

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-346/88011(DRS)

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, Ohio

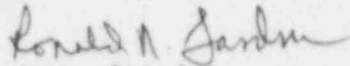
Inspection Conducted: April 11-29, 1988

Inspector: J. H. Neisler



5/9/88
Date

Approved By: Ronald N. Gardner, Chief
Plant Systems Section



5/9/88
Date

Inspection Summary

Inspection on April 11-29, 1988 (Report No. 50-346/88011(DRS))

Areas Inspected: Routine announced inspection of the licensee's implementation of Generic Letter 83-28 in the areas of equipment classification, vendor interface, post maintenance testing, and reactor trip system reliability. Closed TI 2515/64R1 and TI 2515/91. (25564) (25591)

Results: No violations or deviations were identified.

DETAILS

1. Persons Contacted

Principle Licensee Employees

- *L. Ramsett, Quality Assurance Director
- *B. Shingleton, Licensing
- *G. Honma, Compliance Supervisor
- *D. Wilczynski, Configuration Management
 - L. Storz, Plant Manager
 - J. Fehl, Systems Engineer
- *D. Hooten, Systems Engineer
- M. Shoener, Technical Support Training Supervisor
- *L. Wade, Quality Control Supervisor
- G. Summers, Nuclear Support Training Supervisor
- *C. Williams, Systems Engineer
 - F. Espinoza, Configuration Management
 - R. Rinderman, Quality Verification Supervisor
 - J. Moyers, Quality Verification Superintendent
- *N. Bonner, Assistant Plant Manager-Maintenance
 - A. Potocnik, Configuration Management
- *R. Schrauder, Licensing Manager
 - T. Anderson, Maintenance/Outage Planning
 - J. Michealis, Planning
- *E. Salowitz, Planning Superintendent

NRC Personnel

D. Kosloff, Resident Inspector

*Denotes those persons attending exit interview.

2. TI 2515/64P1 (Closed) TI 2515/91 (Closed)

a. Equipment Classification

The inspector selected four components in the reactor protection system (RPS) and nine components in the containment spray system for examination during this inspection. The components selected were:

RPS

Reactor trip breaker
Manual trip switch
SCR power supply
15 VDC power supply

Containment Spray

Containment spray pump
Containment spray pump motor
M.O. valve CS-1530
M.O. valve CS-1531
Flow Element FE-1547
Check valve CS-10
480 volt circuit breaker
Flow transmitter FT-1547
Valve CS-14

For the selected components, the inspector performed the following reviews or inspections:

- (1) The inspector reviewed the Davis-Besse safety-related component list (Q-List) and procedures for classifying components included in the Q-List. Each of the above selected safety-related components was identified on the Q-List. The licensee is developing a computerized equipment list, configuration equipment summary (DBCES), that, when fully implemented, will replace the hard copy Q-List. The hard copy list will be maintained until the DBCES is fully implemented. The inspector reviewed maintenance and test procedures, work orders and modification packages to verify that components, systems, structures and activities were appropriately classified.
- (2) To determine the level of plant and corporate management oversight, the inspector reviewed procedures controlling maintenance, modifications, procurement and issue, inspection and testing of safety-related items, quality assurance procedures, audits and surveillances, work orders and corporate level procedures for activities impacting safety-related structures, systems and components.
- (3) Safety classification of activities, structures, systems and components is controlled by approved procedures. Classification of safety-related components is the responsibility of the licensee's engineering organization. Activities are classified as safety-related or non-safety-related during the work order initiation and review process.
- (4) To verify the existence of procedures or instructions for safety-related activities, the inspector reviewed approved procedures for maintenance, modifications, testing, storage, procurement, inspection and surveillance of safety-related structures, systems and components.
- (5) The inspector selected names of persons performing safety-related activities from work orders issued for the performance of maintenance and modifications on safety-related components, systems and structures. Each person selected had received the training required to qualify him to perform the assigned task. Formal training and indoctrination programs have been implemented for craft and engineering personnel performing safety-related activities. However, a formal training program for first line supervisors, planners and quality control inspectors to assure and maintain technical proficiency had not been implemented. Licensee personnel indicated that training for those persons was available on an as needed basis although formal training requirements have yet to be established.

- (6) The inspector reviewed eleven audit reports and fifteen surveillance reports documenting Quality Assurance audits and surveillances involving safety-related activities. The inspector also verified that the Quality Assurance organization maintains a schedule of planned audits and surveillances for safety-related activities at the plant.
- (7) The corrective action program for safety-related structures, systems, and components is described in the licensee's Quality Assurance Manual. The inspector's review of corrective action for audit and surveillance findings revealed that corrective action for these findings was timely and complete.
- (8) Review and evaluation of information concerning malfunction of equipment is controlled by the licensee's nonconformance and deficiency control program and the operating experience assessment program (OEAP). Equipment malfunctions are reviewed by management and performance engineering to determine whether an identical replacement could be expected to perform reliably.
- (9) The inspector reviewed four examples of modification activities involving the reactor protection system and the containment spray systems. The modification packages, work orders, inspection documentation and drawings were clearly identified as to their safety classification.

No violations or deviations were identified.

b. Vendor Interface

The inspector reviewed the licensee's procedures established to assure that vendor information is current and complete. Vendor manuals for selected components from the reactor protection system, including reactor trip breaker, and the containment spray system were reviewed for completeness and to determine whether the manuals accurately reflected the installed equipment. Guidance provided in the manuals has been included in the maintenance test and inspection procedures involving safety-related structures, systems and components.

The inspector verified that the licensee has established a program for periodic contacts with vendors of safety-related components. The licensee's procedures for controlling and replacing equipment and vendor manuals were reviewed and determined to be adequate to control situations where the vendor goes out of business or situations in which a vendor will not supply information to the plant.

The inspector reviewed vendor recommended modifications on the reactor trip breakers. The only modifications performed have been the shunt trip modification and on-line testing modification recommended by the owner's group.

No violations or deviations were identified.

c. Post Maintenance Testing

The inspector selected one reactor trip breaker, a containment spray pump and two valves for review to verify that the licensee was implementing a post maintenance test program. For the selected components, the inspector determined the following.

- (1) The licensee has implemented procedures and checklists for controlling post maintenance testing and surveillances. The inspector reviewed completed work orders involving preventive and corrective maintenance that demonstrated that the required post maintenance testing, surveillance testing or component functional testing was being performed.
- (2) Criteria and responsibilities for maintenance approval for designating maintenance activities as safety-related have been established in maintenance work order procedures and modification procedures. Post maintenance test inspection is controlled by quality procedures and established inspection hold points.
- (3) Methods for performing functional testing following maintenance of safety-related components have been developed and are delineated in published technical staff procedures, operator surveillance procedures, and maintenance procedures.
- (4) The inspector reviewed completed work orders and supporting documentation retrieved from the document control system. The documentation contained approvals of work orders, the identity of the persons who performed the activity and the identities of persons who performed the inspections and reviews.
- (5) The inspector verified that the licensee was performing surveillances of the shunt trip attachment by review of completed surveillance procedures and surveillance inspection reports for the RPS trains.
- (6) Verification that the licensee was independently testing the ability to manually trip the reactor trip breakers through the use of either the undervoltage trip attachment or the shunt trip attachment was accomplished by reviewing completed surveillance procedure/checklists and surveillance inspection reports.

No violations or deviations were identified.

d. Reactor Trip System Reliability

The inspector verified that the licensee has established a preventive maintenance and surveillance program for the reactor trip breakers. Procedure MP 1405.05 (DB-ME-09101), "480V AK Reactor Trip Breaker Maintenance and Testing," includes periodic maintenance,

lubrication, undervoltage trip device pickup and dropout voltages, trip shaft torque and other measurements recommended by the circuit breaker manufacturer.

Monthly functional tests of the reactor protection system are performed under Procedures ST 5030.12, "Channel Functional Test of the Reactor Trip Module Logic and Control Rod Drive Trip Breakers," and ST 5030.02, "RPS Monthly Functional Test". Surveillance testing of the silicon controlled rectifiers is performed using Procedure PT-5199.26, "CRD Independent SCR Functionability Test". Manual trips are tested by Procedure ST 5030.13, "Channel Functional Test of the Manual Reactor Trip".

The Safety Evaluation Report (SER) accepting the licensee's program for life cycle testing and replacement programs for the reactor trip breakers and components has not been issued by NRC/NRR. Discussions with cognizant licensee personnel indicated that the B&W owners group was preparing a submittal relative to life expectancy of the breakers and components based on equipment failure history of the General Electric type AK circuit breaker, the shunt trip and the undervoltage trip devices.

No violations or deviations were identified.

4. Exit Interview

The inspector met with licensee representatives (denoted under Paragraph 1) at the conclusion of the inspection and summarized the scope and findings of the inspection. The licensee acknowledged the inspector's comments. The inspector also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. The licensee did not identify any such documents or processes as proprietary.