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

Region I

Report No. 50-363/78-11

Docket No. 50-363

License No. CPPR-96 Priority -- Category A

Licensee: Jersey Central Power and Light Company

260 Cherry Hill Road

Parsippany, New Jersey 07054

Facility Name: Forked River Nuclear Station, Unit 1

Inspection at: Forked River, New Jersey

Inspection conducted: August 29-30, 1978

Inspectors: L. Narrow, Reactor Inspector — 9/8/78 date signed

W. F. Sanders, Reactor Inspector — 9-11-78 date signed

_____ — _____ date signed

Approved by: R. W. McGaughy, Chief, Construction Project Section, RC&ES Branch — Sept 11, 1978 date signed

Inspection Summary:

Inspection on August 29-30, 1978 (Report No. 50-363/78-11)
Areas Inspected: Routine, unannounced inspection by regional based inspectors of the QA program for fabrication and installation of the containment liner; and observation of placement preparation and concrete placement for block No. LSK-104 of the containment foundation. The inspection involved 28 inspector hours on site by two NRC regional based inspectors.
Results: No items of noncompliance were identified.

Region I Form 12
(Rev. April 77)

DETAILS

1. Persons Contacted

General Public Utilities Service Corporation (GPU)

*J. J. Barton, Project Site Manager
*R. F. Fenti, Lead Site QA Auditor
S. Levin, Supervisor, Site Engineering
*J. C. Thompson, Site QC Supervisor
*R. L. Wayne, Construction QA Manager
*J. E. Wright, Site QA Manager

Stone and Webster Engineering Corporation (S&W)

*K. J. Platte, Resident Engineer
*W. M. Sweetser, Project Manager
*R. L. Wagner, Superintendent of Construction

*denotes those present at the exit interview.

The inspector also interviewed other licensee and contractor employees during the inspection.

2. Plant Tour

The inspector made a tour of the construction site to observe work activities in progress. The inspector examined work items for any obvious defects or noncompliance with regulatory requirements and for evidence of quality control of the work. Specific activities observed by the inspector included installation of reinforcing steel for the containment foundation; and storage of steam generators, reactor pressure vessel and reactor internals.

No items of noncompliance were identified.

3. Observation of Concrete Placement and Preplacement Activities

The inspector observed placement preparation and concrete placement of block No. LSK-104 as well as inspection and concrete tests performed in connection with this work. These activities were inspected for conformance to the following:

-- Forked River Nuclear Station, Unit 1, PSAR Section V and Appendix 5D

-- B&R Specification 2700-206, Rev. 6, "Substructure"

-- B&R Specification 2700-202, Rev. 8, "Production and Delivery of Concrete"

-- GPU Specification 202-Q03, Rev. 3, "Specification for Performance of Owners Site Civil Testing"

-- GPU QA Procedure FR-1-10-04, Rev. 0, "Site QA/QC Surveillance Procedure"

-- M-K Construction Procedure CP-04-FR, Rev. 3, "Construction of Containment Building Mat"

Performance of the following activities was observed:

a. Placement Preparation: Installation of forms, reinforcing steel, thermocouple well embedments, construction joints and waterstops; QC and surveillance inspection of placement preparation and sign-off of Concrete Placement Checklist; and briefing of concrete crews and QC personnel on placement plan..

b. Delivery and Placement: Proper mix specified and controlled mixing and delivery; adequate crew equipment, placement and consolidation; adequate inspection during delivery and placement; and required testing of delivered concrete and preparation of cylinders for future compression tests during placement of approximately 20% of this placement.

c. Batch Plant Operation: Storage and inspection of aggregate and cement; and batch plant operation and records.

No items of noncompliance were identified.

4. Thermocouple Calibration

B&R specification 206 requires that thermocouples be installed in the containment foundation and that they be calibrated prior to installtion. The inspection examined the calibration checklists for Digital Thermometer MK 137 and Thermocouples Mark 137A, through 137G. The checklists showed that the thermocouples met the specified requirements for accuracy within the required range. However, the checklists had been stamped UNCONTROLLED and licensee representatives on site could not provide the reason for this stamp. (363/78-11-01)

This item is unresolved.

5. Anonymous Letter Concerning Placing of Rebar

On August 23, 1978, the licensee reported that M-K, the construction contractor had received an anonymous letter from an ironworker stating that the rebar was not tied at every intersection and that 16 gauge tie wire was used. The licensee stated that this information was correct and conformed to the requirements of B&R specification 2700-206.

The inspector examined specification 206, Appendix A, section 5.5.3 of this specification states, in part, "Placing of reinforcing steel shall be in accordance with CRSI Recommended Practice for Placing Reinforcing Bars...". Section 10 of CRSI (Concrete Reinforcing Steel Institute). Recommended Practices for Placing Reinforcing Bars states, in part, "Wire used for tying reinforcing bars is usually No. 16 gauge black, soft-annealed wire," and "Tying adds nothing to the strength of the finished structure. In most cases, every 4th and 5th intersection is all that is necessary."

During inspection of work activity during and prior to placement of concrete for block No. LSK-104 (Paragraph 3 above) the inspector observed that the rebar maintained its position during preplacement activities(form work, embedments, cleanup, etc.) and during placement and vibration of the concrete.

The inspector had no further questions concerning this matter.

6. Review of Quality Assurance Implementing Procedures

An inspection was made to determine whether quality assurance plans, appropriate and adequate instructions and procedures have been established for the fabrication and installation of the primary containment liner; and whether these QA plans, procedures and instructions conform to the facility QA program as described in Appendix 5D of the PSAR.

The following documents were reviewed:

a.	Schneider Inc. Quality Assurance Manual	C53300
b.	Schneider Inc. Magnetic Particle Inspection	MT-533-1
c.	Schneider Inc. Radiography Inspection	RT-533-1
d.	Schneider Inc. Dye Penetrant	PT-533-1
e.	Engineering Specification	2700-205

No items of noncomplaince were identified.

7. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items or items of noncompliance. An unresolved item disclosed during this inspection is discussed in paragraphs 4.

8. Exit Interview

At the conclusion of the inspection on August 30, 1978, a meeting was held at the Forked River site with representatives of the licensee and contractor organization. The inspector summarized the results of the inspection as described in the report.