

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-346/83-01(DPRP)

Docket No. 50-346

License No. NPF-3

Licenee: Toledo Edison Company
Edison Plaza
300 Madison Avenue
Toledo, OH 43652

Facility Name: Davis-Besse Nuclear Power Station, Unit 1

Inspection At: Oak Harbor, OH

Inspection Conducted: January 1-31, 1983

Inspectors: *JN Jackiw* 3-7-83
for T. A. Peebles
JN Jackiw 3-7-83
for W. G. Rogers
Approved By: *JN Jackiw* 3-7-83
for I. N. Jackiw, Chief
Projects Section 2B

Inspection Summary

Inspection on January 1-31, 1983 (Report No. 50-346/83-01(DPRP))

Areas Inspected: Routine unannounced inspection by resident inspectors of operational safety verification and procedure review; monthly maintenance observation; surveillance observation and review; plant trips; LER follow-up; drawing control; and independent inspection. The inspection involved 186 inspector-hours onsite by two NRC inspectors including 68 inspector-hours onsite during off-shifts.

Results: Of the seven areas inspected, no items of noncompliance or deviations were identified in two areas. Three items of noncompliance were identified in three areas (inadequate evaluation and documentation to determine cause of equipment malfunction - paragraph 3; failure to adequately test - paragraph 4; failure to identify, document and handle nonconformances - paragraph 6). Two items of noncompliance were identified in one area (inadequate drawing distribution system; and failure to follow procedures - paragraph 7).

DETAILS

1. Persons Contacted

T. Murray, Station Superintendent
*B. Beyer, Assistant Station Superintendent
*S. Quennoz, Assistant Station Superintendent
P. Carr, Maintenance Engineer
J. Werner, Instrument Engineer
D. Miller, Operations Engineer
W. O'Connor, Assistant Operations Engineer
D. Briden, Chemist and Health Physicist
L. Simon, Operations Supervisor
*C. Daft, Q.A. Director
*J. Tapley, Maintenance
*J. Faris, Administrative Coordinator
*R. Peters, Licensing

The inspectors also interviewed other licensee employees, including members of the technical, operations, maintenance, I&C, training, health physics, and security staffs.

*Denotes those attending the exit interview on January 31, 1983.

2. Operational Safety Verification and Procedure Review

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the month of January. The inspector verified the operability of selected emergency systems, reviewed tagout records, and verified proper return to service of affected components. Tours of auxiliary and turbine buildings were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspector by observation and direct interview verified that the physical security plan was being implemented in accordance with the station security plan.

The inspector observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. During the month of January, the inspector walked down the accessible portions of the Auxiliary Feedwater Systems, Diesel Generators, Batteries and Switchgear, Containment Spray System No. 1, and Service Water System to verify operability. The inspector also witnessed portions of the radioactive waste system controls associated with radwaste shipments and barreling.

These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under technical specifications, 10 CFR, and administrative procedures.

During the walkdown of the auxiliary feedwater system on January 18, the inspector observed a cage for protection of the pump speed changer which was not fastened to preclude potential interference with pump operation. A MWO was written by the licensee for both pumps.

On January 25, 1983, while the Essential Instrument 120 VAC Distribution test was being conducted, the Control Room Operator referred to System Procedure SP 1107.09.05, "Instrument AC System". The Temporary Modifications (TM) were several times as thick as the original procedure and five of the twelve TMs were issued in 1980. When Essential Bus Y3 was lost, the operators found SP 1107.09.05 difficult to follow due to the large number of attached TMs. Plant Protection Procedure PP 1102.02.14, "Plant Start-Up Procedure", with nine temporary modifications was also in use because a start-up was in progress. In this instance the operators also found this procedure difficult to use because of the number of attached TMs.

A related matter which may have contributed to the accumulation of TMs is the licensee's process of reviewing procedures for adequacy. These issues constitute an unresolved item (346/83-01-05).

3. Maintenance Observation

Station maintenance activities of safety related systems and components were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with technical specifications. The following items were considered during this review: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and fire controls were implemented. Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety related equipment maintenance which may affect system performance.

The following maintenance activities were observed/reviewed:

Replacement of feeder cable from E2 to E21A.

Main Steam Isolation Valve M-100 inspection.

Service Water Pump No. 2 repacking.

NI-1 (Source Range Neutron Monitor) Pre-Amplifier replacement.

Seismic hangers on component cooling water piping.

FW-790 troubleshooting.

Following completion of maintenance on the repacking of Service Water Pump No. 2 and Diesel Generator Preventative Maintenance, the inspector verified that these systems had been returned to service properly.

The inspector reviewed the effectiveness of maintenance troubleshooting, in determining causes of equipment malfunctions. The following are examples of failure to determine the cause of significant conditions adverse to quality:

- a. The motor operated suction valve (FW-786) to Auxiliary Feedwater Pump No. 1 was found closed on September 4, 1982. Electrical troubleshooting for spurious closure was conducted but the cause of the malfunction was not determined. Valve FW-786 was again found closed on December 3, 1982, but still no cause for the malfunction was found. The motor operated suction valve (FW-790) to Auxiliary Feedwater Pump No. 2, was found closed on January 27, 1983, and subsequent troubleshooting did not determine the cause. The licensee is still reviewing this matter.
- b. Maintenance on Main Steam Isolation Valve MS-100 was performed in August 1982 for replacement of a pin in the shaft and resetting of the limit switches was required. However, the as-left dimensions of limit switch position versus valve position were not documented nor were deviations from the vendor technical manual documented, as should have been required by Maintenance Procedure MP 1410.72.0. On January 19, 1983, the valve was reported to have indicated closed but significant steam flow was still present.

Maintenance personnel disassembled the valve prior to taking as-found dimensions. Therefore, significant information was lost. These examples constitute an item of noncompliance with 10 CFR 50 Appendix B, Criterion XVI (346/83-01-02(DPRP)).

Contributing factors to this noncompliance appear to be:

- . Documentation and evaluation of equipment malfunctions before the start of physical work is inadequate.
- . Maintenance history records by component are not readily retrievable.
- . Documentation of work performed is not sufficient to be used as a basis for evaluation of equipment malfunction.

4. Surveillance Observation and Review:

The inspector observed Technical Specifications required surveillance testing on the Component Cooling Water Pump and Service Water Pump and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting

conditions for operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with technical specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

The inspector also witnessed portions of the following test activities:

ST 5030.7	Containment Pressure Monthly Functional Test
ST 5071.01	Auxiliary Feedwater Pump No. 2 Functional Test
ST 5031.01	SFAS Monthly Test
ST 5031.18	ESF Test

The inspector reviewed portions of the test program to assure that it adequately demonstrated that each component was capable of performing its intended function. The following are identified failures of the program and is considered an item of noncompliance with 10 CFR 50 Appendix B, Criterion XI (346/83-01-04(DPRP)).

- a. Auxiliary Feedwater Pump suction check valves AF-1 and 2 open with flow from the condensate storage tank and close by pressure from the Service Water System, which is the safety related supply. They are tested only in the forward flow direction and are not tested in the closed position to demonstrate their intended safety function.
- b. Containment isolation check valves, SA 502, IA 501, NN 58, CV 124, and CV 125, were tested for operability every three months in the forward flow direction and not in their closed safety function position.
- c. Main Steam Isolation Valves MS-100 and 101 were returned to service after maintenance in August 1982 and were cycled to verify isolation time by the limit switches. However, in January 1983 MS-100 was indicating closed by the limit switches but was passing significant steam flow. Therefore, the method of testing to assure that the valve performed its intended function was not adequate.

5. Plant Trips

Following the plant trip on January 18, 1983, the inspector ascertained the status of the reactor and the safety systems by observation of safety system components and discussions with licensee personnel. The inspector verified that the licensee personnel promptly determined plant status and responded correctly by carrying out emergency actions of appropriate emergency procedures.

All systems responded as expected except Main Steam Isolation Valve MS-100. The valve received a close signal on manual initiation of the steam feed rupture control system on steam generator low level. How-

ever, even though the valve indicated closed, steam from Steam Generator #2 continued to flow past the valve to the condenser. Subsequent cycling of the MSIV did not stop the steam flow past the valve, which was estimated at 5 percent.

The inspector verified that the licensee entered into the emergency plan under "Loss of Containment Integrity" for the MSIV failure and performed all actions required by the emergency plan for an "Unusual Event".

Following plant trips on January 15, 1983, and two on January 31, 1983, the inspector ascertained safety system response to the reactor and secondary plant conditions. All systems responded as expected.

6. Licensee Event Reports Followup

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with technical specifications.

<u>Action</u>	<u>LER Number</u>	<u>Subject</u>
(Closed)	81-40	Misadjusted speed probe on Auxiliary Feedwater System

A revision to LER 81-045 was sent on January 7, 1983, which added to the original equipment failure LER reported event of July 30, 1981. On December 8, 1981, a QC inspector discovered a personnel error while reviewing the work done on July 30, 1981. Fasteners of the "explosive" type were called for on the design documents for a blow out panel but were not used when the bolts were replaced. A work order for replacement of the incorrect bolts and a request for analysis of consequences were initiated. The replacement was completed on February 2, 1982, and the analysis letter from the architect engineer was written on February 16, 1982. Reportability determination was not made until December 8, 1982, and the report not sent until January 7, 1983.

The inspector reviewed the circumstances surrounding the determination of reportability and found that a Deviation Report was written on December 8, 1981; however, a Nonconformance Report should have been written and was not. Further investigation and discussion with the QA Manager showed that this was and is standard practice and is not an isolated event. The licensee's response to an item of noncompliance in Inspection Report 82-21 to a similar finding was that it was an isolated event. Maintenance Work Orders which are open at the time of finding a nonconformance are left open until the condition is corrected.

The recently approved Toledo Edison Nuclear Quality Assurance Manual requires that nonconformances discovered during installation or surveillance activities are documented on a Nonconformance Report as required by 10 CFR 50 Appendix B, Criterion XV. However, the licensee stated that only the most significant items are documented as required and nonconforming conditions are not tracked or identified to the proper organizations.

This is considered an item of noncompliance (346/83-01-03(DPRP)).

7. Drawings Control

a. Background

On June 24, 1981, the electrical logic on piping and instrumentation drawing M-031 for the 3-way suction valve to the make up pumps did not coincide with the actual response of the valve during a plant transient. Subsequent inspection revealed that the logic had been changed during a previous refueling outage and the drawings had not been updated. This was due to the licensee's practice of not updating drawings until the facility change was closed.

Licensee audit finding reports during April-June 1981 and subsequent correspondence on these audit finding reports dealt with significant problems in drawing distribution and updating. However, it was noted that significant drawing control problems still existed and effective actions were not taken. Consequently, on January 21, 1982, the NRC expressed concerns in the drawing control area during a Management meeting with the licensee. During the meeting, the licensee outlined a program to update the drawings to the as-built condition of the plant. The licensee was to determine the status of outstanding facility change requests (FCR) and update the associated drawings based on this status. (The FCR is the administrative mechanism for making a modification to the facility). To ensure drawings are updated in a timely manner, changes were to be made to station administrative procedures to require drawing update by affixing Drawing Change Notices (DCNs) to the drawings prior to declaring the modified component operable.

On July 15, 1982, Administrative Procedure AD 1844.00, "Maintenance", Revision 7 was implemented. Included in this revision was the requirement to update drawings prior to closing out a MWO. This was to be accomplished by affixing a stamp to the MWO prior to the shift supervisor signing off on the MWO indicating to the shift supervisor that the drawings associated with that portion of the FCR authorized by that MWO had been updated.

During December 1982 the suction valve to Auxiliary Feed Pump No. 1 shut for no apparent reason. (This was the second unexplained closing of this valve. The first was in September 1982.) Subsequent troubleshooting of the valve's circuitry revealed that facility modification FCR 79-317 to the valve had not been incorporated into the drawings.

b. Inspection Effort

As a result of the discovery regarding FCR 79-317, the inspector performed an inspection to: audit the drawing distribution system from the drawing room to critical areas in the plant, review a select number of completed FCRs to determine if the FCRs had been incorporated into the drawings; and perform a review of piping and instrument drawings to ensure that they reflect the as-built condition of the plant.

(i) Distribution System:

The inspector audited 75 "M" drawings that should have had 154 Drawing Change Notices/Facility Change Notices (DCNs/FCNs) attached. The locations audited were the control room, shift supervisor's office, maintenance shop, and the radwaste panel. The result of the inspection was:

Control Room: All drawings present, all drawing revisions correct, 1 DCN not complete.

Shift Supervisor's Office: All drawings present plus two drawings, M-027 and M-028, which had been superseded and not removed, all drawing revisions correct, all DCNs/FCNs present.

Maintenance Shop: 1 drawing, M-029C(P), not present, all drawing revisions correct, 2 DCNs not present.

Radwaste Panel: 2 drawings M-075 and M-029C(P) not present, all drawing revisions correct. 84 DCNs/FCNs not present.

The inspector audited 87 "E" drawings that should have had 61 DCNs/FCNs attached. The locations audited were the control room, shift supervisor's office, and maintenance shop. The result of the inspection was:

Control Room: All drawings present, all drawing revisions correct, 3 DCNs not present or incomplete.

Shift Supervisor's Office: All drawings present, all drawing revisions correct, 3 DCNs not present or incomplete.

Maintenance Shop: All drawings present, all drawing revisions correct, 4 DCNs not present.

(ii) Completed FCR Drawing Update:

The inspector reviewed five completed FCRs and two completed FCR supplements to determine if the plant modifications were reflected in the drawings. The FCRs reviewed were:

FCR 77-391: Modification of decay heat removal pumps suction piping and reactor coolant system piping over-pressurization protection.

FCR 78-049: Modification of 13.8 Kv buses A and B load shedding under an undervoltage condition.

FCR 79-078: Installation of motor operators on decay heat removal valves DH 63 and DH 64 and high pressure injection valves HP 31 and HP 32.

FCR 80-091 Supplement 6: Modification of a component cooling water piping seismic hanger.

FCR 80-131 Supplement 3: Modification of a reactor coolant piping seismic hanger.

FCR 77-386; FCR 79-221: Interrelated modification of the steam feed rupture control system.

The result of the review was:

The drawings associated with FCR 77-391 and FCR 78-049 were properly updated.

All drawings for FCR 79-078 were updated except E-15B. Drawing E-15B was changed by FCN 885 (approved 8/28/80) and FCN 1179 (approved 11/11/80). Supposedly, these FCNs were to be incorporated into another supplement to FCR 79-078 but a supplement was never issued. Actual modification work was completed in April 1981.

The one drawing associated with FCR 80-131 supplement 3 was not updated. Actual modification work was completed in December of 1980.

The one drawing associated with FCR 80-091 supplement 6 was not updated. Actual modification work was completed in February 1981.

Drawings associated with FCR 77-386 have only been partially updated. FCR 77-386 consisted of an original supplement and 7 additional supplements. Only the drawings associated with Supplements 1 through 5 have been updated. Five MWOs were issued to cover work required by the FCR 77-386. MWOs 1, 2, and 3 were properly

affixed with drawing update stamps and drawings were updated. MWO 4 was not affixed with a drawing update stamp. MWO 5 was completed prior to 7/15/82 (implementation date of AD 1844.00 Rev. 7) and thus no stamp was required. The drawings for MWO 5 should have been update when the licensee reviewed the status of FCR 77-386 to update drawings and found the MWO closed.

The drawings for FCR 79-221 were not updated when required by AD 1844.00 and some drawings when finally updated, were omitted. FCR 79-221 consisted of an original and 7 additional supplements. Five MWOs were associated with this FCR. MWO 1 was for bracket fabrication in the fabshop and was not under the shift supervisor's cognizance. MWOs 2, 3, 4, and 5 were accepted by the shift supervisor without an updated drawing stamp affixed. Drawings for FCR 79-221 were updated on 1/19/83. However, the implementor did not inform the drawing room personnel to attach DCNs E-289-4, E-200B-214, E-545-24 or revise drawings E-46B sht. 69 to Rev. OA, E-302A sht. 39R to Rev. OD, E-44B sht. 17C to Rev. OB, E-44B sht. 23 to Rev. OB and E-44B sht. 23A to Rev. OA.

(iii)P & ID Update Review

During the drawing inspection the inspector noted that several of the DCNs listed below referenced drawing M-030A or M-030B coordinates listed for piping interconnections on the below listed drawings associated with the DCNs.

DCN 29 to drawing M-031
DCN 17 to drawing M-010B
DCN 22 to drawing M-007
DCN 02 to drawing M-019
DCN 26 to drawing M-033
DCN 12 to drawing M-041
DCN 05 to drawing M-042A
DCN 13 to drawing M-040A

All of the above DCNs were attached as a result of the implementation of FCR 80-115 (AD 1844.00 Rev. 7 was in effect). The FCR request for drawing updates listed M-030A and M-030B as new drawings to be attached when those drawings in fact had not been issued.

A similar problem was noted with FCR 79-439 which dealt with the addition of temperature elements to the reactor coolant hot leg for the T-SAT meters. The FCR listed M-030A and M-030B as new drawings to be attached when those drawings had not been issued.

c. Summary of Inspection Results

- (i) Except for isolated discrepancies, drawing room personnel adequately maintain drawing revisions and DCNs/FCNs in the control room, maintenance shop, and shift supervisor's office. However, drawing room personnel did not adequately maintain those documents at the radwaste panel. The reason was that they were not qualified to enter the radiological access control area where the radwaste drawings are located. This is considered an item of noncompliance against 10 CFR 50 Appendix B, Criterion VI and Administrative Procedure AD 1844.05 (346/83-01-06(DPRP)).
- (ii) The following are examples of failure to implement AD 1844.00 and are considered an item of noncompliance (346/83-01-01(DPRP)):
- . Drawings for FCR 79-317, FCR 79-078, FCR 80-091 supplement 6, FCR 80-131 supplement 3 and FCR 77-386 supplement 7 were not updated.
 - . Drawings for FCR 77-386 (original supplement and supplement 6) and for FCR 79-221 (supplement 0 - 7) were not updated. This was caused by the implementor presenting MWOs for these FCRs to the shift supervisor for signature without updating the drawings and the shift supervisor signing the MWOs without a drawing update stamp being affixed.
 - . Changes to the reactor coolant system drawing and proper coordinates for the reactor coolant system interconnections were not properly reflected on other drawings. This is in violation of AD 1844.00. Drawings M-030A and M-030B were not issued for FCRs 79-439 and 80-115, nor was drawing M-030 revised to reflect the addition of temperature elements to the reactor coolant hot leg for the T-SAT meters.
- (iii) During the review of interrelated FCRs 79-221 and 77-386, it was noted that a DCN attached from one FCR changed a DCN attached to the same drawing from the other FCR. Two examples of this situation were observed. Drawing E-523 was modified by DCN E-523-5 and DCN E-523-7 changed DCN E-523-5. Drawing E-545 sheet 2 was modified by DCN E-545-10 and DCN E-545-25 changed DCN E-545-10. This modifying of a DCN by a DCN without cancelling the first DCN is considered an unresolved item (346/83-01-07(DPRP)). Also, drawing E-44B sheet 1 is an index page for the rest of the sheets of E-44B. New sheets 17A, 17B, 17C, 17D, 21A, 21B, and 23A were added as a result of these two FCRs and neither FCR updates the index page. Also, the index sheet for drawing E-46B does not reflect sheets 66, 66A, 67, 69 and 70 in the index. This is considered an unresolved item (346/83-01-08 (DPRP)).

8. Independent Inspection Effort

The inspectors routinely attended meetings with licensee management and various shift turnovers between shift supervisors and licensed/non-licensed operators. These meetings and discussions provided a daily status of plant operating and testing activities as well as discussion of significant problems or incidents.

The inspectors reviewed the causes of the loss of 120 VAC essential instrumentation busses of: Y3 on January 25; Y2 on January 28; and Y1 on January 31. Licensee analysis of the causes and corrective actions will be followed.

9. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items or items of noncompliance. Unresolved items disclosed during this inspection are discussed in Paragraphs 2 and 7.

10. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) throughout the month and at the conclusion of the inspection. The inspectors summarized the purpose, scope, and the findings of the inspection.