

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

Report No. 99900005/81-01

Program No. 51500

Company: Westinghouse Electric Corporation
Nuclear Fuel Division
Box 355
Pittsburgh, Pennsylvania 15230

Inspection Conducted: February 3, 4, and 6, 1981

Inspector: W. M. McNeill 3/2/81
W. M. McNeill, Contractor Inspector
Components Section I
Vendor Inspection Branch
Date

Approved by: D. E. Whitesell 3/2/81
D. E. Whitesell, Chief
Components Section I
Vendor Inspection Branch
Date

Summary

Inspection February 3, 4 and 6, 1981 (99900005/81-01)

Areas Inspected: Implementation of Topical Report and other applicable codes and standards, including action on previous inspection findings; design controls; internal audits; and a periodic management meeting. The inspection involved eighteen (18) inspector-hours on site by one NRC inspector.

Results: In three (3) areas inspected, one nonconformance was identified.

Nonconformance: Internal Audits - replies to audit findings were late contrary to procedure 2.18.1 and Section 5 of the Topical Report (Notice of Nonconformance).

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DETAILS SECTIONA. Persons Contacted

R. L. Bencini, Nuclear Engineering Product Manager
 W. J. Bryan, Product Development Engineer
 S. M. Court, T & H. Design Engineer
 E. A. Dzenis, T & H. Design Engineer
 T. A. Francis, Standard Product Engineer
 D. Little, Nuclear Engineering Product Engineer
 P. A. Loftus, Nuclear Engineering Product Engineer
 *H. F. Menke, Engineering Product Assurance Manager
 C. M. Mildrum, Nuclear Engineering Product Engineer
 G. H. Minton, Design Systems Support Manager
 *H. L. Russo, Product Assurance Manager
 T. S. Senkewski, Materials Design Technician
 *D. R. Trevett, Product Assurance Engineer

*Denotes those attending the Exit Interview.

B. Action on Previous Inspection Findings

(Closed) Deviation (Report 78-01): ANSI N45.2.11 was not fully implemented in the areas of identification of calculations, performance of verifications, and documentation of verification. A review of current design documents, ALA Cycle T/H Reload Design and Nuclear Design Notebook for ALA 1- Cycle 3, found identification verification and documentation of calculations. E.O.P. 4.10 had been revised in this area and requires identification of calculations, performance of verifications, and documentation of the verification. In regard to Reload Safety Analysis Checklists, it was found that they are now given verification.

(Closed) Deviation (Report 78-01): Audit records did not contain the checklist used. Several recent audit reports were reviewed and found to be in order.

(Closed) Unresolved Item (Report 78-01): Full implementation of procedure E.O. P. 4.10 could not be verified. E.O.P. 4.10 has been revised, and the distribution of Design Manuals is not addressed in this procedure. The distribution of Design Manuals was found to be controlled via the standard document control system.

(Closed) Unresolved Item (Report 78-01): Compliance of the Mechanical Design Manual to the requirements of E.O.Ps could not be established. The Mechanical Design Manual has been supplemental by the Product Engineering Mechanical Design Manual. This manual was verified to comply with the E.O.Ps.

C. Design Controls

1. Objectives

The objectives of this area of the inspection were to verify that:

- a. The manufacture's design control activities are conducted in such a manner as to provide assurance that appropriate safety-related technical requirements have been implemented during the design of nuclear fuel.
- b. The manufacturer's design control program, including its implementation, meets the requirements of the approved Topical Report.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of the Westinghouse NFD Topical Report, WCAP 7800, Revision 5-A, Section 3, Design Control, which established the general requirements for design controls.
- b. Review of the Product Assurance Manual, Section 2.3.1, Revision 2 and the following Engineering Operations Procedures which established the specific requirements for design control:

Use of the Contract and Technical Data Document, E.O.P. 3.1, Revision 7;

Design Initialization Review Summary (DIRS), E.O.P. 3.2, Revision 5;

Documentation and Verification of Design Analysis, E.O.P. 4.2, Revision 3;

Verification, Qualification and Configuration Control of Computer Programs, E.O.P. 4.3, Revision 4;

Preparation and Use of Design Manuals, E.O.P. 4.10, Revision 4; and

NFD Engineering Indoctrination and Training, E.O.P. 8.1,
Revision 0.

- c. Inspection of the design calculations for two (2) recent reload designs. The T&H and nuclear designs of ALA and POR projects were inspected. These documents were ALA Cycle 3 T/H Reload Design, Revision 0; Trojan Reload Design with Addendum, Revision 0; Nuclear Design Notebook for ALA 1-Cycle 3; and Portland Nuclear Design Notebook-Cycle 3. This inspection included review of the D.I.R.S/Trojan Unit 1 Cycle 3 (POCF) and Core Design Parameters Trojan Cycle 3 Region 5.
- d. Inspection of the calculations for Rod Ejection, Steam Line Break, Loss of Coolant, Dropped Rod, Rod out of Position, and Rod Withdrawal was performed. Also, the training checklists for four engineers were verified. The inspection included the verification of the qualification of one of the computer codes, THINC III, used in the above calculations. All of the above inspections were done to verify the implementation and effectiveness of the above procedures.

3. Findings

a. Nonconformances

None

b. Unresolved Items

None

D. Internal Audits

1. Objectives

The objectives of this area of the inspection were to verify that:

- a. The fuel manufacturer has implemented a system of internal audits sufficient to determine the effectiveness of its quality assurance program.
- b. The manufacturer's system meets the requirements of Criterion XVIII, Appendix B, 10 CFR Part 50.

- c. Inspection of the 1980 NES QA Committee Audit of NFD Columbia, and five (5) recent engineering and three (3) operation Product Assurance audits. This included verification of the above to the established schedules, 1980 EPA Audit Schedule and OPA Internal Audit Schedule. The audits inspected were identified as EPQ-80-140, 163, 219, 254, and 255; and OPA-80-003, 005 and 008. Corrective and preventative action on findings was checked for these reports. The inspection also verified the implementation and effectiveness of the above requirements.

3. Findings

a. Nonconformance

Review of five internal audits of the engineering activities noted that four were due responses to findings. Of these four audit reports, one had one timely response for the one finding. Another report had seven timely replies for eight findings. The next audit report had only five timely replies for seventeen findings. The last report, had eight timely replies for eleven findings. In some instances, the responses to audit findings were overdue by ten working days.

This is considered to be a nonconformance.

See Notice of Nonformance

b. Unresolved Items

None

E. Periodic Management Meeting

1. Objectives

The objectives of this meeting were to accomplish the following:

- a. To meet with the company reorganized management, and those persons responsible for administrative of the Westinghouse Nuclear Fuel Division QA Program and to reestablish channels of communication.

- b. To redetermine the extent of the company's involvement in the commercial nuclear business.
- c. To explain NRC direct inspection program including VIB organization, inspection methods and documentation.

2. Method of Accomplishment

The preceding objectives were accomplished by a meeting with Mr. J. S. Moore, General Manager.

The following is a summary of the meeting:

- a. The VIB organization was described and its relationship to NRC Region IV and the NRC Headquarters component of the Office of Inspection and Enforcement.
- b. The VIB was described, including the reasons for its establishment, its objectives, and its implementation structure.
- c. The conduct of VIB inspections was described, and how our inspections are documented, including, what the responses to findings should address, and how proprietary information is handled. The Public Document Room, and the White Book were explained.
- d. The company's contribution to the nuclear industry and inspection history were discussed, including current and projected activities.
- e. The company's quality assurance program was discussed.

3. Findings

No changes have occurred other than personnel, since the last meeting. The company's contribution to the nuclear industry constitutes 100% of its total work load.

G. Exit Interview

The inspector met with management representatives (denoted in paragraph A) at the conclusion of the inspection on February 4, 1981. The inspector summarized the scope and findings of the inspection. The management representatives had no comment in response to each item discussed by the inspector.