UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVE., NE., SUITE 1200
ATLANTA, GEORGIA 30303-1257

February 14, 2011

Southern Nuclear Operating Company, Inc.
ATTN: Mr. David H. Jones
Nuclear Site Vice President Vogtle Units 3 & 4
7825 River Road
Waynesboro, GA 30830

SUBJECT: SOUTHERN NUCLEAR OPERATING COMPANY VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4 - NRC INTEGRATED INSPECTION REPORT 05200011/2010-008; 05200025/2010-002; 05200026/2010-001 AND NOTICE OF VIOLATION

Dear Mr. Jones:

This refers to the U.S. Nuclear Regulatory Commission (NRC) inspection conducted between October 1 and December 31, 2010, at the Vogtle Electric Generating Plant (VEGP) Units 3 and 4 plant site in Waynesboro, GA. The enclosed inspection report presents the results of this inspection, which were discussed on January 20, 2011, with you and other members of your staff.

The purpose of the inspection was to examine a sample of construction activities conducted under your early site permit (ESP) and limited work authorization as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your ESP. The inspectors also examined a sample of pre-construction activities that could affect the quality of safety-related structures, systems, and components, and were associated with the proposed inspections, tests, analyses and acceptance criteria submitted in your application for a combined license for two Westinghouse Advanced Passive (AP1000) pressurized water reactors designated as VEGP Units 3 and 4. Within these areas, the inspection consisted of the selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC has determined that a Severity Level IV violation of NRC requirements occurred.

The violation was evaluated in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at (http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html). The violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it are described in detail in the subject inspection report. As described in Section 2.3, "Disposition of Violations," of the NRC Enforcement Policy, the violation is cited in the Notice because for reactor facilities under construction in accordance with 10 CFR Part 52, the site corrective action program must have been demonstrated to be adequate, prior to the issuance of non-cited violations, and as of this inspection, the NRC had not yet made this determination for VEGP Units 3 and 4.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. If you have additional information that you believe the NRC should consider, you may provide it in your response to the Notice. The NRC review of your response to the Notice will also determine whether further enforcement action is necessary to ensure compliance with regulatory requirements. If you contest the violation or significance of the NOV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to: (1) the Regional Administrator, Region 2; (2) the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and (3) NRC Senior Resident Inspector at VEGP Unit 3 and 4.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy or proprietary information so that it can be made available to the Public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Sincerely,

/RA/

David A. Ayres, Chief
Construction Projects Branch 4
Division of Construction Projects

Docket Nos.: 52-00011, 52-00025, 52-00026
Early Site Permit Number: ESP-004

Enclosure 1: Notice of Violation (Notice)
Enclosure 2: NRC Inspection Report 052-00011/2010-008; 05200025/2010-002; 05200026/2010-001 w/attachment: Supplemental Information

cc w/encl: (See page 3)

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■ PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE ■ NON-SENSITIVE

ADAMS: ☐ Yes ACCESSION NUMBER:ML110460304 ☐ SUNSI REVIEW COMPLETE

OFFICE	RII:DCP	RII:DCP					
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E-MAIL COPY?	YES NO	YES NO					

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Letter to David Jones from David A. Ayres dated February 14, 2011.

SUBJECT: SOUTHERN NUCLEAR OPERATING COMPANY VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4 - NRC INTEGRATED INSPECTION REPORT 05200011/2010-008; 05200025/2010-002; 05200026/2010-001 AND NOTICE OF VIOLATION

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NOTICE OF VIOLATION

Southern Nuclear Operating Company, Inc. (SNC)
Vogtle Electric Generating Plant (VEGP) Unit 3
Waynesboro, GA

Docket Number: 05200025
License Number: N/A

During an NRC inspection conducted between October 1 and December 31, 2010, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B, "Quality Assurance Program Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," states, in part, that "Measures shall be established to assure that purchased services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents."

Article 5, "Quality Assurance," of the Engineering, Procurement and Construction Agreement (EPC Agreement) between SNC and a consortium consisting of Westinghouse Electric Company, LLC (WEC) and Stone & Webster, Inc. (S&W); required, in part, that safety-related activities contracted to the consortium be performed in accordance with 10 CFR Part 50, Appendix B and American Society of Mechanical Engineers (ASME) Nuclear Quality Assurance (NQA) Standard NQA-1-1994, "Quality Assurance Requirements for Nuclear Facility Applications."

The containment vessel (CV) procurement document between WEC and their contractor, Chicago Bridge & Iron (CB&I), SV0-MV50-Z5-006, "Purchase Order For Vogtle 3 & 4 Containment Vessels," Revision 0; required, in part, that activities which could affect the quality of the containment vessel be performed in accordance with 10 CFR Part 50, Appendix B and ASME NQA-1-1994.

Contrary to the above, as of October 15, 2010, SNC failed to establish adequate measures to assure that safety-related services, purchased through WEC and CB&I, conformed to the quality requirements prescribed by the VEGP Unit 3 CV procurement document (SV0-MV50-Z5-006); in that SNC failed to ensure that CB&I had established and implemented an adequate quality assurance program that complied with 10 CFR Part 50, Appendix B and ASME NQA-1-1994, as evidenced by the following examples:

1. SNC failed to ensure that CB&I had established adequate procedures to implement the receipt inspection and storage requirements of Subpart 2.2, "Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants," of ASME NQA-1-1994. Specifically, as of October 15, 2010, CB&I had not established procedures that adequately prescribed the applicable receipt inspection and storage requirements of ASME NQA-1-1994. Consequently, as of October 15, 2010, regarding the VEGP Unit 3 CV bottom head plate material, CB&I had not performed the required receipt inspections prior to the material's release for fabrication, and failed to store the plate in a manner that would prevent its damage or deterioration.

2. SNC failed to ensure that CB&I had established and implemented a corrective action program that complied with the requirements of 10 CFR Part 50, Appendix B, in that,

CB&I had not established measures to assure that all conditions adverse to quality were promptly identified and corrected. Specifically, CB&I procedure, CMS-720-03-PR-11051, "Handling of Corrective Action," Revision 0, failed to meet 10 CFR Part 50, Appendix B requirements since it only prescribed a system to document and correct significant conditions adverse to quality.

This is a Severity Level IV violation (Enforcement Policy Section 6.5.d).

Pursuant to the provisions of 10 CFR 2.201, Southern Nuclear Operating Company, Inc. is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region II, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days of receipt.

Dated this 14th day of February 2011

U.S. NUCLEAR REGULATORY COMMISSION
Region II

Docket Numbers (Nos.):	052000011 (ESP/LWA); 05200025 (Unit 3); 05200026 (Unit 4)
License No.:	ESP-004
Report Nos.:	05200011/2010-008; 05200025/2010-002; 05200026/2010-001
Licensee:	Southern Nuclear Operating Company, Inc.
Facility:	Vogtle Electric Generating Plant Units 3 and 4
Location:	Waynesboro, GA
Inspection Dates:	October 1 through December 31, 2010
Inspectors:	Justin D. Fuller, Senior Construction Resident Inspector, Region II Coleman B. Abbott, Construction Resident Inspector, Region II Bradley Davis, Senior Construction Inspector, Region II Rahsean Jackson, Senior Construction Inspector, Region II
Accompanying Personnel:	Weijun Wang, Senior Geotechnical Engineer, Office of New Reactors Yong Li, Senior Seismologist, Office of New Reactors Elba Sanchez Santiago, Reactor Inspector, Region III
Approved by:	David Ayres, Construction Projects Branch 4, Chief Division of Construction Projects

SUMMARY OF FINDINGS

Inspection Report (IR) 05200011/2010-008, IR 05200025/2010-002, IR 05200026/2010-001; 10/1/2010 through 12/31/2010; Vogtle Electric Generating Plant (VEGP) Units 3 and 4, routine integrated inspection report.

The report covered a three month period of inspection by resident inspectors and region based inspectors. One Severity Level IV violation (construction finding) was identified.

The Nuclear Regulatory Commission's (NRC's) program for overseeing the construction of commercial nuclear power reactors is described in Inspection Manual Chapter (IMC) 2506, "Construction Reactor Oversight Process General Guidance and Basis Document."

A. NRC-Identified Findings and Licensee-Identified/Self-Revealing Violations Evaluated as Findings.

1. Inspection Procedure: 35007, "Quality Assurance Program Implementation and Pre-Construction Activities"

   VIO 05200025/2010002-01: Failure to assure that purchased services conform to procurement documents: During the review of records and the observation of a sample of pre-construction activities that could affect the quality of the safety-related containment vessel (CV), the inspectors identified several examples where Southern Nuclear Operating Company, Inc (SNC) failed to assure that safety-related services purchased through their contractor and subcontractor conformed to the CV procurement documents. This issue was determined to be a construction finding and a Severity Level IV Violation of Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B, "Quality Assurance Program Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," for SNC's failure to assure that activities which could affect the quality of the safety-related containment vessel for Vogtle Unit 3, conformed to the procurement documents.

B. Licensee-Identified and Self-Revealing Violations Not Evaluated as Findings

None

REPORT DETAILS

A. ITAAC-RELATED INSPECTIONS

1. Inspection of ITAAC-Related Foundations & Buildings (Inspection Procedure [IP] 65001.01), and Inspection of ITAAC-Related Construction Test Program (IP 65001.C)

   a. Inspection Scope

   The inspectors performed a direct inspection of a sample of construction activities, which were: 1) authorized by SNC's early site permit (ESP-004, as amended) and limited work authorization (LWA); 2) associated with the Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) that were set forth in Appendix E of the ESP; and 3) could affect the quality of safety-related structures, systems, and components (SSCs).

   The inspectors performed this inspection to determine whether the licensee and their contractors had performed these construction activities in accordance with the conditions of the ESP, the provisions of the Atomic Energy Act, and the Commission's rules and regulations. Specifically, the inspectors reviewed construction records and observed in-process construction activities to determine whether construction activities were performed in accordance with: (1) the quality requirements established by the SNC Nuclear Development Quality Assurance Manual (NDQAM), and associated implementing procedures; and (2) the technical requirements established by the design output documents used to implement the design requirements committed to by SNC in the Site Safety Analysis Report (SSAR), as amended.

   The SNC NDQAM required adherence to the following quality assurance requirements:

   - 10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants"
   - American Society of Mechanical Engineers (ASME) Nuclear Quality Assurance (NQA) Standard NQA-1-1994, "Quality Assurance Requirements for Nuclear Facility Applications"

   Although SNC maintains overall responsibility for the construction activities performed under their ESP and LWA, as required by 10 CFR Part 50, Appendix B, Criterion I, "Organization"; the inspectors noted that SNC contracted construction activities (e.g., backfill and associated quality assurance and quality control activities), through an Engineering, Procurement and Construction Agreement (EPC Agreement); to a consortium consisting of Westinghouse Electric Company, LLC (WEC) and Shaw Stone and Webster, Inc. (S&W). Work activities contracted to the consortium included activities associated with the ITAAC that were set forth in Appendix E of the ESP.

   The inspectors reviewed the construction activities performed by SNC and those activities which they had subcontracted to other organizations. Where SNC had contracted construction activities to other organizations, the inspectors determined whether those activities were performed in accordance with the contractor's quality

assurance program, and other applicable requirements established by the procurement documents. The inspectors also assessed the adequacy of SNC's oversight of their contractors.

Site Specific ITAAC No. 2.5.4.5.5a / ITAAC Family C01

The inspectors conducted a field inspection of construction activities involving site specific ITAAC SS2.5.4.5.5a, that required testing be performed during placement of backfill material under Seismic Category I structures to ensure it was installed to meet a minimum of 95 percent modified Proctor compaction.

As prescribed by the EPC Agreement, the construction and testing activities associated with ITAAC SS2.5.4.5.5a were contracted by SNC to the consortium, specifically to S&W. Therefore, these activities were required to meet the quality requirements established by the S&W quality assurance program (SWSQAP 1-17A, "Standard Nuclear Quality Assurance Program, Revision (Rev.) B"), and APP-GW-GAH-010, "Project Quality Assurance Program Interface Plan (PQAPIP) for Domestic AP1000 Projects," Rev. 4. The inspectors noted that S&W had subcontracted some of the ITAAC-related testing activities to MACTEC; therefore, these testing activities were also required to meet the quality requirements established by the MACTEC Nuclear Quality Assurance Manual (NQAM), Rev. 0.

The inspectors observed the transport, placement, and compaction of Category I backfill material for the foundation of VEGP Units 3 and 4. These activities were observed to determine if they were in compliance with the applicable quality and technical requirements. The specific technical requirements for backfill activities were established, in part, by the following specifications: 1) SV0-XE01-Z0-002, "Nuclear Island Excavation and Backfill," Rev. 4; and 2) SV0-0000-T1-001, "Soil and Material Testing, Safety Classification C, D, and E," Rev. 2. The inspectors reviewed these specifications to determine whether placement, compaction, and testing requirements were adequately established and controlled. Soil stockpiling activities were observed to determine if the processes for segregating, tracking, and qualification of soil prior to use in safety-related applications were adequate.

The inspectors performed a review of field and laboratory test records associated with MACTEC work packages VN3-XC10-CV-MSC-015, "Unit 3 Nuclear Island Seismic Category 1 Backfill," Rev. 5 and VN4-XC10-MSC-016 "Unit 4 Nuclear Island Seismic Category 1 Backfill," Rev. 3, to determine whether the test records were adequate to provide evidence of activities affecting quality, and whether the backfill complied with the applicable quality and technical requirements.

During the inspection, the inspectors reviewed the following Nonconformance and Disposition Reports (N&Ds): V-ND-10-0116, V-ND-10-0113, V-ND-10-0107, and V-ND-10-0052 to determine whether the nonconforming conditions were adequately reviewed and accepted, rejected, repaired, or reworked in accordance with documented procedures. The inspectors reviewed the associated technical justifications to determine whether adequate justification was provided to support the N&D disposition. Specifically, the inspectors reviewed the following documents related to the N&D dispositions:

- Request for information (RFI) SV0-GW-GF-054, "Seismic Category Gradation Test Results," June 4, 2010
- RFI SV0-G1-GF-007, "Seismic Category Backfill Gradation Exceedance and Plasticity Limit," June 23, 2010
- SV0-GB-XER-001, "Bechtel Engineering Report for Evaluation of Backfill Gradation Change for VEGP Units 3 and 4," Version 2.0

The inspectors directly observed ITAAC-related testing activities at MACTEC's onsite facility to determine whether the testing activities were performed in accordance with applicable industry codes and standards. The inspectors also observed a sample of safety-related field testing activities and sample storage conditions to determine whether field testing and sample storage activities were consistent with applicable quality and technical requirements.

The inspectors observed a modified proctor test to determine whether it was performed in accordance with American Society for Testing and Materials (ASTM) D1556-07, "Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method," which was required by S&W specification, SV0-XE01-Z0-002. Inspectors observed a sample of measuring and test equipment to determine whether the equipment was stored and handled in accordance with the MACTEC quality assurance program, and that the current calibrations were performed by an approved organization. Inspectors also observed MACTEC personnel perform a sand-cone test, to verify the field density of the compacted backfill and ensure the test was conducted in accordance with ASTM D1557–02, "Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3))". Sample storage areas were observed to verify that adequate environmental and access controls were established, and samples were properly identified and tracked per the MACTEC quality procedures.

Inspectors reviewed a sample of qualification records for laboratory and field technicians who performed safety-related testing activities to determine whether these personnel were qualified in accordance with the MACTEC Nuclear Quality Assurance Manual (NQAM).

Site Specific ITAAC No. / ITAAC Family SS2.5.4.5.5ii/ C01

The inspectors, accompanied by NRC staff from the Division of Engineering of the Office of New Reactors, conducted a field observation of construction testing activities related to site specific ITAAC SS2.5.4.5.5ii, to determine whether these activities affecting quality were performed in accordance with applicable quality and technical requirements. This ITAAC required that field shear wave velocity measurements be performed when the backfill placement was at the elevation of the bottom of the nuclear island foundation and at finish grade. The inspectors observed the shear wave velocity testing at the bottom of the nuclear island foundation for VEGP Units 3 and 4. In order to satisfy this site specific ITAAC, S&W contracted MACTEC to perform the Spectral Analysis of Surface Waves (SASW) method on the backfill.

The inspectors reviewed the SASW test program as described in Attachment 10 of the MACTEC Vogtle Electric Generating Plant, Units 3 & 4, "Soil and Concrete Testing Work Plan," Rev. 3 (Work Plan). The inspectors also reviewed the training

and qualification records for all personnel directly involved with the shear wave velocity testing to determine whether they were appropriately trained and qualified in accordance with the MACTEC NQAM.

The inspectors reviewed the calibration requirements for the equipment used to conduct the SASW testing to determine whether the equipment was appropriately calibrated in accordance with the MACTEC NQAM. Attachment 10 of the Work Plan described the equipment calibration procedure and documentation requirements. The equipment used included four geophones (serial number 1079, 1085, 1091 and 1095) and a Quattro 4-Channel Signal Analyzer (serial number 20891). The calibrations were performed by both Dynamic Technology, Inc. and personnel at the University of Texas with equipment traceable to the National Institute of Standards and Technology.

The inspectors also reviewed the planned SASW measurement locations and compared them with the actual test locations conducted in the field. The inspectors directly observed SASW tests within the Nuclear Island footprint. Specifically, the inspectors observed two tests in the Unit 4 excavation and one test in the Unit 3 excavation to determine whether the tests were conducted in accordance with the testing procedure and the work plan developed by MACTEC. The inspectors also conducted multiple interviews regarding the test methodology with the MACTEC staff to clarify recent test procedure changes.

The inspectors reviewed the software verification documents for the computer program that MACTEC will use to determine the shear wave velocity profile using the field SASW test data. A sample of data collected from the test observed were reviewed through screen shots of the Quattro 4-Channel Signal Analyzer plots that illustrated the geophone signals recorded. The inspectors reviewed the manner in which test data was collected in the field and stored in the laboratory to determine if adequate controls were established as required by the MACTEC NQAM.

The inspectors reviewed Deviation Request Form, VEGP-12, related to SASW field and laboratory testing to evaluate the justification and disposition. The inspectors also reviewed a sample of S&W unsatisfactory inspection reports, N&Ds, and quality assurance inspection reports related to geotechnical activities to determine whether S&W and MACTEC adequately identified and corrected conditions adverse to quality.

b. Findings

No findings of significance were identified.

B. NON-ITAAC-RELATED INSPECTIONS

1. IP 35007, “Quality Assurance Program Implementation and Pre-Construction Activities”

a. Inspection Scope

The inspectors performed a direct inspection of a sample of construction-related quality assurance program activities, to determine whether SNC, and where appropriate their contractors, had: (1) developed adequate procedures to implement

the applicable project quality requirements, and (2) effectively implemented those procedures during the performance of construction activities authorized by the VEGP ESP and LWA.

The applicable quality requirements for those activities authorized by the VEGP ESP and LWA were established, in part, by the following:

- 10 CFR Part 50, Appendix B
- ASME NQA-1-1994
- SNC NDQAM
- S&W Standard Nuclear Quality Assurance Program (SWSQAP 1-74A)
- Westinghouse Quality Management System
- APP-GW-GAH-010, "Project Quality Assurance Program Interface Plan for Domestic AP1000 Projects," Rev. 4

To determine whether the quality assurance program implementing procedures were adequately implemented, the inspectors: (1) reviewed a sample of quality records that furnished evidence of activities affecting quality, (2) observed a sample of quality related activities, and (3) interviewed SNC and contractor personnel responsible for quality assurance program implementation.

a1. Inspection Scope (IP35007 - Appendix 6, "Inspection of Criterion VI – Document Control")

IP 35007 – Appendix 6, Section A6.04.01, Inspection of Quality Assurance (QA) Implementing Documents

The inspectors reviewed MACTEC's implementing procedure Nuclear Quality Assurance Program (NQAP) 6-01, "Approving Deviations," Rev. 0, related to document control, to determine whether the implementing procedure established adequate measures to control procedures that prescribe activities affecting quality. The inspectors also reviewed the following MACTEC quality assurance program documents to determine whether MACTEC had established adequate procedures to control the revision, preparation and issuance of documents that prescribe quality requirements or activities affecting quality:

- Sections QS-6, "Documents Control," and QS-17, "Quality Assurance Records," of MACTEC's NQAM, Rev. 0,
- MACTEC Quality Assurance Project Document, Plant Vogtle Units 3 & 4 Soil and Concrete Testing, Rev. 1

The inspectors compared the above documents to Basic Requirement 6, "Document Control" and Supplement 6S-1, "Supplementary Requirements for Document Control," of ASME NQA-1-1994; and Criterion VI, "Document Control," of 10 CFR Part 50, Appendix B. Specifically, the inspectors reviewed the above procedures to determine whether they adequately addressed the following:

- Documents were reviewed for adequacy, completeness, and correctness by designated personnel other than the preparer of the document

- Documents were approved by designated personnel other than the preparer of the document
- Documents were approved for release by authorized personnel
- Documents were issued with a unique identification and revision status and placed under document control by designated personnel

a2. Inspection Scope (IP 35007 - Appendix 7, "Inspection of Criterion VII – Control of Purchased Material, Equipment, and Services")

IP 35007 – Appendix 7, Section A7.04.02, Inspection of QA Program Implementation

The inspectors reviewed a routine surveillance report performed by SNC of MACTEC, a subcontractor to S&W. The inspectors reviewed Final Supplier Surveillance Checklist and Report NDQA-2010-S17, "Observation and verification of work being performed to SASW test program at Units 3 & 4 – elevation 155 ft, dated 9/14/2010." The inspectors performed this review to determine whether SNC adequately implemented Section 7.1, "Acceptance of Item or Service," of their NDQAM. The inspectors reviewed the surveillance report to determine whether:

- The report was an adequate record of an activity affecting quality
- The report was completed in accordance with the SNC's quality assurance program implementing procedure, ND-QA-006, "Supplier Quality Surveillance," Version 4.0
- Any issues identified by SNC were appropriately identified (documented) and corrected in accordance with the project quality requirements

a3. Inspection Scope (IP35007 – Appendix 15, "Inspection of Criterion XV – Nonconforming Materials, Parts, or Components")

IP 35007 – Appendix 15, Section A15.04.02 Inspection of Quality Assurance Program Implementation

The inspectors reviewed N&D V-ND-10-0129, which was associated with safety-related backfilling activities authorized by the ESP and LWA, to determine whether the condition of the backfill was adequately reviewed and accepted, rejected, repaired, or reworked in accordance with documented procedures. The inspectors compared this N&D to Section 15, "Nonconforming Materials, Parts, or Components," of the S&W Nuclear Quality Assurance Program (SWSQAP 1-74A) and S&W procedure QS 15.1, "Nonconformance & Disposition Report, Rev. F." The final disposition of the N&D was determined by S&W to be "accept-as-is"; therefore, the inspectors reviewed the associated technical justification to determine whether it was adequate to support the N&D disposition. This included a review of the interim and final dispositions. The inspectors reviewed (1) the testing plan to determine whether the plan complied with ASME NQA-1-1994, Subpart 2.5, "Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete, Structural Steel, Soils, and Foundations for Nuclear Power Plants"; and (2) Nuclear Quality Assurance Directive (QAD) 11.2, "Testing of Concrete, Grout and Soils," Rev. F, to determine whether the sampling frequency and the handling, shipping and packaging measures established in the testing plan were in accordance with ASTM D-75, "Standard Practice for Sampling Aggregates." The inspectors also reviewed

test data associated with the N&D to determine whether documented results were in compliance to applicable technical requirements established in SV0-0000-T1-001, "Soil and Material Testing, Safety Classification C, D, and E," Rev. 2.

a4. Inspection Scope (IP 35007 - Appendix 16, "Inspection of Criterion XVI – Corrective Action")

IP35007 – Appendix 16, Section A16.04.02, Implementation of Corrective Action Program

On a routine basis, the inspectors reviewed a sample of issues entered into the SNC and S&W corrective action programs to determine whether conditions adverse to quality were controlled in accordance with each company's quality assurance program and whether potential adverse trends were appropriately identified and corrected by SNC or their contractors. Specifically, the inspectors performed the following: (1) attended weekly issue review committee meetings at the site; (2) reviewed a sample of SNC and S&W corrective action documents; and (3) held discussions with SNC and S&W personnel responsible for the screening and correction of the issues.

The inspectors selected a sample of issues entered in the SNC corrective action program to determine whether the handling of these issues was consistent with the organization's quality assurance program (QAP) requirements; and 10 CFR Part 50, Appendix B.

Specifically, the inspectors reviewed SNC CRs 2010100302 and 2010100444 to determine whether:

- Conditions adverse to quality were promptly identified and corrected
- Classification and prioritization of the resolution of the problem was commensurate with its safety significance
- For significant conditions adverse to quality: (1) the cause was determined, (2) corrective actions were taken to prevent recurrence, and (3) the cause and corrective actions taken were documented and reported to appropriate levels of management
- Conditions were appropriately screened if required
- The organization properly evaluated and reported the condition (e.g., 10 CFR 50.55(e), 10 CFR Part 21)

a5. Inspection Scope (IP35007 - Appendix 17, "Inspection of Criterion XVII – Quality Assurance Records")

IP 35007 – Appendix 17, Section A17.04.01, Inspection of Quality Assurance Implementing Documents

The inspectors reviewed MACTEC's QAP implementing documents for creating and controlling QA records, to determine whether these QA implementing documents were consistent with SNC's NDQAM and commitments, including ASME NQA-1-1994, as applicable.

Specifically, the inspectors reviewed the following documents:

- MACTEC's implementing procedure NQAP 17-01, "Quality Assurance Records," Rev. 0;
- MACTEC Vogtle Electric Generating Plant, Units 3 & 4, "Soil and Concrete Testing Work Plan," Rev. 3
- Section QS-17, "Quality Assurance Records," of the MACTEC NQAM

The inspectors reviewed the above documents to determine whether they established: 1) measures to assure that records were legible, complete, and traceable to the activity or item and authenticated by authorized personnel; 2) provisions for the correction of records; 3) measures to ensure that records were maintained and stored in designated facilities to prevent deterioration, damage, and loss; 4) measure to ensure that the disposal of records was performed by authorized personnel; and 5) measures to assure that organizations or personnel responsible for creating and transmitting records to the storage facility were appropriately trained.

IP 35007 – Appendix 17, Section A17.04.02 Inspection of Quality Assurance Program Implementation

The inspectors observed MACTEC's record control system as well as the onsite temporary storage facility to determine whether these controls were consistent with MACTEC's NQAM and other applicable quality requirements, including project specific requirements imposed by S&W through the procurement documents. During the inspection, the inspectors observed the following aspects of MACTEC's record control and storage program:

- Records system was in compliance with written procedures and the general requirements specified in ASME NQA-1-1994
- Completed test reports were legible, accurate, and completed according to the scope of work performed
- Field data sheets and reports of test results were properly indexed with the specified record control number
- Hard copy files of records were maintained in a lockable one-hour fireproof container in which the container had an Underwriters Laboratories Label (or equivalent) certifying 1 hr fire protection
- Proper preservation measures were implemented
- Record access was limited to the records administrator and the project manager, or to designated individuals

b. Findings

No findings of significance were identified.

2. IP 36100, "Inspection of 10 CFR Part 21 and 10 CFR 50.55(e) Programs for Defects and Noncompliance"

a. Inspection Scope

The inspectors reviewed MACTEC policies and implementing procedures that established their program to implement the requirements of:

- 10 CFR Part 21, “Reporting of Defects and Noncompliance”
- 10 CFR 50.55(e), “Conditions of Construction Permits, Early Site Permits, Combined Licenses, and Manufacturing Licenses”

Specifically, the inspectors reviewed the following MACTEC policies and procedures to determine whether they established adequate measures to implement the requirements of 10 CFR Part 21 and 10 CFR 50.55(e):

- NQAP 16-01, “Procedure for Conforming to Federal Regulation 10CFR21,” Rev. 0
- NQAP 16-02, “Corrective Action and Performance Improvement,” Rev. 0
- NQAP 17-01, “Quality Assurance Records,” Rev. 0
- Policy A-03, “Retention of Company Documents,” Rev. 3
- MACTEC Vogtle Electric Generating Plant, Units 3 & 4, “Soil and Concrete Testing Work Plan,” Rev. 3

The inspectors reviewed NQAP 16-01 in detail to determine whether the procedure: (1) provided adequate controls for the evaluation of deviations and failures to comply, (2) adequately incorporated the notification and evaluation time frames required by Part 21 and 10 CFR 50.55(e), and (3) provided guidance for the content of the written notifications. The inspectors also reviewed NQAP 16-01 to determine whether the procedure included the requirements of 10 CFR 50.55(e)(4) for the notification of any significant breakdown in any portion of the quality assurance program conducted under the requirements of Appendix B to 10 CFR Part 50 which could have produced a defect in a basic component.

The inspectors reviewed procedure NQAP 16-02 to determine whether the MACTEC corrective action program had established a direct connection to their Part 21 evaluation procedure.

The NRC inspectors conducted a walk down of MACTEC work areas to determine whether they had posted a copy of Section 206 of the Energy Reorganization Act of 1974, as amended; a copy of 10 CFR Part 21; and a copy of NQAP 16-01.

The inspectors reviewed the MACTEC record controls related to Part 21 notifications and evaluations to determine whether the record controls met the record retention requirements of 10 CFR 21.51 and 10 CFR 50.55(e)(9).

b. Findings

No findings of significance were identified.

3. IP 35007, “Quality Assurance Program Implementation and Pre-Construction Activities” (IMC 2502-07.02, “Pre-Construction Activity Inspections”)

a. Inspection Scope

The inspectors performed a direct inspection of a sample of pre-construction activities that could affect the quality of the VEGP Unit 3 containment vessel (CV) bottom head. The purpose of this inspection was to gather information associated

with SNC's implementation of their QAP and oversight of their contractors and subcontractors who perform pre-construction activities in support of facility construction. The inspectors used IP 35007 to evaluate SNC's implementation of Criterion VII, "Control of Purchased Material, Equipment, and Services," of 10 CFR Part 50, Appendix B. Specifically, the inspectors evaluated SNC's measures to assure that purchased material, equipment, and services, purchased through their contractor and subcontractor, conformed to the procurement documents.

The inspectors noted that SNC had subcontracted the procurement and quality oversight of the CV fabrication activities to WEC, through the Engineering, Procurement and Construction Agreement (EPC Agreement) between SNC and a consortium consisting of WEC and S&W. The inspectors also noted that SNC retained the responsibility for the quality assurance program, as required by 10 CFR Part 50, Appendix B, Criterion I, "Organization," which states, in part, that "The applicant may delegate to others, such as contractors, agents, or consultants, the work of establishing and executing the quality assurance program, or any part thereof, but shall retain responsibility for the quality assurance program."

WEC subcontracted the CV fabrication to Chicago Bridge and Iron (CB&I) through the CV procurement document (SV0-MV50-Z5-006, "Purchase Order for Vogtle 3 & 4 Containment Vessels," Rev. 0). Therefore, in order to independently evaluate the measures established by SNC and WEC to assure that safety-related CV fabrication activities conformed to the procurement documents, and to evaluate the adequacy of SNC's oversight of contractors and subcontractors, the inspectors: (1) performed a walk-down of the CB&I material storage areas, (2) reviewed a sample of the CB&I quality assurance program implementing procedures for storage and handling, receipt inspection, nonconformance reporting, and corrective action, and (3) reviewed a sample of receipt inspection records for the safety-related CV bottom head plate material.

The inspectors noted that the overall project quality requirements for safety-related activities were prescribed by SNC to their contractors through Section 5.1, "Quality Assurance Program," of Article 5, "Quality Assurance", of the EPC Agreement, which required that safety-related activities be performed in accordance with the quality requirements of 10 CFR Part 50, Appendix B and ASME NQA-1-1994.

The inspectors reviewed portions of the CV procurement document (SV0-MV50-Z5-006) and the following attachments and references, to determine whether WEC had adequately prescribed the quality requirements of 10 CFR Part 50, Appendix B and ASME NQA-1-1994 to their supplier, CB&I:

- SV0-MV50-Z5-004, "Appendix 3: Technical Requirements for the AP1000 Containment Vessel Purchase Agreement for the Vogtle 3&4 Project," Revision 1
- APP-GW-GAH-030, "Quality Assurance Requirements for Safety Related Components / Services of Standard AP1000 Plants," Rev. 0.
- APP-MV50-Z0-001, "Containment Vessel Design Specification," Rev. 7

The results of this inspection may be used to support the NRC's future closure of proposed ITAAC No. 2.2.01.02a [Reference AP1000 Design Control Document,

Revision 17], that includes the design commitment that the CV be designed and constructed in accordance with ASME Section III requirements.

Handling, Storage and Shipping

The inspectors reviewed the CV plate material storage and handling procedures to determine whether the procedures adequately implemented the applicable quality and technical requirements. Specifically, the inspectors reviewed CB&I procedure 165766-000-01-PR-000001, "Receipt and Storage of Containment Vessel Material For Vogtle Units #3 and #4," Rev. 0, to determine whether it complied with the requirements of Section 6, "Storage," of Subpart 2.2, "Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants," of ASME NQA-1-1994.

The inspectors also reviewed portions of the CB&I Nuclear Quality Assurance Manual (NQAM), CMS-720-03-PL-00010, Rev. 5, to determine whether it adequately established the requirements for the storage of safety-related items.

The inspectors observed the storage of a sample of CV bottom head plates to determine whether the storage of these safety-related items were in accordance with the applicable quality and technical requirements.

Control of Purchased Material, Equipment, and Services

The inspectors reviewed a sample of receipt inspection and procurement records for CV bottom head plate no. C6-1/2, to determine whether CB&I had established adequate measures to assure that the purchased material conformed to the relevant procurement documents and to the requirements of Section 5, "Receiving," of Subpart 2.2 of ASME NQA-1-1994.

The inspectors also reviewed portions of the CB&I NQAM, CMS-720-03-PL-00010, Rev. 5, to determine whether it adequately established the requirements for the receipt of safety-related items.

Corrective Action

The inspectors reviewed the CB&I quality assurance program implementing procedures for the control of nonconforming items and the identification and correction of conditions adverse to quality. Specifically, the inspectors reviewed the following CB&I procedures: (1) CMS-720-03-PR-11051, "Handling of Corrective Action," Rev. 1; and (2) CMS-720-03-PR-11001, "Handling of Nonconformance's," Rev. 2, to determine whether they complied with the quality requirements specified by the procurement documents.

Review of WEC's Oversight Activities of CB&I

The inspectors reviewed the following WEC procedures related to supplier qualification, evaluation, and surveillance to determine whether these procedures were consistent with project quality requirements: (1) WEC 7.1, "Supplier Qualification and Evaluation," Rev. 2; (2) WEC 7.5, "Control of Purchased Items and Services," Rev. 2; and (3) WEC 7.10, "Surveillance," Rev.1.

Review of SNC's Oversight of WEC

The inspectors reviewed SNC surveillance report NDQA-2010-S16, dated 9/16/2010, which was related to the CV fabrication activities. The inspectors reviewed this report to determine whether SNC adequately implemented Section 7.1, "Acceptance of Item or Service," of their NDQAM, and quality assurance program implementing procedure ND-QA-006, "Supplier Quality Surveillance," Version 4.0.

b. Findings

1. Description:

On October 15, 2010, the inspectors identified the following examples where SNC failed to ensure that their contractors and subcontractors had established and implemented a quality assurance program that complied with the requirements established by the CV purchase document (SV0-MV50-Z5-006):

Example 1:

As described below, the inspectors identified that SNC failed to ensure that CB&I had established and implemented a quality assurance program that included the receipt inspection and storage requirements of Subpart 2.2 of ASME NQA-1-1994.

Section 5, "Receiving," of Subpart 2.2 of ASME NQA-1-1994, states, in part, that "The requirements shall be fulfilled by the organization(s) responsible for the receiving of items. Receiving starts when the items arrive at the storage facility or construction site before unloading or unpacking." Section 5.2.2, "Item Inspection," states, in part, "Unless the completed item was inspected at the source, it shall be inspected at the point of receiving to verify that the following characteristics conform to the specified requirements. These inspections shall include such items as: (a) physical properties, (b) dimensions, (c) weld preparations, (d) workmanship..."

Section 6.0, "Receipt and Release of Items," of the CB&I NQAM, Rev. 5, states, in part, that "They shall assure that received items are not released prior to inspection and acceptance."

Criterion V, "Instructions, Procedures, and Drawings," states, in part, that "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings."

The inspectors identified that SNC failed to ensure that CB&I had established measures to assure that the above quality requirements were included in the CB&I NQAM or implementing procedures. The inspectors determined that CB&I had released the CV bottom head plates for fabrication following the shipping damage inspections, which CB&I started on September 5, 2010. On October 15, 2010 the inspectors identified that CB&I had started welding temporary attachments to the safety-related CV plate, which is an activity that could affect the quality of the CV plate, without performing the required inspections of

Subpart 2.2 of ASME NQA-1-1994, in that CB&I had inappropriately credited the manufacturing inspections that their supplier had performed to meet the CB&I inspection requirements of Section 5.2.2 of Subpart 2.2. Specifically, CB&I had not performed the following inspections of the CV bottom head plate material: (dimensions) random visual inspection to assure that important dimensions conform with drawings and specifications, (weld preparations) random verification that weld preparations were in accordance with applicable drawings and specifications, and (workmanship) visual inspection of accessible areas to assure that the workmanship is satisfactory to meet the intent of the requirements.

The inspectors also noted that the CB&I receipt inspection procedure, 165766-000-01-PR-000001, "Receipt and Storage of Containment Vessel Material for Vogtle Units 3 and 4," Rev. 0; did not include the receipt inspection requirements of Subpart 2.2; therefore, the inspectors determined that procedure 165766-000-01-PR-000001 was not an adequate procedure to prescribe activities affecting quality.

Section 6.1.2, "Levels of Storage," of Subpart 2.2 of ASME NQA-1-1994, states, in part, that "[Level D] Items shall be stored to allow for air circulation and to avoid trapping water." Section 6.3.6, "Outdoor Storage," states, in part, that "Items stored outdoors shall be positioned or covered to avoid trapping moisture in pockets or internally."

Criterion XIII, "Handling, Storage and Shipping," states, in part, that "Measures shall be established to control the storage of material in accordance with work and inspection instructions to prevent damage or deterioration."

The inspectors identified that CB&I storage procedure (165766-000-01-PR-000001) did not include the requirements of Section 6.1.2 and 6.3.6 of ASME NQA-1, Part II, Subpart 2.2. Additionally, the inspectors observed standing water on the CV bottom head plate on October 13 and 15, 2010, which was not in accordance with the applicable quality requirements, and could result in damage or deterioration. SNC initiated condition report (CR) 2010100376 and WEC created issue report 10-295-M005 to evaluate and correct this issue. CB&I initiated nonconformance report U3-001 to disposition the technical issue regarding the standing water on the CV bottom head plate material.

Example 2:

As described below, the inspectors identified that SNC failed to ensure that CB&I had established and implemented a corrective action program that complied with the requirements of 10 CFR Part 50, Appendix B.

Criterion XVI, "Corrective Action," of 10 CFR Part 50, Appendix B states in part, that "measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected."

The inspectors identified that SNC failed to ensure that CB&I had established a corrective action program that complied with the requirements of 10 CFR Part 50,

Appendix B, in that, CB&I had not established measures to assure that all conditions adverse to quality were promptly identified and corrected. Specifically, CB&I procedure, CMS-720-03-PR-11051, "Handling of Corrective Action," Revision 0, failed to meet 10 CFR Part 50, Appendix B requirements since it only prescribed a system to document and correct significant conditions adverse to quality. Through discussions with CB&I and WEC personnel, the inspectors determined that CB&I had not developed a program to identify and correct other conditions adverse to quality, such as quality-related conditions adverse to quality that did not meet CB&I's threshold for "significant."

SNC initiated CR 2010100380 to evaluate this issue. WEC initiated Supplier Corrective Action Request 10-316-M047 to evaluate this issue.

2. Analysis

The inspectors determined that SNC's failure to assure that an appropriate quality assurance program was established and effectively executed through their contractor (WEC), and subcontractor (CB&I); represented an NRC-identified violation of 10 CFR Part 50, Appendix B, Criterion VII, "Control of Purchased Material, Equipment, and Services." The inspectors also determined that this violation was not material to the acceptance criteria of a specific ITAAC; therefore, this violation was characterized as a construction finding.

Upon identification of this violation by the NRC, SNC initiated the following CRs to evaluate whether their oversight of WEC and CB&I was adequate: 2011100072, 2010100378, and 2010100379.

Also in response to this violation, WEC initiated Issue Reports 10-299-M038 and 10-299-M039 and performed a root cause analysis to evaluate the effectiveness of their oversight of CB&I. The inspectors noted that WEC issued a stop work order to CB&I on October 24, 2010 (QLA-SWO/CB&I/001) and performed a reactive audit of CB&I's quality assurance program and associated implementing procedures at the Vogtle Units 3 and 4 plant site and at the CB&I corporate office (audit reports WES-2010-299 and WES-2010-300). The inspectors noted that these audit reports concluded that CB&I's nuclear quality assurance program did not fully meet the quality requirements of 10 CFR Part 50, Appendix B, and ASME NQA-1-1994. SNC initiated CR 2010100383 and WEC initiated IR 10-308-M0001 to track the activities associated with the stop work order.
The violation of Criterion VII was more than minor because if left uncorrected, it represented a failure to establish and implement an adequate quality oversight function that could have rendered the quality of the safety-related containment vessel unacceptable or indeterminate. The violation did not meet the criteria to be greater than a SL IV violation. Therefore, this finding is a SL IV violation as described in Section 6.5 of the NRC Enforcement Policy.

The inspectors screened this construction finding for a possible construction safety focus component (CSFC) aspect in accordance with Appendix F, "Construction Safety Focus Components and Aspects," of IMC 0613 "Documenting 10 CFR Part 52 Construction and Test Inspections." The inspectors determined that this construction finding was not related to any of the CSFC aspects discussed in IMC 0613.

3. Enforcement

   Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B, to 10 CFR Part 50, states, in part, that "Measures shall be established to assure that purchased services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents."

   Article 5, "Quality Assurance," of the EPC Agreement between SNC and a consortium consisting of WEC and S&W; required, in part, that safety-related activities contracted to the consortium be performed in accordance with 10 CFR Part 50, Appendix B and ASME NQA-1-1994.

   The CV procurement document between WEC and CB&I, SV0-MV50-Z5-006, "Purchase Order For Vogtle 3 & 4 Containment Vessels," Rev. 0; required, in part, that activities which could affect the quality of the containment vessel be performed in accordance with 10 CFR Part 50, Appendix B and ASME-NQA-1-1994.

   Contrary to the above, as of October 15, 2010, SNC failed to establish adequate measures to assure that safety-related services, purchased through WEC and CB&I, conformed to the quality requirements prescribed by the VEGP Unit 3 CV procurement document (SV0-MV50-Z5-006); in that SNC failed to ensure that CB&I had established a quality assurance program that met the requirements of 10 CFR Part 50, Appendix B and ASME NQA-1-1994.

   As described in Section 2.3, "Disposition of Violations," of the NRC Enforcement Policy, this violation is being cited as a Notice of Violation (VIO 05200025/2010002-01), because for reactor facilities under construction in accordance with 10 CFR Part 52, the site corrective action program must have been demonstrated to be adequate, prior to the issuance of non-cited violations. As of this inspection, the NRC had not made the determination that the VEGP 3 & 4 corrective action program has been demonstrated to be adequate. This process is further described in Section 06.08, "Corrective Action Program Effectiveness Reviews," of IMC 2505, "Periodic Assessment of Construction Inspection Program Results."

C. OTHER INSPECTION RESULTS

   None

D. EXIT MEETING SUMMARY

   On January 20, 2011, the NRC resident inspectors presented the inspection results to Mr. David H. Jones, Site Vice President for VEGP Units 3 and 4, and other management representatives for SNC and the consortium. The inspectors stated that no proprietary information would be included in the inspection report.

KEY POINTS OF CONTACT

SNC and Contractor Personnel

D. Jones	SNC Site Vice President VEGP Units 3 & 4
B. Lowery	SNC Quality Assurance Supervisor
J. Davis	SNC Licensing Supervisor
J. Giddens	SNC Quality Assurance Manager
J. Williams	SNC Site Support Manager
P. Albuquerque	SNC Sr. Licensing Engineer
R. Pate	SNC Licensing
T. O'Brien	SNC Quality Control Supervisor
B. Holt	S&W Site Manager
W. Crisler	S&W Project Quality Assurance Director
J. Beasley	S&W QC Engineering Manager
W. Poppell	S&W Field Engineering Manager
J. Detwiler	S&W Geotechnical Engineer
S. Woodham	MACTEC Project Coordinator
J. Martin	MACTEC Quality Assurance Representative
L. Horton	MACTEC Field Technician
G. Hebner	MACTEC Principle Geotechnical Engineer

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Description
VIO 05200025/2010002-01	Open	Failure to assure that purchased services conform to procurement documents

Attachment

LIST OF DOCUMENTS REVIEWED

Procedures

SNC

NDQAM, "Nuclear Development Quality Assurance Manual," Version 9.1
ND-QA-002, "Quality Assurance NDQAM Control and Development," Version 3.0
ND-QA-006, "Supplier Quality Surveillance," Version 4.0

S&W

Standard Nuclear Quality Assurance Program, SWSQAP 1-74A, Rev. B
QAD 11.2, "Testing of Concrete, Grout and Soils," Rev. F
QS 15.1, "Nonconformance and Disposition Report," Rev. F

MACTEC

MACTEC Nuclear Quality Assurance Manual, Revision 0
MACTEC Quality Assurance Project Document, Plant Vogtle Units 3 & 4 Soil and Concrete Testing, Rev. 1
NQAP 6-01, "Approving Deviations," Rev. 0
NQAP 16-01, "Procedure for Conforming to Federal Regulation 10CFR21," Rev. 0
NQAP 16-02, "Corrective Action and Performance Improvement," Rev. 0
NQAP 17-01, "Quality Assurance Records," Rev. 0
Policy A-03, "Retention of Company Documents," Rev. 3
VEGP Units 3&4 Soil and Concrete Testing Work Plan; MACTEC Project 6153-10-0051; Contract No. 1321751004-1421, Rev. 3
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CMS-720-03-PR-01001, "Review of Clients Documents," Rev. 6

Consortium Procedures

APP-GW-GAH-010, "Project Quality Assurance Program Interface Plan for Domestic AP1000 Projects," Rev. 4
APP-GW-GAH-030, "Quality Assurance Requirements for Safety Related Components / Services of Standard AP1000 Plants," Rev. 0

Specifications:

S&W

SV0-XE01-Z0-002, "Nuclear Island Excavation and Backfill," Rev. 4
SV0-0000-T1-001, "Soil and Material Testing Safety Class C, D, and E," Rev. 2
SV0-GB-XER-001, "Engineering Report for Evaluation of Backfill Gradation Change for VEGP Units 3 & 4," Version 2.0

WEC

APP-MV50-Z0-001, "AP1000 Containment Vessel Design Specification," Rev. 7

Surveillances and Audits:

NDQA-2010-S13, "Final Supplier Surveillance Checklist," 8/30/2010
NDQA-2010-S16, "CV Fabrication Activities," 9/16/2010
NDQA-2010-S17, Observation and verification of work being performed to SASW test program at Units 3 & 4 - elevation 155', dated 9/14/2010
WES-2010-299, November 16, 2010
WES-2010-300, November 12, 2010

Corrective Action / Nonconformance Records:

N&D Report No. V-ND-10-0052
N&D Report No. V-ND-10-0107
N&D Report No. V-ND-10-0113
N&D Report No. V-ND-10-0116
N&D Report No. V-ND-10-0129
CR No. 2010100302
CR No. 2010100444
CR No. 2010100376
CR No. 2010100380
CR No. 2010100383
CR No. 2010100378
CR No. 2010100379
CR No. 2011100072
IR 10-293-M010
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Nonconformance Report U3-001

Procurement Packages:

Engineering Services Scope of Work for Nuclear Island Backfill Shear Wave Velocity Testing, SNC, VEGP, Rev. 0

SV0-MV50-Z5-006, Purchase Order for Vogtle 3 & 4 Containment Vessels, Rev. 0 (PO 4500281180)
SV0-MV50-Z5-004, “Appendix 3: Technical Requirements for the AP1000 Containment Vessel Purchase Agreement for the Vogtle 3&4 Project,” Rev. 1

Work Packages:
VN3-XC10-CV-MSC-015, “Unit 3 Nuclear Island Seismic Category 1 Backfill,” Rev. 5
VN4-XC10-CV-MSC-016, “Unit 4 Nuclear Island Seismic Category 1 Backfill,” Rev. 3

Miscellaneous:

RFI, SV0-GW-GF-054, Seismic Category Backfill Gradation Test Results, Version 1
RFI, SV0-G1-GF-007 Shaw Request for Information No., Seismic Category Backfill Gradation Exceedance and Plasticity Limit , dated 6/18/10
Engineering Design and Coordination Report, E&DCR No. SV0-XE01-GEF-005, Requirement for Field Density Tests for Slopes, Rev. 0
Deviation Request Form, VEGP-12, 12/12/10

LIST OF ACRONYMS

ADAMS	Agency-wide Documents Access & Management System
AP1000	Westinghouse Advanced Passive Pressurized Water Reactor
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
CB&I	Chicago Bridge & Iron
CR	Condition Report
CSFC	Construction Safety Focus Component
CV	Containment Vessel
ESP	Early Site Permit
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
ITAAC	Inspections, Tests, Analyses and Acceptance Criteria
LWA	Limited Work Authorization
MPPQ	Management Plan for Project Quality
N&D	Nonconformance and Disposition Report
NDQAM	Nuclear Development Quality Assurance Manual
No	Number
Notice	Notice of Violation
NQA	Nuclear Quality Assurance
NQAM	Nuclear Quality Assurance Manual
NQAP	Nuclear Quality Assurance Program
NRC	Nuclear Regulatory Commission
PQAP	Project Quality Assurance Program
QA	Quality Assurance
QAD	Quality Assurance Directive
QAP	Quality Assurance Program
Rev	Revision
RFI	Request for Information
S&W	Shaw Stone and Webster, Inc
SASW	Spectral Analysis of Surface Waves
SCAR	Supplier Corrective Action Request
SNC	Southern Nuclear Operating Company, Inc (Licensee)
VEGP	Vogtle Electric Generation Plant
WEC	Westinghouse Electric Company LLC
10 CFR	Title 10 of the *Code of Federal Regulations*