

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

REGION IV

Report: 50-285/81-07

License DPR-40

Docket: 50-285

Licensee: Omaha Public Power District
1623 Harney Street
Omaha, Nebraska 68012

Facility Name: Fort Calhoun Station, Unit 1

Inspection at: Fort Calhoun Station, Blair, Nebraska

Inspection conducted: March 23-27, 1981

Inspectors: J.R. Boardman May 13, 1981
J. R. Boardman, Reactor Inspector, Systems and
Technical Section (Paragraphs 1, 2, 3, 4 & 7) Date

D. M. Hunnicutt 5/13/81
D. M. Hunnicutt, Chief, Reactor Projects
Section No. 2 (Paragraphs 1, 5, & 6) Date

Approved: R. E. Hall 5/13/81
R. E. Hall, Chief, Systems and Technical Section Date

D. M. Hunnicutt 5/13/81
D. M. Hunnicutt, Chief
Reactor Projects Section No. 2 Date

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Inspection Summary

Inspection conducted during the period of March 23-27, 1981 (Report 50-285/81-07)

Areas Inspected: Routine, unannounced inspection including licensee Quality Assurance program; licensee audit program; follow up on IE Bulletin 80-11; and IE Draft Circular concerning Foxboro transmitters. The inspection involved 67 hours on site by two NRC inspectors.

Results: In the four areas inspected, no violations or deviations were found in two areas; five apparent violations were found in two areas (one violation - failure to maintain records of activities affecting quality - paragraph 2; four violations - failure to comply with Technical Specifications, failure to comply with procedures, failure to promptly correct conditions adverse to quality, and failure to have a comprehensive system of planned and periodic audits - paragraph 3).

DETAILS

1. Persons Contacted

Omaha Public Power District

- *R. L. Andrews, Section Manager, Operations
- *J. E. Bentzinger, Quality Assurance Engineer, Construction
- W. G. Gates, Supervisor, Operations
- *J. M. Gloschen, Quality Assurance Engineer, Corporate
- *R. L. Hyde, Quality Assurance Engineer, Operations
- *R. L. Jaworski, Section Manager, Technical Services
- M. McEwan, Training Coordinator
- T. J. McIvor, Manager Operational Support Technical Services
- K. J. Morris, Manager, Administrative Services
- *T. L. Patterson, Licensing Administrator
- G. R. Peterson, Supervisor, Maintenance
- S. Stevens, Manager Fort Calhoun Station
- P. Surber, Acting Section Manager, Generating Station Engineering
- *F. A. Thurtell, Division Manager, Environmental and Regulatory Affairs

*Indicates presence at exit interview conducted March 27, 1981.

The NRC inspectors also contacted other plant personnel, including clerical, administrative and maintenance personnel.

2. Licensee Quality Assurance Program

The NRC inspector reviewed the licensee's Quality Assurance program and implementing procedures for compliance with the Code of Federal Regulations and the licensee Technical Specifications and FSAR, and discussed with licensee representatives the following cases of an apparent violation of these regulatory requirements and deviations from approved licensee procedures:

10 CFR Part 50, Appendix B, Criterion XVII requires that sufficient records shall be maintained to furnish evidence of activities affecting quality.

Contrary to the above, licensee representatives were unable to demonstrate by available records that the follow-up activities affecting quality were documented:

- a. The initial basis for approvals of suppliers is specified in licensee Quality Assurance Procedure QAP No. 5, Revision 1, "Supplier Qualification," dated December 1, 1980, Section 3.1.1. Licensee representatives were unable to provide records of supplier past performance data on which initial supplier approval was predicated.

- b. Licensee QAP No. 19, Revision 0, "Indoctrination and Training of Quality Assurance Personnel," approved April 25, 1977, Sections 3.1.4 through 3.1.7 require certain continuing training of licensee Quality Assurance personnel. Licensee representatives were unable to provide records of all such training such as "current problems in the industry," "the latest NRC audit findings," and "Regulatory Guides applicable to the Quality Assurance Program."
- c. The preface of the licensee's Quality Assurance Manual states that the Manager - Quality Assurance will cause the QA Manual "to be reviewed at least annually by the Operations Division, Projects and Construction Division, GSE, and Purchasing . . .," and licensee Quality Assurance Procedures (QAPs) "to be periodically and formally reviewed."

Licensee representatives could provide no records of these required reviews of these documents. Discussions with licensee representatives confirmed that these reviews were not conducted.

Failure to perform these reviews and to maintain sufficient records to furnish evidence of activities affecting quality constitutes an apparent violation of 10 CFR Part 50, Appendix B, Criterion XVII. (8107-01)

3. Licensee Audit Program

The NRC inspector reviewed the licensee's audit program and implementing procedures for compliance with the Code of Federal Regulations and the licensee Technical Specifications and FSAR, and discussed with licensee representatives the following cases of apparent violations of these regulatory requirements from approved licensee procedures:

- a. Licensee Technical Specification 5.5.2.8, subparagraph 5.5.2.8.a requires that the licensee's Safety Audit and Review Committee (SARC) perform an audit of:

"The conformance of facility operation to all provisions contained within the Technical Specifications at least once per year."

- (1) Based on a review of SARC Audits 2-78, 79-03, and 2-80, and discussion with licensee personnel, the SARC apparently does not audit or have audited all provisions contained within the Technical Specifications at least once a year, nor does there exist a program to assure total auditing of all Technical Specification provisions.

An example of this apparent violation is in the area of surveillance requirements. Not only are all surveillance requirements not audited every year, but under paragraphs 3.1 and 3.2 (Tables 3-1 through 3-5), there are 84 surveillances (Table 3-5 has three surveillances shown under item 10). In three years (1978, 1979, and 1980), only 20 of these 84 surveillances were apparently audited by SARC. (Surveillances Table 3-1, item 3, Table 3-4, item 4; and Table 3-5, item 7 were apparently audited in both 1978 and 1980, but are included only once in the above count of 20.)

- (2) Technical Specification 5.5.2.8, subparagraph 5.5.2.8.c. requires a semiannual SARC audit of "the results of all actions taken to correct deficiencies occurring in facility equipment, structures, system, or methods of operation that affect nuclear safety.

Contrary to the above, the SARC apparently has not audited the licensee's actions to correct deficiencies in the area of non-conformances documented in accordance with Fort Calhoun Standing Order G-18, Revision 3, "Nonconformity Control," dated March 19, 1979, based on the following facts:

- (a) The licensee "Miniaudit Summary and Nonconformity (NR) Status Report February 1981," dated March 9, 1981, lists as open line NRs written between December 16, 1976, and November 10, 1980.
- (b) Neither these NRs, nor any other NRs, were discussed in the six SARC audits of "Actions to Correct Deficiencies" performed during 1978, 1979, and 1980.

Failure of the licensee to perform audits as required by licensee Technical Specification 5.5.2.8 (subparagraphs a. and c.) constitutes an apparent violation of licensee Technical Specifications. (8107-02)

- b. 10 CFR Part 50, Appendix B, Criterion V states:

"Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

The following cases are examples of apparent violations of this criterion:

- (1) Licensee QAP No. 17, Revision 1, "Audit Planning, Performance, and Reporting," dated December 1, 1980, Section 3.8.1 requires a response to an audit within 30 days. Contrary to the above, response to Audit Report 27-80 documented by Deficiency Report FCI-80-A-0044 was responded to in 43 days.
- (2) Licensee QAP No. 18, Revision 0, "Auditor Training and Qualification," dated April 22, 1977, Section 3.2.5 requires auditors to pass an examination. Contrary to this requirement, one licensee auditor performing miniaudits was not qualified in that he had not taken the required examination.
- (3) Licensee QAP No. 18, Section 3.2.5 allows the Manager-Quality Assurance to delegate auditor examination to an independent certifying agency but states that the Manager-Quality Assurance ". . . shall retain responsibility for conformance of the examination and its administration to this standard." The licensee representatives stated that verification had not been performed of conformance of the examination and its administration to the requirements of QAP No. 18, where the examination was administered by an independent certifying agency.

Failure to accomplish activities affecting quality as prescribed in documented instructions and procedures is an apparent violation of 10 CFR Part 50, Appendix B, Criterion V. (8107-03)

c. 10 CFR Part 50, Appendix B, Criterion XVI requires:

"Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management."

Contrary to the above, a review of licensee audits of "Actions to Correct Deficiencies" 1-78, 6-78, 79-02, 79-06, 1-80, and 5-80 covering 1978, 1979, and 1980 reflect a pattern of long-term outstanding corrective action items some of which date back to 1977 and are still open items. While the minutes of SARC Meeting No. 1-81 discuss additional tracking of outstanding corrective action items, these items have been tracked for several years in SARC audit reports.

The report of SARC Audit 5-80, dated December 18, 1980, further discusses a SARC Task Force which apparently had been assigned to this problem without resolution to date. In addition, this report of SARC Audit 5-80 contains as Attachments 2 through 5 detailed status reports which the licensee report states are ". . . for the purpose of drawing SARC attention to the items and hopefully District action toward their resolution." At the time of the inspection, there were still longstanding corrective action items outstanding from these audits.

Failure to take prompt corrective action is an apparent violation of 10 CFR Part 50, Appendix B, Criterion XVI. (8107-04)

- d. 10 CFR Part 50, Appendix B, Criterion XVIII states:

"A comprehensive system of planned and periodic audits shall be carried out to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program. The audits shall be performed in accordance with the written procedures or check lists by appropriately trained personnel not having direct responsibilities in the areas being audited. Audit results shall be documented and reviewed by management having responsibility in the area audited. Follow-up action, including re-audit of deficient areas, shall be taken where indicated."

The following case is an example of an apparent violation of this criterion:

The licensee apparently does not include in his internal audit program as prescribed in licensee Quality Assurance Procedure No. 2, Revision 0, "Audit plans," approved April 25, 1977, his supplier approval program as defined and set forth in licensee's Procedures QAP No. 4, Revision 0, "Approved Suppliers List," approved April 25, 1977, and QAP No. 5, Revision 1, "Supplier Qualification," dated December 1, 1978. These QAPs were implemented to comply with 10 CFR Part 50, Appendix B, Criterion VII.

Failure to have a comprehensive system of planned and periodic audits to verify all aspects of the licensee's Quality Assurance program and to determine the effectiveness of the program is an apparent violation of 10 CFR Part 50, Appendix B, Criterion XVIII. (8107-05)

4. Inspector Observations

- a. Licensee QAP No. 7, Revision 1, "Storage and Retention of QA Records," approved August 9, 1978, contains, in Appendix A, record retention requirements which, by scope, duplicate Fort Calhoun Station, Unit No. 1 Standing Order C-2, Revision 3, "Fort Calhoun Station Quality Assurance

(QA) Records (Administrative and Operations ONLY)," dated August 30, 1980. QAP No. 7 contains a differing retention requirement for "records of normal nuclear unit operation, including power levels and periods of operation at each level," from those specified in Standing Order C-2.

This was a typographical error between the rough and the smooth copy of the last revision of QAP No. 7 and is being corrected by the licensee.

- b. Licensee's Quality Assurance Procedure (QAP) No. 4, Revision 0, "Approved Suppliers List," approved April 25, 1977, has not been revised to update Appendix A, "Supplier Listing Page Format," to reflect the format actually being used by the licensee.

The licensee had implemented a computer program for supplier control and is revising his procedure to reflect this change.

- c. Fort Calhoun Station, Unit 1 Standing Order No. G-18, Revision 3, "Nonconformity Control," dated March 19, 1979, requires the use of a Nonconformity Report (NR) in lieu of a Deficiency Report (DR) for adverse conditions which, by definition, are within the scope of QAP No. 15, Revision 1, "Adverse Condition Reporting and Correction," approved August 9, 1978.

This redundancy in procedures is being eliminated by the licensee.

- d. Licensee Quality Assurance Manual was reviewed with the following findings:

Section 1.2 states that the Omaha Public Power District commits itself to and complies with . . . the mandatory Quality Assurance program guidelines contained in WASH-1283, Revision 1, "Guidance on Quality Assurance Requirements During Design and Procurement Phase of Nuclear Power Plants"; WASH-1309, "Guidance on Quality Assurance Requirements During the Construction Phases of Nuclear Power Plants"; and WASH-1284, "Guidance on Quality Assurance Requirements During the Operation Phases of Nuclear Power Plants."

Contrary to the above, Section 9.0, "Operation Quality Assurance," in Subsection 9.6.2, lists WASH-1284 and ANSI N45.2-1971 as "Informational documents for plant operations." WASH-1283 and WASH-1309 are not listed as reference documents though certain aspects of these documents are applicable during operations phases.

The licensee reaffirmed the commitment to the "WASH" documents and will clarify the Quality Assurance Manual.

- e. Licensee QAP No. 8, Revision 0, "Qualifications for Construction Inspectors," approved April 25, 1977, covers only ". . . qualifications

of OPPD QA Construction Inspectors." With the cancellation of Fort Calhoun Station, Unit 2, it appears that the need or scope for this procedure should be re-evaluated.

The licensee is cancelling this procedure.

- f. Licensee QAP No. 15, Revision 1, "Adverse Condition Reporting and Correction," dated August 7, 1978, fails to include in its scope the use of licensee QA Form No. 4a, "Non-Routine Quality Assurance Audit (Miniaudit)," which is the required form for use by the licensee at an operating plant.

Licensee QAP No. 15 also states, in Section 3.6.1, "On-the-Spot Corrective Action," that the licensee QA representative can verbally identify without documentation discrepancies which can be corrected within 24 hours and do not apparently require management action. "Management action" is not defined, but all such discrepancies must be reported to the Manager, Fort Calhoun Station for action. Action by the Manager, Fort Calhoun Station could be construed to be "management action." Also, 10 CFR Part 50, Appendix B, Criterion XVI does not contain such exclusions from documenting conditions adverse to quality.

The licensee is revising the procedure to clarify its intent relative to "on-the-spot corrective action" and the use of Form 4a.

- g. Licensee QAP No. 5, Revision 1, "Supplier Qualification," dated December 1, 1980, Sections 3.1.2.d and 3.1.4.e state that for qualification or reconfirmation of qualification of suppliers "acceptance by other means as being qualified to be added to, or continued on, the current suppliers' list, such as inputs from . . . NRC White Book." (The "NRC White Book" is NUREG-0040.)

The only NRC approvals shown in Section III of NUREG-0040 consist of Architect Engineering firms. No other information in NUREG-0040 indicates supplier acceptability. Approval of suppliers based on NUREG-0040 would be inappropriate, since NUREG-0040 states not only (1) that the information contained therein is neither adequate nor intended to stand by itself as a source of information concerning qualified suppliers, but also (2) that the Region IV inspections will not relieve the licensees or applicants from any inspection/verification responsibilities required by Criterion VII.

The licensee stated that NUREG-0040 is not used to approve suppliers and that QAP No. 5 is being revised to clarify this point.

- h. Licensee QAP No. 17, Revision 1, "Audit Planning, Performance, and Reporting," dated December 1, 1980, does not differentiate between miniaudits and other audits, but certain sections such as 3.4 do not appear to be appropriate for miniaudits.

Procedure QAP No. 17 is in the process of revision to clarify the requirements for miniaudits.

- i. The licensee had never performed an audit of the SARC for its compliance with involved requirements. INPO will audit this area in June 1981.
- j. Licensee Quality Assurance Procedure No. 2, Revision 0, "Audit Plans," approved April 25, 1977, does not include in Section 3.13, "Procurement Control Licensee Nuclear Purchasing Procedure No. 1 (NPP No. 1)," but this procedure has been audited by the licensee and QAP No. 2 is being revised to reflect NPP No. 1.

5. Licensee Actions Related to IE Bulletin No. 80-11

a. Requirements

IE Temporary Instruction (TI) 2515/37, dated July 3, 1980, requires that the licensee's actions related to the design of masonry (concrete block) walls in the proximity of safety-related systems or having attachments from safety-related systems (IE Bulletin No. 80-11, dated May 8, 1980) be verified by on-site inspection.

The NRC inspector reviewed the licensee's responses to IE Bulletin No. 80-11, dated July 3, 1980, with attachments and January 29, 1981, with attachments. The NRC inspector verified that the licensee's corrective actions, calculations, and evaluations of safety-related concrete masonry walls and/or safety-related equipment and systems associated with the concrete walls met the design and functional adequacy required by IE Bulletin No. 80-11. The NRC inspector verified that these concrete masonry walls met their respective intended functions by discussion with a civil engineer, who was cognizant in this area; by visual inspection of representative walls conducted by the NRC inspector; and by review of licensee calculations and the assumptions used in the calculations and evaluations.

b. Licensee's Evaluation Methods

The licensee used applicable building design codes as stated in the FSAR, Volume 2, Section 5.11, "Structures Other Than Containment," (pages 5.11-1 through 5.12-1) and the 1979 Uniform Building Code, Earthquake Zones 2 and 3. The loads and load combinations, the material properties, the design allowables, and the methods of calculations were acceptable in that these parameters were taken from applicable FSAR statements and governing codes. Assumptions used appeared to be conservative (Example: the collar joint shear strength for mortar was assumed to be zero for the calculations and evaluations).

c. General Discussion

The NRC inspector performed a visual inspection (examination) for representative concrete masonry walls to determine whether the licensee had evaluated all of the concrete masonry walls which support Seismic Category I pipes, Seismic Category I attachments

other than pipes, or are in the proximity to safety-related systems. Licensee's plan views of each elevation level indicated a total of 42 concrete masonry walls. Records and selected inspection of Type I and II walls indicated that four concrete masonry walls (Type I) were reinforced single wythe (one concrete block width) and were the perimeter and divider walls for the station battery rooms, eighteen concrete masonry walls (Type II) were unreinforced single wythe walls with mortar joints, and the other twenty walls (Type III) were stacked solid concrete without mortar joints.

The NRC inspector selected six representative concrete masonry walls from the plan views for detailed visual inspection (examination). A visual inspection of each of these six concrete masonry walls was performed to verify that each of these walls had been evaluated by the licensee, as required by IE Bulletin No. 80-11. From the inspection results of these six concrete masonry walls out of a total of 22 (Type I and Type II) that could be involved in safety-related systems (either by attachment to the walls or in the proximity of safety-related systems), it appears that the licensee met the requirements of IE Bulletin No. 80-11.

d. Inspection (Examination)

The NRC inspector selected the six concrete masonry block walls listed below for inspection and determined that none of the selected walls should have a significant adverse effect on safety-related systems or components (electrical, piping, HVAC, or instrumentation) during a postulated OBE or DBE. None of the 42 concrete masonry walls directly support any safety-related equipment. None of these 42 walls function as a load bearing wall. The complete failure of a wall should not affect safety-related equipment.

<u>Concrete Masonry Wall Description</u>	<u>Primary Plant Plan View Description</u>	<u>Plan Number</u>	<u>Elevation</u>
Battery Room Walls and Divider Wall	Ground Floor Plan	11405-A-6	1007'
Heat Exchanger Room #14 (shutdown cooling heat exchanger)	Basement Floor Plan	11405-A-5	989'
Waste Gas Compressor Room	Basement Floor Plan	11405-A-5	989'
Corridor by Reactor Control Room	Operating Floor Plan	11405-A-8	1036'
Spent Fuel Pool Heat Exchanger	Basement Floor Plan	11405-A-5	989'
Control Room Panels	Ground Floor Plan	11405-A-6	1007'

6. IE Draft Circular - (Scheduled to be issued to all licensees in April 1981)

Discussion

The NRC was advised by the Foxboro Company (Foxboro), Foxboro, Massachusetts, of two deficiencies in certain E-10 Series Foxboro Transmitters which could adversely affect their operation during postulated accident conditions. Foxboro reported that these deficiencies involved the improper use of certain wire insulation and an unsuitable capacitor in the amplifier section of these identified transmitters. OPPD was informed of these two deficiencies by the Foxboro Company by a letter, dated March 12, 1981.

The NRC inspector discussed these two potential deficiencies that could affect certain Foxboro 10-50 milliampere transmitters with licensee personnel. The information obtained from the licensee is listed below and a copy was forwarded to Mr. V. D. Thomas, IE:HQ, on March 31, 1981. The following list represents a 10-50 ma N-E10 and E10 . . . MCA, MCA/RR, -/MCA/RRW transmitters or Part No. N0148PW amplifiers with Foxboro had been able to identify as being shipped to Fort Calhoun station either directly or through an agent:

<u>Serial No./Part No.</u>	<u>Tag No.</u>
N0148PW (Amplifier)	None
4201579	FT-1109
4201580	FT-1110
4201580	PT-105
4201581	PT-115
4201582	LT-901A
4201583	LT-901B
4201584	LT-901C
4201585	LT-901D
4201586	LT-904A
4201587	LT-904B
4201588	LT-904C
4201589	LT-904D
4203969	LT-101T
4205440	Blank

7. Exit Interview

An exit interview was conducted on March 27, 1981, with those OPPD personnel denoted in paragraph 1 of this report to summarize the scope of the inspection and the findings.