

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-346/85020(DRP)

Docket No. 50-346

License No. NPF-3

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

Facility Name: Davis-Besse 1

Inspection At: Oak Harbor, OH

Inspection Conducted: May 14 through June 10, 1985

Inspectors: W. G. Rogers

D. C. Kosloff

Approved By: *W.D. Shaffer for*
I. N. Jackiw, Chief
Reactor Projects Section 2B

6-28-85
Date

Inspection Summary

Inspection on May 14 through June 10, 1985 (Report No. 50-346/85020(DRP))

Areas Inspected: Routine, unannounced inspection by resident inspectors of licensee action on previous inspection findings, operational safety, maintenance, surveillance, operational events and management meetings. The inspection involved 132 inspector-hours onsite by two NRC inspectors including 46 inspector-hours onsite during off-shifts.

Results: No items of noncompliance or deviations were identified during this inspection.

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DETAILS

1. Persons Contacted

a. Toledo Edison Company

J. Williamson, President and Chief Executive Officer
R. Crouse, Vice President, Nuclear; SALP Improvement Task Force
Leader
*T. Murray, Nuclear Mission, Assistant Vice President; Acting
Nuclear Mission Head
+*S. Quennoz, Plant Manager
W. O'Conner, Operations Superintendent
+T. Myers, Nuclear Safety and Licensing Director
D. Briden, Chemistry and Health Physics Superintendent
+B. Beyer, Acting Nuclear Operations Head
+*D. Lee, Maintenance Superintendent
*C. Daft, QA Director
*J. Faris, Administrative Coordinator
+R. Peters, Licensing Manager
*S. Wideman, Senior Licensing Specialist
*J. Wood, Facility Engineering General Supervisor
+J. Helle, Nuclear Facility Engineering Director
+D. Dean, Performance Enhancement Program Administrator
+R. Brown, Acting Nuclear Projects Director
+T. Chowdhary, Engineering Services Manager
+L. Frelin, Acting ILSP Manager
+D. Miller, Staff Assistant to the Assistant Vice President
+G. Collier (Consultant)

b. NRC

+I. Jackiw, Section Chief, DRP
+W. Rogers, Senior Resident Inspector
+*D. Kosloff, Resident Inspector
+R. Hasse, Regional Inspector, DRS

*Denotes those attending the June 7, 1985 exit interview.

+Denotes those attending the May 16, 1985 Regulatory Improvement
Program meeting.

The inspectors also interviewed other licensee employees, including
members of the technical, operations, maintenance, I&C, training, health
physics and nuclear materials management department staff.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (346/85016-01): Shift Supervisor not notified
at the time that the security and fire protection computer was shut down
for maintenance. This item was escalated to an item of noncompliance
(346/85018-01).

(Closed) Unresolved Item (346/85016-02): Non-licensed operator found asleep while responsible for monitoring piping as required by facility license. Item was escalated to an item of noncompliance (346/85018-03).
(Closed) Unresolved Item (346/85016-03): Exceeding power limit imposed by reduced reactor coolant flow. This item was escalated to an item of noncompliance (346/85018-02).

No items of noncompliance or deviation were identified.

3. Operational Safety Verification

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the months of May and June. The inspector verified the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components.

Tours of the 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 May, the inspector walked down the accessible portions of the main steam system to verify operability.

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.

While reviewing the unit log on June 9, 1985, the inspector noted that there was no Appendix R trained electrician on site from approximately 1100 on June 8, 1985 until approximately 0130 on June 9, 1985. Discussions with the plant manager revealed that the electrician on duty the evening of June 8 had left the site before his relief had arrived. The electrician has been disciplined. This item is considered closed.

No items of noncompliance or deviation were identified.

4. Monthly Maintenance Observation

Station maintenance activities of safety related systems and components listed below 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 prevention 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:

- Modification of the reactor protection system reactor coolant flow input
- Repair of the No. 1 Auxiliary Feedwater Pump turbine governor

Following completion of maintenance on the reactor protection system, the inspector verified that this system had been returned to service properly.

No items of noncompliance or deviation were identified.

5. Monthly Surveillance Observation

The inspector observed technical specifications required surveillance testing on the Control Rod Drive (CRD) Trip Breakers, ST 5030.12, Channel Functional Test of the Reactor Trip Module Logic and CRD Trip Breakers, and ST 5030.20, CRD Trip Breaker Response Time Test, 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. While observing the test, the inspector noted that when the technicians attempted to close the breaker it tripped free. The breaker remained in this condition for 28 minutes. After the I&C technician controlling the test brought this to the attention of a maintenance engineer, it was determined that the technicians had mistakenly begun to perform a section of the test that was to be done only when the reactor was shut down (the reactor was at power at the time of the test). Although this item was brought to the attention of the Maintenance Superintendent and corrective action was taken, it was not documented in a test deficiency list or a deviation report. This is an unresolved item (346/85020-01).

The inspector also witnessed portions of the following test activity:

ST 5071.02 Auxiliary Feedwater System Refueling Test

No items of noncompliance or deviations were identified.

6. Followup on Operational Events

Following the plant trip on June 2, 1985, the inspector ascertained the status of the reactor and safety systems by observation of control room indicators and discussions with licensee personnel concerning plant parameters, emergency system status and reactor coolant chemistry. The inspector verified the establishment of proper communications and reviewed the corrective actions taken by the licensee.

All systems responded as expected, except for an unexplained steam generator (SG) low level trip on one channel of the Steam and Feedwater Rupture Control System (SFRCS), unexplained trips of both main feedwater pump turbines, and less than optimum performance of No. 1 auxiliary feedwater (AFW) pump. The probable cause of the MFP turbine trips was a high turbine speed increase (to 5150 RPM) command from the Integrated Control System (ICS) to the MFP turbine governor. The rapid feedwater reduction (RFR) circuit in the ICS has now been adjusted so that in the event of a reactor trip the MFP turbine will receive a lower speed increase (to 4600 RPM) command. The MFP turbine governor trip solenoids have been provided with additional instrumentation which will record any transient trip signals which are not recorded by the plant computer. Until the cause of the MFP turbine trips is positively identified and corrected, the licensee will operate the plant with one MFP in manual control and one MFP in automatic control when above 50% power. The RFR command to a MFP turbine governor is blocked when the MFP is in manual. This item will remain open (346/85020-02) until the cause of the MFP turbine trips is determined and corrected. The poor performance of No. 1 AFW pump was attributed to a fatigued roll pin in the AFW pump turbine governor speed setting shaft. The pin, which acts as the low speed stop in the governor, was bent and the governor speed changer motor was damaged. The licensee and the governor manufacturer's representative believe that the bent roll pin caused the damage to the speed changer motor. The bent roll pin and the damaged speed changer motor were replaced and the licensee is continuing to evaluate the cause of malfunction. This item will remain open (346/85020-03) until the cause of the malfunction is determined. The No. 2 AFW pump turbine governor is a different model and does not have roll pins.

The plant was returned to operation on June 4, 1985.

On June 5, 1985, the breaker that supplies electrical power to the containment isolation valve, CV 5078, for a containment vacuum breaker valve was found in the open position. No maintenance was in progress on the valve or in the vicinity of the breaker. The licensee is continuing to investigate the cause of the breaker being out of its proper position. This is considered an open item (346/85020-04).

Following the plant trip and SFRCS actuation on June 9, 1985, the inspector ascertained the status of the reactor and safety systems by observation of control room indicators and discussions with licensee personnel concerning plant parameters, emergency system status and reactor coolant chemistry. The inspector verified the establishment of proper communications.

All systems responded as expected, except for an unexplained SG low level trip on one channel of SFRCS, unexplained closure of both main steam isolation valves, the tripping of both AFW pump turbines on overspeed, the failure of AFW isolation valves AF 599 and 608 to open when required, the failure of one source range nuclear instrument and the failure of the power operated relief valve to close at the proper setpoint. The unit is in cold shutdown to allow the licensee to investigate, repair and test the systems that malfunctioned. The cause of the trip, determination of any additional equipment malfunctions and the explanations for the failure of equipment will be the subject of later reports by Region III and an NRC Fact Finding Team.

No items of noncompliance or deviations were identified.

7. Management Meetings

A meeting was held on May 16, 1985 at the plant site in which the licensee provided the status of a number of Regulatory Improvement Program implementation plans.

No items of noncompliance or deviations were identified.

8. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. An unresolved item disclosed during the inspection is discussed in paragraph 5.

9. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspectors, and which involve some action on the part of NRC or licensee or both. Open items disclosed during the inspection are discussed in paragraph 6.

10. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) throughout the month and at the conclusion of the inspection on June 7, 1985 and summarized the scope and findings of the inspection activities. The licensee acknowledged the findings. After discussions with the licensee, the inspectors have determined there is no proprietary data contained in this inspection report.

JUN 28 1985

Docket No. 50-346

Toledo Edison Company
ATTN: Mr. Richard P. Crouse
Vice President
Nuclear
Edison Plaza
300 Madison Avenue
Toledo, OH 43652

Gentlemen:

This refers to the routine safety inspection conducted by Messrs. W. Rogers and D. Kosloff of this office on May 14 through June 10, 1985, of activities at Davis-Besse Nuclear Power Station authorized by NRC Operating License No. NPF-3 and to the discussions of our findings with Mr. S. Quennoz at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

No items of noncompliance with NRC requirements were identified during the course of this inspection.

In accordance with Section 2.790 of the NRC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosure will be placed in the NRC's Public Document Room.