

March 8, 2002

Mr. Howard Bergendahl
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 INSPECTION REPORT 50-346/01-16

Dear Mr. Bergendahl:

On February 15, 2002, the NRC completed an inspection at your Davis-Besse Nuclear Power Station. The enclosed report documents the inspection findings, which were discussed on February 12, 2002, with Mr. Randy Fast 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 issue of very low safety significance (Green) was identified. However, because of the very low safety significance and because this problem was entered into your corrective action program, the NRC is treating this issue as a Non-Cited Violation, in accordance with Section VI.A.1 of the NRC Enforcement Policy. If you deny this Non-Cited Violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and to the NRC Resident Inspector at the Davis-Besse facility.

Immediately following the terrorist attacks on the World Trade Center and the Pentagon, the NRC issued an advisory recommending that nuclear power plant licensees go to the highest level of security, and all promptly did so. With continued uncertainty about the possibility of additional terrorist activities, the Nation's nuclear power plants remain at the highest level of security and the NRC continues to monitor the situation. This advisory was followed by additional advisories and although the specific actions are not releasable to the public, they generally include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with law enforcement and military authorities, and more limited access of personnel and vehicles to the sites. The NRC has conducted various audits of your response to these advisories and your ability to respond to terrorist attacks with the

capabilities of the current design basis threat. From these audits, the NRC has concluded that your security program is adequate at this time.

In accordance with 10 CFR 2.790 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/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

Original signed by
Christine A. Lipa
Christine A. Lipa, Chief
Branch 4
Division of Reactor Projects

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

Enclosure: Inspection Report 50-346/01-016

cc w/encl: B. Saunders, President - FENOC
Plant Manager
Manager - Regulatory Affairs
M. O'Reilly, FirstEnergy
Ohio State Liaison Officer
R. Owen, Ohio Department of Health
Public Utilities Commission of Ohio

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 50-346/01-16(DRP)

Licensee: FirstEnergy Nuclear Operating Company

Facility: Davis-Besse Nuclear Power Station

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

Dates: January 1, 2002, through February 15, 2002

Inspectors: S. Thomas, Senior Resident Inspector
D. Simpkins, Resident Inspector
M. Bielby, Senior Operations Engineer
T. Ploski, Sr. Emergency Preparedness Analyst
J. House, Sr. Radiation Specialist

Approved by: Christine A. Lipa, Chief
Branch 4
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000346-01-16, on 01/01-02/15/2002, FirstEnergy Nuclear Operating Company, Davis-Besse Nuclear Power Station. Public Radiation Safety.

This report covers a 6-week routine inspection conducted by resident inspectors and regional specialists. The inspection identified one Green finding and an associated Non-Cited Violation. The significance of most findings is indicated by the color (Green, White, Yellow, Red) using IMC0609 "Significance Determination Process" (SDP). The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.

A. Inspection Findings

Cornerstone: Public Radiation Safety

Green. A finding and associated Non-Cited Violation of 10 CFR 71.5(a) and the Department of Transportation regulations contained in 49 CFR 172.504 was identified for the failure to placard vehicles used to transport radioactive materials (Section 2PS2.1).

This finding was determined to be of very low safety significance because the shipment was exclusive use, dose rates were minimal, the shipment was marked properly, and the shipping papers were correct.

B. Licensee Identified Findings

No findings of significance were identified.

Report Details

Summary of Plant Status

The plant operated at 100 percent power throughout most of the inspection period. Exceptions were for brief power reductions to about 93 percent for turbine testing, to 90 percent at the request of the system dispatcher, and to 15 percent on January 4, 2002, to remove the generator for repairs of a hydrogen cooler leak. Subsequent repairs were completed and the plant returned to 100 percent on January 7, 2002. On February 15, 2002, the plant began a planned down-power in preparation for starting a planned refueling outage the following day.

1. REACTOR SAFETY

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

1R04 Equipment Alignment (71111.04Q)

.1 Decay Heat Removal Pump #2

a. Inspection Scope

The inspectors performed a walkdown of the #2 decay heat removal pump to verify that the redundant train was in the correct lineup while the #1 decay heat removal pump was inoperable during decay heat removal pump quarterly testing. The inspectors used the checklist and drawing to determine the correct lineup. The inspectors also reviewed outstanding work orders (WO) and condition reports (CR) associated with the #2 train to verify that these documents did not reveal issues that could affect train function. The inspectors used the information in the applicable sections of the Updated Safety Analysis Report (USAR) and Technical Specifications (TS) to determine the functional requirements of the system. During the walkdown, the inspectors also observed the material condition of the equipment to verify that there were no significant conditions not already in the licensee's work control system.

b. Findings

No findings of significance were identified.

.2 Emergency Diesel Generator (EDG) #1

a. Inspection Scope

The inspectors performed a walkdown of the #1 EDG to verify that the redundant train was in the correct lineup while the #2 EDG was inoperable due to periodic surveillance testing. The inspectors used the system checklist and drawing to determine the correct lineup. The inspectors also reviewed outstanding WOs and CRs associated with the #2 EDG to verify that these documents did not reveal issues that could affect train function. During the walkdown, the inspectors also observed the material condition of

the equipment to verify that there were no significant conditions not already in the licensee's work control system.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q)

.1 Quarterly Fire Area Walkdowns

a. Inspection Scope

The inspectors conducted fire protection walkdowns that were focused on availability, accessibility, and the condition of fire fighting equipment, the control of transient combustibles, and the condition and operating status of installed fire barriers. The inspectors selected fire areas for inspection based on their overall contribution to internal fire risk, their potential to impact equipment which could initiate a plant transient, or their impact on the plant's ability to respond to an event. Using the documents listed at the end of this report, 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 that fire doors, dampers, and penetration seals appeared to be in satisfactory condition.

The following areas were inspected:

- Fire Area for the Emergency Core Cooling System Room #1;
- Fire Area for the Emergency Core Cooling System Room #2;
- Fire Area for the Emergency Core Cooling System Heat Exchanger Room; and
- Fire Area for the Turbine Deck.

b. Findings

No findings of significance were identified.

.2 Temporary Instruction 2515/146, "Hydrogen Storage Locations" Inspection

a. Inspection Scope

The inspectors met the requirements of Temporary Instruction 2515/146, "Hydrogen Storage Locations." The inspectors confirmed distances between hydrogen storage and ventilation intakes were greater than 50 feet or were in accordance with licensee's commitments. Also the inspectors confirmed that distances between hydrogen storage and risk significant tanks and systems, structures, and components (SSCs) were greater than 50 feet or were in accordance with licensee's commitments.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11B)

.1 Operating Test Results

a. Inspection Scope

The inspectors performed an in-office review of the pass/fail results of individual operating tests and simulator operating tests (required to be given per 10 CFR 55.59(a)(2)) administered by the licensee during calendar year 2001.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule (MR) Implementation (71111.12Q)

a. Inspection Scope

The inspectors reviewed systems to verify that the licensee properly implemented the MR for systems, structures, and components (SSCs) with performance problems. This evaluation included the following aspects:

- whether the SSC was scoped in accordance with 10 CFR 50.65;
- whether the performance problem constituted a MR functional failure;
- the proper safety significance classification;
- the proper 10 CFR 50.65(a)(1) or (a)(2) classification for the SSC; and
- the appropriateness of the performance criteria for SSCs classified as (a)(2) or the appropriateness of goals and corrective actions for SSCs classified as (a)(1).

The above aspects were evaluated by using the MR scoping and report documents listed at the end of this report. For each SSC reviewed, the inspectors also reviewed significant WOs and CRs to verify that failures were properly identified, classified, and corrected and that unavailable time had been properly calculated. In addition, the inspectors reviewed CRs to verify that minor deficiencies identified during these inspections were entered in the licensee's corrective action system.

The inspectors reviewed the licensee's implementation of the MR requirements for the following SSCs:

- service water system;
- snubbers; and
- condensate system.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed the licensee's management of plant risk during emergent maintenance activities or activities during a time when more than one significant system or train was unavailable. The activities were chosen based on their potential impact on increasing the probability of an initiating event or impacting the operation of safety significant equipment. The inspection was conducted to verify that evaluation, planning, control, and performance of the work were done in a manner to reduce the risk and minimize the duration where practical, and that contingency plans were in place where appropriate. The licensee's daily configuration risk assessments, observations of shift turnover meetings, observations of daily plant status meetings, and the documents listed at the end of this report were used by the inspectors to verify that the equipment configurations had been properly listed, that protected equipment had been identified and was being controlled where appropriate, and that significant aspects of plant risk were being communicated to the necessary personnel.

The inspectors reviewed the following maintenance activities:

- auxiliary feedwater greyboot connectors;
- electro-hydraulic control filter replacement;
- loss of control room forebay level indication due to maintenance; and
- turbine bypass valve modifications.

b. Findings

No findings of significance were identified.

1R14 Performance in Non-Routine Evolutions (71111.14)

a. Inspection Scope

The inspectors observed operations personnel to verify personnel performance was conducted in a safe and conservative manner during the following activities:

- power reduction to take the main generator off-line to repair a leak in the hydrogen cooling system;
- loss of vacuum transient due to broken gage glass on feedwater heater; and
- main steam safety valve testing and reactor downpower in preparations for the refueling outage.

The inspectors reviewed TS, operations procedures, and facility administrative procedures to determine the acceptance criteria for the inspection activities.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors selected CRs related to potential operability issues for risk significant components and systems. These CRs were evaluated to determine whether the operability of the components and systems was justified. The inspectors compared the operability and design criteria in the appropriate sections of the TS and USAR to the licensee's evaluations presented in the CRs listed below to verify that the components or systems were operable. Where compensatory measures were necessary to maintain operability, the inspectors verified by review of the documents listed at the end of the report that the measures were in place, would work as intended, and were properly controlled.

The conditions evaluated were:

- snubber inoperability and retesting; and
- valve DH14B stroke times exceeding expected durations.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope

The inspectors reviewed design descriptions and drawings to determine the scope of the design changes to the station air compressor #2. The inspectors reviewed the associated safety evaluations to verify consideration of USAR, TS, and 10 CFR 50.59 requirements. Other inspection attributes included incorporation of design criteria such as channel redundancy, separation, and single failure analysis. The inspectors also reviewed the associated post-modification testing results to verify acceptable system performance and compliance with test acceptance criteria.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed post-maintenance testing activities associated with maintenance on important mitigating and support systems 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 TS 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 post-maintenance testing performed adequately demonstrated that the maintenance was successful and that operability was restored. In addition, the inspectors reviewed CRs to verify that minor deficiencies identified during these inspections were entered into the licensee's corrective action system.

Testing subsequent to the following activities was observed and evaluated:

- EDG #2 barring and idle start;
- condensate pump #1 re-installation after refurbishment; and
- main steam safety valve retesting after lift setpoint adjustments.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors witnessed selected surveillance testing and/or reviewed test data to verify that the equipment tested using the surveillance procedures (SPs) met TS, the USAR, and licensee procedural requirements, and also demonstrated that the equipment was capable of performing its intended safety functions. The activities were selected based on their importance in verifying mitigating systems capability. The inspectors used the documents listed at the end of this report to verify that the testing met the TS frequency requirements; that the tests were conducted in accordance with the procedures, including establishing the proper plant conditions and prerequisites; that the test acceptance criteria were met; and that the results of the tests were properly reviewed and recorded.

The following tests were observed and evaluated:

- motor driven feedwater pump and valve quarterly test;
- decay heat removal pump #1 quarterly test; and
- auxiliary feedwater train #1 check valve test.

b. Findings

No findings of significance were identified.

EMERGENCY PREPAREDNESS (EP)

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors reviewed Revision 22 and Revision 21 of the Davis-Besse Nuclear Power Station Emergency Plan to determine whether changes identified in Revision 22 reduced the effectiveness of the licensee's emergency planning, pending onsite inspection of the implementation of these changes.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety

2PS2 Radioactive Material Processing and Transportation (71122.02)

.1 Shipping Records

a. Inspection Scope

The inspectors reviewed documentation for two shipments of contaminated spent fuel racks, shipped as exclusive use, surface contaminated objects (SCO), to verify compliance with NRC and Department of Transportation (DOT) requirements (i.e., 10 CFR Parts 20 and 71 and 49 CFR Parts 172 and 173).

b. Findings

On January 22, 2001, the licensee generated Condition Report 02-00214, "Lack of Placarding of Radioactive SCO Shipments," to document a problem with two exclusive use shipments of contaminated fuel racks that had been transported to a vendor for processing. The licensee was notified by the vendor that both shipments arrived without placards. A review of shipping documents indicated that all other regulatory requirements, including vehicle surveys and markings, were complied with. The licensee determined that the shipment arrived at the vendor without further incident.

This issue, if not corrected, would become a more significant concern and could impact the licensee's radioactive waste shipping program and the licensee's ability to make radioactive waste shipments. This issue involves the licensee's Radioactive Material Transportation Program and is contrary to the DOT regulations. The NRC requires licensees to follow DOT regulations contained in 49 CFR when shipping licensed material on public highways. Therefore this issue represents a finding which the inspectors evaluated using the NRC Significance Determination Process (SDP) for the public radiation safety cornerstone. The finding did not involve radiation limits being exceeded, did not involve a package breach during transit, did not involve a certificate of

compliance finding, did not involve access to a low level burial ground, and did not involve failure to make notifications or provide emergency information. Consequently, the finding was determined to be of very low safety significance (Green).

10 CFR 71.5(a) requires that a licensee who transports licensed material outside of the site of usage, as specified in the NRC license, or where transport is on public highways, or who delivers licensed material to a carrier for transport, comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation in 49 CFR Parts 170 through 189.

49 CFR 172.504 prescribes requirements for placarding vehicles used to transport hazardous materials. Specifically, Table 1 requires that the transport vehicle be placarded on each side and each end with a "RADIOACTIVE" placard when transporting: (1) packages bearing a "RADIOACTIVE YELLOW-III" label; and (2) exclusive-use shipments of low specific activity (LSA) radioactive materials and surface contaminated objects (SCO) transported in accordance with 49 CFR 173.427(b)(3) or (c), (see footnote in Table 1, 49 CFR 173.504(e)).

Contrary to the above, on January 21, 2002, the licensee transported SCO consisting of contaminated fuel racks as exclusive use shipments in accordance with 49 CFR 173.427(b)(3), outside the site of usage as specified on the NRC license, and on a public highway and the transport vehicle was not placarded with "RADIOACTIVE" placards. However, because of the very low safety significance of this issue, and because the licensee entered this problem into the corrective action program (CR 02-00214) and took immediate steps to prevent this from recurring, the NRC is treating this issue as a Non-Cited Violation (NCV 50-346/01-16-01).

2PS3 Radiological Environmental Monitoring and Radioactive Material Control Programs (71122.03)

.1 Review of Environmental Monitoring Reports and Data

a. Inspection Scope

The inspectors reviewed the licensee's Annual Radiological Environmental Monitoring Report for the years 1999 and 2000. Sampling location commitments, monitoring and measurement frequencies, land use census, the vendor laboratory's Interlaboratory Comparison Program, and data analysis were assessed. Anomalous results including data, missed samples, and inoperable or lost equipment were evaluated. The review of the Radiological Environmental Monitoring Program (REMP) was conducted to verify that the REMP was implemented as required by the Offsite Dose Calculation Manual (ODCM) and associated TSs, and that changes, if any, did not affect the licensee's ability to monitor the impacts of radioactive effluent releases on the environment. The most recent quality assessment of the licensee's REMP vendor laboratory for environmental sample analyses was reviewed to verify that the vendor laboratory performance was consistent with licensee and NRC requirements.

b. Findings

No findings of significance were identified.

.2 Walkdowns Of Radiological Environmental Monitoring Stations and Meteorological Tower

a. Inspection Scope

The inspectors conducted a walkdown of the 10 environmental air sampling stations and selected dosimeters to verify that their locations were consistent with their descriptions in the ODCM, and to evaluate the equipment material condition. The meteorological monitoring site was observed to validate that sensors were adequately positioned and operable. The inspectors reviewed semi-annual meteorological instrument calibration documents for the onsite meteorological monitoring program, including data recovery rates, routine calibration and maintenance activities to verify that the meteorological instrumentation was operable, calibrated, and maintained in accordance with licensee procedures. The inspectors also verified that readouts of wind speed, wind direction, and atmospheric stability measurements were available in the Control Room and that the readout instrumentation was operable.

b. Findings

No findings of significance were identified.

.3 Review of REMP Sample Collection and Analysis

a. Inspection Scope

The inspectors accompanied a licensee REMP technician to observe the collection and preparation of environmental samples including surface and ground water, air filters (particulate) and charcoal cartridges (iodine) to verify that representative samples were being collected in accordance with procedures and the ODCM. The inspectors observed the technician perform air sampler field check maintenance to verify that the air samplers were functioning in accordance with procedures. Selected air sampler calibration and maintenance records for 2001 were reviewed to verify that the equipment was being maintained as required. The environmental sample collection program was compared with the ODCM to verify that samples were representative of the licensee's release pathways. Additionally, the inspectors reviewed results of the vendor laboratory's Interlaboratory Comparison Program to verify that the vendor was capable of making adequate radio-chemical measurements.

b. Findings

No findings of significance were identified.

.4 Unrestricted Release of Material From the Radiologically Controlled Area

a. Inspection Scope

The inspectors evaluated the licensee's controls, procedure, and practices for the unrestricted release of material from radiologically controlled areas and verified that: (1) radiation monitoring instrumentation used to perform surveys for unrestricted release of materials was appropriate; (2) instrument sensitivities were consistent with NRC guidance contained in Inspection and Enforcement (IE) Circular 81-07 and Health Physics Positions in NUREG/CR-5569 for both surface contaminated and volumetrically contaminated materials; (3) criteria for survey and release conformed to NRC requirements; (4) licensee procedures were technically sound and provided clear guidance for survey methodologies; and (5) radiation protection staff adequately implemented station procedures.

The inspectors reviewed the quality control records for radiochemistry instrumentation used to identify and quantitate radioisotopes in materials for free release, in order to verify that the instrumentation was calibrated and maintained as required by site procedures. This review included instrument calibrations, control charts, and the environmental lower limit of detection capability.

b. Findings

No findings of significance were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed condition reports, the results of the licensee's REMP self-assessment, a Nuclear Quality Assurance Audit and Surveillance of the REMP to determine if problems were being identified and entered into the corrective action program for timely resolution. The inspectors also reviewed the licensee's overall management of the REMP, including attention to details of the sampling program and the vendor laboratory, in order to evaluate the effectiveness of the REMP in collection and analysis of samples for the detection of offsite radiological contamination.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed the Performance Indicator (PI) data submitted by the licensee for completeness and accuracy for the Reactor Coolant System Leakage PI in the

Barrier Integrity cornerstone. The inspectors compared the data reported by the licensee to the definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 2. The inspectors reviewed the licensee's computerized data sources and logs to gather information regarding reactor coolant system leakage, and compared to the data reported by the licensee.

b. Findings

No findings of significance were identified.

4OA6 Exit Meetings

Exit Meeting

The inspectors presented the inspection results to Mr. Fast and other members of licensee management during the February 12, 2002 exit meeting. The licensee acknowledged the findings presented. No proprietary information was identified.

Interim Exit Meetings

| | |
|--------------------------------|---|
| Senior Official at Exit: | Dave Imlay, Operation Training Manager |
| Date: | January 14, 2002 |
| Proprietary (explain "yes"): | No |
| Subject: | Results of Licensed Operator Requalification Testing for Calendar Year 2001 |
| Change to Inspection Findings: | No |

| | |
|--------------------------------|---|
| Senior Official at Exit: | R. Fast, Plant Manager |
| Date: | January 24, 2002 |
| Proprietary: | No |
| Subject: | Radiological Environmental Monitoring and Radioactive Material Control Programs, and Radioactive Material Processing and Transportation Program |
| Change to Inspection Findings: | No |

KEY POINTS OF CONTACT

Licensee

H. Bergendahl, Vice President - Nuclear
R. Fast, Plant Manager
W. Bentley, Superintendent, Operations
S. Coakley, Outage Manager
D. Eshelman, Director, Support Services
R. Greenwood, Supervisor, Health Physics Services
D. Geisen, Manager, Design Engineering
D. Lockwood, Manager, Regulatory Affairs
G. Melssen, Maintenance Rule Coordinator
J. Messina, Director, Work Management
D. Miller, Supervisor, Compliance
S. Moffit, Director, Technical Services
W. Mugge, Manager, Nuclear Training
D. Nelson, Manager, Work Control
R. Pell, Manager, Plant Operations
R. Rishel, PRA Specialist
J. Rogers, Manager, Plant Engineering
P. Schultz, Manager, Radiation Protection
G. Skeel, Manager, Nuclear Security
H. Stevens, Manager, Quality Assessment
M. Stevens, Manager, Maintenance
G. Wolf, Licensing Engineer

NRC

G. Grant, Division Director
C. Lipa, Branch Chief

LIST OF ITEMS OPENED AND CLOSED

Opened

50-346/01-16-01 NCV Failure to placard radioactive SCO shipment (Section 2PS2.1)

Closed

50-346/01-16-01 NCV Failure to placard radioactive SCO shipment (Section 2PS2.1)

LIST OF ACRONYMS USED

| | |
|-------|--|
| CFR | Code of Federal Regulations |
| CR | Condition Report |
| DB | Davis-Besse |
| DBNPS | Davis-Besse Nuclear Power Station |
| DOT | Department of Transportation |
| DRP | Division of Reactor Projects |
| DRS | Division of Reactor Safety |
| EDG | Emergency Diesel Generator |
| MR | Maintenance Rule |
| NCV | Non-Cited Violation |
| NPS | Nuclear Power Station |
| NRC | Nuclear Regulatory Commission |
| OA | Other Activities |
| ODCM | Offsite Dose Calculation Manual |
| PI | Performance Indicator |
| REMP | Radiological Effluent Monitoring Program |
| SCO | Surface Contaminated Object |
| SDP | Significance Determination Process |
| SSC | Systems, Structures, and Components |
| TS | Technical Specifications |
| USAR | Updated Safety Analysis Report |
| WO | Work Order |

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignments

| | | |
|------------------------------|--|---------|
| SD-042 | Decay Heat/Low Pressure Injection System | Rev. 1 |
| USAR Section 3.6.2.7.1.11 | Low Pressure Injection System | Rev. 14 |
| USAR Figure 6.3-2A | Functional Drawing, Decay Heat/Low Pressure Injection System | Rev. 7 |
| P&ID M-033A | Decay Heat Removal Train 1 | Rev. 29 |
| P&ID M-033B | Decay Heat Removal Train 2 | Rev. 39 |
| OS-004 | Decay Heat Removal/Low Pressure Injection System | Rev. 32 |
| DB-OP-6316 | Diesel Generator Operating Procedure | Rev. 02 |

1R05 Fire Protection

| | | |
|-------------------------|---|------------------|
| NRC Reg. Guide 1.189 | Fire Protection for Operating Nuclear Power Plants | |
| | Pre-Fire Plan | |
| | Fire Hazards Analysis Report | Rev. 14 |
| Dwg. A221F | Fire Protection General Floor Plan El. 545'-0" & 555'-0" | Rev. 6 |
| Dwg. A223F | Fire Protection General Floor Plan El. 623'-0" | Rev. 12 |
| Dwg. A228F | Fire Protection Sections A-A & B-B | Rev. 2 |
| Dwg. A229F | Fire Protection Sections C-C & D-D | Rev. 4 |
| DSO-02- 00002 | Telephone Call Documentation from Vern Patton, DB, to D. Simpkins, USNRC, Subject: Questions Regarding H2 Storage Near BWST | January 22, 2002 |
| NFPA 50A | Gaseous Hydrogen Systems, Chapter 3, Location of Gaseous Hydrogen Systems | |

1R11 Licensed Operator Requalification

| | | |
|-------------|-------------------------------------|--------|
| DB-OP-00000 | Conduct of Operations | Rev. 4 |
| | Drill Scenario | |
| | Licensed Operator Training Schedule | |

1R12 Maintenance Rule Implementation

Davis-Besse System Health Report 1st - 4th Qtr 2000

Davis-Besse System Health Report 1st - 4th Qtr 2001

| | | |
|-------------|---|------------------|
| MRPM 06 | Maintenance Rule Program Manual | October 27, 2001 |
| DB-PF-00003 | Maintenance Rule Administrative Procedure | June 8, 2000 |

Service Water System

| | | |
|-------------|---|---------|
| OS-20 Sh. 2 | Service Water System | Rev. 23 |
| CR 01-0518 | Service Water Pump Testing | |
| CR 01-0642 | Collective Significance Review Of Post-Maintenance Testing Issues | |
| CR 01-1002 | Unexpected Service Water Pump Motor Temperature Increase | |
| CR 01-1508 | Equipment Lineups Affected Maintenance Risk Assessment | |
| CR 01-1724 | Service Water Pump 3 Performance Test Data Problems | |
| CR 01-2165 | Plant Equipment Lineup Did Not Match Risk Summary | |
| CR 01-2913 | Unnecessary Accrual Of Unavailability | |
| CR 01-2928 | Intake Structure Flooding Issue With Pumps Removed | |

Snubbers

| | | |
|------------------|---|--------|
| CR 01-2251 | Snubber Benchmarking | |
| CR 02-00273 | Snubber A51, Failed As-Found Testing | |
| CR 02-00353 | Snubber Inspection Failure | |
| CR 02-00346 | Potential Generic Snubber Issue | |
| CR 02-00385 | Snubber A-50, Hanger EBD-19-H76, Failed As-Found Bleed Rate | |
| CR 02-00294 | Snubber A-121, Hanger HCB-3-H12, Failed As-Found Testing | |
| CR 02-00295 | Snubber A-120, for Hanger HCB-3-H10 Failed As-Found Testing | |
| PCAQR 97-1504 | Problem with Grinnel 5434-3 Snubber Test Machine | |
| DB-MM-05001 | Bench Testing Snubbers | Rev. 3 |

Condensate System

| | | |
|------------------|---|--------|
| PCAQR 98-1334 | Samples Confirmed the Presence of Resin in the Feedwater and Condensate Systems | |
| | Davis-Besse Root Cause Analysis Report - 1998 Feedwater Resin Intrusion Event | |
| | Davis-Besse Root Cause Analysis Report - 1998 Feedwater Resin Intrusion Event | Rev. 1 |
| CR 01-3433 | Condensate Pump 1-3 Motor Lower Bearing High Temperature | |
| CR 01-1757 | Foreign Material In Condensate | |
| CR 01-0612 | Condensate Pump 1-1 Motor Degradation | |

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

| | | |
|-------------|---|---------|
| CR 01-3463 | #1 CREVS Compressor Failed to Start After Low Suction Pressure Trip | |
| CR 02-00217 | Forebay Level Indication Taken Out of Service Without Compensatory Action | |
| DB-SS-4164 | EHC Hydraulic Power Unit Test | Rev. 03 |
| CR 02-00007 | OE-13070 (Greyboot Connectors) Should be reviewed for impact on DB-ME-09500 | |
| DB-ME-09500 | Installation and Termination of Electrical Cables | Rev. 2 |
| CR 02-00452 | Evaluation of risk associated with TBV Mod work | |
| CR 02-00403 | SP13A2 Modification suspended based upon risk to the station | |

1R14 Performance in Non-Routine Evolutions

| | | |
|-------------|---|--------|
| CR 01-1996 | Hydrogen Leak at G209 | |
| CR 01-2842 | Main Generator Hydrogen Leakage | |
| CR 01-3458 | Main Generator Hydrogen Leakage is increasing | |
| CR 02-00184 | Rising Condenser Pressure due to Broken Glass on LG408A | |
| DB-OP-02518 | High Condenser Pressure | Rev. 1 |
| CR 02-00521 | Source Range NI 1 failed to energize on shutdown | |

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|-------------|---|--------|
| CR 02-00522 | Turbine Bypass Valve SP13B3 failed to respond to ICS control Station | |
| CR 02-00523 | Turbine Bypass Valve SP13A3 failed to approximately 20% during plant shutdown | |
| CR 02-00529 | Main Steam Safety Valve test procedure acceptance criteria | |
| CR 02-00502 | Main Steam Safety Valve As-found test results | |
| DB-OP-02504 | Rapid Shutdown | Rev. 3 |
| DB-OP-06903 | Plant Shutdown and Cooldown | Rev. 5 |
| DB-OP-06904 | Shutdown Operations | Rev. 4 |
| DB-OP-02000 | RPS, SFAS, SFRCS Trip or SG Tube Rupture | Rev. 6 |

1R15 Operability Evaluations

| | | |
|-------------|---|--|
| CR 02-00273 | Snubber A51, Failed As-Found Testing | |
| CR 02-00353 | Snubber Inspection Failure | |
| CR 02-00346 | Potential Generic Snubber Issue | |
| CR 02-00385 | Snubber A-50, Hanger EBD-19-H76, Failed As-Found Bleed Rate | |
| CR 02-00294 | Snubber A-121, Hanger HCB-3-H12, Failed As-Found Testing | |
| CR 02-00295 | Snubber A-120, for Hanger HCB-3-H10 Failed As-Found Testing | |
| WPG-2 | Work Process Guideline - 2, "Operations Equipment Issues" | |
| CR 01-2138 | DH14B Stroke Time Increase | |
| CR 02-00369 | DH14B Stroke Time Greater than expected | |
| CR 02-00301 | DH14B erroneous movement to 50% open | |

1R17 Permanent Plant Modifications

| | | |
|-------------|---|--|
| CR 02-00233 | Collective Significance for SAC #2 Modification | |
| CR 02-00161 | SAC 2 Microprocessor controls SAC 2 operation but is not CAT B software | |
| CR 02-00172 | SAC 2 restoration to service violated station procedures | |
| CR 02-00183 | SAC 2 post modification testing may not be adequate | |

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| CR 02-00173 | Operation of SAC 2 as a lag compressor per DB-OP-06251 will not work | |
| DB-OP-06251 | Station and Instrument Air System Operating Procedure | Rev. 2 |
| CR 02-00094 | Problems following installation of MOD 00-0044 on SAC 2 | |
| CR 02-00026 | Inadequate FPR for SAC 2 modification | |
| CR 02-00196 | SAC #2 Blowdown Valve cycling excessively | |
| <u>1R19 Post-Maintenance Testing</u> | | |
| DB-OP-06316 | Diesel Generator Operating Procedure | Rev. 2 |
| CR 02-00320 | Condensate Pump Thermocouples | |
| CR 02-00146 | Condensate pump 1 work did not start as desired | |
| CR 02-00529 | Main Steam Safety Valve test procedure acceptance criteria | |
| CR 02-00502 | Main Steam Safety Valve As-found test results | |
| <u>1R22 Surveillance Testing</u> | | |
| DB-PF-3162 | AF-68 Reverse flow test (IST) | Rev. 2 |
| DB-PF-3153 | Auxiliary Feedwater Train 1 Check Valve Tests | Rev. 2 |
| DB-SS-3091 | Motor Driven Feed Pump Quarterly Test | Rev. 3 |
| DB-SP-3136 | Decay Heat Train 1 Pump and Valve Test | Rev. 4 |
| DB-PF-3153 | AFW Train 1 Check Valve Test | Rev. 2 |
| <u>IEP4 Emergency Action Level and Emergency Plan Changes</u> | | |
| | Davis-Besse Nuclear Power Station Emergency Plan | Revision 22 |
| | Davis-Besse Nuclear Power Station Emergency Plan | Revision 21 |
| <u>2PS2 Transportation</u> | | |
| TR02-0001 | Uniform Low-Level Radioactive Waste Manifest Shipping Paper | January 21, 2002 |
| TR02-0002 | Uniform Low-Level Radioactive Waste Manifest Shipping Paper | January 21, 2002 |
| 2002-0169 | Radiological Survey Form: Container H-4 | January 18, 2002 |
| 2002-0170 | Radiological Survey Form: Container H-4 | January 18, 2002 |

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| 2002-0160 | Radiological Survey Form: Rack 8 | January 17, 2002 |
| 2002-0178 | Radiological Survey Form: Container H-2 | January 19, 2002 |
| 2002-0176 | Radiological Survey Form: Container H-2 | January 19, 2002 |
| 2002-0165 | Radiological Survey Form: Rack 2 | January 18, 2002 |

2PS3 Radiological Environmental Monitoring and Radioactive Material Control Programs

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|-------------|--|------------------|
| DB-HP-01706 | Release Of Material From Radiologically Restricted Areas | Rev. 5 |
| DB-CH-00013 | Radiochemistry Quality Control Program | Rev. 3 |
| DB-HP-01113 | Count Room Analysis System Operation | Rev. 2 |
| DB-HP-03005 | Surveillance Test Procedure | Rev. 4 |
| DB-HP-10101 | REMP Enhancement Sampling | Rev. 4 |
| DB-HP-00015 | Radiological Environmental Monitoring Program | Rev. 2 |
| DB-HP-00013 | Review and Evaluation of REMP Sample Analysis Results | Rev. 2 |
| DB-HP-03004 | Surveillance Test Procedure | Rev. 3 |
| EN-DP-00103 | Meteorological Monitoring Program | Rev. 1 |
| EN-DP-04000 | Meteorological Monitoring System Channel Calibration | Rev. 00 |
| | Data Sheets-Meteorological Primary System | May 8, 2001 |
| | Data Sheets-Meteorological Backup System | May 9, 2001 |
| | Data Sheets-Meteorological Primary System | October 30, 2001 |
| | Data Sheets-Meteorological Backup System | October 24, 2001 |
| DB-HP-01452 | Air Sampler Calibrations: Data Sheets ECP.0.11, ECP.0.16, ECP.0.4, ECP.0.5, ECP.0.6, ECP.0.8 | Rev. 3 |
| 01-2674 | Potentially Contaminated Oil Samples Removed From RRA Without Survey | October 10, 2001 |
| 01-1588 | Area for Improvement in RP Sampling of Bulk Material Prior to Release | June 14, 2001 |
| 00-1293 | Contaminated Scrubs Left at PPF | May 4, 2000 |
| 00-0763 | Contaminated Valve Found in PSF Maintenance Shop | April 3, 2000 |
| 00-1045 | Contaminated Mop Bucked Found in Clean Area | April 17, 2000 |
| 01-1540 | Portal Monitor Failed Daily Source Check | June 15, 2001 |

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|----------------|--|--------------------|
| 01-2435 | Vent Rig in I&C Hot Shop | September 19, 2001 |
| 01-2436 | Source Found in Lab Tech Detector Housing | September 19, 2001 |
| 01-0636 | ODCM Site Specific Dose Commitment Factor | March 5, 2001 |
| 01-2864 | Beach Station Power Outage | October 25, 2001 |
| 01-3263 | Errors in 2000 ARERR and Obsolete Dose Assessment Software | December, 6, 2001 |
| 01-3264 | Radioactive Effluent Program Ownership | December 6, 2001 |
| 01-2721 | Required Met Tower Instrument Failure | October 14, 2001 |
| 01-2812 | Required Met Tower Instrument Failure | October 22, 2001 |
| 02-00214 | Lack of Placarding of Radioactive SCO Shipment | January 22, 2002 |
| SA-2000-0149 | Self Assessment Report: RP, Effluents, ODCM and REMP | January 25, 2001 |
| AR-01-RPPCP-01 | Nuclear Quality Assessment Audit Report | January 17, 2002 |
| SR-01-CHEMC-01 | Surveillance Package | March 9, 2001 |
| 17795 | NUPIC Joint Audit of Environmental Inc. | January 9, 2002 |
| 1999 | Annual Radiological Environmental Operating Report | April, 2000 |
| 2000 | Annual Radiological Environmental Operating Report | April 25, 2001 |
| DP-60271 | Offsite Dose Calculation Manual | Rev. 14 |
| | Germanium Detector 3 Background Count | January 20, 2002 |

4OA1 Performance Indicator Verification

Davis-Besse System Health Report 1st - 4th Qtr 2000

Davis-Besse System Health Report 1st - 4th Qtr 2001

Unit Logs