

U. S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION I

RO Inspection Report No.: 50-363/74-02

Docket No.: 50-363

Licensee: Jersey Central Power and Light Company

License No.: CPPR-96

260 Cherry Hill Road

Priority: -

Parsippany, New Jersey 07054

Category: A

(Forked River Unit 1)

Location: Forked River, New Jersey

Type of Licensee: PWR, 1070 MWe (CE)

Type of Inspection: Routine

Dates of Inspection: May 8-9, 1974

Dates of Previous Inspection: April 23-26, 1974

Reporting Inspector: *J. Allen Tuck*
F. F. Barker, Reactor Inspector

5/16/74
DATE

Accompanying Inspectors: NONE

DATE

DATE

Other Accompanying Personnel: NONE

DATE

DATE

Reviewed By: *J. Allen Tuck (Acting)*
R. F. Heishman, Senior Reactor Inspector

B/SYS 5/16/74
DATE

SUMMARY OF FINDINGS

Enforcement Action

None

Licensee Action on Previously Identified Enforcement Matters

Not Applicable

Design Changes

None Identified

Unusual Occurrences

None

Other Significant Findings

A. Current Findings

1. Construction Manager's - QA Program

The Stearns-Roger Quality Assurance Plan, with selected implementation procedures, were in the process of revision and review. (Details, Paragraph 2)

2. Construction Manager's Corporate Organization

Audit of the existing Stearns-Roger Quality Assurance Plan revealed there was no description of responsibilities for the Project Executive. This matter is considered unresolved. (Details, Paragraph 3)

3. Physical Project Status

Site work in process was observed as erection of temporary buildings, installation of railroad siding and construction of the cut-off wall. (Details, Paragraph 5.c)

4. Engineering/Design Status

The licensee's representative informed the inspector that as of the end of April, the A-E had completed 69% of the engineering and 52% of the design. (Details, Paragraphs 5.a and 5.b)

5. NSSS - Procurement Documentation Equipment/Material

The licensee's representative stated that he was negotiating with the NSSS with respect to the quality documentation to be shipped with equipment/material to the site. (Details, Paragraph 4)

6. Vendor Surveillance

The inspector's audit of the GPU activities for conformance to "Vendor Surveillance" as described in the QA Plan, Procedure No. 6-13, with respect to Steam Generator Fabrication, revealed no apparent deficiencies. (Details, Paragraph 6)

B. Status of Previously Reported Unresolved Items

1. Vendor's Audit Planning - Minimum Frequency

The licensee's QA Plan, Procedure No. 6-1, Audits of 1st and 2nd Level Contractors/Vendors, requires that these audits be conducted on an annual basis. This item is considered resolved. (Details, Paragraph 7)

2. Procurement/Documentation - A/E Procured Equipment

The A-E's specifications contain a matrix of quality documentation that the vendor must supply with the shipment of material. This item is considered resolved. (Details, Paragraph 8)

3. Regulatory Guide Incorporation

It was found that GPU had initiated a program to verify conformance to Regulatory Guides or justify exceptions for design as stated in Article 1.4 of the PSAR. The program is incomplete and this item remains unresolved. (Details, Paragraph 9)

Management Interview

At the conclusion of the inspection at the General Public Utilities Service Corporation (GPUSC) offices on May 8, the inspector held a meeting with the following personnel:

GPUSC

Mr. B. G. Avers, Manager, Quality Assurance (Part-Time)
Mr. E. Allen, Quality Assurance Supervisor
Mr. J. Bansch, Quality Assurance Representative

A summary of the discussion is as follows:

A. Previously Identified Unresolved Items

The inspector stated that as a result of his review of documentation and discussions with GPU personnel, the following two previously identified items are considered resolved:

1. Documentation of the frequency of audits of 1st and 2nd level vendors. (Details, Paragraph 7)
2. Procurement Documentation for A-E procured equipment that must be supplied by the vendor. (Details, Paragraph 8)

The inspector stated the following item remains unresolved:

3. Regulatory Guide Incorporation into design criteria. The inspector stated that he had reviewed the GPUSC program to evaluate the facility design for conformance to AEC's Regulatory Guide as committed in Section 1.4 of the PSAR.

The licensee stated that the review of comments from the consultants and contractors concerning incorporation of Regulatory Guides into design criteria was targeted for completion by the end of 1974. (Details, Paragraph 9)

B. Current Findings

1. NSSS Procurement Documentation

The inspector stated that he had been informed negotiations were underway with the NSSS to determine that the necessary quality related procurement documentation was available at the time of equipment receipt.

The licensee stated that this was true but at this time he was unable to state when this matter would be concluded.

The inspector stated this item remains unresolved. (Details, Paragraph 4)

2. Engineering/Design Status

The licensee confirmed that the A-E's project completion status as of the end of April 1974 was: Engineering 69%, Design 52%. (Details, Paragraph 5)

3. Vendor Surveillance

The inspector stated that his review of the vendor surveillance reports, concerning the fabrication of major primary components at the NSSS Combustion Engineering (CE) shop, revealed no apparent deficiencies in the QA procedure. (Details, Paragraph 6)

At the conclusion of the inspection of the site activities, and review of the Stearns-Roger QA Plan, a meeting was held at the site on May 9, with the following personnel in attendance:

GPUSC

Mr. J. Bansch, Quality Assurance Representative

Stearns-Roger

Mr. H. White, Site Manager

Mr. T. Frost, Quality Assurance Manager (via telephone)

A. The inspector informed the personnel in attendance of RO:I policy concerning:

1. Reporting incidents and information of a nature which would be of interest to the general public and handled through the RO:I Public Information Office.
2. The inspector discussed the provisions of reportability of significant deficiencies to the Director of Regulatory Operations as required by 10 CFR 50.55(e). The inspector quoted the personnel in attendance examples of recent deficiencies reported to the Director of Regulatory Operations.

The personnel in attendance acknowledged the inspector's comments.

B. Construction Manager's Corporate Organization

The inspector stated his review of the Stearns-Roger QA Plan indicated that the Project Manager and Quality Assurance Manager reported to the Project Executive. The inspector requested additional information as to the responsibilities and corporate function of the Project Executive.

The licensee stated he would provide additional information for the inspector's review at a future inspection. (Details, Paragraph 3)

C. Construction Manager's QA Program

The inspector stated that his review of the Stearns-Roger QA Plan in effect had been approved by the licensee on March 1, 1971. There was no evidence of subsequent review and revision, where necessary, to meet the intent of the AEC's Regulatory Guide.

The Stearns-Roger representative stated that the QA Plan and certain procedures were in the process of review and approval at the present time. The revised procedures would be available for the inspector's review at a future inspection. (Details, Paragraph 2)

D. Physical Project Status

The inspector asked the number of craft personnel at the site.

The licensee stated that at the present time 200 workers were on-site employed by several sub-contractors. (Details, Paragraph 5.c)

E. Quality Assurance/Site Coverage

The licensee informed the inspector that GPUSC-QA personnel would be assigned to the site at the start of Batch Plant Testing which is expected to begin in July 1974.

The Construction Manager stated the Stearns-Roger Site QA representative had been selected but had not arrived at the site as of the date of this inspection.

DETAILS

1. Persons Contacted

GPUSC

Mr. E. Allen, Supervisor, Quality Assurance
Mr. B. G. Avers, Manager, Quality Assurance
Mr. J. Bansch, Quality Assurance Representative
Mr. K. Pastos, Project Manager

Stearns-Roger

Mr. T. Frost, Quality Assurance Manager
Mr. H. White, Site Manager

2. Construction Manager's QA Program

The inspector reviewed the Stearns-Roger QA Manual for control of the Forked River construction activities. It was found that the manual describes the QA Plan and numerous quality procedures (QP's). It was also found that the manual had been reviewed and approved by the licensee on March 1, 1971. There was no evidence of subsequent review and revisions to assure that changes in code requirements, the AEC Regulatory Guides and industry policy had been incorporated. The Stearns-Roger representative stated that this item had been recognized, and that portions of the QA Manual had been revised and were in for review and approval. The portions of the manual under revision were stated to be:

- a. Quality Plan
- b. QP-1 "Qualification Requirements and Responsibilities of QA Personnel"
- c. QP-3 "Vendor Evaluation and Selection"
- d. QP-4 "Drawing, Specification, Purchase Document, and Procedure Review"
- e. QP-11 "Non-Conforming Material and Workmanship Criteria"

The revised procedures will be available for the inspector's review at a future inspection.

3. Construction Manager's Corporate Organization

During the site visit a review of the Stearns-Roger QA Plan revealed that the Quality Assurance Manager and Project Manager both report to an individual in the corporate structure titled "Project Executive". The inspector asked what the relationship of the Project

Executive was with respect to direct responsibility for the cost and schedule of the Forked River project.

It was initially stated that the Project Executive was associated with only the Forked River project; subsequently, the RO:I inspector was informed that the "Project Executive" was responsible for all nuclear projects.

The inspector asked the licensee to clarify this matter. The licensee stated that he would provide this information for the inspector's review at a future inspection. This matter is considered unresolved.

4. NSSS - Procurement Documentation Equipment/Material

The licensee stated that he was in the process of negotiating with the NSSS supplier, Combustion Engineering, as to what quality documentation records would be available prior to shipment. It was further stated that this problem existed with equipment fabricated in the CE shops. The particular example quoted was the submission of radiographs of weld seams.

The licensee stated it was his intent that radiographs be provided for site records. The NSSS position was that the radiographs would be retained at his shop. This matter is considered unresolved.

5. Project Status

a. Engineering/Design Status

The licensee furnished the inspector with information concerning project status for the Architect Engineer's activities, as of the end of April 1974.

Engineering	69% Complete
Design	52% Complete

b. Purchase Orders Let

Equipment Specification Procurement	28 Completed
As of May 1, 1974	89 Total

(Approx) 31% Complete

Construction Specification	11 Completed
Procurement as of April 26, 1974	38 Total

(Approx) 29% Complete

c. Physical Project Status

A tour of the plant site and discussions with the licensee's representative revealed the following:

The site had been cleared and leveled; security fencing, access roads, railroad spur, equipment transfer road, and temporary buildings for contractor's and the site warehouse were under construction. The principal activity in progress was installation of a cut-off wall around the foundation area of the containment, auxiliary, fuel handling, and turbine buildings. It was stated that the cut-off wall was approximately 80% excavated and 60% back-filled.

The licensee furnished the inspector with the target dates for the following activities:

Erection and Testing of Batch Plant	July - November 1974
Initial Concrete Placement in Mud Mat	November 1974
Initial Delivery of Reinforcing Bar	December 1974
Initial Class I Concrete Placement	March 1975

6. Vendor Surveillance

An audit was performed concerning the licensee's implementation of the "Vendor Surveillance Plan for Pre-Purchased Items" as described in the Quality Assurance Plan, Procedure No. 6-13.

Surveillance records for the Steam Generator being fabricated at the NSSS plant were reviewed. It was found that 25 surveillance reports had been issued in the period September 11, 1973 through December 5, 1973. The surveillance effort was stated to be above the normal level, as a QPU-QA representative was in residence during the tubing operation. The GPUSC-QA representative had observed the "Witness Points" specified in the NSSS Integrated Manufacturing Plan. The inspector's review revealed no apparent deficiencies.

7. Vendor Audit Planning - Minimum Frequency (50-363/73-05)

A previous inspection revealed that a formal vendor audit frequency had not been established in the licensee's QA Plan.

The licensee showed the inspector the 1974 audit schedules for "CE NSSS Supplied Equipment" and "Vendor Audit Schedule Burns and Roe Procured Equipment". It was found that the NSSS equipment in fabrication had been scheduled for an annual audit at the vendor's facility. There was one audit planned at the rebar vendor's plant

scheduled in 1974. The licensee stated that this was the only non-NSSS supplied equipment for which a firm fabrication schedule had been established. An audit had been scheduled for this vendor.

The inspector reviewed the licensee's QA Plan, Procedure 6-1 entitled, "Audits of 1st and 2nd Level Contractors/Vendors", Section 7.0, Audit Frequencies. It was found that paragraph 7.1 states, in part, "...Formal audits will normally be held on an annual basis ...". The licensee had established a formal audit schedule and this matter is considered resolved.

8. Procurement/Documentation - A/E Procured Equipment (50-363/73-05)

The licensee has required the A/E (Burns and Roe) to define what specific documentation must be subjected to Engineering Approval (60 days after award); Engineering for Information; Vendor Surveillance; and what specific documentation must be included with the Shipment of Material.

This information was contained in the "Specification of Minimum QA Procedure/Documentation Requirements" which is attached to the purchase specification. The inspector audited Specification 2700-25 "Heat Exchanger" and 2700-69 "Reinforcing Steel for the Forked River Nuclear Station Unit No. 1". The licensee had provided the vendor with a listing of the documentation to be included with the shipment of material in each instance. The licensee stated that a copy of the specification, including documentation requirements, would be furnished to site personnel for use at receiving inspection. This item is considered resolved with respect to A/E procured material. The NSSS had not agreed to provide the documentation requested by the licensee upon shipment of equipment/material (reference paragraph 4).

9. Regulatory Guide Incorporation (50-363/73-05)

Section 1.4 of the PSAR entitled, "AEC General Design Criteria for Nuclear Power Plant Construction Permits" states, in part, "...It is intended that the Forked River Plant will be designed to meet the requirements of the AEC's Safety Guides. No exceptions are known to date. If any are identified they will be described and justified to the AEC." This statement was made in a June 30, 1972 revision to the PSAR.

Subsequent to that time, the AEC Safety Guide had been changed to Regulatory Guides. The licensee showed the inspector documentary evidence that he had requested all contractors involved in the project to review their designs for conformance to the Regulatory

Guides. The letter requesting this design review for conformance/exception was dated February 28, 1974 and addressed to Dames and Moore; Burns and Roe; Stearns-Roger; Pickard Lowe, and Associates; Combustion Engineering; and Jersey Central Power and Light.

The licensee showed the inspector the comments received to date. It was stated that where exceptions are noted and will be included in the design, he will provide justification for the exception to the Directorate of Licensing. It was further stated that results of the initial review have been targeted for submittal by the end of 1974. This item remains unresolved.