

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

REGION III

Report No. 50-358/79-01

Docket No. 50-358

License No. CPPR-80

Licensee: Cincinnati Gas and Electric Company
139 East 4th Street
Cincinnati, Ohio 45201

Facility Name: Wm. H. Zimmer Nuclear Power Station, Unit 1

Inspection At: Zimmer Site, Moscow, Ohio

Inspection Conducted: January 3-6, and 8, 1979

Inspector: *F. A. Maura*
F. A. Maura

2/2/79

Approved By: *J. F. Streeter*
J. F. Streeter, Chief
Nuclear Support Section, No. 1

2/5/79

Inspection Summary

Inspection on January 3-6, and 8, 1979, (Report No. 50-358/79-01)

Areas Inspected: Routine, unannounced inspection of the preoperational test program organization and administration; status of previous unresolved items; preoperational test procedures; the injection of substandard water into the reactor vessel; and special test witnessing. The inspection involved 41 inspector-hours onsite by one NRC inspector.

Results: Of the five areas inspected no items of noncompliance or deviations were identified in four areas; one apparent item of noncompliance (infraction - failure to follow procedure - Paragraph 5 and one deviation - failure to comply with FSAR commitment on Reg Guide 1.37 - Paragraph 5) were identified in one area.

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DETAILS

1. Persons Contacted

- *J. Schott, Station Superintendent
- *P. King, Assistant Station Superintendent
- *S. Martin, Test Coordinator
- D. Anderson, Turnover Coordinator
- *W. Schwiers, Principal Quality Assurance and Standards Engineer
- *M. May, G.E. Site Operations Manager

The inspector also interviewed other licensee employees including members of the administrative, technical, operating, and QA&S staff; employees of the General Electric Company; and employees of Reactor Controls, Incorporated.

*Denotes those attending the exit interview.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (358/78-05-01): Bent Core Support Plate Pins. The inspector reviewed the results of the bent pin straightening program. The action taken was to straighten those pins which were more than 0.010 inch out in the transverse plane using a hammer and block of hard wood. Following that, the licensee installed all fuel support pieces. No problems were reported.

(Open) Unresolved Item (358/78-05-02): Three core support plate pins "repaired" prior to taking bend measurements. The licensee has not taken any action to replace the three previously "repaired" pins for which it is impossible to determine the degree of bending experienced or taken action to justify why the pins should not be replaced.

3. Preoperational Test Program

The inspector reviewed the latest revisions to the startup Administrative Control Procedures (including the addition of SU.ACP.17 "Special Tests") and Startup Project Procedures to ensure the changes do not conflict with FSAR commitments.

The licensee has issued instructions that all maintenance and repair work on safety related systems and components will be performed by General Engineering Department - Construction until the Administrative procedures which establish the station maintenance program are approved. The procedures which control the transfer of systems or components to construction and back to the Production Department already exist.

Of the 114 preoperational tests required to be completed prior to fuel loading, the licensee has completed writing 96 and has approved for use 63 test procedures. Sixteen systems or partial systems have been turned over for preoperational testing, fifteen preops are in progress and one test has been completed. No test results have been approved by the SRB yet.

No items of noncompliance or deviations were identified.

4. Review of Preoperational Test Procedures

The following procedures were reviewed and found to meet the requirements of Reg Guide 1.68, FSAR commitments, Preoperational Startup Testing Manual, and Startup Administrative Control Procedures, unless noted below:

- a. PO-LP-1, "Low Pressure Core Spray." The licensee changed the procedure to include a signoff step for each motor operated valve breaker to be tested.
- b. PO-PC-1B, "Containment Local Leak Rate Test Type C." The licensee will revise the procedure to include the drywell chilled water inboard isolation valves (four lines, one valve per line) and the TIP system isolation valves. With regard to other isolation valves listed in the FSAR but not included in this procedure, the licensee states these valves will be tested as part of a new procedure (PO-PC-1C) now in preparation.

The following procedures were reviewed and found to meet the requirements of the Preoperational Startup Testing Manual Startup Administrative Control Procedures, and the test objectives were found to be consistent with the objective committed to in the FSAR:

- a. PO-CA-1, "Condenser Vacuum"
- b. PO-CW-1, "Circulating Water"
- c. PO-CY-1, "Cycled Condensate System"
- d. PO-FW-2, "Feedwater Level Control"
- e. PO-GS-1, "Gland Seal Steam System"
- f. PO-IA-1, "Instrument and Service Air"
- g. PO-VD-1, "Diesel Generator Ventilation System"
- h. PO-VT-1, "Turbine Building Ventilation"
- i. PO-WS-2, "Service Water Auxiliaries"

No items of noncompliance or deviations were identified.

5. Injection of Non Class B Clean Standard Water Into the Reactor Vessel

The inspector reviewed the event of December 13, 1978, relating to the introduction of water which did not meet Class B cleanliness standards into the Class B clean reactor pressure vessel. The review consisted of interviews with testing and operating personnel involved in the event and a review of the logs, valve checks sheets, procedures, water chemistry records, etc. used during the filling and venting of the RHR 1B system in preparation for a system flush.

The review showed that:

- a. The water entered the reactor vessel through valve 1E12F053A because the valve was not fully closed. The water level rose to approximately two feet below the core support plate.
- b. The water which entered the reactor vessel exceeded the following Class B cleanliness parameters:

	<u>Results</u>	<u>Standard</u>
(1) Chlorine	1.8 ppm	< 1.0
(2) Sulfide	1.9 ppm	< 1.0
(3) Conductivity	10.2 micro mhos	< 3.0
(4) Turbidity	27 JTU	< 1.0

- c. The valve check list called for valve 1E12F053A to be closed.
- d. A danger tag had been placed on valve 1E12F053A for S. Swain (construction) on November 13, 1978, under Switching Order No. 781450. Switching Order No. 781450 required valve 1E12F053A to be closed. Safety tagging procedure EC.SAD.02, Revision 00, Step 6.6.5, states that the operator assigned to execute a switching order will review the order completely for understanding and then perform the actions stated in the switching order in the sequence listed. Apparently the operator executing the switching order failed to ensure that the valve was fully closed. This failure to follow procedures is contrary to 10 CFR 50, Appendix B, Criterion V, and is considered to be an example of an Item of Noncompliance (358/79-01-01) of the Infraction level.

- e. The valve lineup for the system fill was performed on or about December 12, 1978, in accordance with the valve check sheets of Operating Procedure OP.RH-01.27 which called for the valve to be closed. Apparently the operator saw the valve indicator showing closed and failed to verify the valve to be fully closed. Interviews with operating personnel disclosed that when performing a valve check list operators have the option to either accept the position indicator reading or physically verify the valve position by attempting to further close or open the valve. No training on this subject has been given to operating personnel. This is an Unresolved Item (358-79-01-02) pending further review of this matter by the licensee and inspector.
- f. Flushing procedure, SFP-RH, Revision 0, does not require that any of the system boundary valves be tagged. ANSI N45.2.1-1973, paragraph 7.1 (Preoperational Cleaning Preparations) states that critical valves, controls, and switches shall be tagged to prevent inadvertent actuation during the clean operation. In Appendix C of the FSAR, page 34, the licensee committed to comply with the requirements and guidelines of Reg Guide 1.37 which in turn endorses the requirements and recommendations of ANSI N45.2.1-1973. Failure of the flushing procedures to require tagging of a boundary valve is considered a Deviation (358/79-01-03) from the FSAR commitment to Reg Guide 1.37.
- g. SU-ACP.03 Revision 3, paragraph 4.10 states, that CG&E field quality assurance (QA&S) is responsible for assuring post flush cleanliness is maintained on systems under the jurisdiction of GED construction. At present the QA&S system consists of placing an orange with black stripes tag on each component which has been cleaned to control entry into the system. However, the tag does not restrict operation of the components. A method does not exist to control cleanliness where entry is not involved but cleanliness can be affected such as when a valve is left open. Failure to develop appropriate procedures to implement the QA&S responsibilities assigned in SU.ACP.03, Revision 3, Paragraph 4.10, is contrary to 10 CFR 50, Appendix B, Criterion V, and is considered to be an example of an Item of Noncompliance (358/79-01-01) of the Infraction level.
- h. Following the draining of the reactor vessel on December 13, 1978, Reactor Controls, Inc. personnel flushed all wetted surfaces by spraying with clean demineralized water. No samples were taken at that time.

- i. A nonconformance report was issued on December 18, 1978, but no disposition action had been taken on it as of January 8, 1979.

6. Document Control During System Turnover for Preoperational Testing

The inspector reviewed the document control system in effect once the "system freeze" occurs at turnover for preoperational testing. Several examples were satisfactorily "walked through" the system.

No items of noncompliance or deviations were identified.

7. Test Witnessing

The inspector witnessed portions of a special test being conducted on the RHR Loop C for the purpose of verifying pump performance characteristics, line losses, etc. The test was conducted in accordance with SU.SP.01.

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. Unresolved Items disclosed during the inspection are discussed in Paragraphs 5.e. and 5.f.

9. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on January 8, 1979. The inspector summarized the scope and findings of the inspection. In response to certain of the items discussed by the inspector. The licensee representatives:

Acknowledged the statements by the inspector with respect to the item of noncompliance and the deviation (Paragraph 5).

Stated the nonconformance report covering the accidental injection of substandard water into the reactor vessel would be completed by the end of January 1979. (Paragraph 5).

Stated the bases for accepting the three "repaired" pins for which it is impossible to determine the degree of bending experienced, would be documented as soon as possible. (Paragraph 2)