

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

REGION III

Report No. 50-483/79-07

Docket No. 50-483

License No. CPPR-139

Licensee: Union Electric Company
P. O. Box 149
St. Louis, MO 63166

Facility Name: Callaway, Unit 1

Inspection At: Callaway Site, Callaway County, Missouri

Inspection Conducted: June 27-29, 1979

Inspectors: *R C Knop for*
W. A. Hansen

7/19/79

J F Suermann for
J. F. Suermann

7/20/79

Accompanying Personnel: R. C. Knop

Approved By: *R C Knop*
R. C. Knop, Chief
Projects Section 1

7/19/79

Inspection Summary

Inspection on June 27-29, 1979 (Report No. 50-483/79-07)

Areas Inspected: Procedure and activities regarding backfill placement and compaction, a thorough site tour which included inspection of the base of the reactor vessel and discussion of the status of plant construction. The inspection involved at total of 51 onsite inspector-hours by three NRC inspectors.

Results: Of the areas inspected, no items of noncompliance or deviations were identified.

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DETAILS

Persons Contacted

Union Electric Company (UE)

- *J. K. Bryan, Vice President
- *M. E. Doyne, General Superintendent, Callaway Construction
- *R. L. Powers, Site Quality Assurance Group Leader
- *W. H. Stahl, Quality Assurance Engineer
 - J. Laux, Quality Assurance Assistant Engineer
 - J. C. Gearhardt, Quality Assurance Engineer
- *R. Veatch, Quality Assurance Engineer
- *S. M. Hagan, Quality Assurance Assistant Engineer
- K. Kuechenmeister, Nuclear Construction Engineer

Daniel International Corporation (Daniel)

- *L. R. Smith, Regional Manager
- *H. J. Starr, Project Manager
- *W. L. Sybora, Assistant Project Manager
- *E. D. McFarland, Construction Engineering Manager
- *J. A. Holland, Project Quality Assurance Manager
- *J. R. Cook, Quality Control Manager
 - C. Gardner, Project Mechanical Engineer
- *M. Smith, Audit Response Coordinator
 - D. Jasper, Project Civil Engineer
 - J. Bryan, QC Supervisor
 - D. Gardner, Lead QC Inspector

The inspectors also contacted and interviewed other licensee and contractor personnel, including craftsmen, QA/QC, technical and engineering staff members.

*Denotes those attending exit meetings.

Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (50-483/78-14-03): IE Circular No. 78-02, titled "Proper Lubricating Oil for Terry Turbines," could not be found during the inspection performed for the report of 78-14. The circular was subsequently found misfiled. The circular was sent to Union Electric for information, no action was required to be taken. Correct action was taken by the licensee in that the information contained in the circular will be used during plant operations. This unresolved item is closed.

Functional or Program Areas Inspected

Details of functional or program areas inspected are documented as follows.

Section I

Prepared by W. A. Hansen

Reviewed by R. C. Knop, Chief
Projects Section 1

1. Reactor Vessel Inspection

The base of the reactor vessel was inspected. The area inspected was from the bottom to about 4 feet up the sides of the vessel. The inspection was to determine if an excessive amount of preservative coating had been applied. The thickness of the coating covering the area was estimated by the inspector using unaided visual inspection methods to be 1 to 2 thousandths of an inch (1 to 2 mils).

No items of noncompliance or deviations were identified.

2. Gulf Western Piping Formations

A discussion was held with the licensee of the status of work concerning Gulf Western Corporation radiographs of piping formations provided under contract with Bechtel Power Corporation. This subject was originally addressed in report 50-483/79-06. Radiographs of the piping formations had been returned to Gulf Western Corporation for resolution. It was stated by the licensee that starting June 29, 1978, piping would be fit up in place and tack welded but that welding beyond the tacks would not be performed until all of the weld radiographs for the formation involved were acceptable.

No items of noncompliance or deviations were identified within the areas inspected.

Section II

Prepared by J. F. Suermann

Reviewed by D. W. Hayes, Chief
Engineering Support
Section 1

1. Site Preparation - Procedures

The IE inspector reviewed several documents prior to observing work in progress involving safety related backfill in the Essential Service Water System (ESWS) trench. The documents reviewed were as follows: (1) Sverdrup and Parcel Specification 4645-32A(Q): Technical Specification for Excavation and Backfill for ESWS Piping and Ductbanks, Rev. 5, dated September 21, 1978; (2) Daniel Work Procedure WP-102, "Backfill/Material Selection, Preparation, Placement and Compaction," Rev. 10, dated November 3, 1978; and (3) Daniel Quality Control Procedure QCP-102, "Backfill Material Selection, Preparation, Placement and Compaction," Rev. 8, dated February 14, 1979. All three documents reviewed appeared to be in order.

2. Site Preparation - Observation of Work

On June 28, 1979 the IE inspector observed a work crew performing some minor slope repair work in the ESWS trench at a location south of Work Point 41 and east of manhole No. 2. A recent rainstorm made placement of safety related backfill impractical, but the IE inspector questioned two Daniel general foremen and two Daniel quality control (QC) inspectors with regard to their knowledge of the applicable work and QC procedures and specification requirements. All four men appeared to be knowledgeable in their respective requirements. On June 29, 1979 the IE inspector witnessed a sand cone test at the same trench location by a Daniel QC inspector. The cone test appeared to conform to the test procedure requirements of ASTM D 1556-64 as required by the procedures and specifications. The core test was a correlation test; three density tests using the nuclear densitometer had been performed earlier at the same location.

3. Site Preparation - Quality Records

The IE inspector reviewed the following Daniel quality records:

- a. "Daniel Bedding Material Placement Checklist" dated June 19, 1979 was signed and reviewed. It indicated, as a required check point, that Material Placement Card (MPC) No. 201 was signed off prior to fill being placed. The IE inspector

reviewed MPC No. 201 and found it lacked two required signatures - that of the area superintendent and that of the civil QC inspector. Once notified of the apparent oversight, the Daniel QC staff tagged the area in question, prepared Deficiency Reports No. 55D-0008-C and 25D-0503, both dated June 29, 1979, and reviewed all prior MPC's and Fill Placement Authorizations (FPA's) involving ESWS backfill for completeness. The IE inspector considered that adequate corrective measures were taken and the quality of the work in question was not in jeopardy.

- b. Daniel Nuclear Moisture-Density Test Report dated June 19, 1979 for tests No. 1847-F and No. 1848-F was properly signed and reviewed and showed the area tested met or exceeded the required minimum compaction.
- c. Daniel NM-DT Report dated June 19, 1979 for tests 1845-F, 1846-F, 1849-F and 1850-F was properly signed and reviewed and the area tested met or exceeded compaction requirements.
- d. Daniel NM-DT Report dated June 19, 1979 for tests 1841-F, 1842-F, 1843-F and 1844-F was properly signed and reviewed and the area tested met or exceeded compaction requirements. MPC No. 93 dated July 20, 1978 was properly signed off.
- e. Daniel Bedding Material Placement Checklist dated June 16, 1979 was properly signed and reviewed. MPC No. 186 dated April 4, 1979 was properly signed off.
- f. Daniel NM-DT Report dated June 16, 1979 was signed and reviewed and tests 1838-F, 1839-F and 1840-F all indicated the required compaction was met or exceeded.
- g. Daniel NM-DT Report dated June 16, 1979 was signed and reviewed and tests 1829-F, 1830-F, 1831-F, 1832-F, 1833-F, 1834-F, 1835-F, 1836-F and 1837-F all met or exceeded the required compaction.
- h. Daniel QC Inspection Reports on the Bedding Fines Material (June 18, 1979, June 16, 1979 and June 15, 1979) were all reviewed and signed and indicated satisfactory results.
- i. Sieve Analysis Tests S-1124 (dated June 18, 1979) and S-1122 (dated June 15, 1979) both indicated the bedding fines material gradations met the specification requirements.

4. Independent Inspection

During a walk through inspection on June 27 and 29, 1979 the IE inspector observed a large number of anchor plates installed with

concrete expansion anchors. The variance in exposed length of threads, marginal thread engagement on some CEA's, and the close proximity of re-drilled bolts holes led the inspector to question the licensee's installation and inspection program for CEA's. Research by the licensee revealed there was no clear cut guidance on the tolerances for re-drilling bolt holes. The licensee agreed to further research this point and until tolerances are established this matter will be considered an unresolved item. (483/79-07-01)

No items of noncompliance were identified in the areas inspected.

Unresolved Item

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Unresolved items disclosed during the inspection are discussed in Paragraph 4, Section II of the Details Section.

Exit Meeting

The inspectors met with licensee representatives (denoted in the Persons Contacted paragraph) at the conclusion of the inspection on June 29, 1979. The inspectors summarized the scope and findings of the inspection. It was noted that work area housekeeping had deteriorated since the previous inspections.