UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
Washington, D.C. 20555

INSPECTION AND ENFORCEMENT MANUAL

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TEMPORARY INSTRUCTION 2515/64 REVISION 1

NEAR-TERM INSPECTION FOLLOWUP TO GENERIC LETTER 83-28

2515/64-01 PURPOSE

To provide guidance for performing near-term inspection followup to the licensee's response to Generic Letter (GL) 83-28, "Required Actions Based on Generic Implementation of Salem ATWS Events," July 8, 1983.

2515/64-02 OBJECTIVE

To provide near-term inspection of the equipment classification, vendor interface, and maintenance programs for selected safety-related components within safety-related systems. R

2515/64-03 BACKGROUND

On February 25, 1983, during startup of the Salem Unit 1 plant, both Westinghouse-type DB-50 reactor trip system (RTS) circuit breakers failed to open automatically upon receipt of a valid trip signal on a low-low steam generator water level. This failure to trip was attributed to a binding within the undervoltage trip attachment (UVTA) located inside the breaker cubicle. The reactor was tripped manually from the control room about 30 seconds after the automatic trip signal was generated. Subsequent to the February 25 event, it was determined that a failure of the breakers to open following receipt of an automatic reactor trip signal had also occurred on February 22, but had not been detected at that time by the licensee. In addition, NRC has become aware of approximately 25 other instances wherein the UVTAs failed to trip the RTS breakers within the acceptance time specified by the licensees. Sluggish operation of the UVTAs may indicate that the breakers are deteriorating to the point where complete failure to trip may ensue. This situation has caused NRC to require licensees to expand their maintenance and surveillance testing of RTS breakers. R

The Commission has reviewed several intermediate term actions to be taken by licensees and applicants as a result of the Salem ATWS. The actions were developed on the basis of information contained in NUREG-1000, "Generic Implications of ATWS Events at the Salem Nuclear Power Plant." NRR issued GL 83-28 to all licensees and applicants on July 8, 1983, requiring the utilities, pursuant to 10 CFR 50.54(f), to furnish the status of current conformance with the positions contained in GL 83-28 and plans and R

and schedules for any needed improvements. Initial responses to NRR were provided on or about November 5, 1983.

Several of the items addressed in GL 83-28 require immediate action by the licensee or require the licensee to describe its current program (as well as plans and schedules for changes to programs). The emphasis of this TI is on immediate actions taken by the licensee in response to GL 83-28 and on associated licensee programs that are in place. Inspections should be tailored consistent with the licensee's responses that describe actions taken or current programs or practices in the following areas:

Equipment Classification (Response to Items 2.1 and 2.2.1 of GL 83-28) R

Vendor Interface (Response to Items 2.1 and 2.2.2 of GL 83-28) R

Post Maintenance Testing (Response to Items 3.1 and 3.2 of GL 83-28) R

RTS Reliability (Response to Items 4.2, and 4.5.1 of GL 83-28)

Additional inspections may be required following issuance of safety evaluation reports (SERs) after licensees have implemented proposed or approved program changes. Criteria and guidance for doing these post-SER inspections will be provided separately.

It should be noted that no new generic requirements are imposed on the licensee, on the basis of GL 83-28 (i.e., beyond those to which the licensee committed in its response and existing regulatory requirements).

IE Information Notices 83-18, 83-50, and 83-76, IE Bulletins 83-01, 83-04, and 83-08, and licensee responses to the bulletins may provide important background information to the inspection effort.

2515/64-04 INSPECTION REQUIREMENTS

04.01 Post-Trip Review - requirement deleted pending SER issuance.

04.02 Equipment Classification

a. Verify that, at a minimum, four components that have been classified as safety related (on the basis of selection guidance in Appendix A) are identified as such in written directives (procedures, instruction, etc.) and documentation for procurement, maintenance, and modification actions. Sample at least 10 actions (e.g., procurement requests, maintenance requests, etc.) in the procurement, maintenance, and modification area for each component selected. Items potentially misclassified should be noted in the report.

b. Verify that the licensee's management controls for safety related systems or structures and the safety related components, that are associated with these systems or stru-

tures, have been implemented. The following areas should be reviewed:

1. Plant and corporate management's oversight activities over structures, systems, or components (S/S/Cs) which have been designated as safety related in accordance with the licensee's classification system. R R

2. Knowledge and training of those individuals responsible for designating the safety classification of activities impacting structures, systems and components is sufficient to preclude the possibility of not applying the appropriate level of QA controls. R R R R

3. Existence of written directives (i.e., procedures, instructions, etc.) for activities affecting safety-related S/S/Cs issued by the plant or corporate manager who is assigned principal responsibility for satisfactory completion of procurement, maintenance, or modification activities. R R

4. Provisions for indoctrination and training of personnel performing activities impacting equipment which has been designated safety related in accordance with the licensee's classification system. R R

5. The planned and periodic audits over activities impacting equipment which has been designated safety-related in accordance with the licensee's classification system. R R R

6. The corrective action program or controls for equipment which has been designated safety related in accordance with the licensee's classifiction system to assure that conditions adverse to quality (failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances) are promptly identified, corrected, and trended. R R

7. The review and evaluation of information concerning malfunctioning of equipment which has been designated safety-related in accordance with the licensee's classification system to determine whether a replacement component of the same type can be expected to perform its functions reliably. R R R

For items 1-7, review from inception to completion at least one modification or maintenance action to ensure that these management controls are used. Verify through the use of lists, drawings, etc. that plant personnel can determine that components affected by the modification or maintenance action are identified clearly as safety-related or non-safety related.

04.03 Vendor Interface

a. Verify the licensee has established, implemented, and maintained a continuing program to assure that vendor information for safety-related components is complete, current and controlled throughout the life of the plant. Refer to the vendor-furnished technical manual for, at a minimum, four components that have been classified as safety related (on the basis of the selection guidance in Appendix A). Determine if the appropriate test guidance from the vendor is included in the licensee's test procedures, maintenance procedures, or technical specifications. R

b. For components similar to those considered in 04.03a, select those which were supplied by vendors who cannot now be identified, have gone out of business, or will not supply information appropriate to perform maintenance on these components. Check for the existence of a technical manual. Verify that the licensee has implemented a preventive maintenance program for these components to handle situations of inadequate traceability of component performance back to the vendor.* R R

c. Verify that the licensee can provide evidence to demonstrate that vendor-recommended modifications were implemented on the RTS breakers. If modifications were not implemented, verify the licensee has justification for not performing those modifications. For example, modifications recommended by Westinghouse for DB-50 breakers and DS-416 breakers were required to be implemented, or a justification for not implementing the modifications should have been documented by the licensee. R

d. Verify, in accordance with the licensee's response to GL 83-28, that the licensee has established a program for preventive maintenance and surveillance for the reactor trip breakers. Verify that this program includes the following:

   1. Periodic maintenance, including lubrication, housekeeping, and other items recommended by the supplier.

   2. Trending of parameters affecting lubrication, housekeeping, and other items recommended by the supplier.

* Note that this item may not be appropriate if vendor information is available, up-to-date, and complete. R

3. Life testing of breakers on the basis of instructions furnished by the supplier (if required by the supplier).

4. Periodic replacement of breakers or spare parts on the basis of instructions furnished by the supplier.

04.04 Post Maintenance Testing

a. Ascertain whether the licensee is implementing a program relating to post-maintenance activities prior to operability for, at a minimum, four components that have been classified as safety related (on the basis of selection guidance in Appendix A). Verify that this program includes the following:

1. Written procedures have been established for initiating requests for post-maintenance testing.

2. Criteria and responsibilities for review and approval of maintenance have been established.

3. Criteria and responsibilities that form the basis for designating the activity as safety/non-safety related have been established.

4. Criteria and responsibilities have been designated for performing inspection of post-maintenance testing activities.

5. Methods have been designated for performing functional testing of structures, systems, or components following maintenance, before they are returned to service.

6. Administrative controls for post-maintenance testing activities require that the following records have been prepared, assembled, and reviewed for transfer to records storage:

(a) Approvals of maintenance requests

(b) Identification of the personnel who performed the maintenance task

(c) Identification of the personnel who inspected the maintenance work

b. Post-maintenance requirements deleted-now covered in R IP-62703.

04.05 Surveillance Testing of the Diverse Reactor Trip Functions of the RTS.

a. Verify that the licensee is performing surveillance testing of the silicon-controlled rectifiers for the RTS at B&W plants.

b. Verify that the licensee is performing surveillance testing of the shunt trip attachment for the RTS breakers at Westinghouse, CE, and B&W plants. Verify that the licensee is testing independently the ability to manually trip the breakers through the use of either the UVTA or shunt trip attachment at CE and Westinghouse plants. Verify that the licensee is testing the ability to trip automatically and manually at B&W plants.

2515/64-05 REPORTING REQUIREMENTS

The appropriate Regional office will document the findings in an inspection report and forward a copy to Director, Division of Inspection Programs, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555. These findings will be used as one input for assessing the adequacy of the licensee response to GL 83-28. R R R R

When notification is required by the Regions concerning potentially generic events or issues, refer to TI 2500/3.

2515/64-06 EXPIRATION

This temporary instruction shall remain effective for one year or until the inspection has been completed at all facilities. Estimated completion date is January 1, 1986. R

2515/64-07 IE CONTACT

Before these Regional inspections, the inspector should obtain copies of the licensee submittals with respect to GL 83-28. If necessary, copies of these submittals can be obtained from the NRR project manager for the licensee or from Tom Alexion (FTS-492-7952), who is Program Coordinator for GL 83-28. Any questions regarding this temporary instruction should be addressed to S. D. Richardson (FTS 492-9612). R

2515/64-08 STATISTICAL DATA REPORTING

For 766 input, record the actual inspection effort against Module No. 25564B.

2515/64-09 ROUTINE PROGRAM CREDIT ASSOCIATED WITH PERFORMING TI

09.01 QA/QC Annual Review

The purpose of this Temporary Instruction is to ascertain the steps the licensee is following in order to maintain compliance with aspects of Section 6 of the TS, the FSAR, and Appendix B of 10 CFR 50. In the response of fulfilling this objective, the inspector may take credit for IE Inspection Procedure 35701, "Quality Assurance Program Annual Review," Inspection Requirement 02.01a and 02.01b, if:

- Verifications were conducted to determine that implementing procedures covering NRC-approved changes to the QA program were in conformance with the approved QA program.

- Verifications were conducted to determine that personnel responsible for developing implementing procedures are familiar with the programmatic changes.

- Reviews were conducted to determine that the licensee is implementing a QA program that is in conformance with regulatory requirements, commitments, and industry guides and standards.

Also, completion of the inspection requirements of this Temporary Instruction may also fulfill Inspection Requirement 35701-02.02a, i.e., performing inspections in at least three of the following areas:

Title	IE Inspection Procedure Number
Test and Experiments Program	37703
Procurement Control Program	38701
Receipt, Storage, and Handling of Equipment and Materials Program	38702
Records Program	39701
Document Control Program	39702
Onsite Review Committee	40700
Offsite Review Committee	40701
Audit Program	40702
Offsite Support Staff	40703
Implementation - Audit Program	40704

09.02 QA-Related Inspections

Credit may also be taken for IE 37702, "Modification Program" and/or IE 62702, "Maintenance Program" for the QA portion of those inspection procedures.

END

SELECTION GUIDANCE

The inspector should select safety-related components in a minimum of two safety related systems. One of the systems should be the reactor trip system. The inspector should utilize the licensee's classification system R to ascertain which components are clearly safety related. The inspector R may need to refer to plant drawings or other information sources to verify with the licensee that the inspector is utilizing components that are clearly safety related. The following is a suggested list of candidate components, which the inspector could utilize for the inspections:

A. Category A - Reactor Trip System

- Manual trip switch
- Mode selector switch
- Breakers (including undervoltage attachment and shunt attachment)
- Relays and/or logic cabinet instrumentation
- Sensors, bistables, trip units (i.e., those specified to operate as part of the QA classification system or Chapter 15 of the FSAR) and associated bypass controls and circuitry
- Signal isolator devices
- Control rod equipment
  - The latches (PWRs)
  - Hydraulic pistons (BWRs)
  - Pilot and backup valves (BWRs)

B. Category B - Another Safety-Related System

- Non-RTS breakers (including undervoltage attachment and shunt trip devices)
- Valves, piping and associated mechanical equipment for containment spray system (PWR)
- Valves, piping and associated mechanical equipment for suppression pool makeup system (BWR)
- Valves, piping and associated mechanical equipment for high pressure injection system (coolant, BWR) (safety, PWR)
- Valves, piping, and associated mechanical equipment for low pressure injection system (coolant, BWR) (safety, PWR)