



## DETAILS

### 1. Persons Contacted

#### Philadelphia Electric Company

\*J. Corcoran, Field QA Branch Head  
D. DiPaolo, QA Engineer  
\*J. Harding, Field Engineer  
G. Hutt, QA Branch Head  
G. Lauderbach, QA Engineer  
R. Lees, QA Engineer  
\*J. Muldoon, Inspector  
\*P. Naugle, Construction Engineer  
\*C. Patton, Field Engineer  
H. Walters, QA Manager  
J. Walton, Electrical Project Engineer

#### General Electric Company

\*D. Conti, I&SED QA Supervisor  
\*F. Eaton, I&SED Manager QA  
\*W. Neal, NEBG Resident Site Manager  
\*L. Piotti, NEBG QA Representative  
\*J. Yingling, I&SED Field Engineer

#### Bechtel Power Company

\*H. Foster, Project Field QC Engineer  
\*R. Lanemann, Lead Electrical Engineer  
\*J. Martin, QA Engineer  
\*D. Shaw, Electrical Engineer  
\*D. Thompson, Project Field QC Engineer  
\*M. Tokolics, QA Engineer  
\*A. Weedman, Project Field Engineer

#### U.S.N.R.C.

\*J. Mattia, Senior Resident Inspector

\*Denotes personnel attending exit interview.

### 2. General

The licensee has contracted with the General Electric Nuclear Energy Business Group (NEBG) for the delivery of control room equipment, including the power generation control complex (PGCC).

NEBG has delivered the PGCC to the site minus certain components and with certain design changes not incorporated. NEBG has subcontracted the completion and modification work at the site to the General Electric Installation and Service Engineering Division (I&SED).

The inspector reviewed the documentation and implementation of I&SED's Quality Assurance Program.

### 3. Document Review

The inspector reviewed the NEBG quality assurance program requirements that were placed on I&SE:

Document #8, titled "Quality Assurance--Engineered Equipment and Installation--San Jose, California," Revision 0, issued December 4, 1979.

The inspector then reviewed the I&SED responding documents, including the overall QA Program plan:

Document #18XA9000, "G.E. Northeast Region QA Program--Electrical," Revision 1, issued June 6, 1979

as well as the more detailed implementing documents:

- . QA II-001, "Visual Inspection for Electrical Work to CID Panels," Revision 9, dated July 14, 1980
- . QA II-002, "Visual Inspection for Changes to CID Cables," Revision 0, dated July 15, 1980
- . QA II-003, "Wire Check for Electrical Work to CID Panels and Cables," Revision 0, dated July 15, 1980.
- . QA II-004, "Visual Inspection for Soldering to Boards, Assemblies and Cables," Revision 0, dated July 15, 1980
- . QA II-005, "Hi-pot Requirements," Revision 0, dated July 15, 1980
- . QA II-006, "Material Transfer from NEBG to I&SED," Revision 0, dated July 28, 1980
- . QA II-007, "Rubber Stamp Marking," Revision 0, dated July 28, 1980
- . QA II-008, "Observed Condition Notice (OCN)," Revision 0. dated July 28, 1980.

- . QA II-009, "Certificate of Compliance," Revision 0, dated July 31, 1980.
- . QA II-010, "Inspection of Engraving," Revision 0, dated August 11, 1980.

The inspector then reviewed the NEBG evaluation of the I&SED QA documents mentioned above: NEBG letter to the site project manager, letter no. RLS-80-049, dated September 4, 1980.

No items of noncompliance were identified by the inspector.

4. Observation of Work

The inspector interviewed the NEBG QA representative and the I&SED QA Supervisor. He observed the inspection and modification of the equipment. He determined that the number of I&SED QA inspectors (two, including the supervisor) was adequate to inspect the efforts of the modification team (five electricians). He determined that the modification team was using the same workmanship standards used in the NEBG factory: the "Manufacturing Standard Practices Manual," Revision 54, dated July 2, 1980.

No items of noncompliance were identified by the inspector.

5. Special Effort to Verify Equipment Configuration

The inspector asked I&SED how the equipment configuration will be documented when the modifications are completed and the missing ("shipped short") components are installed. They responded that the modifications are made in accordance with engineering change notices to "baseline" drawings. Another group of I&SED personnel are presently checking the "as delivered" equipment with the baseline drawings to insure that the baseline drawings represent the "as delivered" configuration.

The inspector interviewed the drawing-check group's leader, an I&SED field engineer. (He is supported by four drafting personnel.) The group is presently conducting a "trial run." NEBG will determine, at the completion of the trial, if the drawing corrections found warrant the group to perform this "as delivered" configuration check as a program task.

The inspector reviewed one of the baseline drawings that the group was checking: number 828E224T4, Revision 4. Several corrections were noted on the drawing.

The inspector asked the licensee if the group was performing their task in accordance with the I&SED QA Program. The licensee stated that, since this was only a trial run, the group was not included in the QA Program. However, the I&SED QA manager stated that all of the group's work will be inspected

by QA and, if it was decided to expand their trial run into a program task, the work will be performed in accordance with the QA Program controls.

The inspector stated that NRC wanted to know: (1) the results of the trial run, and (2) the NEBG decision on whether or not to expand the trial run into a program task. The NRC Senior Resident Inspector stated that he will monitor this activity.

No items of noncompliance were identified by the inspector.

#### 6. Review of Licensee Audits

The inspector reviewed the licensee audits of both the NEBG and I&SED QA Program activities. He selected the following audit reports for review:

- . Audit No. 213, NEBG audit of November 1 and 2, 1979
- . Audit No. 201, NEBG audit of November 28-30, 1978
- . Audit No. E-045, I&SED audit (at site) of May 20-23, 1980
- . Audit No. E-041, I&SED audit (at site) of January 3-14, 1980

The inspector noted that finding number 213-02, in Audit No. 213 of NEBG related to an incorrect connection diagram being used in factory assembly of the Unit 2 remote shutdown panel C61-P0001. The finding was closed by the licensee after NEBG verified that no assembly work had been performed with the incorrect diagram, which was immediately replaced with the correct diagram in factory assembly.

The inspector then reviewed the licensee's present Audit Schedule, issue number 103, dated September 7, 1980 and found that no audits of NEBG were scheduled since Audit No. 213. A subsequent NRC inspection will review their audit schedule.

No items of noncompliance were identified by the inspector.

#### 7. Pre-Operational Testing of the Control Room Equipment

The licensee stated that NEBG performed detailed testing of their control room equipment prior to shipping it to the site. Substitute components were used during these tests in locations where the equipment was "shipped short." The inspector asked, in light of the re-installation of "shipped short" components and the modifications made at the site, if the NEBG testing that was performed prior to shipment was considered valid testing

of the equipment. The licensee stated that his pre-operational test program would be considered the valid test program and it would supplement the NEBG detail testing. The inspector stated that NRC inspections during the licensee's pre-operational test program would verify this.

No items of noncompliance were identified by the inspector.

8. Exit Interview

The inspector met with the licensee representatives (denoted in paragraph 1) at the end of the inspection on September 24, 1980. The inspector summarized the purpose and scope of the inspection and the findings.