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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
631 PARK AVENUE  
KING OF PRUSSIA, PENNSYLVANIA 19406



Docket No. 50-363

JAN 17 1979

Jersey Central Power & Light Company  
ATTN: Mr. I. R. Finfrock, Jr.  
Vice President  
260 Cherry Hill Road  
Parsippany, New Jersey 07054

Gentlemen:

Subject: Inspection 50-363/78-16

This refers to the inspection conducted by Mr. L. Narrow of this office on December 19-21, 1978, at the Forked River Nuclear Station, Forked River, New Jersey, of activities authorized by NRC License No. CPPR-96 and to the discussions of our findings held by Mr. Narrow with Mr. Wright and other members of your staff at the conclusion of the inspection.

Areas examined during this inspection are described in the Office of Inspection and Enforcement Inspection Report which is enclosed with this letter. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

Within the scope of this inspection, no items of noncompliance were observed.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must be accompanied by an affidavit executed by the owner of the information, which identifies the document or part sought to be withheld, and which contains a statement of reasons which addresses with specificity the items which will be considered by the Commission as listed in subparagraph (b)(4) of Section 2.790. The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

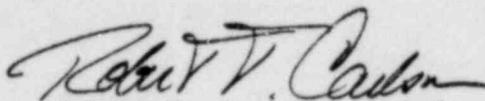
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Jersey Central Power & Light  
Company

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No reply to this letter is required; however, should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,



Robert T. Carlson, Chief  
Reactor Construction and Engineering  
Support Branch

Enclosure: Office of Inspection and Enforcement Inspection  
Report Number 50-363/78-1b

cc w/encl:  
M. K. Pastur, Project Manager

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

Region I

Report No. 50-363/78-16

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: December 19-21, 1978

Inspectors: *L. Narrow*

L. Narrow, Reactor Inspector

1-16-79

date signed

*W. F. Sanders*

W. F. Sanders, Reactor Inspector

Jan 12, 1979

date signed

Approved by: *R. W. McGaughy*  
for R. W. McGaughy, Chief, Construction  
Project Section, RC&ES Branch

date signed

1/16/79  
date signed

Inspection Summary:

Inspection on December 19-21, 1978 (Report No. 50-363/78-16)

Areas Inspected: Routine, unannounced inspection, which commenced on the evening shift of December 19, 1978, by two regional based inspectors, of the QA program for fabrication and installation of the containment liner and for welding and installation of miscellaneous steel; the status of the Morrison-Knudsen QC program improvement; and the status of outstanding items. The inspection involved 32 hours on site by two regional based inspectors.

Results: No items of noncompliance were identified.

## DETAILS

### 1. Persons Contacted

#### General Public Utilities Service Corporation (GPU)

J. J. Barton, Project Site Manager  
\*T. R. Block, QA Auditor  
\*J. Davis, Resident Civil Engineer  
\*R. F. Fenti, Lead Site QA Auditor  
\*T. Hreczuch, Resident Engineer  
E. Staples, QC Engineer  
\*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)

E. Christian, Chief Welding Supervisor  
\*B. G. Officer, Assistant Superintendent of Construction  
\*K. J. Platte, Resident Engineer  
L. Savant, Night Superintendent  
W. M. Sweetser, Project Manager  
\*R. L. Wagner, Superintendent of Construction

#### Morrison-Knudsen (M-K)

\*J. Crowe, Project Manager  
R. Smith, QA Engineer  
D. Shapiro, NDE, QC Engineer  
R. Stauber, QA Manager

#### Pittsburgh-Des Moines Steel Company (PDM)

J. Massengale, Site Manager  
H. Steiger, Site QC Manager

\* 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 material handling, weld seam fitup and welding of containment liner.

No items of noncompliance were identified.

3. Concrete Placement Block No. LSK-508-2A

The inspector was informed by the licensee's representative that during placement of concrete, there had been a disagreement between QC and construction supervision concerning placing methods and adequacy of vibration. As a result NCR No. 0443 had been written by QC. The inspector reviewed this NCR. The Deviation Review Board (DRB) had reviewed this NCR and established Disposition requirements for "pulse velocity" inspection in accessible areas and core drilling in three inaccessible areas for testing and evaluation by the Engineer. The Corrective Action included a joint training session of QC and construction supervision to identify responsibilities; pre-pour meetings to identify pour sequence and possible problems; and a detailed inspection following form removal. This item is unresolved pending review by an NRC inspector of the Dispositions and Corrective Action results (78-16-01).

4. M-K QC Program

The inspector reviewed implementation of the plan developed by the licensee for improving the effectiveness of the M-K QC program. Specific actions required including revision of the M-K QA Manual; provision of inspection checklists; and revision of the weld rod control procedure had been completed.

Training of M-K QC personnel is continuing. The on-the-job training has been completed and the inspector attended a meeting of GPU, S&W and M-K personnel for discussion of this program. S&W personnel responsible for providing on-the-job training also summarized their conclusions regarding the qualifications of the M-K QC personnel whose work they had observed. They later discussed the training program in

detail with the Level III inspector recently hired by M-K to supervise field QC. Discussion at the meeting indicated that there had been improvement as a result of the seven week on-the-job training program, but that certain of the M-K inspectors were not considered adequately qualified for certain of their assigned duties. Surveillance inspection and a "hold point" for preplacement inspection by GPU are continuing in order to assure compliance with QC requirements.

The inspector also reviewed the following reports:

- a. Audit Report No. 78-14, December 13-19, 1978. This report identified twenty-four findings, of which, sixteen were non-conformances. Seven of the nonconformances were repetitive of items identified during previous audits.
- b. Surveillance reports for the period November 14 - December 15, 1978. Nine surveillance inspections had been performed during this period. Six of the nine inspections had identified unsatisfactory conditions with two NCR's written; one of them being NCR No. 0443 discussed in Paragraph 3 above.

Following completion of the inspection, the inspector discussed the M-K QC improvement program by telephone with the licensee's representative at the GPU office in Mountain Lakes, New Jersey. Despite implementation of the plan as noted above, the incident described in Paragraph 3; review of the audit and surveillance reports; and discussion of the on-the-job training program all indicated that the M-K QC personnel are not yet capable of providing effective control of the quality of the work without assistance. This item is unresolved pending further review by an NRC inspector of the effectiveness of the M-K QC program(78-16-02).

#### 5. Reactor Pit Liner

An inspection was made of the work in progress to install the bottom floor plates in the reactor pit liner. Observations were made of the work being performed to make the proper weld gap fitup and flat plate alignment. The work plan used was to fit and tack all the plates together and then weld. The work area was protected from the weather by a roof constructed of wood frame and plastic covering. This was found to be inadequate for keeping the water out during a severe rain storm. The bottom floor plates were observed to be covered with water, therefore, all work on the floor plates was discontinued until a revised plan was written to adequately protect the work area and maintain it in a dry condition. This item is considered unresolved (78-16-03).

6. M-K Weld Procedures and Weld Material Control

An inspection was made of the program used by the contractor, Morrison-Knudsen, to control the welding material, the applicable procedures used for the identification and control of material and control of purchased material were reviewed and observations made of the receiving material verification, holding ovens, temperature control, calibrations, issue control and written authorization to issue and listings of qualified weldors.

The procedures reviewed are listed below:

Weld Procedure MK 21, Revision 2, Manual TIG Welding of Stainless Steel Piping and Associated Fittings

Weld Procedure MK 5, Revision 3, Welding of Carbon Steel to Stainless Steel

Weld Procedure MK 73, Revision 2, Manual Metal Arc Welding of Carbon Steel Pipe and Structural Welds

Quality Control Procedure QCP 06-FR, Revision 0, Identification and Control of Material

Quality Control Procedure QCP 05-FR, Revision 0, Control of Purchase Material

The inspector observed the welding setup for a Foundation Sump Liner for the Auxiliary and Fuel Handling Buildings which were to be welded in accordance with PCM 5355, Revision 0, Drawing 5662 and WPS 21, Revision 2.

No items of noncompliance were identified.

7. PDM Procedures

The inspector reviewed the WPS 75-88 NTNR, SMAW for compliance to ASME Section IX.

No items of noncompliance were identified.

## 8. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (363/78-01-01): QA Plan to provide for approval of contractor's QA program prior to start of work. Procedure FR-5-03, Revision 0, provides for approval of site contractor's procedures by proper GPU and S&W personnel and requires approval of procedures prior to start of work by site contractor. Manpower forecast dated October 2, 1978 provides the GPU and S&W manpower requirements forecast through 1983.

(Closed) Unresolved Item (363/78-08-03): No stop-work authority in M-K Manual. M-K Procedure QCP-14, Revision 0, provides stop-work procedures and authority.

(Closed) Noncompliance (363/78-12-01): Failure to maintain proper concrete curing conditions and failure of QC to verify proper curing. The inspector examined NCR Nos. 0371 and 0372 for improper curing of concrete placement Nos. 103-A, 104-B and 103-A. Corrective Action included:

- a. Reinstruction and retest of inspector responsible for inspection of Placement Nos. 103-A and 104-B.
- b. Training sessions on concrete curing for cold weather concrete placement and the applicable codes on September 25, 1978 and October 12, 1978.

The inspector verified the above, as well as, the assignment of an inspector for daily inspection of concrete curing conditions. The inspector reviewed a random selection of curing records and discussed the procedure for taking concrete temperature readings with the inspector.

(Closed) Unresolved Item (363/78-14-01): Removal of defective cadwelds. M-K Procedure CP-14-FR, Revision 1, has been issued to provide control, a sequence of operations and inspection requirements for defective cadweld removal.

(Closed) Unresolved Item (363/78-15-03): Certification of M-K QC personnel by an employee of the rebar installation subcontractor. The inspector reviewed records showing that the qualifications of these men had been revoked. Two of the men had been requalified by an M-K employee. The cadwelds previously inspected by these men had been re-inspected by other qualified inspectors and found to be acceptable.

9. 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. Unresolved items disclosed during this inspection are discussed in paragraphs 3, 4 and 5.

10. Exit Interview

At the conclusion of the inspection on December 21, 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.