U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-346/80-29

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

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

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

Inspection At: Davis-Besse Site, Oak Harbor, OH

Inspection Conducted: October 20-25, 27-31, November 1-8, 10, 12-14, 17-21, 24-26, December 1-5, 1980

Inspectors: RFW for
L. A. Reyes 12-18-80
Date

RFW for
W. G. Rogers 12-18-80
Date

RF Warnick
Approved By: R. F. Warnick, Chief
Reactor Projects Section 3 12-12-80
Date

Inspection Summary

Inspection on October 20-25, 27-31, November 1-8, 10, 12-14, 17-21, 24-26, December 1-5, 1980 (Report No. 50-346/80-29)
Areas Inspected: Routine resident inspection of Followup on Previous Inspection Findings, Operational Safety Verification, Monthly Surveillance Observation, IE Bulletin Followup, IE Circular Followup, Licensee Event Reports, Plant Trips on November 6, 8, 12 and December 3, 1980, Action on TMI Category "A" Requirements and November 16, 1980 Feedwater Transient. The inspection involved 311 inspector-hours onsite by two NRC inspectors including 64 inspector-hours onsite during off-shifts.
Results: Of the nine areas inspected no items of noncompliance or deviation were identified in eight areas; one apparent item of noncompliance was identified in the other area (Violation of Severity Level IV - Failure to exercise the containment pressure transmitters during the monthly Functional Test - Paragraph 4).

DETAILS

1. Persons Contacted

+*T. Murray, Station Superintendent
*B. Beyer, Assistant Station Superintendent
*P. Carr, Maintenance Engineer
*S. Quennoz, Technical Engineer
+*D. Huffman, Administrative Coordinator
D. Miller, Operations Engineer
D. Briden, Chemist and Health Physicist
*J. Hickey, Training Supervisor
L. Simon, Operations Supervisor
*C. Daft, Operations QA Manager

+Denotes those present at the exit interview on October 24, November 14, 1980.

*Denotes those present at the exit interview on December 4, 1980.

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

2. Previous Inspection Findings

(Closed) Unresolved Item (50-346/80-19-05). Revision 13 to Drawing M-023 reflects as built condition of penetration 33 in that valve CV-127 is properly identified.

(Closed) Noncompliance (50-346/80-23). The licensee has implemented a system where a watchman assigned duty to an open vital door is required to pick up a folder containing the required forms for that door from the Lead Nuclear Guard. The folder and the forms must be returned to the Lead Nuclear Guard by the watchman at the completion of his assignment. During the conduct of plant tours the Inspector verified that this system is being followed and that records of entry and exit of vital doors are being kept.

(Closed) Followup Item (50-346/80-23-04). The inspector reviewed the below listed procedures and verified that appropriate guidance was provided to the operators for positive indication of PORV and Safety Valve Position.

EP 1202.02.16 "Station Blackout."

EP 1202.04.17 "Reactor/Turbine Trip."

EP 1202.14.8 "Loss of Reactor Coolant Flow - RCS Trip."

EP 1202.26.13 "Loss of Steam Generator Feed."

EP 1202.29.4 "Pressurizer System Failure."

SP 1105.20.0 "Power Operated Relief Valve and Safety Relief Valve Monitoring System Operating Procedure."

SP 1103.05.10 "Pressurizer Operation."

PT 5164.02.5 "Pressurizer Relief Valve Periodic Test."

MC 7500.21.0 "Verification of PORV/SAF RLF Valve Monitoring System Operation."

The inspector reviewed the Acceptance Test conducted and reviewed on October 20, 1980, and determined that the installation of the system is adequate.

(Closed) Followup Item (50-346/80-25, Paragraph 2). The licensee completed the test on the fast transfer from Auxiliary Transformer 11 to Startup Transformer 01 and 02. The inspector reviewed the test data which indicates that the voltage perturbance is approximately 6 cycles (0.1 seconds) which is small compared to the time required for the under-voltage relays to actuate (7.5 seconds). The inspector also witnessed that on December 3, 1980, during a unit trip from 100% power the fast transfer performed satisfactorily.

3. Operational Safety Verification

The inspector observed Control Room operations, reviewed applicable logs and conducted discussions with Control Room operators during the dates of October 20 through December 5, 1980. 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 Building, Containment Building and Turbine Building 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 period of October 20 through December 5, 1980, the inspector walked down the accessible portions of the Emergency Core Cooling Systems 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.

Technical Specification 4.8.1.2

Technical Specification 4.8.1.2 delineates the surveillance requirements for the electrical power systems in Modes 5 and 6. The surveillance requirement grants exemption to Item 4.8.1.1.2.5 for Modes 5 and 6. Item 4.8.1.1.2.5 is a test requirement for synchronizing and operating the generator loaded to 1000 kw for 60 minutes. Exemption to this item is an error in the technical specification in that this test is needed during all modes of operation to verify the operability of the Diesel Generator. The exemption granted on 4.8.1.2 for Modes 5 and 6 should be from Item 4.8.1.1.2.7 in that the load sequencer is not required in these modes. The inspector discussed this error in the technical specifications with the licensee and the licensee has initiated Facility Change Request 80-270 to request a technical specification change.

No items of noncompliance or deviations were identified.

4. Monthly Surveillance Observation

The inspector observed technical specifications required surveillance testing on the SFAS Channel 3 (ST 5031.01) 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: Diesel Generator 1-1 (ST 5081.01), High Pressure Injection Pump 1-1 (ST 5051.09) and Miscellaneous Instrument Shift Check (ST 5099.01).

Subsequent to the monthly surveillance observation the inspector noticed that procedure ST 5031.01, "SFAS Monthly Test," simulated a pressure signal at the SFAS cabinet and did not require pressurizing the transmitter. Technical Specification 3.3.2.1 Table 4.3-2, Note 2, requires that during the performance of the Monthly Channel Functional Test the pressure transmitter be exercised by applying pressure to the transmitter.

At 4:30 P.M. on November 17, 1980, the inspector notified the licensee of his findings. The licensee declared all four channels of containment pressure inoperable and prepared to shutdown the unit as per the requirements of Technical Specification 3.0.3. The licensee began testing the pressure transmitters at 5:00 P.M. and an emergency technical specification

change was granted until all char ,ls were successfully tested. 'At 11:00 P.M. on November 17, 1980, all channels had been declared operable. The testing performed indicated that all four channels had the proper calibration. Failure to comply with the surveillance requirements of Technical Specification 3.3.2-1 is an item of noncompliance.

No additional items of noncompliance or deviations were identified.

5. IE Bulletin Followup

For the IE Bulletins listed below the inspector verified that the written response was within the time period stated in the bulletin, that the written response included the information required to be reported, that the written response included adequate corrective action commitments based on information presentation in the bulletin and the licensee's response, that licensee management forwarded copies of the written response to the appropriate onsite management representatives, that information discussed in the licensee's written response was accurate, and the corrective aciton taken by the licensee was as described in the written response.

IE Bulletin 80-16 "Potential Misapplication of Rosemount Inc., Model 1151 and 1152 Pressure Transmitters with Either "A" or "D" Output Codes."

IE Bulletir 80-23 "Failures of Selenoid Valve Manufactured by Valcor Engineering Corporation."

No items of noncompliance or deviations were identified.

6. IE Circular Followup

For the IE Circulars listed below, the inspector verified that the circular was received by the licensee management, that a review for applicability was performed, and that if the circular were applicable to the facility, appropriate corrective actions were taken or were scheduled to be taken.

IE Circular 78-16 "Limitorque Valve Actuators."

IE Circular 79-22 "Stroke Times for Power Operated Relief Valves."

IE Circular 80-01 "Service Advice for GE Induction Disc Relays."

IE Circular 80-03 "Protection from Toxic Gas Hazards."

IE Circular 80-16 "Operational Deficiencies in Rosemount Model 510DU Trip Units and Model 1152 Pressure Transmitters."

No items of noncompliance or deviations were identified.

7. 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.

LER 79-11 "Loss of Both 4.16 kv Busses While Starting RCP 1-2-2."

LER 79-46 "Emergency Diesel Generator Inoperable Due to Turbocharger Bearing Failure."

LER 80-10 "Design Deficiency on Reactor Coolant Loop Pipe Whip Restraints."

LER 80-19 "Failure to Verify Flux-Δ Flux-Flow Trip Setpoint Within the Specified Time Requirement of Technical Specifications."

LER 80-65 "Loss of Control Power to Emergency Diesel Generator Output Breaker."

LER 80-68 "Loss of Meteorlogical Tower Indication in the Control Room."

LER 80-69 "Failure of Emergency Diesel Generator Idler Gear Bolts."

LER 80-71 "Fire on Emergency Diesel Generator Turbocharger."

LER 80-72 "Broken Spindle on Containment Isolation Valve CV 5011E."

LER 80-73 "Failure of Personnel Airlock to Close."

LER 80-74 "Surveillance for Personnel Airlock Exceeded the Technical Specification Requirement."

LER 80-75 "Channel 3 of the SFRCS Drift 15 Inches from Setpoint."

LER 80-76 "Excessive Leakage Through Valve CF-30."

No items of noncompliance or deviations were identified.

8. Plant Trips

Following the plant trips on November 6, 8 and 12, December 3, 1980, 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, and the plant was returned to operation on November 7, 9 and 13, 1980, respectively. The unit remained down after the December 3, 1980 trip.

No items of noncompliance or deviations were identified.

9. Action on TMI Category "A" Requirements

Interim Position for Containment Purge and Vent Valve Operation

(TAP II.E.4)

The licensee has implemented Facility Change 79-434 which provides a mechanical stop for the Containment Purge Valves. The mechanical stop will prevent the valves to open no more than 65° (90° being fully open). Calculations by the valve vendor indicate that aerodynamic torques with the valves at less than 65° open are approximately half of the full open conditions. The valve manufacturer's engineering judgment indicates that the resultant loads in critical valve components will also be reduced by the same magnitude, thus enhancing the capability of these valves to withstand LOCA generated forces.

The inspector has also verified that the licensee performs surveillance testing (ST 5064.01) to verify that the opening of the Containment Purge Valves is limited to 65°.

The purging and venting time at Davis-Besse is limited by Technical Specification 3.6.1.7 not to exceed a total of 90 hours for the preceding 365 days. The surveillance requirement of the technical specification requires that the accumulated time for venting and purging for the preceding 365 days be determined every 24 hours. The inspector has determined during the course of his routine inspection that the containment venting and purge has been performed in compliance with the technical specification and further that it has been limited to as low as operationally achievable (the highest accumulated time for any 365 day period has been approximately 49 hours).

The licensee has performed the testing required by IE Bulletin 80-06 to determine that the Containment Purge Isolation Valve will isolate by the Safety Feature Actuation System (SFAS) and that upon resetting of that signal the valves will remain in its safety actuation mode.

No items of noncompliance or deviations have been identified.

10. November 16 Feedwater Transient

On November 16 while at 75% power, the unit experienced an increase in feedwater flow and an increase in the steam generator level. Manual action by the operator was required to bring the steam generator level back to normal. The increase in feedwater flow was

caused by a faulty relay in the feedwater flow circuit. While reviewing the operator actions the inspector determined that the existing emergency procedures do not provide guidance to the operators for an overfeeding of the steam generators. The inspector had discussed with the licensee the need to prepare such a procedure during the exit of October 24, 1980. The licensee is currently working on preparing such a procedure. The inspector will followup on this item to verify that such a procedure is prepared. (50-346/80-29-01)

The licensee is conducting further analysis on the transient because the steam generator level experienced exceeded 82.5%, which is the level that Babcock & Wilcox (the NSSS) recommends for tripping the feedwater pumps. The inspector will followup on the licensee's analysis of the transient. (50-346/80-29-02)

No items of noncompliance or deviations were identified.

11. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) on October 24, November 14 and December 4, 1980, and summarized the scope and findings of the inspection activities.