety Margin (Engineering)

The inspectors evaluated the Cycle 14 Operational Improvement Plan Initiative 6.1.a for implementation and effectiveness.

This commitment required that the safety margins for the top 10 risk significant systems be determined and that a plan be developed for improvement. To identify the top 10 risk significant systems, the licensee utilized the current revision of the Davis-Besse Probabilistic Safety Assessment. Utilizing the definition of Tier 1 calculations contained in NOP-CC-3002, Revision 1, "Calculations", the critical calculations for the top 10 systems were identified. These calculations were further reviewed to identify existing margin. Based on available margin, the calculations were categorized as having acceptable margin, low margin, or unacceptable margin. Those having low or unacceptable (Operability Determination in place) margins were evaluated for improvement.

As of the Second Quarter Design Basis Assessment Report, 7 critical calculations with low margins and 2 calculations with unacceptable margins have been identified. Margin improvement plans have been established for all 9 calculations. Three additional calculations regarding motor operated valve (MOV) capability were identified as not meeting MOV program goals for margin (20 percent), however, these MOVs have substantial margin and no immediate plans for improvement have been made. The inspectors reviewed the plans for margin improvement for those calculations with low or unacceptable margin and found them acceptable.

f. Complete Cycle Plan Identifying Equipment Outages and Providing the Framework for Addressing Backlog Order Priorities and Results of the System Health Report (Maintenance)

The inspectors evaluated the Cycle 14 Operational Improvement Plan Initiative 5.2.b for implementation and effectiveness.

The Cycle Plan provides a tool to identify all planned equipment outages and is driven primarily by surveillance testing requirements and preventive maintenance activities. Revision 0 of the Cycle Plan was issued on December 4, 2003 and was most recently updated on June 28, 2004. NOP-WM-2001, Revision 2, "Work Management Process" is used at Davis-Besse to accomplish plant coordination or schedule integration for maintenance, modification, surveillance testing, and any other work activities. The Cycle Plan is a required element of the work Management Process and provides the framework for addressing priorities and alignment with the System Health Report. The

inspectors reviewed the Cycle Plan, Work Management Process procedure, associated training material, and training attendance records and found them acceptable.

4. Review of Independent Assessment Plan for the Davis-Besse Nuclear Power Station Corrective Action Program Plan Implementation (93812)

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 corrective action program assessment 90 days prior to the performance of the corrective action program assessment, which is currently scheduled for September 13-17, 2004. The licensee submitted its plan in a letter to the NRC dated June 15, 2004. 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. In addition, the assessment plan as described in the June 15, 2004, letter should provide a comprehensive review of the Davis-Besse corrective action program and its implementation. However, the inspectors questioned whether the six individuals designated to perform the assessment would be able to sufficiently complete the assessment in 1 week. The inspectors questioned whether the licensee would be able to respond in a timely manner to many technical questions that are anticipated to be asked during the assessment. Past experience during NRC problem identification and resolution inspections has revealed that licensees typically take up to a few days to provide NRC inspectors with final answers to technical questions. These observations were discussed with the licensee on July 2, 2004, during a phone call with senior licensee staff. The licensee agreed to strengthen the corrective action program assessment plan to address this concern. A revision to the plan is expected to be submitted during mid-August 2004.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. M. Bezilla, and other members of licensee management on August 13, 2004. The licensee acknowledged the findings presented. No proprietary information was identified.

.2 Interim Exit Meeting

An interim exit meeting was conducted for:

- Access control to radiologically significant areas, and the radiological environmental monitoring program and radioactive material control programs with Mr. M. Bezilla on July 30, 2004.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

B. Allen, Plant Manager
M. Bezilla, Site Vice President
G. Dunn, Manager, Regulatory Affairs
J. Grabnar, Manager, Design Engineering
L. Harder, Radiation Protection Manager
D. Kline, Manager, Security
W. Mugge, Manager, Work Week Management
L. Myers, Chief Operating Officer, FENOC
K. Ostrowski, Manager, Plant Operations
J. Powers, Director, Nuclear Engineering
M. Ross, Director Support Services (Acting)
M. Stevens, Director, Maintenance

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened, Closed, and Discussed

None

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 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 stated in the body of the inspection report.

1R01 Adverse Weather Protection

CR 04-04384; Algae on Traveling Screens
Investigation and Problem Solving Plan for Intake Algae Concerns; July 14, 2004

1R04 Equipment Alignment

Tagout Clearance NDB-SUB014-01-01; TPCW Pump 1-3
CR 04-00377; CS Pump 2 Suction Pressure Overranged - PI1592
CR 04-01039; Request for Assistance - Revision of Commitment 020178 - Containment Spray Train 2
CR 04-03857; Unexpected High Pressure in #1 CTMT Spray Pump Discharge Piping
Drawing OS-003; High Pressure Injection System; Revision 24
Drawing OS-005; Containment Spray System; Revision 8
Drawing OS-017A, Sheet 1; Auxiliary Feedwater System; Revision 20
Drawing OS-017B, Sheet 1; Auxiliary Feedwater Pumps and Turbines; Revision 22
Drawing OS-022; Turbine Plant Cooling Water System; Revision 17
System Health Report, Containment Spray System; First Quarter, 2004
DB-OP-06006; Makeup and Purification System; Revision 09; Attachment 3; dated December 11, 2003
DB-OP-06006; Makeup and Purification System; Revision 12
DB-OP-06011; High Pressure Injection System; Revision 10
DB-OP-06013; Containment Spray System; Revision 11
DP-OP-06233; Auxiliary Feedwater System; Revision 17
DB-OP-06263; Turbine Plant Cooling Water System; Revision 05
System Description SD-021; Turbine Plant Cooling Water; Revision 03
System Description SD-22A; Containment Spray System; Revision 2

1R05 Fire Protection

Drawing A-222F; Fire Protection General Floor Plan El 565'; Revision 12
Drawing A-223F; Fire protection General Floor Plan El 585'; Revision 16
Drawing M-269ES, Sheet 1; Spray Shields/Barriers, Auxiliary Building Rm. 304, El 585'0"; Revision 03
Davis-Besse Nuclear Power Station Fire Hazard Analysis Report
DB-FP-04016 completed in April 2004; Fire Extinguisher Quarterly Inspection; Revision 07
PFP-AB-225; Makeup Pump Room and Vestibule, Rooms 225 and 226A, Fire Area AB; Revision 03

PFP-AB-237; Auxiliary Feed Pump 1 Room, Fire Area E; Revision 03
PFP-AB-238; Auxiliary Feed Pump 2 Room, Fire Area F; Revision 03
PFP-AB-303; No. 3 Mechanical Penetration Room, Rooms 303 and 303PC, Fire Area AB; Revision 04
PFP-AB-304; Corridor to Mechanical Penetration Rooms 3 & 4, Room 304, Fire Area V; Revision 04
PFP-AB-402; No. 1 Electrical Penetration Room, Fire Area DG; Revision 04
PFP-TB-252; Feedwater Pump Room, Room 252, Fire Area II; Revision 04

1R11 Licensed Operator Requalification Program

Applicable Drill Simulator Guide for the Observed Scenario
DB-OP-0000; Conduct of Operations; Revision 10
DBBP-OPS-0001; Operations Expectation and Standards; Revision 04
DBBP-TRAN-0017; Conduct of Simulator Training; Attachment 4; Crew Critique Form; Revision 00

1R12 Maintenance Effectiveness

CR 04-01998; Water Intrusion into MFPT #2 LO System
CR 04-02281; MFP #1 Casing Leak
CR 04-04617; Considerable Oil Leak on #1 Main Feed Pump
Drawing OS-012B; Main Feedwater Pump Turbine Drains and Seal System; Revision 16
Drawing OS-012C, Sheet 1; Main Feedwater Pump Turbine Lube Oil System; Revision 15
Drawing OS-012, Sheet 2; Main Feedwater Pump Turbine Lube Oil System; Revision 19
System Description SD-014; Main Feedwater System; Revision 03
Davis-Besse System Health Report, Feedwater; First Quarter, 2004
DB-OP-06224, Section 3.25; Swapping Filters on MFPT 1 Duplex Strainer; Revision 14

1R13 Maintenance Risk and Emergent Work

CR 04-04563; Unexpected Neutron Error After Rod Control Transfer to Auto After Manual Ops
CR 04-04579; Control Rod Group 7 Inward Motion with Rx Demand and Diamond in Manual
DP-OP-06401; Integrated Control System Operating Procedure; Revision 04

1R14 Personnel Performance During Non-Routine Plant Evolutions

SAP Order 2000014558; RCP Seal Injection Filter 2
SAP Order 200048322; Makeup Filter 2
DB-MM-09228; Nuclear Filter Replacement Without Using Transfer Cask; Revision 01

1R15 Operability Evaluations

CR 01-3194; AFW Pump Operation Following Seismic Event and Loss of Off Site Power
CR 01-3232; Inconsistencies Identified in AFW System Description
CR 01-3280; Interlock Testing of AFW Steam Inlet Valves MS106, 106A, 107, 107A
CR 02-07970; QA Rejection of CR 01-3232
CR 02-08613; AFW Low-Low Suction Pressure Interlock
CR 02-09644; Potentially Missed AFW Suction Pressure Switch Surveillance
CR 04-03857; Unexpected High Pressure in #1 CTMT Spray Pump Discharge Piping
CR 04-04338; USAR Change Document Deficiency
CR 04-04543; Error in Control Logic Notes on Ops Schematic O-17B
Drawing E-46B Sheet 54A; Steam & Condensate Aux FD PMP Turb Mn Stm In Iso Vlv; Revision 12
Drawing E-46B Sheet 54B; Steam & Condensate Aux FD PMP Turb Mn Stm In Iso Vlv; Revision 15
Drawing OS-17B Sheet 2; Auxiliary Feed Pumps and Turbines; Revision 6
Operability Evaluation 04-0019; Containment Spray System Discharge Header Pressurization Potential; Revision 01

1R16 Operator Workarounds

CR 04-03857; Unexpected High Pressure in #1 CTMT Spray Pump Discharge Piping
CR 04-04996; Group 1 Rods Did Not Transfer to the Aux Supply
DB-OP-02516; CRD Malfunctions; Revision 07
DB-OP-06402; CRD Operations; Revision 07
Operator Workaround Identification Form 200107070
Operability Evaluation 04-0019; Containment Spray System Discharge Header Pressurization Potential; Revision 01

1R19 Post-Maintenance Testing

CR 04-04864; Equipment Failure During I&C Testing
CR 04-04927; Reactor Trip During Control Rod Drive Breaker Resting
Drawing E52B Sh 26A; Reactor Coolant System H.P. Injection Line Valves; Revision 17
Drawing E220A Sh 14; Breaker BE1103; Revision 04
Drawing OS-002, Sheet 3; Makeup and Purification System; Revision 27
Drawing OS-002, Sheet 4; Makeup and Purification System; Revision 15
DB-ME-09008; Miscellaneous Electrical Maintenance; Revision 03
DB-MI-03011; Channel Functional Test of Reactor Trip Breaker B, RPS Channel 1 Reactor Trip Module Logic, and ARTS Channel 1 Output Logic; dated 8/06/04
DB-MI-03212; Channel Functional Test of SFRCS Actuation Channel 2 Logic for Mode 1; Revision 09
DB-PF-09307; Operation of Motor Monitoring Equipment; Revision 02
DB-SC-03122; SFAS Component Tests; Revision 02
DP-SP-03376; Quarterly Makeup Pump 2 Inservice Test and Inspection; Revision 05
SAP Order 200008522; HPI Pump Disch Valve Time Delay Relay PU
SAP Order 200031827; Motor Valve HP2C

SAP Order 200031828; Motor Valve HP2D
SAP Order 200080014; Seal Weld Instrument Pipe to P37-2 MU25B
SAP Order 200106049; SFRCS Actuation Channel 2 Relay Termination
SAP Order 200106783; RPS Channel 1 Reactor Trip Module Failed
SAP Order 200106786; RPS Readings for PSDM Team
SAP Order 200106791; Voltage Checks on CRD Source Interruption Device for RTB A
SAP Order 200106792; Voltage Checks on CRD Source Interruption Device for RTB B
SAP Order 200106808; Troubleshooting: Perform DB-MI-03011
Problem Solving Plan for Reactor Trip During Control Rod Drive Breaker Testing
Problem Solving Plan for Blown Fuse for Circuit Y4502-15; July 29, 2004

1R20 Refueling and Outage Activities

CR 04-04945; Main Steam Safety Valve SP17A9 Was Opening Below Setpoint
CR 04-04957; Potential ICS Failure Causes MFW Control Valves to Demand Full Open
CR 04-05021; Potential Fuel Defect Observed Following Reactor Trip
DB-OP-06202; Turbine Operating Procedure; Revision 09
DB-OP-06301; Generator and Exciter Operating Procedure; Revision 09
DB-OP-06901; Plant Startup; Revision 19
DB-OP-06902; Power Operations; Revision 12
DB-OP-06912; Approach to Criticality; Revision 07

1R22 Surveillance Testing

CR 04-04330; Emergency Diesel Generator (EDG) 2 Start Time to Rate Speed Exceeded 10 Seconds
DB-SC-03077, Emergency Diesel Generator 2 184 Day Test, Revision 04
Problem Solving Plan for EDG #2 exceeded the 10 second time Required for 184 Day Test; July 2, 2004

1R23 Temporary Plant Modifications

DB-MM-09067; Temporary Leak Sealing; Revision 07
TM 04-0023; FW58 Leak Seal Injection

1EP6 Emergency Preparedness Drill Evaluation

Davis Besse Emergency Preparedness Integrated Drill Manual, Thursday, July 22, 2004; Revision 00

2OS1 Access Control to Radiologically Significant Areas

RWP 2004-1002; Short Term Work Activities; Revision 2
RWP 2004-1002; Respiratory Protection Worksheet; dated July 24, 2004
2004-1319; Radiological Survey Form, Makeup Pump Room; dated July 23, 2004

2PS3 Radiological Environmental Monitoring Program and Radioactive Material Control Programs

04-02797; REMP Enhancement Sample Data Reviews; dated April 19, 2004
04-03862; ODCM Not Updated For Mod-0050 Abandon Primary Water System; dated June 8, 2004
03-04848; Evaluate OE16309 for Relevance to D-B REMP Air Sampling; dated June 19, 2003
02-07712; REMP Air Samplers Missing Time; dated October 8, 2002
03-05530; Contaminated Sample Container; dated July 11, 2003
03-08933; Survey Of Material And Equipment For Release From RRA; dated October 17, 2003
04-00426; Build A Low Background Counting Area Inside the Protected Area; dated January 16, 2004
04-00926; RRA Exit Sequence of Checking Personnel First Before Release Items; dated February 3, 2003
04-01102; PCR: DB-HP-01706, Vehicle and Material Release; dated February 9, 2004
04-01886; Uncontrolled Radioactive Material Outside A Posted RRA and RMA; dated March 13, 2004
04-04759; Precipitation Gauge Wind Screen Blown Down During Recent Storm; dated July 26, 2004
03-02360; Evaluate Operating Experience 15788 for Relevance to Davis-Besse; dated March 25, 2003
04-04799; REMP Air Sampler Out Of Service; dated July 27, 2004
04-04828; REMP Report Editorial Inaccuracies; dated July 28, 2004
04-04340; High Airborne Radiation Level In Auxiliary Building; dated July 1, 2004
18558 NUPIC Joint Audit Survey Of Environmental, Inc; dated June 3, 2003
DB-C-03-02; NQA Quarterly Assessment Report; April 4 - July 4, 2003
NQA Quality Field Observation, Chemistry Water Management Control; dated August 14, 2003
NQA Quality Field Observation, 50.59 Environmental Evaluations; dated August 8, 2002
NQA Quality Field Observation, ODCM and REMP; dated January 9, 2003
DB-HP-01452; Air Sampler Calibrations: ECP 0.01; dated March 1, 2004, ECP 0.02; dated May 21, 2004, ECP 0.04; dated February 5, 2004, ECP 0.05; dated February 16, 2004, ECP 0.06; dated June 14, 2004 and ECP 0.07; dated March 1, 2004
DB-ST20079; 100M Anemometer System Calibration; dated October 31, 2003
DB-ST20079; 100M Anemometer System Calibration; dated May 2, 2004
DB-ST1010; 10 Meter Anemometer System Calibration; dated October 28, 2003
DB-ST1010; 10 Meter Anemometer System Calibration; dated April 24, 2004
DB-HP-01706; Vehicle and Material Release from the RRAs and the Restricted Area; Revision 6
DB-HP-01113; Countroom Analysis System Operation; Revision 4
Davis-Besse Annual Environmental Operating Report For 2003
Davis-Besse Offsite Dose Calculation Manual; Revision 18
Isotopic Analysis Report (10 CFR 61); dated July 11, 2003
Nuclear Quality Assessment; ODCM-Effluents, REMP, T/S; dated January 9, 2003
Nuclear Quality Assessment; Chemistry Corrective Action Effectiveness; dated April 1, 2003

Nuclear Quality Assessment; Chemistry Water Management Controls; dated August 14, 2003
Interlaboratory Comparison Data, 3rd Quarters Of 2001, 2002 and 2003
Germanium Detector 1 Efficiency Calibrations; dated September 1 - 19, 2003
Germanium Detector 2 Efficiency Calibrations; dated September 24, 2003
Alpha/Beta Counter SAC-4 Calibration; dated December 9, 2003
Liquid Scintillation Counter Quarterly Efficiency Determination; dated February 12, 2004
MDA Verifications For Germanium Detectors 1 and 2; dated September 1 and 23, 2003

4OA3 Event Followup

Transient Critique for August 4, 2004, Reactor Trip During Reactor Trip Breaker B Testing
DB-OP-02000; RPS, SFAS, SFRCS Trip, or SG Tube Rupture; Revision 14
DB-OP-02526; Steam Generator Overfill; Revision 01
DB-OP-06910; Trip Recovery; Revision 06

4OA5 Other Activities

CR 04-04336; Missing Insulation Discovered During CTMT Walkdown 7/1/04
CR 04-04339; BACC: Boric Acid on PTRC2B4 Manifold
CR 04-04343; BACC: CF1A Packing Leakage Found During CTMT Walkdown
CR 04-04346; BACC: RC14EB Packing Leak Found During CTMT Walkdown
CR 04-04350; Leaking Pipe Cap Downstream of FW-148
DB-MI-03011; Channel Functional Test of Reactor Trip Breaker B, RPS Channel 1 Reactor Trip Module Logic, and ARTS Channel 1 Output Logic; Revision 07
Agenda; July 15th 2004 CNRB Meeting, and associated meeting handouts
Agenda; August 4th 2004 Forced Outage Restart Readiness Review Meeting

LIST OF ACRONYMS USED

ADAMS	Agency-wide Document Access and Management System
AFP	Auxiliary Feedwater Pump
ALARA	As Low As Is Reasonably Achievable
ARC	At-Rick Change
BWST	Borated Water Storage Tank
CFR	Code of Federal Regulations
CR	Condition Report
DP	Differential Pressure
ECR	Engineering Change Requests
EDG	Emergency Diesel Generator
FENOC	FirstEnergy Nuclear Operating Company
ICS	Integrated Control System,
IMC	Inspection Manual Chapter
IR	Inspection Report
MOV	Motor Operated Valve
NRC	United States Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PARS	Publicly Available Records
REMP	Radiological Environmental Monitoring Program
RETS	Radiological Environmental Technical Specifications
RRA	Radiologically Restricted Area
RWP	Radiation Work Permit
SCR	Silicon Control Rectifier
SID	Source Interruption Device
SRO	Senior Reactor Operator
TOS	Technical Oversight Subcommittee
TS	Technical Specifications
USAR	Updated Safety Analysis Report
WO	Work Order