

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

Report No. 99900057/80-01

Program 51300

Company: The William Powell Co.  
Attn: Mr. Paul Niehaus  
Vice President of Engineering and  
Manufacturing  
2503 Spring Grove Avenue  
Cincinnati, Ohio 45213

Inspection  
Conducted: March 10-13, 1980

Inspector: *Ross L. Brown* 3-26-80  
Ross L. Brown, Contractor Inspector Date  
Component Section I  
Vendor Inspection Branch

Approved: *D. E. Whitesell* 3-26-80  
D. E. Whitesell, Chief Date  
Components Section I  
Vendor Inspection Branch

Summary

Inspection on March 10-13, 1980 (99900057/80-01)

Areas Inspected: Followup of deficiency reported in 10 CFR 21 Report date November 12, 1979 and implementation of 10 CFR 50, Appendix B including control of nonconformances and corrective action and audits. The inspection involved twenty-eight (28) inspector hours by one (1) NRC inspector on site.

Results: In the areas inspected no deviations from commitments or unresolved items were identified.

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DETAILS SECTIONA. Persons Contacted

- R. Howard, Project Engineer
- \*H. Knock, QA Manager-Plant #2
- \*J. F. Loftus, Corporate Chief Engineer
- J. Nachod III, Project Engineer
- \*J. C. Williams, Project QA Engineer
- \*E. E. Winterfeldt, Corporate Manager of QA

\*Attended exit interview.

B. 10 CFR 21 Followup1. Objectives

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

- a. That the seismic analysis for all valve contracts that specified seismic requirements have been evaluated.
- b. That the action taken or to be taken to correct the deficiencies have been evaluated to determine its adequacy.
- c. That the repair procedures include the QA review and approval.
- d. That the responsibilities for the above activities have been assigned.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of Valve Contract Listing since 1970.
- b. Review of the Interim Report dated March 5, 1980.
- c. Several drawings showing the proposed fix for valves of different sizes and pressures equipped with different operators (motor, gear and cylinder).
- d. Engineering Procedure 7609-553 - Procedure for checking of Valve Stress Reports.

### 3. Findings

No deviations from commitments or unresolved items were identified. The inspector verified the following information:

- a. WPC has completed the preliminary reanalysis of the seismic requirements of all valve contracts that specify seismic requirements, except the deficiencies identified in the Part 21 Report dated November 12, 1979 and subsequent interim reports, no additional unacceptable results were identified, however, WPC is currently performing additional analytical work using the latest more sophisticated design evaluation methods (computer program, etc.). They stated that they expect the reanalysis to show minor changes from the reported results but the values will remain within the specified seismic requirements.
- b. WPC management stated that the drawing reviewed shows the proposed fix by strengthening of the yoke arms of the Grand Gulf Nuclear Station, Units 1 and 2 by attaching bars or plates to the present valve assembly by mechanical and/or welding method.

The upgrading methods have not been conclusively determined, but they are designed to accomplish the following original requirements specified in the Bechtel design specification (9645-M-242.0) that identified the required valves as being seismic Category 1 and to be capable of operation during and after the loadings which occur due to seismic forces. Specifically, the valves, having operators or similar features of extended proportions, shall be able to withstand an inertial load of 2.0g in any direction in addition to normal operating loads. The extended parts of the valve shall have a frequency of vibration greater than 33 cps. Electrical switches or other activating mechanisms shall withstand the inertial load without changing position and accidentally causing change of position of the valve disc.

WPC management further stated that a sufficient evaluation of the WPC design has not been made to determine if they can comply with the Bechtel request stated in the following specification revision dated June 22, 1979:

The Appendix Hx, Revision A to the design specification 9645-M-242.0 required the following increases in the loading and natural frequency:

- (1) Valve - 100 Hz.
- (2) Valve Assemblies with Electric Motor Operators 6g and 100 Hz.

(3) Valve Assemblies with Pneumatic Operators 6g and 100 Hz.

- c. WPC is obligated to continue the reporting to NRC on an interim basis and the final report.

C. Control of Nonconformances and Corrective Action

1. Objectives

The objectives of this area of the inspection were to verify that procedures have been established and implemented for:

- a. Disposition of nonconformances that provide for:
- (1) The control of nonconforming materials, parts, or components to prevent their inadvertent use or installation.
  - (2) Identification, documentation, segregation, and disposition of nonconforming items and notification to affected organizations.
- b. Corrective action that provides for:
- (1) Review and evaluation of conditions adverse to quality to determine the cause, extent, and measures needed to correct and prevent recurrence.
  - (2) Reporting these conditions and the corrective action to management.
  - (3) Assuring that corrective action is implemented and maintained.

2. Method of Accomplishment

The above objectives were accomplished by a review of the following documents:

- a. The William Powell Company. Plant No. 2, Quality Assurance Manual for Nuclear Power Valves, Change Notice No. 6, date October 25, 1979 (QAM) Article 6, Paragraph 6.7.1.
- b. The QAM Article 7.
- c. Routers (production, assembly and rework) for Controlled Material Shop Orders No's. 735C, 765C, 1038C and 1218C.
- d. Trouble Analysis Reports (TA) No's. 5469D, 4035D, 3935D, D0536,

2000B, 7302A, 3071B, 6487B.

- e. Eight (8) corrective action reports.
- f. Three (3) MRB reports.

3. Findings

No deviations from commitment or unresolved items were identified in this area of the inspection. The inspection verified the following information.

- a. The QAM assigns the responsibilities for the identification, documentation, evaluation, disposition and approval of non-conformities.

The manual requires all TAs to be approved by QA and if the nonconformity is in violation of the design criteria established by engineering must be submitted to engineering for review and reconciliation with the Design Report.

The QAM also states: When significant conditions to quality are found, an investigation of the cause of the condition is made, and action initiated to preclude repetition.

- b. The trouble analysis reports and corrective action requests were developed and signed as required.
- c. The trouble analysis report numbers are referenced on the rework routers.
- d. The rework routers included all the quality requirements; inspection, witness and hold points and appropriate signatures.
- e. Six (6) of the corrective action requests were the results of audit finding. These requests were properly dispositioned, approved and reaudited.

D. Audits

1. Objectives

The objectives of this area of the inspection were to verify that the following items were controlled in accordance with the QA Manual and applicable NRC and ASME Code requirements:

- a. A written system has been established to assure that audits are

performed and controlled in accordance with applicable codes to verify compliance with all auditable aspects of QA program.

- b. Planned and periodic audits are performed in accordance with written procedures or checklists by qualified personnel not having direct responsibilities in the areas being audited.
- c. Audit results are documented and reviewed by management having responsibility in the area audited.
- d. Followup action, including reaudit of deficient areas, is taken where indicated.

2. Methods of Accomplishment

The preceding objectives were accomplished by:

- a. Review of QAM, Article 10.
- b. Internal Audit Schedule for 1979 and 1980.
- c. Internal Audit Process Specification PS 128.3 (Checklist).
- d. Five (5) Internal Audit Reports for Audits conducted in 1980.
- e. Nineteen (19) Audit Reports for Internal Audits Conducted During 1979.

3. Findings

No deviations from commitments or unresolved items were identified. The following information was verified:

- a. The QAM assign the responsibilities for the performance of audits (internal and vendors).
- b. The QAM requires the audit to be conducted in accordance with a written audit plan (checklist) by trained and qualified personnel.
- c. The audit schedules indicates that all areas of the quality program are to be audited at least on an annual basis, however, most areas are scheduled to be audited twice yearly.
- d. The audit reports were distributed to upper management.

E. Exit Interview

The inspector conducted an exit meeting with The William Powell Company management representatives at the conclusion of the inspection. Those persons indicated by an asterisk (\*) in Paragraph A above were in attendance.

The inspector discussed the scope of the inspection and stated that in the areas inspected no deviations from commitment or unresolved items were identified.

The WPC managements' comments were for clarification only.