UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report No. 99900368/79-01

Constructor: Daniel Construction Company
Daniel Building
Greenville, South Carolina 29602

Docket No. 99900368

Inspection at Greenville, South Carolina

Inspectors: Virgil L. Brownlee — 6/25/79
V. L. Brownlee — Date Signed

Virgil L. Brownlee for — 6/26/79
T. E. Burdette — Date Signed

Virgil L. Brownlee for — 6/26/79
R. D. Bradley — Date Signed

Approved by: J. C. Bryant — 6/26/79
J. C. Bryant, Section Chief, RCES Branch — Date Signed

SUMMARY

Inspection on May 21-23, 1979

Areas Inspected

This special, announced inspection involved 66 inspector-hours at the Greenville offices in the area of QA programs for construction services as applied to the J. M. Farley, V. C. Summer, S. Harris and Surry Nuclear Power Plants. The following specific areas were examined: organization; QA program review: facility contract reviews; training; audits; QA manual/procedure control; Part 21 and 10 CFR 50.55(e); and purchasing.

Results

Of the eight areas inspected, no apparent deviations were identified in seven areas; one apparent deviation was identified in one area (Deviation - Indoctrination Training - paragraph 5.d.(1)).

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DETAILS

1. Persons Contacted

Daniel Construction Company (DCC) Employees

*H. W. McCall, President, Power Group
*R. P. Williams, Vice President, Regional Manager
B. E. Wells, Vice President, Operations
*D. M. McAfee, Director, QA
*M. R. Hamby, Director, Project Services
*L. Pardi, Director, Technical Services
L. E. Hartsell, Corporate Manager, Welding Technology
J. Lansafame, Manager, Power Services Division
W. C. Plumstead, Level III Examiner
W. J. Powell, QA Engineer
F. A. Bullard, Regional QA Engineer

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on May 23, 1979, with those persons indicated in paragraph 1 above. DCC management personnel acknowledged the inspection report findings.

3. Company Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Quality Assurance Program

a. Organization

Daniel Construction Company (DCC) is a division of Daniel International Corporation (DIC). DCC functions primarily as a field constructor and offers a full range of construction services. Construction is performed in accordance with owner supplied design documents. DCC does not perform architect-engineering or design functions. Construction services relative to the Surry Nuclear Power Station are accomplished through the Construction Groups, Maintenance and Mechanical Group. Construction and QA/QC services as applicable to Farley, Summer, and Harris nuclear plants are accomplished through the Power Group.

Power Group Projects are essentially autonomous and are administered by an assigned Project Manager for each project. The site Construction Manager and the QC Manager report to the Project Manager.

Corporate QA operates as a staff function (approximately 35 personnel) providing QA services to corporate organizations and projects. The Corporate QA organization is administered by a Director who reports administratively to the Power Group President and functionally to the appropriate Corporate Group or Division management utilizing QA services. A Project QA Manager (Farley and Summer) reports to the Regional QA Manager who in turn reports to the Director, QA Group.

The inspectors held discussions with DCC management personnel and reviewed organizational charts and the Corporate QA Project Manuals. The inspectors concluded that the persons and organizations performing QA functions have direct access to a management level that provides the required organizational freedom, authority and independence from cost and scheduling. The QA organization has sufficient organizational freedom and authority to identify quality problems; to initiate, recommend, or provide solutions; and to verfiy implementation of solutions.

b. QA Program Review

References:

1) Corporate Quality Assurance Procedures Manual
2) QA Manual, Nuclear Construction (ASME Manual)
3) V. C. Summer Asministrative Procedures
4) V. C. Summer QC Procedures
5) V. C. Summer Work Procedures
6) Surry Construction Procedures Manual

The DCC Corporate QA Procedures Manual is the controlling mechanism for the control of corporate QA functions. Corporate QA Procedures are originated and approved by corporate QA personnel.

The site DCC Construction Procedures Manual (CPM) is prepared for the purpose of providing the information and instructions to site based construction management and construction personnel. The CPM consists of four volumes 1) Administrative Procedures; 2) QC Procedures: 3) Work Procedures; and 4) Welding and NDE, which provide the management control system for construction effort. CPM procedures are reviewed by the Project QA Manager when a project QA Manager is assigned to the project.

The QAM for Nuclear Construction describes and establishes the QA program to be used in performing nuclear power plant construction activities in conformance with the requirements of Section III, Division 1, of the ASME Boiler and Pressure Vessel Code. Work operations and code editions for a specific project are covered in a statement of applicability for that project and an authorized addendum to the program. The Director of the QA Group has the responsibility for developing, maintaining, ans assuring that the program is properly implemented, adequate and effective.

The inspectors held discussions with responsibile QA personnel and performed selected reviews of the referenced documents. The inspectors concluded that the constructor has established a QA program that provides the measures for controlling the activities of the worker and QA functions which affect quality as required by Appendix B. The referenced documents provide the objective evidence of established written policies and procedures.

c. Scope of Licensee/Daniel Contracts Within IE:II

1) V. C. Summer - South Carolina Electric and Gas Company (SCE&G)

DCC furnishes supervision, labor, construction equipment, tools, and material for construction of the V. C. Summer Nuclear Plant. DCC administers QA activities for ASME Code work in accordance with the Daniel QA Manual for Nuclear Constrction and the Daniel Construction Procedures Manual. DCC Corporate personnel provide services on technical requirements for welding, NDE, code interpretation, and other specialized services involving code construction.

2) J. M. Farley - Alabama Power (APCO)

DCC furnishes supervision, labor, tools, construction equipment, and material for constructon of J. M. Farley Nuclear Plant. DCC is assigned responsibility for execution of of a QC Program in accordance with Alabama Power's QA Program. DCC QA program is described in Appendix 17D of PSAR. DCC provides project QA audit activities and inspection for construction work. DCC corporate personnel also assist in development of selected detailed procedures.

3) Shearon Harris - Carolina Power and Light Company (CP&L)

DCC under contract to CP&L is furnishing labor, and management and supervision of labor, to construct the four unit Shearon Harris Nuclear Power Plant. Codes, regulatory guides, and standards applicable to construction are identified in the PSAR and imposed on DCC by CP&L QA manuals and architect-engineer specifications. CP&L is procuring the necessary materials and retains full control and responsibility for completion of its plant in accordance with the terms and conditions of its NRC application and construction permit. DCC is obligated to adhere to CP&L's overall QA program requirements and is subject to the requirements of 10 CFR 21. DCC is also providing qualified personnel to CP&L for nondestructive examination. These personnel are trained and certified by the DCC Level III Examiner who has been accepted by CP&L and is utilizing CP&L procedures, forms, and examinations. There are no DCC prepared QA manuals applicable to this project.

4) Surry Power Station - Virginia Electric and Power Company (VEPCO)

DCC under contract to VEPCO is furnishing all labor, supervision, technical, administrative and professional personnel and other services to perform systems modification and steam generator work at the two unit Surry Power Stations. Construction is being performed by DCC in accordance with VEPCO's "Corporate", "Nuclear Power Station", and "Steam Generator Project", QA manuals and DCC's welding procedures. Site QC activities are carried out by DCC in accordance with the quality program developed and implemented by DCC. DCC is subject to the requirements of 10 CFR 21 and the work performed is monitored or directed by VEPCO. Certified welders or testing for welders is being provided by DCC.

d. Implementation

1) Training References:

a) Corporate Quality Assurance Procedure/Instruction No. CQAP-VI, Selection, Indoctrination, and Training of Quality Assurance Personnel.

b) Corporate Quality Assurance Procedure/Instruction No. CQAP-XI, Certification of Daniel Personnel who Perform Audits of Quality Activites.

c) Farley Field Quality Control Procedure 5.5.2.4, Training Program and Qualification of NDE Personnel.

d) Quality Control Program Procedure 7.1, Certification of Nondestructive Examination Personnel.

The inspector discussed with the Quality Assurance Director and Technical Services Director the QA indoctrination training for personnel under their direction. The inspector reviewed controlling instructions, CQAP-VI, and training records for indoctrination training of quality assurance personnel. The inspector selected training records for five quality assurance personnel in order to determine compliance with CQAP-VI. The review indicated compliance with CQACP-VI with the exception of certain individuals who satisfy procedure requirements through past training and experience or length of time in a QA position, In such cases, a record of satisfying QA indoctrination requirements was inserted in the training records file.

In the Technical Services area, the Director indicated to the inspector that no formal QA indoctrination program has been developed for personnel in Technical Services. Informal on the job training is the current method of training. The inspector informed the Technical Services Director that ANSI

N45.2-1971 requires that personnel performing activities affecting quality shall receive indoctrination training to assure that suitable proficiency is achieved and maintained. The Technical Services Director concurred that the requirements of ANSI N45.2-1971 were appropriate, and reported that he would take corrective action to meet the requirements. On May 23, 1979, the Technical Services Director provided the inspector a copy of a procedure on indoctrination of Technical Services employees. On May 29, 1979, the inspector was informed by a telephone call from the Director that indoctrination training had been implemented in the case of a relatively new employee in his organization. The inspector has no further questions in regard to Technical Services indoctrination training based on recent actions taken to implement a formal training program. This item is identified as a deviation 99900368/79-01-01, Indoctrination Training.

A response to this item is not required since corrective action was taken prior to inspection completion.

The inspector discussed with the Quality Assurance Director the training and qualification of auditors. The inspector reviewed CQAP-XI and selected qualification records for five auditors. The inspector determined that procedure requirements were being satisfied with the exception of technical specialists being utilized as certified auditors. CQAP-XI, required technical specialists to be certified as auditors.

ANSI N45.2.12-1977 requires that the responsible auditing organization shall establish the audit personnel qualifications and the requirements for the use of technical qualifications and the requirements for the use of technical specialists to assist in the auditing. Discussions with the Quality Control Director revealed that it was not intended nor does the standard require, that technical specialists be certified as auditors. Technical specialists are utilized in audits for their technical expertise as required. To correct this discrepancy in CQAP-XI, the Director took immediate action to revise CQAP-XI to reflect current practices in auditing and to indicate certification of auditors is not mandatory for personnel performing an audit function; i.e., technical specialists or auditor trainess. Also CQAP-XI was revised to indicate that the lead auditor assures himself that persons assisting in the audit are capable of auditing in the areas assigned. Based on the Director's corrective actions, the inspector had no further questions in the auditor training and certification area.

The inspector held discussions with the Technical Services Director and the Level III Nondestructive Examination (NDE) Examiner on training and qualification of NDE personnel at

Farley and Summer Nuclear Plants. The inspector reviewed QC Procedures 5.5.2.4 and 7.1 to determine procedure requirements for Farley and Summer, and reviewed UT, MT, PT and RT qualification and training records for two persons at Summer and Farley. The inspector determined that the applicable procedure requirements were being implemented, and had no further questions regarding qualification and training of NDE personnel.

2) Audits

References:

a) Corporate Quality Assurance Procedure/Instruction No. CQAP-VII, Quality Assurance Procedure for Audits.

b) Corporate Quality Assurance Audit of Daniel Technical Services Operation conducted March 9 - 10, 1978.

c) Corporate Quality Assurance Audit of Daniel Technical Services Operation conducted March 12 - 13, 1979.

d) Corporate Quality Assurance Audit of SCE&G's Quality Assurance activities conducted March 30, 1979.

e) Project Monitoring Program Manual

f) Project Monitoring Program Report at Farley Nuclear Project conducted January 8 - 11, 1979.

g) Project Monitoring Program Report at V. C. Summer conducted February 27 - 28, 1979.

h) Project Monitoring Program Report at V. C. Summer conducted December 11 - 13, 1978.

The inspector discussed with the Quality Assurance Director and the Regional QA Manager the Corporate Quality Assurance Audit Program. The inspector reviewed CQAP-VII and selected three referenced QA audits to determine compliance with CQAP-VII requirements. The inspector also reviewed the QA audit schedule to determine adherence to approved schedules. Audit findings reports were issued for unsatisfactory conditions adverse to quality and corrective action taken to correct the condition was documented.

The inspector discussed with the Technical Services Director and the Project Monitoring Program Administrator the Project Monitoring Program. The inspector reviewed the Project Monitoring Program Manual (PMPM) and selected the three referenced Project Monitoring Program Reports to determine compliance with PMPM requirements. The inspector also

reviewed the Project Monitoring Program schedule to determine adherence to approved schedules. Finding reports were issued for unsatisfactory conditions adverse to quality and corrective action taken to correct the condition was documented.

The inspector noted in reviewing findings reports for the QA Audit Program and Project Monitoring Program that reports failed to clearly address the cause of significant conditions adverse to quality. ANSI N45.2-1971 states that in the case of significant conditions adverse to quality, the measures shall assure that the casue of the condition is determined and corrective action taken to preclude repetition. The inspector held discussions with the Directors of Quality Assurance and Technical Services on identifying the cause in responses to findings reports. The Directors agreed that in the area of quality assurance the cause may not be clearly indicated in all cases. It was pointed out that certain finding reports clearly indicate thr cause of conditions adverse to quality.

The Quality Assurance Director issued a letter on May 23, 1979 to require specific identification of the cause in the area of findings reports. The inspector had no further questions in the area of audits.

3) QA Manual/Procedure Control

References:

a) Corporate Quality Assurance Procedure CQAP-II, Approval and Distribution of Corporate Quality Assurance Procedures", revision 1, dated March 1, 1978.

b) Corporate Quality Assurance Procedure CQAP-III, "Generation of QA Manuals and Revisions or Addenda Thereto", revision 1, dated October 2, 1978.

c) Corporate Quality Assurance Procedure CQAP-IV, "Manual Control and Distribution", revision 1, dated March 20, 1978.

d) Corporate Welding Procedure CWP-501, "Welding Procedure Qualification", revision 4, dated October 1978.

e) Corporate Welding Procedure CWP-503, "Distribution and Revision Control of Welding Procedure Specifications", revision 1, dated May 2, 1979.

f) Corporate Calibration Procedure CWP-504, "Equipment Calibration", revision 0, dated March 5, 1979.

g) Corporate Nondstructive Examination Procedure CWP-505, "Preparation and Distribution of Corporate Nondestructive Examination Procedures", revision 0, dated May 22, 1979.

The above referenced procedures are the controlling documents for the QA program manuals and their revisions. The inspector held discussions with responsible management personnel, reviewed the referenced controlling procedures, and observed that facilities were provided for the support of the requirements for the above documents.

The inspector examined procedure review transmittal sheets, revision transmittal sheets, distribution control logs, receipt acknowledgement transmittal sheets, and manual control matrices. This review verified that appropriate personnel were reviewing and authorizing new procedures and revisions to existing procedures, reviews were timely, effectivity dates were being assigned, index sheets were being revised, distribution was being controlled, and the records being maintained were available and complete.

The inspector then selected three ASME manual holders at the control distribution point to verify that the two different QA manuals in their posession were the manuals assigned, and that they were being maintained current with the latest revisions. With the exception of one manual which did not contain two addenda, the manuals had been properly assigned and were being maintained as required. The missing addenda were an isolated case of no safety significance and the missing sheets were reinserted immediately. Only one copy of the Corporate Quality Assurance Procedures Manual exists and referenced procedures CQAP-II, CQAP-III and CQAP-IV assure that procedures issued by the Corporate QA Director are properly controlled.

Nondestructive examination (NDE) and welding procedures are the responsibility of the Corporate Technical Services Divison. Neither of these procedure categories is issued as a manual for distribution. These procedures are routed as required to the various sites where they are controlled by the site document control centers. Discussion with Technical Services management disclosed that there were documents for controlling weld procedures (CWP-501 and CWP-503) but there were no DCC documents for controlling controlling nondestructive examiniation procedures. It was pointed out that an earlier corporate QA audit finding had already identified a lack of controlling procedures in the areas of welding and NDE. Technical Services subsequently issued the necessary documents for controlling weld procedures. Further evaluation and discussions between Technical Services and QA concerning the

finding on NDE procedures revealed that adequate controls were already in-place through imposition of industrial standards such as the American Society for Nondestructive Testing SNT-TC-1A and Sections V and IX of the ASME Code.

To verify that these existing controls were adequate, this inspector examined the NDE procedure files. No evidence of a lack of control in the areas of review, approval, and distribution was noted. As no problems were found in the implemented system for controlling NDE procedures, paragraph 6 on procedures within ANSI Standard N45.2 provides for use of instructions/procedures of a type appropriate to the circumstances, the inspector had no further questions regarding this matter. DCC management decided, however, that for the sake of clarity, continuity, and consistency, for DCC and others, a controlling NDE procedure would be issued. CWP-505 was subsequently prepared and issued prior to completion of the inspection.

On May 23, 1979 the inspectors performed a walk-through inspection of the DCC Weld Test Shop in Greenville, South Carolina. The inspectors examined shop facilities, held discussions with associated personnel, and observed work in progress. The inspectors subsequently reviewed the procedure qualification log, weld qualification log, calibration records for the weld material oven calibration thermometer, procedure qualification test folder number 130, and the equipment calibration procedure, reference (f). The DCC Weld Test Shop receives qualification materials and weld rods and performs the welding in accordance with their weld procedure. The test coupon is then forwarded to Newport News Industrial Corporation, a DCC subcontractor, who performs specified metallurgical and mechanical testing, and heat treatment processing. The inspectors determined that personnel were knowledgeable, facilities were adequate, and the record retrieval system enabled timely response of requested documents.

4) Procurement

References:

a) CQAP-VIII, QA Procedure for Supplies Qualification and Surveillance

b) Audit of Newport News Industrial Corporation Materials Testing Laboratory, January 26-27, 1977

c) Audit of Newport News Industrial Corporation Materials Testing Laboratory, March 26-27, 1979

d) Purchase Order 331-d1-00001-01

DCC has only one Corporate purchase order, PO 331-d1-00001-9, which is with Newport News Industrial Corporation (NNIC) Materials Testing Laboratory. NNIC supplies no safety related materials for installation for any of Daniel Nuclear Projects and only supplies Testing services to DCC. DCC provides specific instructions with each order to the contract.

The inspector held discussions with Technical Services and QA personnel, and review the referenced QA audit reports. DCC has evaluated and qualified NNIC to provide the testing services.

The inspector has no further questions regarding this matter.

5) Defect and Significant Deficiency Reporting

Memorandum 210-HWM-79-02, which transmitted Procedure 10 CFR Part 21, "Defect Reporting", Rev. 1, was reviewed by the inspector. The procedure references both 10 CFR Part 21 and 10 CFR 50.55(e). The memorandum requires the posting of the procedure or the applicable notice and Section 206 of the Energy Reorganization Act of 1974. The President, Power Group is the responsible officer within Daniel who is vested with executive authority over the activity subject to Title of CFR Part 21. To date, DCC has not identified a defect to a utility, nor have they been requested to evaluate a defect.

Significant Deficiency Reporting (10 CFR 50.55(e)) is controlled through the specific site Construction Project Manual procedure since project requirements dictate the method of control.

The inspector had no further questions regarding these matters.