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REGION III

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Licensee: Toledo Edison Company

Facility: Davis-Besse Nuclear Power Station
Location: 5503 N. State Route 2
Oak Harbor, OH 43440

Dates: August 15 - October 9, 1996

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Approved by: John M. Jacobson, Chief,
Reactor Projects Branch 4

EXECUTIVE SUMMARY

Davis-Besse Nuclear Power Station
NRC Inspection Report 50-346/96006

This inspection included aspects of licensee operations, maintenance, engineering, and plant support. The report covers an 8-week period of resident inspection.

Operations

- Plant management was kept informed of plant conditions, equipment status, and plant problems. Operators maintained cognizance of equipment status and work activities ongoing in the plant. Teamwork and productive working relationships were observed to be exhibited between operations and other organizations (Section 01).
- Safety systems walked down/reviewed during the inspection period were well maintained and in a good state of readiness (Section 02.1).
- The number of licensed Senior Reactor Operators (SROs) available to fill onshift positions decreased due to recent attrition. The subject positions were being filled in the interim by staff support SROs, pending completion of an SRO upgrade training class. No decline in performance as a result of the staffing shortages was observed (Section 06).

Maintenance

- Overall, the planning, review, and execution of maintenance and testing activities observed during the inspection period were performed in a controlled manner by qualified personnel (Sections M1, M1.1, M1.2).
- Three examples of a violation of test controls were identified by the inspectors:
 - 1) Documentation and disposition of a test deficiency were improperly performed (Section M1.3). The inspectors also observed that the SRO and RO did not recognize the potential for preconditioning the valve;
 - 2) Inadequate adherence to a test procedure resulted in improper stroke timing of a valve (Section M3.1); and
 - 3) Inadequate control of soluble plastic used to cover floor drains in the auxiliary building negative pressure area resulted in a concern for the validity of previously performed emergency ventilation system drawdown testing (Section M8.1).
- Reader/worker communications during performance of a test procedure were not rigorous. When communicating actions required by specific procedure

steps to a co-worker who actually was performing the actions, the procedure reader paraphrased the action requirements versus communicating them verbatim (Section M1.4).

- EDG No. 2 exhibited a functional failure, possibly due to previous improperly performed maintenance (Section M1.5).
- The licensee identified that an electrician had improperly performed emergency battery light testing. The electrician subsequently resigned and a NRC violation was assessed against the individual. Because of the licensee's followup actions, this matter was considered a non-cited violation against the facility (Section M1.6).
- The inspectors identified that certain remotely operated valves were potentially preconditioned by the sequencing of test steps prior to their stroke timing. At the end of the inspection period, the licensee was conducting additional reviews of this matter (Section M3.2).

Engineering

- Weaknesses were noted in engineering knowledge and familiarity with Generic Letter 91-18, which provided guidance concerning operability determinations and resolution of degraded and nonconforming conditions (Section E1.1).
- The inspectors noted two minor discrepancies with licensee adherence to Technical Specifications administrative requirements (Section E3.1).

Plant Support

- The inspectors noted that some computer monitoring equipment did not work during the conduct of emergency planning drills (Section P2.1).
- Radiological areas were properly controlled and posted. Surveys accurately reflected actual in-plant radiological conditions.

Report Details

Summary of Plant Status

With the exception of routine short term power reductions to accommodate turbine valve testing, the plant operated at nominally full power throughout the inspection period.

I. Operations

01 Conduct of Operations

During the inspection period the inspectors attended plant management meetings, shift turnover briefs and observed the performance of licensed and non-licensed operators in the performance of their duties. Control room and in-plant equipment spaces were walked down to verify operability of safety related systems and structures. In addition, the inspectors reviewed applicable logs and tagout (clearance) records, and conducted discussions with operations personnel during the inspection period.

Plant management was observed to have been kept informed of plant conditions and equipment status, and were notified in a timely manner regarding problems identified by plant staff. Operators conducted comprehensive shift briefs and exhibited a questioning attitude regarding the status of equipment and evolutions to be performed. Operations management was seen to be making strides in emphasizing adherence to procedures, and keeping operations shifts informed of important information by issuing, in a timely manner, required reading, night orders, and verbal communications during shift briefs. Effective teamwork and productive working relationships were observed to be exhibited between operations, maintenance, engineering, plant support, and station management personnel.

02 Operational Status of Facilities and Equipment

02.1 Engineered Safety Features Systems Walkdowns (71707)

The inspectors conducted walkdowns of the accessible portions of the following engineered safety features and important-to-safety systems using Inspection Procedure 71707:

- Emergency Diesel Generator No. 1
- High Pressure Injection System - Train 1
- Containment Spray System - Train 2
- Emergency Ventilation System - Trains 1 and 2
- Auxiliary Feedwater System - Trains 1 and 2

Overall, all systems walked down were verified operable with main flowpaths in conformance with the Updated Safety Analysis Report (USAR). Overall equipment material condition was found to be satisfactory with minimal oil and fluid leaks noted. Pump/motor fluid levels were within

their specified acceptance bands, and all necessary auxiliary equipment, including electrical supplies, instrumentation, and cooling water, appeared to be functional.

04 Operator Knowledge and Performance

The inspectors conducted discussions with control room personnel throughout the inspection period concerning the operation and status of control room and in-plant equipment. The inspectors noted that, overall, operations personnel remained cognizant of equipment status and operating limitations, as well as the status of maintenance activities and other evolutions in progress.

06 Operations Organization and Administration

The inspectors noted that the number of Senior Reactor Operator (SRO) licenses that were available to man the Shift Manager, Assistant Shift Supervisor, and Shift Supervisor positions as required by the Technical Specifications had declined due to promotions, transfers, and attrition associated with the above areas.

As a result, operations support and management personnel were routinely substituted to cover the shortages with a small amount of associated overtime incurred. No discernible related decrease in operations performance was noted.

From discussions with plant management, the shortage of SROs was projected to continue until the current SRO upgrade class is completed and those candidates obtain their NRC licenses. SRO Exams are scheduled for June 1997.

08 Miscellaneous Operations Issues (92901)

- 08.1 (Closed) Inspection Followup Item (50-346/96005-02(DRP)): Operator shift schedules not consistent with Technical Specifications (TS). This item addressed an apparent inconsistency between the requirements of TS 6.2.3 relating to operations shift coverage, and actual SRO work schedules.

Technical Specification 6.2.3 specified, in part, that the objective was to have operating personnel work a normal 8-hour day, 40-hour week while the plant was in operation. However, the inspectors noted that SROs had been working a normal 12-hour daily shift for several months.

When this matter was brought to licensee management's attention, the plant manager took steps to authorize the deviation as allowed by TS 6.2.3. In addition, a license amendment request (LAR) was initiated and subsequently submitted to the NRC on September 4, 1996, to revise that portion of the TS. As such, this matter is considered closed.

II. Maintenance

M1 Conduct of Maintenance

For those activities observed during the inspection period, the inspectors determined that maintenance was generally performed satisfactorily and completed as scheduled by appropriately qualified personnel.

Major maintenance activities affecting risk significant or Technical Specification related systems were coordinated by team leaders, primarily designated from plant engineering. The team leaders were observed to have detailed knowledge of the planned maintenance activities.

Good involvement by plant management was noted during maintenance pre-job briefs. Topics specifically discussed in the pre-job briefs observed included: potential personnel and equipment safety issues, maintenance rule implications, restrictions imposed on the plant as a result of the subject maintenance, and factoring of possible inclement weather.

M1.1 Maintenance Activities (62707)

The inspectors observed/reviewed all or portions of the following maintenance activities:

- MWO 3-96-4790-01 Inspect Coupling and Motor/Pump Alignment for HPI #1
- MWO 3-96-0263-01 Clean, Lube, Megger, Inspect HPI #1 Pump and Motor
- MWO 3-96-0494-01 Clean and Lube HPI Pump #1 AC Lube Motor
- MWO 1-94-0710-00 Cutout and Replace BW 27
- MWO 7-96-1157-01 RPS Flow/Delta Flux, Troubleshoot and Repair
- MWO 3-97-0297-00 DHP #2 Suction from BWST, Votes Testing
- MWO 1-94-1003-03 Service Water relief valve, SW 3962, Rebuild and Setpoint Testing

The inspectors determined that the above listed maintenance activities were performed by knowledgeable personnel using properly authorized maintenance work order (MWO) packages. The observed maintenance activities were conducted in a deliberate, methodical manner with no time constraints or other pressures that might adversely affect worker effectiveness noted.

Regarding MWO 1-94-1003-03, the inspectors verified the service water relief valve lift setpoint and observed quality control personnel independently verifying the setpoint as part of a quality control signoff to the MWO.

During a review of a High Pressure Injection (HPI) Train 1 outage, the inspectors noted that in-plant maintenance activities were conducted in

accordance with the appropriate procedures and plant requirements. However a review of the associated clearance (tagout) packages providing isolation boundaries for the work, revealed some minor inattention-to-detail issues. Included were: 1) errors in the number of tags documented on the cover sheet of certain packages, 2) errors on the cover sheet specifying the number of tag assignment sheets included in some packages, and 3) an inprocess change in the draining lineup for a section of pipe for an indeterminate reason. When brought to the licensee's attention, a PCAQR was initiated to ensure appropriate review and followup.

M1.2 Surveillances (61726)

The following surveillance activities were observed/reviewed:

- DB-SP-03338 Containment Spray Train 2 Quarterly Pump and Valve Test
- DB-SP-03161 AFW Train 2 Level Control, Interlock, and Flow Transmitter Test
- DB-MI-03012 ARTS/CRD Breaker Testing
- DB-SP-03137 DHR Pump Quarterly Test
- DB-SC-03071 EDG #2 Monthly Test
- DB-PF-04705 Performance Test of CCW Heat Exchanger #2

With the exception of those items noted below, surveillances were observed to be conducted in a controlled manner. Equipment was independently observed to function as designed. Process parameters such as pump suction and discharge pressures, system flow rates and generator voltage and currents were independently verified against the appropriate acceptance criteria and USAR requirements as appropriate. Associated piping and valves were observed for leakage. Operators were observed to be monitoring the operating equipment for water and fluid leaks, and abnormal vibrations. No USAR discrepancies involving the functioning and performance of these systems was noted.

However, several issues related to the conduct of surveillances were identified and are further discussed in Sections M1.3, M1.4, M3.1, and M3.2.

M1.3 Improper Documentation and Dispositioning of a Test Deficiency

a. Inspection Scope (61726)

The inspector observed the performance of surveillance DB-SP-03161, "Auxiliary Feedwater Train No. 2 Level Control, Interlock and Flow Transmitter Test" (Revision 04), that was conducted on September 25, 1996.

b. Observations and Findings

The inspectors observed that a reactor operator (RO), performing portions of the surveillance test in the control room, failed to

document or disposition a test deficiency as required by the licensee's test program on two separate occasions.

During the test, the RO was required to verify response times for the Auxiliary Feedwater (AFW) Pump 2 suction transfer to service water, and the response time for the opening of the service water supply valve to AFW. However, during the performance of those steps in the procedure, he improperly operated the stopwatch. On both occasions, the operator recognized his error and directed the designated steps of the procedure be reperformed. He did not identify the error as a test deficiency or notify shift management regarding what had occurred.

The operator indicated, after the fact, that since the issue was one of stopwatch usage, and not associated with the performance of the equipment that was under test, the matter did not constitute a test deficiency, and that reperformance of the applicable test portions was acceptable.

The Senior Reactor Operator (SRO) also agreed that the reactor operator had satisfactorily performed the surveillance. He stated that because there was not a problem with the equipment under test, the stopwatch problem did not constitute a test deficiency. He also indicated that because the root cause for the problem was readily apparent to the RO, he would not expect the RO to have informed him of the problem. Additionally, he stated that if he had been notified, he probably would not have instructed the RO to handle the matter any differently.

The inspectors reviewed procedure DB-DP-00013, "Surveillance and Periodic Test Program" (Revision 04), and found the definition of a test deficiency to be "Any deviation from a test procedure requirement or acceptance criteria which is identified during the conduct of a test, or during the review of the test results." As such, the inspectors determined that the inability to collect the time response data as required constituted a "deviation from a test procedure requirement." Per Section 6.3.8 of DB-DP-00013, a test deficiency required documentation on the test deficiency list and resolution and approval per Section 6.7 of DB-DP-0013.

c. Conclusions

The inspectors were concerned that by not documenting test deficiencies of the type noted, the fact that certain activities were not accomplished in the test sequence or manner initially assumed, would not be evaluated for their potential effect on the validity of test results. For example, the reperforming of certain steps of a test procedure could cause the associated equipment to be inadvertently preconditioned such that subsequent data would not accurately reflect as-found conditions. As such, the need to change the sequence of a test procedure to allow reperformance of an earlier step would be deemed a test deficiency.

The inspectors were also concerned that the SRO and RO did not recognize the potential for preconditioning the valve.

10 CFR Part 50, Appendix B, Criterion XI, "Test Control," states, in part, that a test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents.

Because the test deficiency was not identified, documented and dispositioned as a test deficiency, as required by test program procedure DB-DP-00013 (Revision 04), this is considered **one example of a violation** of 10 CFR 50, Appendix B, Criterion XI (50-346/96006-01A(DRP)).

MI.4 Reader/Worker Practices

a. Inspection Scope (61726)

The inspectors observed the performance of DB-MI-03012, "Channel Functional Test of Reactor Trip Breaker A, Reactor Protection System Channel 2, Reactor Trip Module Logic, and Anticipatory Reactor Trip System Channel 2 Output Logic" (Revision 02), that was conducted on September 25, 1996.

b. Observations and Findings

This surveillance activity was performed by two instrumentation and control (I&C) technicians. The test leader read and documented the completion of each action as directed by the associated step of the surveillance procedure while another worker listened and performed each step.

The inspectors noted that the reader did not read the steps of the procedure verbatim out loud, but rather, read them in a paraphrased manner to the worker. The inspectors did not identify any instances where the procedure was not performed properly.

The inspectors discussed this with the I&C superintendent. The I&C superintendent indicated that the performance of surveillance testing using paraphrased step instructions did not meet his expectations. He added that he would promulgate his expectations to I&C technicians so that this would not occur in the future. The inspectors were unable to determine if the paraphrasing of surveillance action steps had caused past performance problems.

The inspectors did not note other cases of paraphrasing the action steps of procedures. However, pending inspector followup to determine if management expectations were adequately communicated to I&C personnel, this matter is considered an inspection followup item (50-346/96006-02(DRP)).

M1.5 Emergency Diesel Generator Functional Failure

a. Inspection Scope (62707)

The inspectors conducted a followup review of activities related to a functional failure of Emergency Diesel Generator No. 2 when a lube oil check valve failed during a monthly surveillance test. This occurred on August 22, 1996, and was documented in PCAQR 96-1124.

b. Observations and Findings

EDG No. 2 experienced a functional failure when diesel lube oil system check valve (LO 329) disk stem cover cap fractured about 30 minutes into a surveillance test. This created a leakage path for pressurized (about 100 psi) lube oil to spray out of the EDG, reducing EDG lube oil levels and soaking the EDG pedestal area.

An equipment operator observed the failure and immediately performed an emergency shutdown of the EDG. The EDG was declared inoperable until the check valve was replaced and lube oil levels restored about eight hours afterward.

The licensee performed a work history search and determined that the lube oil check valve had a maintenance activity performed on it in July 1996. During that maintenance activity, the stem cap had been removed to perform an inspection activity and was then reinstalled. After reinstallation, the EDG had been successfully run for post maintenance testing. The EDG had about five hours of run time associated with it prior to the cover cap blowing out.

Afterwards, the inspectors visually examined the check valve and cover cap. The cap was observed to have been fractured at the threads.

Preliminary root cause determination was that a material defect was introduced by the maintenance activity that was performed in July 1996, and resulted in the eventual failure. This defect could have been caused by a scoring of the cap threads or an overtorque of the cap into the valve body. Pending licensee completion of root cause and corrective action review of this functional failure, this is an inspection followup item (50-346/96006-03(DRP)).

M1.6 Improper Testing of Emergency Lighting

a. Inspection Scope (92902)

A followup inspection of a Potential Condition Adverse to Quality Report (PCAQR) 96-0053, which documented an individual's failure to properly perform some steps of an emergency lighting surveillance activity, was performed. The electrician who conducted the surveillance activity was suspected to have willfully not completed the procedure correctly, therefore, the initial followup activity was referred to the NRC Office

of Investigation (OI). That review was subsequently completed as documented in OI Investigation Report No. 3-96-007.

b. Observations and Findings

A licensee audit of DB-ME-04100, "Emergency Lighting System Test," determined that step 8.1.3.b.3 of the procedure was not performed correctly on January 8, 1996, for Control Room Emergency Battery Lights (EBLs). Step 8.1.3.b.3 required a 90-second burn test of each EBL while monitoring battery discharge voltage.

Based upon security door transaction records, licensee management determined that insufficient time was available for the assigned electrician to have performed a 90-second burn test for all EBLs in the Control Room. The records showed that six EBLs were documented as tested in a four minute time frame. After discovery, the licensee verified that the affected EBLs were operable by correctly performing the surveillance test on them.

Licensee management questioned the electrician who performed the surveillance activity. The electrician acknowledged that he did not perform all the burn tests for a full 90-seconds, but used what he called a fast test. Additionally, the employee indicated during the January 18, 1996 interview that he thought that the EBL test was unimportant.

Subsequently, the electrician was suspended and his plant access withdrawn pending further investigation of the details of the matter.

The licensee then conducted an extent-of-condition evaluation which included a review of the employee's record and work history. Additional door transaction records were also checked to determine the time other workers used to perform EBL surveillance activity with no other discrepancies identified. Other work performed by the one individual was reviewed with no additional quality of work concerns noted.

On January 30, 1996, during the internal investigative process, the individual opted to resign from Toledo Edison.

Because the employee voluntarily resigned, and because the licensee determined that the case did not involve an egregious example of willful misconduct, his plant access was not permanently restricted, nor was his name added to the Security Index database.

c. Conclusions

OI concluded that the worker had deliberately falsified EBL surveillance records and that licensee corrective actions were timely and appropriate.

However, this is considered a violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," as implemented by

licensee procedure DB-DP-00013, "Surveillance and Periodic Test Program", and DB-ME-04100, "Emergency Lighting System Test," in that those procedures were not adhered to in their entirety.

This was also a violation of 10 CFR 50.9 which states, in part, that "...information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects."

However, because the licensee performed timely and comprehensive corrective actions, these licensee-identified and corrected violations are being treated in the aggregate as a **non-cited violation (50-346/96006-04(DRP))**, and a Notice of Violation will not be issued consistent with Section VII of the NRC Enforcement Policy.

Whereas it was concluded that the electrician had engaged in deliberate misconduct, a violation of 10 CFR 50.5 was also determined to have occurred and a Notice of Violation was issued against the individual under separate cover (reference NRC letter dated August 23, 1996, from A. B. Beach to M. D. Nevers).

M3 Maintenance Procedures and Documentation

M3.1 Failure to Follow Test Procedure

a. Inspection Scope (61726)

The inspectors observed performance of surveillance procedure DB-SP-03338, "Containment Spray Train 2 Quarterly Pump and Valve Test" (Revision 02), on September 6, 1996.

b. Observations and Findings

The inspectors observed that a reactor operator who was performing the close stroke timing of containment spray (CS) valve CS1531, timed the stroke of the valve by watching the indicating lights from the control room, instead of at the associated motor control center (MCC) as directed by a surveillance procedure note. The operator failed to recognize that the note instructed that stroke timing was to have been performed at the associated MCC by listening to relay dropouts at the MCC. The specific signoff step, step 4.27 of the procedure, did not require that the stroke time testing be done at the MCC, but stated "Close AND time CS1531, CTMT SPRAY AUTO CONTROL VALVE 1-2."

The inspectors also noted that another section of the procedure also included similar requirements for the subject valve. Step 4.11 stated that "Open AND time CS1531, CTMT SPRAY AUTO CONTROL VALVE 1-2." The note directly proceeding that step also indicated that valve stroke timing was to be performed at the associated MCC. Additionally, examination of the procedure governing the stroke time testing of the other train CS auto control valve (CS1530) determined that the same conditions existed.

The acceptance criteria for CS1531 included a closing time ≤ 46.6 seconds and an opening time of ≤ 35 seconds. The target value was 31 seconds. The recorded stroke times for CS1531 from the Control Room was about 25 seconds.

Once the discrepancy was pointed out to testing personnel, they acknowledged the oversight and took actions to properly perform the affected sections. Subsequent to the proper performance of the stroke timing, the inspectors independently verified that the stroke time data met the associated acceptance criteria and was within one second of the target value. Additionally, the operations shift initiated PCAQR 96-1184 and initiated procedure changes to incorporate the information about performing the stroke timing at the MCC into the appropriate action steps of the affected surveillance procedures.

After questioning the engineer responsible for reviewing/trending the test data, the inspectors determined that the error would have been eventually identified and that CS1531 would have been re-stroke timed.

The requirement to perform the stroke timing at the motor control center was necessitated by the fact that the CS1531 control room indicating lights indicated closed with the valve 20% open. The 20% position was the post accident throttled position of CS1531 when the CS pump suction would shift from the Boric Water Storage Tank to the containment emergency sump supply.

The inspectors believed that providing critical stroke timing instructions in the note was a contributing factor to the operator's error in not doing the timing at the MCC. However, this did not relieve the operator of the responsibility to read/understand the note and to thereafter properly perform the timing.

Davis-Besse's surveillance test procedure writing guidelines (Section 9.0, Revision 03) was reviewed to determine requirements for procedural notes. Section 9.5.g referenced subsection 4.12 (Section 4.0, Revision 05) for using note statements. Subsection 4.12 stated that, "Notes draw attention to important information but do not direct the user to take action." Subsection 4.12.1.b. stated, "Do not include actions in these statements. If any action is required, write a step."

c. Conclusions

The operator who performed the subject surveillance activity did not adequately read an informational note in DB-SP-3338 and as a result, failed to properly stroke time CS1531.

Once the inspectors identified the failure, operations personnel and management performed adequate immediate corrective actions and subsequently were able to test CS1531 with successful results.

10 CFR Part 50, Appendix B, Criterion XI, "Test Control," states, in part, that "A test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents."

However, adherence to the testing requirements specified in surveillance procedure, DB-SP-03338 was inadequate in that the operator did not stroke time CS1531 from the MCC per the procedure until informed by the NRC. This is considered one example of a violation of 10 CFR 50, Appendix B, Criterion XI (50-346/96006-01B(DRP)).

M3.2 Potential Preconditioning of Remotely Operated Valves

a. Inspection Scope (62703)

The inspectors reviewed procedure DB-SP-03161, "Auxiliary Feedwater Train 2 Level Control, Interlock and Flow Transmitter Test" (Revision 04), as additional followup to the review documented in Section M1.3.

b. Observations and Findings

The inspectors noted that the stroke timing of service water valve SW1383 was preceded in the procedure by stroking SW1383 to accomplish other surveillance requirements. The inspectors were concerned that this constituted a preconditioning of that valve prior to its inservice testing.

10 CFR Part 50, Appendix B, Criterion XI, "Test Control," states, in part, that "A test program shall be established to assure that all testing required to demonstrate that structures, systems, and components (SSCs) will perform satisfactorily in service." This implies therefore that standby SSCs should normally be tested in the "as-found" condition, absent any preconditioning, since that would be their expected condition if called upon to function. To the extent that testing could not be performed in an as-found condition, proper justification of performing the testing in other than an as-found condition should have been provided. However, no written documentation was provided by the licensee that explained the basis of stroke testing SW1383 in other than an as-found condition.

The inspectors also noted that the ASME code does not specifically require as-found testing except in specific cases (e.g., safety valve testing).

Subsequent to inspector identification of this concern, the licensee initiated potential condition adverse to quality report (PCAQR) 96-1318, to correct the subject procedure and to determine the extent of the condition by performing a review of other testing procedures.

Pending further inspector review to determine if any regulatory commitments or requirements were violated regarding preconditioning of SSCs within the licensee's surveillance program, this matter is considered an unresolved item (50-346/96006-05(DRP)).

M8 Miscellaneous Maintenance Issues (92902)

- M8.1 (Closed) Unresolved Item (50-346/96005-03(DRP)): Inadequate control of Emergency Ventilation System (EVS) drawdown testing. This matter involved inspector identification that soluble plastic material was observed covering a floor drain in mechanical penetration room (MPR) No. 2.

When identified, the inspectors noted that the floor drain posed a potential pathway between the auxiliary building EVS negative pressure boundary (NPB) and areas outside of the NPB. As such, the floor drain had incorporated a wafer check valve to act as a reverse flow seal for that opening to ensure integrity of the NPB.

Subsequent review also identified that the placement of soluble plastic over floor drains in the NPB was not formally tracked or controlled from an operations perspective. As such it was indeterminate as to whether soluble plastic material had been covering one or more floor drains in the NPB during previous EVS drawdown tests.

The inspectors were concerned that with soluble plastic potentially covering one or more floor drains in the NPB, the validity of previous EVS drawdown tests was questionable. With soluble plastic covering a given floor drain, operability of the associated wafer check valve would not be verified.

The inspectors reviewed surveillance procedures DB-SS-03254, "Emergency Ventilation System Train 1 18-Month SFAS Drawdown Test" (Revision 02), and DB-SS-03255, "Emergency Ventilation System Train 2 18-Month SFAS Drawdown Test" (Revision 02). Neither procedure included a prerequisite to verify floor drains within the NPB were not covered with soluble plastic prior to conducting a drawdown test.

The licensee subsequently conducted an EVS Train 2 drawdown test to verify NPB integrity with all soluble plastic removed from the NPB floor drains. That test was successfully completed.

Although the licensee successfully demonstrated that the integrity of the NPB was intact, the validity of previous EVS drawdown tests remained in question. As such this appeared to be a violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control."

Criterion XI states, in part, that "A test program shall be established to assure that all testing required to demonstrate that structured systems and components will perform satisfactorily in service is identified and performed in accordance with written test procedures...Test procedures shall include provisions for assuring that

all prerequisites for the given test have been met, and that the test is performed under suitable environmental conditions." In this case the licensee had failed to establish the appropriate test prerequisite conditions to assure a valid test result.

This is considered one example of a violation of test control (50-346/96006-01C(DRP)).

- M8.2 (Closed) Violation (50-346/94002-01(DRP)): Maintenance personnel manipulated plant equipment outside of approved maintenance activities without control room authorization.

In response to this violation the licensee conducted additional training for associated maintenance personnel including specific required reading for all shop personnel. In addition a memorandum was issued from the Manager, Operations to all site personnel concerning obtaining authorization to operate in-plant equipment during surveillance testing, maintenance activities, etc.

No further similar examples of personnel operating plant equipment without appropriate authorization were identified.

- M8.3 (Closed) Violation (50-346/95005-03(DRP)): Inadequate control of consumable materials. This violation regarded the inspectors' identification of a number of consumable materials that were available for use in the plant but were not approved for certain applications. The licensee's administrative controls to restrict issuance of non-approved or limited use consumables were ineffective.

In response, the licensee substantially revised the materials control program. Additional controls were placed on the receipt process including changes to how materials were labeled, and how transfer of material was made from the warehouse to local points of use.

III. Engineering

E1 Conduct of Engineering

E1.1 Engineering Followup of Haddam Neck Containment Air Cooler Waterhammer Issue

a. Inspection Scope (37551)

The inspectors conducted a review of the licensee's followup of an issue identified originally at Haddam Neck Nuclear Station. The issue concerned the evaluation of whether voiding of containment air cooler (CAC) piping within containment could result in a subsequent waterhammer event that could damage associated piping during accident conditions. This was documented by the licensee in PCAQR 96-1025. This matter was under review by NRC Region III Division of Reactor Safety for specific applicability to Region III plants.

b. Observations and Findings

During inspector followup of how the engineering evaluation was conducted at Davis-Besse, weaknesses were noted in the level of familiarity that some engineering personnel had with Generic Letter 91-18. Generic Letter 91-18 discusses guidance regarding operability determinations and resolution of degraded and nonconforming conditions.

This matter was discussed with engineering management who agreed that engineering familiarity with Generic Letter 91-18 guidance needed improvement.

At the conclusion of the inspection period, the licensee was evaluating what additional training was needed in this regard. Until that determination is made and the additional training conducted for appropriate engineering personnel, this matter is considered an inspection followup item (50-346/96006-06(DRP)).

E2 Engineering Support of Facilities and Equipment

E2.1 Technical Specifications Administrative Discrepancies

a. Inspection Scope (37551)

The inspectors conducted a review of certain administrative requirements in Section 6 of the plant's Technical Specifications (TS).

b. Observations and Conclusions

• Station Review Board Composition

Technical Specification 6.5.1.2 specified that the Station Review Board (SRB) shall be comprised of at least six members from each of the following disciplines: Plant Operations, Maintenance, Planning, Radiological Controls, Engineering, and Quality Assurance. However, the inspectors noted that the most recent plant manager memorandum designated SRB membership did not include the planning discipline as requiring representation.

The inspectors did note that several members did bring to the board expertise in the planning area, but the memorandum itself did not expressly address the need to have all Technical Specification required disciplines represented on the board.

Discussions with licensee personnel revealed that a license amendment request (LAR) was currently in process to relocate, in part, the SRB requirements to the USAR. The current proposed date of submittal was to be December 1996.

The inspectors did not have a concern over the overall quality of current SRB reviews due to the identified discrepancy. Subsequent to the inspection, the plant manager issued a revised memorandum

again specifying SRB composition, but also including the members credited with representing the planning discipline.

- Inaccurate References to 10 CFR Part 20

TS 6.8.4.d.3, TS 6.9.1.5.a (Note 1), TS 6.12.1, and TS 6.15.a.2 referenced superseded paragraphs of 10 CFR Part 20.

Although Part 20 was revised several years ago, the associated statements of consideration indicated that separate TS change requests for the aforementioned specifics would not have to be made. Rather, when a TS change request was being made for other reasons, updated Part 20 references were to be included at that time.

Subsequent guidance as to what should be included in the associated references was discussed between the B&W Owners Group and NRR. The intent apparently was to develop the guidance and issue it to the industry in the form of a Generic Letter.

However, with a substantial amount of time having since elapsed, the licensee recently decided to prepare an additional LAR to update the Part 20 references without waiting for generic letter guidance. At the time of the inspection, that LAR was in the preparatory phase.

c. Conclusion

The inspectors concluded that, overall, the TS administrative requirements reviewed accurately reflected actual plant activities with the exception of the aforementioned two minor items.

IV. Plant Support

P2 Status of EP Facilities, Equipment, and Resources

P2.1 Operations Support Center Computer Terminal Equipment Not Available

The inspectors observed the performance of operations support center (OSC) personnel and equipment during emergency preparedness training drills conducted during September 1996.

The inspectors observed that on two occasions, computer monitor equipment that provided information from the plant computer to engineering support personnel in the OSC did not operate correctly. This was also noted by licensee personnel with corrective action planned.

Pending inspector evaluation of the licensee's resolution of this deficiency, this is considered an inspection followup item (50-346/96C06-07(DRP)).

R2 Status of RP&C Facilities and Equipment

During the inspection period, the inspectors conducted several walkdowns of the equipment spaces within the Radiological Restricted Area (RRA). All observed radiation, high radiation and contaminated areas appeared properly controlled and posted. Surveys were reviewed and determined to be reflective of actual area radiological conditions. A sample of survey instruments observed in use during the inspection period were assessed to be properly calibrated and functional.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on October 9, 1996. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. K. Wood, Vice President, Nuclear
J. H. Lash, Plant Manager
R. E. Donnellon, Director, Engineering & Services
L. M. Dohrmann, Manager, Quality Services
J. L. Michaelis, Manager, Maintenance
J. L. Freels, Manager, Regulatory Affairs
G. A. Skeel, Manager, Security
K. L. Tyger, Manager, Quality Assurance
A. J. VanDenabeele, Supervisor, Quality Assurance
K. C. Prasad, Senior Staff Engineer
D. P. Ricci, Supervisor, Operations
D. M. Imlay, Superintendent, Plant Operations
D. L. Miller, Senior Engineer, Licensing
G. M. Wolf, Engineer, Licensing
M. K. Leisure, Senior Engineer, Licensing
D. R. Wuokko, Supervisor, Nuclear Regulatory Affairs
D. H. Lockwood, Supervisor, Compliance
R. A. Simpkins, Supervisor, Operations Training
R. J. Scott, Manager, Radiation Protection
D. C. Geisen, Supervisor, E/C Systems
R. B. Ewing, Manager, D. B. Supply
C. A. Price, Manager, Business Services

INSPECTION PROCEDURES USED

IP 37551: Onsite Engineering
IP 40500: Effectiveness of Licensee Controls in Identifying, Resolving, and Preventing Problems
IP 61726: Surveillance
IP 62707: Maintenance
IP 71707: Plant Operations
IP 92901: Followup - Operations
IP 92902: Followup - Engineering
IP 92903: Followup - Maintenance

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-346/96006-01A VIO Improper Documentation and Dispositioning of a Test Deficiency
50-346/96006-02 IFI Reader/Worker Practices
50-346/96006-03 IFI EDG Functional Failure
50-346/96006-04 NCV Emergency Battery Light Tests Not properly Performed
50-346/96006-01B VIO Test Procedure Not Adequately Followed
50-346/96006-05 URI Potential Preconditioning of Remotely operated Valves
50-346/96006-01C VIO Emergency Ventilation System Inadequate Drawdown Testing Control
50-346/96006-06 IFI Engineering Personnel Familiarity With Generic Letter 91-18 Guidance
50-346/96006-07 IFI Operations Support Center Computer Terminal Equipment Not Available

Closed

50-346/96005-02 IFI Operator Shift Schedules Not Consistent With Technical Specifications
50-346/96005-03 URI Emergency Ventilation System Inadequate Drawdown Testing Control
50-346/94002-01 VIO Maintenance Personnel Manipulated Plant Equipment Outside of Approved Maintenance Activities Without Control Room Authorization
50-346/95005-03 VIO Inadequate Control of Consumable Materials
50-346/96006-04 NCV Emergency Battery Light Tests Not properly Performed

LIST OF ACRONYMS USED

AFW	Auxiliary Feedwater
ALARA	As Low As Reasonably Achievable
ARTS	Anticipatory Reactor Trip System
ASME	American Society of Mechanical Engineers
B&W	Babcock and Wilcox
BWST	Borated Water Storage Tank
CAC	Containment Air Cooler
CCW	Component Cooling Water
CDF	Core Damage Frequency
CFR	Code of Federal Regulations
CNRB	Company Nuclear Review Board
CRD	Control Rod Drive
CS	Containment Spray
CTMT	Containment
DHP	Decay Heat Pump
DHR	Decay Heat Removal
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
ESF	Engineered Safety Feature
EVS	Emergency Ventilation System
HPI	High Pressure Injection
I&C	Instrumentation and Controls
IFI	Inspection Followup Item
IR	Inspection Report
ISI	Inservice Inspection
LAR	Licensee Amendment Request
LER	Licensee Event Report
MCC	Motor Control Center
MWO	Maintenance Work Order
NCV	Non-Cited Violation
NDE	Non-Destructive Examination
NPB	Negative Pressure Boundary
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
OEFP	Operational Experience Feedback Program
OI	Office of Investigations (NRC)
OSC	Operations Support Center
PCAQR	Potential Condition Adverse to Quality Report
QA	Quality Assurance
QC	Quality Control
RO	Reactor Operator
RP	Radiation Protection
RPS	Reactor Protection System
RRA	Radiological Restricted Area
SFAS	Safety Features Actuation System
SRB	Station Review Board
SRO	Senior Reactor Operator
SRV	Safety Relief Valve
TS	Technical Specification
UE	Unusual Event
VIO	Violation