



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

June 19, 2012

Mr. B. L. Ivey  
Vice President, Regulatory Affairs  
Southern Nuclear Operating Company  
PO Box 1295  
BIN BO22  
Birmingham, AL 35201

**SUBJECT: SOUTHERN NUCLEAR OPERATING COMPANY VOGTLE ELECTRIC  
GENERATING PLANT UNITS 3 AND 4 - NRC INSPECTION OF CORRECTIVE  
ACTION PROGRAM, REPORTS 05200025/2012-006, 05200026/2012-006 AND  
NOTICE OF VIOLATION**

Dear Mr. Ivey:

On May 7, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Vogtle Electric Generating Plant Units 3 and 4. The enclosed inspection report documents the inspection results, which the inspectors discussed with Mr. Mark Raukhorst, Vogtle 3 & 4 Construction Vice President, and other members of your staff on April 20 and during a final exit meeting on May 7, 2012.

The NRC staff examined activities conducted under your license as they relate to public health and safety and/or the common defense and security to confirm compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

The inspectors' review of a sample of corrective action program activities by Southern Nuclear Operating Company and the engineering, procurement, and construction consortium determined that each of the programs provided methods for prioritizing issues and developing technical evaluations of issues. However, the inspectors determined that transfers of corrective action program tasks across organizational boundaries were not always effectively controlled. The NRC plans to conduct a future corrective action program implementation inspection to determine if the criteria have been met to issue non-cited violations for NRC-identified issues.

Based on the results of this inspection, the NRC identified issues that were evaluated under the significance determination process as having very low safety significance (Green). The NRC also determined that two violations were associated with these issues. These violations were 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 violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in the subject inspection report. The violations are being cited in the Notice because for reactor facilities under construction in accordance with 10 CFR Part 52, the corrective action program must have been demonstrated to be adequate and as of this inspection the NRC had not yet made this determination for Vogtle Electric Generating Plant 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.

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 available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Website 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.

Sincerely,

**/RA/**

Michael Ernstes, Chief  
Construction Projects Branch 4  
Division of Construction Projects

Docket Nos.: 52-00025  
52-00026

License Nos.: NFP-91  
NFP-92

Enclosures: 1. Notice of Violation  
2. Inspection Report 05200025/2012006  
05200026/2012006 w/Attachment: Supplemental Information

cc w/encl: (See next page)

The violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in the subject inspection report. The violations are being cited in the Notice because for reactor facilities under construction in accordance with 10 CFR Part 52, the corrective action program must have been demonstrated to be adequate and as of this inspection the NRC had not yet made this determination for Vogtle Electric Generating Plant 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.

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 available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Website 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.

Sincerely,

**/RA/**

Michael Ernstes, Chief  
 Construction Projects Branch 4  
 Division of Construction Projects

Docket Nos.: 52-00025  
 52-00026

License Nos.: NFP-91  
 NFP-92

Enclosures: 1. Notice of Violation  
 2. Inspection Report 05200025/2012006, 05200026/2012006 w/Attachment:  
 Supplemental Information

cc w/encl:(See next page)

PUBLICLY AVAILABLE       NON-PUBLICLY AVAILABLE       SENSITIVE       NON-SENSITIVE  
 ADAMS:  Yes      ACCESSION NUMBER: ML121171A330       SUNSI REVIEW COMPLETE

OFFICE	RII:DCP	RII:DCP	RII:DCP	HQ:NRO	RII:DCI	RII:DCI	RII:DCI
SIGNATURE	MEE	JDF e-mail	PBD1 e-mail	VXH	CRS2	JBB1	CTJ1
NAME	M. Ernstes	J. Fuller	P. Donnelly	V. Hall	C. SmithStandberry	J. Brady	C. Jones
DATE	6/19/2012	6/14/2012	6/14/2012	6/14/2012	6/13/2012	6/13/2012	6/13/2012
E-MAIL COPY?	YESNO	YES NO	YES NO	YES	YES NO	YES NO	YES NO

cc:

Office of Attorney General  
Law Department  
132 Judicial Building  
Atlanta, GA 30312

Resident Manager  
Oglethorpe Power Corporation  
Alvin W. Vogtle Nuclear Plant  
7821 River Road  
Waynesboro, GA 30830

Lucious Abram  
Commissioner -  
Burke's County Commissioner  
P. O. Box 1626  
Waynesboro, GA 30830

Anne F. Appleby  
Oglethorpe Power Corporation  
2100 East Exchange Place  
Tucker, GA 30084

Ms. Michele Boyd  
Legislative Director  
Energy Program  
Public Citizens Critical Mass Energy  
and Environmental Program  
215 Pennsylvania Avenue, SE  
Washington, DC 20003

County Commissioner  
Office of the County Commissioner  
Burke County Commission  
Waynesboro, GA 30830

Director  
Consumer's Utility  
Counsel Division  
Governor's Office of Consumer Affairs  
2 Martin Luther King, Jr. Drive  
Plaza Level East, Suite 356  
Atlanta, GA 30334-4600

Elaine Sikes  
Burke County Library  
130 Highway 24 South  
Waynesboro, GA 30830

Mr. James C. Hardeman  
Environmental Radiation Program Manager  
Environmental Protection Division  
Georgia Dept. of Natural Resources  
4220 International Pkwy, Suite 100  
Atlanta, GA 30354-3906

Lisa Higdon  
Southern Nuclear Op. Co.  
Document Control Coordinator  
42 Inverness Center parkway  
Attn: B236  
Birmingham, AL 35242

Rita Kilpatrick  
250 Arizona Ave.  
Atlanta, GA 30307

Stephen E. Kuczynski  
Chairman, President and CEO  
Southern Nuclear  
P.O. Box 1295  
Birmingham, AL 35201

Mr. Reece McAlister  
Executive Secretary  
Georgia Public Service Commission  
Atlanta, GA 30334

Mr. Joseph A. (Buzz) Miller  
Executive Vice President  
Southern Nuclear Operating Company  
241 Ralph McGill Blvd.  
BIN 10240  
Atlanta, GA 30308-3374

Resident Inspector  
Vogtle Plant  
8805 River Road  
Waynesboro, GA 30830

Mr. Jerry Smith  
Commissioner  
District 8  
Augusta-Richmond County Commission  
1332 Brown Road  
Hephzibah, GA 30815

Gene Stilp  
1550 Fishing Creek Valley Road  
Harrisburg, PA 17112

Mr. Robert E. Sweeney  
IBEX ESI  
4641 Montgomery Avenue  
Suite 350  
Bethesda, MD 20814

George B. Taylor, Jr.  
2100 East Exchange Pl  
Atlanta, GA 30084-5336

Paulo C. Albuquerque  
7825 River Road  
Waynesboro, GA 30830

Email

agaughtm@southernco.com (Amy Aughtman)  
agbaker@southernco.com (Ann Baker)  
anfaulk@southernco.com (Nicole Faulk)  
APH@NEI.org (Adrian Heymer)  
awc@nei.org (Anne W. Cottingham)  
Bill.Jacobs@gdsassociates.com (Bill Jacobs)  
blivey@southernco.com (Pete Ivey)  
bob.masse@opc.com (Resident Manager)  
bobbie@wand.org (Bobbie Paul)  
BrinkmCB@westinghouse.com (Charles Brinkman)  
bwwaites@southernco.com (Brandon Waites)  
chmahan@southernco.com (Howard Mahan)  
crpierce@southernco.com (C.R. Pierce)  
cwaltman@roe.com (C. Waltman)  
dahjones@southernco.com (David Jones)  
danawill@southernco.com (Dana Williams)  
david.hinds@ge.com (David Hinds)  
david.lewis@pillsburylaw.com (David Lewis)  
david.siefken@hq.doe.gov (David Siefken)  
dfulton@southernco.com (Dale Fulton)  
ed.burns@earthlink.net (Ed Burns)  
edavis@pegasusgroup.us (Ed David)  
enweathe@southernco.com (Beth Thomas)  
erg-xl@cox.net (Eddie R. Grant)  
G2NDRMDC@southernco.com (SNC Document Control)  
james1.beard@ge.com (James Beard)  
jamiller@southernco.com (Buzz Miller)  
jbtomase@southernco.com (Janice Tomasello)  
jenmorri@southernco.com (Jennifer Buettner)  
jim.riccio@wdc.greenpeace.org (James Riccio)  
jim@ncwarn.org (Jim Warren)  
jlpember@southernco.com (John Pemberton)  
Joseph\_Hegner@dom.com (Joseph Hegner)  
jrjohnso@southernco.com (Randy Johnson)  
jtdavis@southernco.com (Jim Davis)  
jtgasser@southernco.com (Jeffrey Gasser)

karen.patterson@ttnus.com (Karen Patterson)  
kim.haynes@opc.com (Kim Haynes)  
KSutton@morganlewis.com (Kathryn M. Sutton)  
kwaugh@impact-net.org (Kenneth O. Waugh)  
lchandler@morganlewis.com (Lawrence J. Chandler)  
maria.webb@pillsburylaw.com (Maria Webb)  
mark.beaumont@wsms.com (Mark Beaumont)  
markus.popa@hq.doe.gov (Markus Popa)  
matias.travieso-diaz@pillsburylaw.com (Matias Travieso-Diaz)  
mdrauckh@southernco.com (Mark Rauckhorst)  
media@nei.org (Scott Peterson)  
mike.price@opc.com (M.W. Price)  
mike\_moran@fpl.com (Mike Moran)  
MSF@nei.org (Marvin Fertel)  
nirsnet@nirs.org (Michael Mariotte)  
nlhender@southernco.com (Nancy Henderson)  
Nuclaw@mindspring.com (Robert Temple)  
patriciaL.campbell@ge.com (Patricia L. Campbell)  
Paul@beyondnuclear.org (Paul Gunter)  
pbessette@morganlewis.com (Paul Bessette)  
rhenry@ap.org (Ray Henry)  
RJB@NEI.org (Russell Bell)  
sabinski@suddenlink.net (Steve A. Bennett)  
sblanton@balch.com (Stanford Blanton)  
sfrantz@morganlewis.com (Stephen P. Frantz)  
sjackson@meagpower.org (Steven Jackson)  
skauffman@mpr.com (Storm Kauffman)  
sroetger@psc.state.ga.us (Steve Roetger)  
stephan.moen@ge.com (Stephan Moen)  
taterrel@southernco.com (Todd Terrell)  
tcmoorer@southernco.com (Thomas Moorer)  
tlubnow@mpr.com (Tom Lubnow)  
Tom.Bilik@nrc.gov (Thomas Bilik)  
tomccall@southernco.com (Tom McCallum)  
Vanessa.quinn@dhs.gov (Vanessa Quinn)

Wanda.K.Marshall@dom.com (Wanda K. Marshall)

wasparkm@southernco.com (Wesley A. Sparkman)

whelmore@aol.com (Bill Elmore)

Letter to Mr. B.L. Ivey from Michael Ernstes dated June 19, 2012

SUBJECT: SOUTHERN NUCLEAR OPERATING COMPANY VOGTLE ELECTRIC  
GENERATING PLANT UNITS 3 AND 4 - NRC INSPECTION OF CORRECTIVE  
ACTION PROGRAM, REPORTS 05200025/2012-006, 05200026/2012-006 AND  
NOTICE OF VIOLATION

Distribution w/encl:

Region II Regional Coordinator, OEDO (M. Kotzalas)

M. Brown, NRO

T. Kozak, NRO

J. Moorman, RII

T. Reis, RII

C. Ogle, RII

J. Yerokun, RII

M. Ernstes, RII

S. Freeman, RII

M. Lesser, RII

K. O'Donohue, RII

G. Khouri, RII

J. Kent, RII

J. Fuller, RII

C. Abbott, RII

C. Huffman, RII

L. Douglas, RII

[ConE\\_Resource@nrc.gov](mailto:ConE_Resource@nrc.gov)

[NRO\\_cROP\\_Resource@nrc.gov](mailto:NRO_cROP_Resource@nrc.gov)

PUBLIC



## NOTICE OF VIOLATION

Southern Nuclear Operating Company  
Vogtle Electric Generating Plant Units 3 and 4

Docket Nos: 052-00025, 052-00026  
License Nos: NPF-91, NPF-92

During an NRC inspection conducted on April 16-20, 2012, two violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

1. Criterion XVI, Corrective Action, of 10 CFR Part 50, Appendix B, requires, 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.

Southern Nuclear Operating Company (SNC) Nuclear Development Quality Assurance Manual, Section 16, Version 9.4, states in part, SNC has established the necessary measures and governing procedures to promptly identify, control, document, classify, and correct conditions adverse to quality. SNC procedures assure that corrective actions are documented and initiated following the determination of conditions adverse to quality in accordance with regulatory requirements and applicable quality standards. Section 16 further states, In the case of suppliers working on safety-related activities, or other similar situations, SNC may delegate specific responsibilities for corrective actions but SNC maintains responsibility for the effectiveness of corrective action measures.

Contrary to the above, from October 31, 2010, to April 16, 2012, the licensee failed to assure the effectiveness of corrective action measures implemented by Engineering Procurement and Construction suppliers Shaw Stone and Webster (Shaw) and Westinghouse Electric Company, LLC (WEC), in that, adverse conditions identified in Shaw corrective action reports (CARs) and WEC issue reports (IRs) were not promptly identified as conditions adverse to quality as described in the following five examples:

- (1) Shaw CAR 2011-0706, dated 10/31/2011, concerning a failure to implement a quality-related inspection procedure checklist which resulted in a failure to implement the associated quality inspection hold points, a condition adverse to quality, was closed with no corrective actions taken to address the condition.
- (2) Shaw CAR 2011-0728, dated 11/16/2011, concerning a failure to implement a requirement to prepare documented evaluations for changes made to four quality-related inspection plans, a condition adverse to quality, was closed with no corrective actions taken to address the condition.
- (3) Shaw CAR 2011-0776, dated 07/06/2011, concerning a condition where out of tolerance concrete batch plant admixture flow meters were used to process safety-related concrete. The identified condition was a condition adverse to quality.
- (4) Westinghouse IR 12-079-M022, dated 03/19/2012, concerning potentially nonconforming paint applied to hand wheels of safety-related valves designated for use inside containment. The identified condition was a condition adverse to quality.

- (5) The process for screening Westinghouse IRs did not provide a record of whether issues categorized as "Fix/Trend" were treated as conditions adverse to quality. None of the conditions adverse to quality in this class of issue reports, which were issued prior to January 2012 were identified.

This violation is associated with a Green SDP finding.

2. Criterion XVI of 10 CFR Part 50, Appendix B, requires, 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.

Contrary to the above, from July 27, 2011 to April 20, 2012, the licensee failed to assure that conditions adverse to quality identified in SNC CAR 191465 and condition reports (CR) 348648 and CR 400029 were promptly corrected. Specifically, the licensee closed SNC CAR 191465, SNC CR 348648, and SNC CR 400029 following the delegation of evaluations and corrective actions to Shaw, who subsequently failed to enter the conditions adverse to quality in their corrective action program.

This violation is associated with a Green SDP finding.

Pursuant to the provisions of 10 CFR 2.201, Southern Nuclear Operating Company 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 delete 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.

Dated this 19<sup>th</sup> day of June, 2012

U.S. NUCLEAR REGULATORY COMMISSION  
Region II

Docket No: 052-00025 (Unit 3), 052-00026 (Unit 4)

License No: NPF-91 (Unit 3), NPF-92 (Unit 4)

Report No: 05200025/2012-006; 05200026/2012-006

Licensee: Southern Nuclear Operating Company

Facility: Vogtle Electric Generating Plant Units 3 and 4

Location: 7825 River Road  
Waynesboro, GA 30830

Inspection Dates: April 16 through May 7, 2012

Inspectors: C. Jones, Senior Construction Inspector, RII (Lead)  
J. Fuller, Senior Construction Resident Inspector, Region II  
J. Brady, Senior Construction Inspector, Region II  
P. Donnelly, Construction Resident Inspector, Region II  
C. Smith-Standberry, Construction Inspector, Region II  
V. Hall, Reactor Operations Engineer, HQ/NRO

Accompanying Personnel: J. Yerokun, Deputy Director, Division of Construction Inspection  
M. Ernstes, Chief, Construction Projects, Branch 4  
Tomy Nazario, Chief, Construction Inspection, Branch 1

Approved by Michael Ernstes, Chief  
Construction Projects Branch 4  
Division of Construction Projects

## SUMMARY OF FINDINGS

Inspection Report 05200025/2012-006; 05200026/2012-006; April 16, 2012 through April 20, 2012; Vogtle Electric Generating Plant (VEGP) Units 3 and 4; Quality Assurance Program Implementation during Construction and Pre-Construction Activities.

This report covered an announced inspection to evaluate the implementation of Southern Nuclear Operating Company's (SNC's) corrective action programs utilized for the VEGP Units 3 and 4 construction projects. Two Green findings were identified by the inspectors. Both of the findings were considered to be violations of NRC regulations. These violations were evaluated in accordance with the NRC Enforcement Policy, Section 2.3 and the temporary enforcement guidance outlined in enforcement guidance memorandum (EGM) 11-006. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter (IMC) 2519P, Construction Significance Determination Process (SDP). Construction Cross Cutting Aspects are determined using IMC 0613P, Power Reactor Construction Inspection Reports - Pilot. The Nuclear Regulatory Commission's (NRC's) program for overseeing the construction of commercial nuclear power reactors is described in Inspection Manual Chapter 2506, Construction Reactor Oversight Process General Guidance and Basis Document.

The inspectors' review of a sample of corrective action program activities by Southern Nuclear Operating Company and the engineering, procurement, and construction consortium determined that each of the programs provided methods for prioritizing issues and developing technical evaluations of issues. However, the inspectors determined that transfers of corrective action program tasks across organizational boundaries were not always effectively controlled. The NRC plans to conduct a future corrective action program implementation inspection to determine if the criteria have been met to issue non-cited violations for NRC-identified issues.

### **Cornerstone: Construction/Installation**

- (Green) The inspectors identified a Green technical finding and cited violation (NOV) of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, with five examples of the licensee's failure to adequately identify conditions adverse to quality (CAQ) due to inadequate evaluation and classification attributes. The licensee issued Condition Report (CR) 441941 to address this issue and to review the classification of the five identified examples and other corrective action documents for inappropriate thresholds.

This performance deficiency had greater than minor safety significance because it identified issues that, if left uncorrected, represented failures to implement an adequate program that could render the quality of the construction activity unacceptable or indeterminate. The finding was a technical finding associated with the construction/installation cornerstone and was evaluated under the construction significance determination process as outlined in IMC 2519P Appendix A. This finding is of very low safety significance (Green) because none of the examples impaired the design function of a system or structure listed in the construction significance determination process risk importance table. This finding was directly related to the construction cross cutting area of baseline inspection and the Corrective Action Program component because the licensee's suppliers failed to adequately evaluate and classify conditions as adverse to quality due to an inappropriately high threshold for classifying conditions adverse to quality. [A.5(c)]. (Section 1.1.a.2)

- (Green) The inspectors identified a Green technical finding and cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, for a failure to correct a CAQ. The licensee initiated CR 441949 to document this finding in their corrective action program, and to evaluate the extent of the condition and the areas where corrective action may be needed.

This performance deficiency had greater than minor safety significance because it involved the closure of three corrective action reports that all identified a potential adverse trend (a potential CAQ or significant CAQ) without an evaluation or justification for closure and without any corrective action. The finding was a technical finding associated with the construction/installation cornerstone and was evaluated under the construction significance determination process as outlined in IMC 2519P Appendix A. This finding is of very low safety significance (Green) because the identified condition did not impair the design function of a system or structure listed in the construction significance determination process risk importance table. This finding was directly related to the construction cross cutting area of baseline inspection and the corrective action program component because the licensee's supplier failed to adequately evaluate and correct conditions adverse to quality. [A.5(c)]. (Section 1.1.a.3)

## REPORT DETAILS

### 1. CONSTRUCTION REACTOR SAFETY

#### Cornerstone: Construction/Installation

#### 2504 NON-ITAAC-RELATED INSPECTIONS

##### 1. Inspection Procedure (IP) 35007, Quality Assurance Program Implementation and Pre-Construction Activities

##### a. Assessment of the Corrective Action Program Effectiveness

##### (1) Inspection Scope

The inspectors reviewed the licensee's corrective action program (CAP) to assess whether the licensee effectively implemented their 10 CFR Part 50, Appendix B approved quality assurance plan as required by 10 CFR Part 50.55. The licensee delegated responsibility for implementing elements of the CAP to an engineering, procurement, and construction (EPC) consortium consisting of suppliers Shaw Stone & Webster (Shaw) and Westinghouse Electric Company LLC (WEC). The delegation was permitted by the licensee's QA plan; however, the plan also states that the licensee maintains responsibility for the effectiveness of corrective action measures.

Consequently, the inspection scope included a review of programs established by Southern Nuclear Operating Company (SNC), and the EPC consortium.

Corrective action program procedures, documents and records were reviewed to determine whether the licensee and EPC consortium were identifying conditions adverse to quality (CAQs), evaluating identified conditions for significance and reportability, and implementing corrective actions to correct adverse conditions. Actions implemented for significant conditions adverse to quality (SCAQs) were reviewed to determine whether actions were designed to prevent recurrence. The timeliness of identification and correction of adverse conditions were evaluated for adequacy. The inspectors evaluated the effectiveness of reporting of program issues to management and adequacy of management oversight of activities including use of performance metrics and trending. The inspectors interviewed a cross-section of the licensee's and consortium's managers, line employees, and corrective action program personnel. The interviews were conducted to assess adequacy of program implementation and to determine whether a safety conscious work environment (SCWE) was established.

##### Trending

The inspectors reviewed a sample of SNC, Shaw, and WEC implementing documents to determine whether they established adequate measures to implement the requirements of the SNC Nuclear Development Quality Assurance Manual (NDQAM) related to the identification and resolution of adverse trends. The inspectors noted that Section 16, Corrective Action, of the SNC NDQAM, stated in part, that reports of conditions adverse to quality are analyzed to identify trends. The inspectors also noted that Section 16 of the SNC NDQAM also stated significant adverse trends are documented and reported to responsible management.

The inspectors noted that multiple programs were used to identify and correct conditions adverse to quality for the construction project; therefore, the inspectors reviewed each program to determine whether it provided input to the overall trending process. The inspectors reviewed the project's performance assessment programs to determine whether the licensee and their contractors were periodically analyzing performance information from the following:

- corrective action program data;
- benchmarking and self-assessment results;
- observation data from both project personnel and external groups;
- performance indicator information, and
- lower-tier reporting systems.

The inspectors' assessment specifically evaluated whether the project management used performance assessment to do the following:

- detect performance issues at a low level before they become consequential;
- assist in the identification of the most risk-significant or important issues on which to take corrective action;
- identify issues that needed further analysis or intervention, and
- assist in the identification and resolution of cross-organizational performance issues.

The inspectors also interviewed SNC, Shaw, and WEC personnel responsible for trending to determine whether they were periodically reviewing corrective action documents for the identification of potential adverse trends. Specifically, the inspectors evaluated each organization's use of informal and formal trending methods to identify CAP trends. Through these interviews, the inspectors evaluated whether those personnel involved with the day-to-day CAP implementation might recognize potential adverse trends and enter the issue in the CAP. The inspectors also reviewed the project's use of more formal, in-depth analysis of CAP data (critical thinking, event and cause code binning, and statistical techniques) to determine whether the project had established adequate analytical measures to identify potential adverse trends, which may not be apparent to the day-to-day CAP staff.

The inspectors reviewed a sample of the trend reports listed in the attachment to determine whether SNC and their contractors, Shaw and WEC, had adequately evaluated the data for potential adverse trends.

The inspectors reviewed the corrective action documents that the licensee and their contractors initiated as a direct result of the project's trending programs, to determine whether potential adverse trends were appropriately identified, evaluated, and corrected. The documents reviewed are listed in the attachment.

The inspectors reviewed SNC audit finding (AFR 2010-4) issued to Shaw for their failure to meet corrective action program trending requirements specified by the Shaw Standard Nuclear Quality Assurance Program (SWSQAP 1-74A, Rev. B) and Shaw's corrective action program implementing procedure, QS 16.5, Corrective Action System. The inspectors reviewed this audit finding to determine whether Shaw implemented appropriate corrective actions to correct the condition adverse to quality identified by the SNC audit team. Specifically, the inspectors reviewed Shaw's response to the SNC



Audit Report SNC-ND-2010.10-Shaw-Site-QA and Shaw's referenced corrective action record (CAR 2010-10-18-882) for SNC AFR 2010-4. The inspectors reviewed CAR 2010-10-18-882 and another trend related CAR (2010-12-09-973), to determine whether these CARs were processed in accordance with Shaw's CAP and were adequate to correct the CAQ identified by SNC's audit. Additionally, the inspectors reviewed SNC Technical Evaluation 58169, which was written to track the closure of AFR 2010-4, to determine whether SNC had established an adequate process to assure that their audit finding was appropriately corrected by Shaw.

### Regulatory Treatment of Non-Safety Systems (RTNSS)

The inspection scope included a review of the quality assurance program requirements in Part III of the SNC NDQAM for non-safety-related systems, structures, and components (SSCs) to determine whether SNC had established adequate corrective action program measures for the systems that are included in the RTNSS and Design Reliability Assurance Program (DRAP) requirements. Specifically, the inspectors reviewed CAP implementing procedures for SNC, Shaw, and WEC to determine whether these corrective action program procedures provided guidance for the identification and correction of issues related to SSCs that were classified as equipment Class D.

The inspectors reviewed APP-GW-GAM-200, AP1000 Quality Assurance Requirements for RTNSS Systems, Structures, and Components, to determine whether the SNC, Shaw, and WEC corrective action programs would apply to RTNSS systems. The inspectors noted that Section 1.0 of APP-GW-GAM-200 stated, RTNSS is a subset of equipment class D as defined by NRC Regulatory Guide 1.26. The inspectors also reviewed Appendix III of the Shaw Standard Nuclear Quality Assurance Program (SWSQAP 1-74A), Rev. B, which stated that QA Category II applies to RTNSS SSCs.

The inspectors compared a sample of items in Table 3.7-1, Risk Significant Components of Section 3.7, Design Reliability Assurance Program, of the SNC Updated Final Safety Analysis Report (UFSAR), to the equipment listed in Table 3.2-3, AP1000 Classification of Mechanical and Fluid Systems, components, and Equipment, of the Vogtle 3&4 UFSAR to determine whether the risk significant items in Table 3.7-1 were appropriately classified as AP1000 Class D or higher. Additionally, for the following components, the inspectors reviewed engineering calculations to determine whether the specific components were classified correctly:

- CVS Makeup Pumps CVS-MP-01 A/B, and
- Makeup Pump Suction and Discharge Check Valves CVS-PL-V113 and CVS-PL-V160 A/B.

The inspectors also reviewed the following documents to determine whether the above items were appropriately classified:

- AP1000 Calculation Note No. APP-CVS-M3C-075, "Functional Requirements for CVS Makeup Pumps," Rev. 3;
- AP1000 Calculation Note No. APP-CVS-M3C-403, "Check Valve Functional

- Requirements for CVS Valve V113,” Rev. 0, and
- AP1000 Calculation Note No. APP-CVS-M3C-206, “Check Valve Functional Requirements for CVS 3” Check Valves V064, V071, V160A, and V160B,” Rev. 3.

The inspectors also reviewed these CAP programs to determine whether SSCs associated with other equipment classifications such as E (other nonsafety-related SSCs) and F (Fire Protection Systems) were within the scope of the project CAPs.

Documents and records reviewed are listed in the attachment.

## (2) Assessment - Effectiveness of Problem Identification

The inspectors determined that, in general, conditions adverse to quality, including significant conditions adverse to quality were being identified and corrected on a timely basis at the Vogtle 3 & 4 construction project. In addition, interviews with project employees indicated that line workers, professional staff, and managers understood and accepted their individual responsibility to identify and correct problems that may adversely impact nuclear safety.

Conditions identified in SNC Condition Reports (CRs) followed the implementing procedures and applicable corrective action program performance attributes. Adverse conditions identified under other programs outside of the corrective action program, including QA audits, Shaw Nonconformance and Dispositions (N&Ds), and Shaw quality Inspection Reports were reviewed to determine whether conditions adverse to quality were being appropriately handled in accordance with requirements.

### Findings

Introduction: The inspectors identified a Green technical finding and a cited violation (NOV) of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, with five examples of the licensee’s failure to adequately identify conditions adverse to quality due to inadequate evaluation and classification attributes.

Description: The inspectors identified the following five instances where adverse conditions entered into the corrective action programs were not classified as conditions adverse to quality.

- (1) Shaw CAR 2011-0706, dated 10/31/2011, Shaw Quality Control Signed Acceptance of Testing of the Waterproof Membrane Prior to Completing the Quality Checklist. The corrective action report (CAR) reported a failure to implement a quality-related inspection procedure checklist which resulted in a failure to implement the associated quality inspection hold points. The CAR was closed with no corrective actions to address the failure to follow procedure.
- (2) Shaw CAR 2011-0728, dated 11/16/2011, Required Documentation Not Provided with Changes to Inspection Plans. The CAR reported a failure to implement a requirement to prepare documented evaluations for changes made to four quality-

related inspection plans. The CAR was closed with no corrective actions to address the failure to follow procedure.

- (3) Shaw CAR 2011-0776, dated 07/06/2011, Closure of N&D without Adequate Justification for Disposition of Acceptable As-Is. The CAR evaluated a condition where out of tolerance concrete batch plant admixture flow meters were used to process safety-related concrete.
- (4) Westinghouse Issue Report (IR) 12-079-M022, dated 03/19/2012, coatings on safety-related Samshin valves. The IR reported that potentially nonconforming paint had been applied to hand wheels of safety-related valves designated for use inside containment.
- (5) The process for screening Westinghouse IRs did not provide a record of whether issues categorized as "Fix/Trend" were treated as "CAQs". None of the CAQs in this class of IRs that had been issued prior to January 2012 were identified.

Criterion XVI of 10 CFR Part 50 Appendix B requires that conditions adverse to quality be identified and corrected. This is implemented through SNC's NDQAM, Version 9.4, Section 16, which states, in part that measures and procedures are established to promptly identify, control, document, classify and correct conditions adverse to quality. The QA programs of the EPC consortium implement this requirement as stated below.

The Shaw Standard Nuclear Quality Assurance Program (SWSQAP), Section 16 indicated that some conditions adverse to quality need not be identified in the corrective action program. Specifically, Section 16, Requirement 1.1 of the SWSQAP stated, in part, that major and recurring conditions adverse to quality shall be identified.

The inspectors determined that the examples identified instances where conditions adverse to quality were not correctly identified. They did not provide adequate evidence of activities related to quality as required for quality records. As such, they would not adequately support the licensee's capability to effectively implement required functions such as the requirement in Appendix B Criterion II for management to regularly review the status and adequacy of that part of the quality assurance program which they were executing (e.g. trending and performance monitoring per NDQAM Section 16).

The inspectors observed that corrective action documents generated by the licensee's contractors were being reviewed by licensee staff personnel. Consequently, the inspectors concluded that these deficiencies were reasonably within the licensee's ability to foresee and correct, and therefore should have been prevented. The inspectors concluded that the deficiencies resulted from the licensee's EPC contractors having an inappropriately high threshold for classifying conditions adverse to quality. This resulted in a failure to adequately evaluate and classify conditions as adverse to quality.

Analysis: The failures to properly classify conditions that were adverse to quality is a performance deficiency because they were the result of inadequately implementing the QA program and implementing procedures. This performance deficiency had greater than minor safety significance because it identified issues that, if left uncorrected, represent failures to implement an adequate program that could render the quality of the construction activity unacceptable or indeterminate. The finding was associated with the construction/installation cornerstone and was evaluated under the construction

significance determination process as outlined in IMC 2519P Appendix A. The finding was a technical finding of very low safety significance (Green) because none of the examples impaired the design function of a system or structure listed in the construction Significance Determination Process risk importance table.

This finding had a construction cross cutting component aspect under the Corrective Action Program component of baseline inspection because the licensee's suppliers failed to adequately evaluate and classify conditions as adverse to quality due to an inappropriately high threshold for classifying conditions adverse to quality. [A.5(c)]

Enforcement: 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, requires 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. This requirement is implemented by Section 16 of the licensee's NDQAM which states that the licensee has established the necessary measures and governing procedures to promptly identify, control, document, classify and correct conditions adverse to quality. In addition, the NDQAM states that in the case of suppliers working on safety-related activities, or other similar situations, the licensee may delegate specific responsibilities for corrective actions but SNC maintains responsibility for the effectiveness of corrective action measures.

Contrary to the above, from October 31, 2010 to April 16, 2012, the licensee failed to assure the effectiveness of corrective action measures implemented by EPC suppliers Shaw and WEC in that adverse conditions identified in Shaw CARs 2011-0706, 2011-728, and 2011-0776; WEC IR 12-079-M022; and WEC IRs classified as Fix/Trend were not classified and controlled as conditions adverse to quality.

This is a violation of 10 CFR Part 50 Appendix B, Criterion XVI for failing to properly identify conditions adverse to quality, which has been evaluated under the significance determination process as having very low safety significance (Green). Because the licensee's corrective action program has not been evaluated for effective implementation as guided by IMC 2505P, this violation is being cited as a Notice of Violation (NOV), consistent with the NRC Enforcement Policy Section 2.3, and the temporary enforcement guidance outlined in enforcement guidance memorandum (EGM) 11-006 (VIO 05200025/2012006-01, Failures to Properly Classify Conditions Adverse to Quality).

The licensee issued CR 441941 to address this issue. Immediate corrective action was taken by Shaw to re-evaluate the classification of the identified CARs as well as CARs issued since January 2012. In addition, WEC implemented a review of all "Fix/Trend" category IRs issued prior to January 2012 for the purpose of identifying IRs associated with CAQs.

### (3) Assessment - Effectiveness of Prioritization and Evaluation of Issues

The inspectors' review of a sample of corrective action program entries by SNC and the EPC consortium determined that each of the programs provided methods for prioritizing issues and developing technical evaluations of issues. However, as illustrated by the following finding, the inspectors determined that transfers of

corrective action program tasks across organizational boundaries were not always effective.

### Findings

Introduction: The inspectors identified a Green technical finding and cited violation for a failure to correct a condition adverse to quality as required by 10 CFR Part 50, Appendix B, Criterion XVI, associated with a potential adverse trend identified in three corrective action documents.

Description: The licensee issued SNC CAR 191465, and CR 348648 and CR 400029 to document a potential adverse trend related to apparent failures by their supplier, Shaw, to follow procedures, work instructions, or specifications that could affect the quality of safety-related systems, structures, and components. The SNC reports were issued on July 27, 2011, September 1, 2011, and January 30, 2012, respectively. Documentation recorded in SNC's CAR 191465 identified that Shaw agreed to accept and evaluate the identified concern by initiating a corrective action report using the Shaw corrective action program.

The inspectors noted that SNC subsequently closed CAR 191465, CR 348648, and CR 400029 without further evaluation and without implementing actions to correct the potential adverse trend. In addition, as of April 20, 2012, the NRC inspectors identified that Shaw had not initiated a corrective action report under their own program to address the identified condition adverse to quality and had not implemented actions to correct the condition as required by Appendix B, Criterion XVI.

SNC Nuclear Development Quality Assurance Manual, Version 9.4, section 16 stated that although SNC may delegate the responsibility to evaluate and correct the potential adverse trend to their suppliers, SNC retained responsibility for the effectiveness of corrective action measures. The inspectors determined that in this instance, SNC had not established effective measures to assure that the conditions adverse to quality were promptly identified and corrected by their supplier Shaw.

The failure to promptly evaluate and correct the identified potential adverse trend as required by 10 CFR Part 50, Appendix B and the licensee's approved QA program was determined to be reasonably within the licensee's ability to foresee and correct, and therefore should have been prevented. The inspectors determined that the failure to properly transfer tasks necessary for evaluation and correction of adverse conditions between the licensee and its contractors could lead to adverse conditions not being adequately evaluated and corrected and could render the quality of a construction activity unacceptable or indeterminate.

Analysis: The failure to establish effective measures to adequately implement the corrective action program related to assuring prompt evaluation and correction of a CAQ was a performance deficiency. This performance deficiency was determined to be greater than minor because it involved the closure of three corrective action reports that identified a potential adverse trend (a potential CAQ or significant CAQ) without an evaluation or justification for closure and without any corrective action.

The finding was associated with the construction/installation cornerstone and was evaluated under the construction significance determination process as outlined in IMC

2519P Appendix A. The finding was a technical finding of very low safety significance (Green) because the identified condition did not impair the design function of a system or structure listed in the construction significance determination process risk importance table. This finding has a construction cross cutting component aspect under the Corrective Action Program component of baseline inspection because the licensee's supplier failed to adequately evaluate and correct conditions adverse to quality. [A.5(c)].

Enforcement: Criterion XVI, "Corrective Action," of 10 CFR Part 50, Appendix B, requires 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.

Contrary to the above, from July 27, 2011 to April 20, 2012, the licensee failed to assure that conditions adverse to quality identified in SNC CAR 191465 and condition reports CR 348648 and CR 400029 were promptly corrected. Specifically, the licensee closed SNC CAR 191465, SNC CR 348648, and SNC CR 400029 following the delegation of evaluations and corrective actions to Shaw, who subsequently failed to enter the conditions adverse to quality in their corrective action program.

This is a violation which has been evaluated under the significance determination process as having very low safety significance (Green). Because the licensee's corrective action program has not been evaluated for effective implementation as guided by IMC 2505P, this violation is being cited as a Notice of Violation, consistent with the NRC Enforcement Policy Section 2.3, and the temporary enforcement guidance outlined in EGM 11-006 (VIO 05200025/2012006-02, Failure to establish measures to control the delegation of corrective action to Shaw).

The licensee initiated CR 441949 to document this finding in their corrective action program, and Shaw initiated CARs 2012-0402 and 2012-0454. Immediate corrective actions were taken to evaluate the extent of condition and to identify the organizations and areas of work that were exhibiting failures to follow procedure.

#### (4) Assessment - Effectiveness of Corrective Actions

The inspectors determined that SNC and the EPC consortium were monitoring and trending corrective action program performance and reporting the results to management. However, the information developed by SNC was more directed toward the evaluation of processing efficiency rather than status of program health. The trending program established by Shaw was determined to be recently established and was not fully developed.

No findings were identified.

#### b. Assessment of the Use of Construction Experience

##### (1) Inspection Scope

The inspectors performed a direct inspection of the CAP of the licensee and EPC supplier Shaw to verify that they have effectively implemented the Quality Assurance Program Description (QAPD) requirements and Final Safety Analysis Report (FSAR)

commitments for the identification, evaluation, and resolution of conditions adverse to quality that have been identified in reports of construction (CE) and operating experience (OE).

The inspectors conducted interviews with responsible SNC personnel and reviewed procedures ND-AD-VNP-004, version 5.0, Construction Experience Program and NMP-GM-008 version. 14.1, Operating Experience Program to assess the handling of CE and OE reports received from both internal and external sources. In addition, inspectors reviewed a sample of ten OE reports to verify applicable experience was entered into the SNC corrective action program.

The inspectors reviewed the effectiveness of SNC's handling of historical regulatory performance as documented in NRC Inspection Reports 05200025/2009201 and 05200026/2009201. The inspection reports identified two violations associated with the implementation of 10 CFR Part 21 and 10 CFR 50.55(e) reporting requirements. The first violation involved a procedure that did not include the correct definitions and requirements associated with implementing these regulations; the second involved the interface between that procedure and the CAP program.

The inspectors also conducted interviews with responsible Shaw personnel and reviewed procedure NCSP 2-13-1, "Best Practices and Improvement Opportunities" to evaluate the handling of reports of CE and OE received from internal and external sources. Inspectors reviewed a sample of four OE reports in the Shaw OE/Lessons Learned database and verified the information under each stage of the OE/Lessons Learned process (Initiation, Screening, Experience Gained, Improvement Actions, Coding, and Closure), and the status of any actions if included of the items.

## (2) Assessment

The inspectors determined that SNC had established a process to collect, evaluate, and communicate internal and external OE and CE information, including vendor recommendations, internally generated lessons-learned, industry OE, and NRC OE, to affected internal stakeholders. The inspectors also found that the SNC OE program identified the issues that were potentially applicable to the facility and effectively entered those issues into their CAP. However, the evaluation and communication of lessons learned from NRC inspection reports 05200025/2009201 and 05200026/2009201 were not completely effective. The inspectors determined that these violations were very similar to a problem identified in Unresolved Item (URI) 05200025/2012002-01, Oversight of Subcontractors Part 21 and 50.55(e) Programs, associated with the interface between the Shaw CAP and Part 21 procedures. The licensee was unable to explain why the lessons learned from the 2009 violations were not passed on to Shaw or assessed during their QA audits of Shaw. The licensee issued CR 440638 to address this interface weakness.

The Shaw program for evaluating and dispositioning lessons learned from CE and OE reports was found to include a provision to identify reports describing conditions adverse to quality; however, those reports were not entered into the OE/Lessons Learned program. The identified reports were returned to the report submitter along with guidance to enter the information into the corrective action program or nonconformance and deficiency programs as applicable. The OE/Lessons Learned program did not provide a record of screening of those CE and OE reports entered into the corrective

action program or nonconformance and deficiency program. Interviews with responsible personnel indicated that OE/Lessons Learned personnel normally did not initiate CARs even for the instances where reports of CE and OE were obtained and submitted by those personnel. The inspectors' review of a sample of OEs entered into the OE/Lessons Learned program did not identify any instances where conditions adverse to quality had not been entered into the Shaw corrective action program. SNC initiated CR 441954 and Shaw initiated CAR 2012-0403 to evaluate the tracking of CAQs originating from the screening of OE/Lessons Learned.

No findings were identified.

c. Assessment of the use of Self-Assessments and Audits

(1) Inspection Scope

The inspectors conducted an evaluation of the self-assessments and quality assurance audits completed by SNC, and the EPC consortium members Shaw and WEC, to verify that audit findings were documented and entered into the CAPs and resolutions were effectively evaluated.

The review of audit activities conducted by SNC included three audits of their CAP, two audits of the QA programs managed by consortium members, and one self-assessment of the Nuclear Development (ND) CAP and integrated CAP. The inspectors' review determined whether the audits and self-assessments were in accordance with the ND procedures, and whether the Audit Finding Reports (AFRs) were effectively entered into the CAP. Inspectors reviewed a sample of the CRs generated from each AFR, as well as the associated resolutions to confirm the conditions adverse to quality were identified and corrected on a timely basis. Audit Closure Reports issued for the audits were reviewed to determine whether actions to address identified problems were tracked to closure. The inspectors reviewed the audit responses provided by EPC consortium suppliers to confirm those responses were received within the required 30 days.

The inspection of Shaw audit activities examined one internal quality assurance audit that was conducted in 2011. The inspectors selected a sample of two CARs that were generated as a result of the audit findings in order to verify actions and completion status. Inspectors also reviewed the Shaw audit procedures to determine whether requirements existed to enter findings into the CAP and to assure that potential CAQs identified were corrected.

The inspection of audit activities by WEC included interviews with responsible program personnel and a review of an internal audit. The audit provided an assessment of the implementation of the quality assurance program, including implementation of CAP activities. The inspectors reviewed the handling of audit findings to determine whether the problems were entered into the CAP and whether resolutions were tracked to completion.



(2) Assessment

No findings were identified with the SNC audit and self-assessment programs. The inspectors determined that the 2012 audit of the CAP and the CAP self-assessment provided a rigorous assessment of the SNC CAP that delivered substantive and necessary recommendations for program adjustments.

No findings were identified with the audit programs established by Shaw and WEC. However, the inspectors noted an apparent discrepancy in forms control by WEC. Specifically, two copies of the same revision of an audit checklist form contained different guidance for required audit tasks. SNC initiated CR 441951 and WEC initiated IR 12-111-M030 to evaluate the forms discrepancy.

Self-Assessments and audits represent an opportunity to provide actionable information to management about the health and effectiveness of corrective action programs. The inspectors determined that the results of the 2012 SNC program audit and self-assessment provided information to management that was comparable to the observations in this inspection. In contrast, audit information communicated by the EPC consortium did not provide similar clarity or insights.

d. Assessment of Safety Conscious Work Environment

(1) Inspection Scope

The inspectors' evaluation of the environment for free expression of safety concerns included interviews of a cross section of employees in the licensee and consortium organizations, including representatives from craft workers, professional staff, quality oversight personnel, and managers. Interviews were also conducted with employee concerns staff. The corrective action program records and procedures were reviewed to evaluate the handling of concerns submitted from anonymous sources. The interviews and record reviews were conducted to identify if any issues existed that might hinder the willingness of individuals to identify issues within the corrective action program or allow for effective resolution.

(2) Assessment

The inspectors identified that the licensee and the EPC consortium had received only one anonymous entry into their corrective action programs since March 2010. During the inspection, SNC was in the process of establishing a capability to enter anonymous concerns into the corrective action system as documented in CR 430910. In general, the inspectors found a safety conscious work environment was maintained where employees felt free to express concerns without fear of harassment, intimidation, retaliation, or discrimination.

No findings were identified.

#### 4. OTHER INSPECTION RESULTS

##### 4.OA1 Followup of Licensee Reports and NOV's

1. (Closed) Violation 05200025/2010002-01, Failure To Assure That Purchased Services Conform To Procurement Documents. This issue involved the failure of the Consortium subcontractor, Chicago Bridge and Iron (CB&I), to implement quality requirements for receipt inspections, storage of material outside, or to implement adequate QA program attributes associated with the corrective action program. The inspectors reviewed the licensee's Reply to a Notice of Violation dated March 15, 2010, the licensee's CR2011100072 Apparent Cause Determination, WEC IR 10-293-M010 Root Cause Evaluation, and CB&I CAR 2010-061 Root Cause Evaluation (SWO/CB/001) to determine whether the licensee and its contractor identified the appropriate causes and corrective actions. The inspectors reviewed NRC Inspection Report 05200025/2011006, which had reviewed this item but left it open. The inspection report included a review of the CB&I root cause evaluation and corrective actions; a review of licensee and WEC QA audits and surveillances of CB&I corrective actions identified in the violation reply; interviews with responsible CB&I personnel, WEC QA inspectors, and licensee QA inspectors; and a walk-through by the NRC inspectors of the CB&I activity area to determine whether outdoor storage deficiencies were corrected.

During this inspection, the inspectors conducted another walk-through of the CB&I outdoor area to determine whether corrective actions were still effective. In addition, the inspectors discussed QA activities with licensee and WEC personnel related to the monitoring of CB&I activities. The inspectors found sufficient thoroughness in the cause evaluations to conclude that the appropriate causes for the NOV were identified. The inspectors determined that the associated corrective actions were adequately implemented to solve the problem identified in the NOV. The inspectors also reviewed the actions taken by the licensee, WEC, and Shaw, from an extent of condition standpoint to prevent repetition of this issue as it relates to other onsite vendors. The inspectors interviewed responsible personnel from each of the organizations to determine how the corrective actions for subcontractors in general were implemented. The collective corrective actions for the generic issue associated with subcontractor QA programs should prevent repetition. In addition, the inspector determined that QA audits and surveillances by the licensee were being performed to ensure that QA program content deficiencies with 10 CFR Part 50 Appendix B subcontractors performing work on-site would be identified prior to performing work. This item is closed.

2. (Discussed) Violation 05200011/2011009-01, Failure To Assure That Material Qualification Testing Associated with the Waterproof System Simulated Field Conditions. The inspectors reviewed the licensee's Reply to a Notice of Violation dated October 12, 2011, the licensee's ND/CAR 192572 Apparent Cause Determination (ACD), and the Consortium's CAR 2011-0328 Root Cause Evaluation (RCE) to determine whether the licensee and its contractor identified the appropriate causes and corrective actions. The licensee's reply identified that immediate actions were to suspend Unit 4 work on the installation of the Mudmat waterproof membrane. The licensee and their contractor then evaluated the differences between the Unit 3 installation/application methods and the conditions under which the qualification test was conducted. Supplemental testing in accordance with 10 CFR Part 50, Appendix B was developed to simulate the field conditions that existed at Unit 3 during installation. After review and approval by the licensee, supplemental testing was conducted by the contractor and a revised testing report was generated to meet the Acceptance Criteria for Unit 3 ITAAC

3.8.5.1.1. The inspectors reviewed NRC Inspection Report 05200025/2011006 which included review and observation of on-site supplemental testing by Nuclear Testing Systems as corrective action for this item.

The inspectors found sufficient thoroughness in the cause evaluations to conclude that the appropriate causes were identified. The inspectors' determined, from review of the corresponding corrective actions from the RCE and ACD that the corrective actions, if properly implemented, will fix the problem and prevent repetition. This item remains open pending completion of a detailed comparison between the revised National Testing Systems Test Report (NTS TR63642-12N, R1) and the Unit 3 and 4 waterproof membrane installation procedures and actual installed configurations to ensure that the test report is actually bounding for both units and would support ITAAC 3.8.5.1.1 closure for both units.

#### B. Exit Meeting Summary

On April 20, 2012 and on May 7, 2012, the inspectors presented the inspection results to Mr. M. Rauckhorst and other members of his staff, who acknowledged the findings.

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Applicant personnel

P. Albuquerque, ICAP and Performance Monitoring, SNC  
J. Beasley, Quality Control Engineering, Shaw  
S. Courtney, Corrective Action Program, Shaw  
W. Crisler, Quality Assurance, Shaw  
J. Davis, QA Oversight, SNC  
T. Dent, Site Director, WEC  
W. Fuller, OE, SNC  
B. Holt, Site Manager, Shaw  
P. Ivey, Vice President Regulatory Affairs, SNC  
N. Jackiw, Licensing, SNC  
B. Lowery, Nuclear Development Quality Assurance, SNC  
H. Mahan, Licensing, SNC  
D. Mickinac, Licensing, SNC  
W. Norcross, Auditor, WEC  
C. Pierce, Regulatory Affairs, SNC  
M. Rauckhorst, Vice President Site Construction, SNC  
J. Tull, Site Quality Assurance, WEC  
R. Usher, Commitment Tracking & Performance Monitoring, Shaw  
J. Wahl, Lessons Learned, Shaw

### LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

#### Opened

05200025/2012006-01	VIO	Failures to Properly Classify Conditions Adverse to Quality
05200025/2012006-02	VIO	Failure to establish measures to control the delegation of corrective action to Shaw

#### Closed

05200025/201002-01	VIO	Failure to Assure that Purchased Services Conform to Procurement Controls
--------------------	-----	---

#### Discussed

05200025/201109-01	VIO	Failure to Assure that Material Qualification Testing Associated with the Waterproof System Simulated Field Conditions
--------------------	-----	--

## LIST OF DOCUMENTS REVIEWED

### 1. Inspection Procedure (IP) 35007, "Quality Assurance Program Implementation and Pre-Construction Activities"

#### SNC Condition Reports, Corrective Action Reviews, and Technical Evaluations

- CR 117731, 1/26/11, A service compressed air line (SAS in Shaw document) was damaged when a D5 built
- CR 118095, 4/27/11, E&DCR APP-GW-GEF-051 allows hydrostatic testing of fire protection piping
- CR 215551, 4/27/11, Westinghouse does not have documented process for implementing requirements
- CR 339712, 7/28/11, SOER 06-1 Rev. 1
- CR 346780, 8/25/11, NRC RIS 2011-09
- CR 350131, 9/8/11, Plant Event #47221
- CR 380138, 12/5/11, NRC Information Notice 2011-20
- CR 394551, 1/16/12, NRC Event Number 45722
- CR 407973, 2/15/12, ICAP/CAP Focused Self-Assessment AFI #1-Trending
- CR 407989, 2/15/12, ICAP/CAP Focused Self-Assessment AFI #3-Challenges to Identifying Issues
- CR 408007, 2/15/12, ICAP/CAP Focused Self-Assessment AFI #6-Inappropriately Closed Corrective Actions
- CR 408358, 2/15/12, ICAP/CAP Focused Self-Assessment Performance Deficiency #2 Training
- CR 408379, 2/15/12, Inadequate Implementation of Training Requirements
- CR 408392, 2/15/12, Ineffective Corrective Action for AFR CR 331608
- CR 408401, 2/15/12, Weakness in CAP Trending
- CR 408824, 2/15/12, Corrective Action Program Procedure Inadequacies
- CR 415317, 2/28/12, Licensee Event Report 05-006
- CR 430491, Industry Experience Report IER L3-12-24 identified ineffective predictive maintenance for monitoring degradation of condenser circulating water pump motors
- CR 430509, Revision to FSAR needed to reflect new method for controlling buildup on traveling water screens
- CR 430714 (NRC URI) Installation of reinforcing steel and associated drawings did not conform to DCD Tier 2 \*
- CR 430884, Improper storage and material deficiencies with uncrated prefabricated piping spools
- CR 430910, (NRC Identified) SNC corrective action procedure NS-AD-002 did not contain guidance for handling CRs from anonymous sources
- CR 430822, A Final Design Review activity identified discrepancies between the system specification for the nuclear island nonradioactive ventilation system and the P&IDs and I&C Calculations issued by Shaw
- CR 436194, 4/9/12, NCR Information Notice 2007-04
- CR 441946 (NRC Identified), Ineffective evaluation and disposition of condition report received from SNC
- Root Cause Determination Report for CAR 193929, dated 4/13/2012, February 2012 QA audit of the ND CAP, and a February 2012 Focused self-assessment of the ND CAP and ICAP

WEC Issue Reports

- IR 10-315-M015, dated 11/11/ 2010, Incorrect Status Of Engineering Procurement And Construction (EPC) Milestone In A Customer Schedule
- IR 11-017-M018, 5/2/12, Finding SNC ND-2011.04-WEC Site QA-High Significance CAPS 10-293-M010 Overdue
- IR 11-034-M042, dated 02/03/ 2011, Possible Lack of Incorporation of Revised D-Spec Requirements for the MP6B Pump
- IR 11-060-M003, 3/1/11, NPP Lacking Procedure on 10 CFR 50.55 (e)
- IR 11-104-M020, 4/14/11, SNC Audit 2011.4-Lack of training records for quality new hires for Vogtle 3 & 4 site
- IR 11-118-M010, 4/28/11, Audit Finding SNC-ND-2011.04-Site QA
- IR 11-119-M035, 4/29/11, Audit Finding SNC-ND-2011.04 WEC Site QA Interface Documents Not created
- IR 11-243-M018, dated 08/31/ 2011, Inappropriate actualization of a critical milestone in a schedule
- IR 11-249-M051, dated 09/06/ 2011, Process control and traveler usage
- IR 11-259-M030, dated 09/16/ 2011, Process control on the installation of anchor studs
- IR 11-262-M014, dated 11/29/ 2011, Containment internal structural module stud size and spacing
- IR 11-263-M046, dated 09/20/ 2011, Lesson learned regarding installation of pipe and conduit inside the auxiliary building walls
- IR 11-290-M002, dated 10/17/ 2011, Chicago Bridge and Iron welder performance qualification
- IR 11-290-M009, dated 10/17/ 2011, CMS system documentation inconsistencies
- IR 11-290-M011, dated 10/17/ 2011, RNS system documentation inconsistencies
- IR 11-290-M016, dated 10/17/ 2011, Documentation inconsistencies for the chemical and volume control system
- IR 11-290-M039, dated 10/17/2011, Containment pressurization for ATWS analyses
- IR 11-307-M045, dated 11/03/2011, Missing quality review for a Level III procedure
- IR 11-313-M037, dated 11/09/2011, Manufacturing dimensional tolerances on CA modules.
- IR 11-322-M001, dated 11/18/ 2011, Incorrect code years referenced in APP-SS01-Z0-001
- IR 11-325-M002, dated 11/21/ 2011, Shipping readiness procedure violations
- IR 11-326-M006, dated 11/22/ 2011, Procedural noncompliance of approved and dated ITAAC performance and documentation plans, which impact "1st Pour"
- IR 11-327-M018, dated 11/22/ 2011, Incorrect geometry used on the AP1000 outlet nozzle calculation APP-MB01-Z0C-118
- IR 11-336-M053, dated 12/02/ 2011, Lesson learned regarding recommendations for installation of battery rack anchor bolts
- IR 11-336-M063, dated 12/02/ 2011, Lesson learned regarding recommendations for installation of concrete floor for room 12258
- IR 12-026-M021, dated 01/26/ 2012, Findings on IR 10-293-M010 during a SNC self assessment
- IR 12-033-C006, dated 02//2/ 2012, Delayed/ineffective corrective action program report transfers between WEC and Shaw
- IR 12-079-M022, dated 03/19/ 2012, Coatings on Safety-Related Samshin Valves

Shaw Corrective Action Reports

- CAR 2010-03-01-444, 3/1/10, Procurement Activities Not IAW Plans
- CAR 2011-0028, 4/21/12, Tardy Response to Audit Observations
- CAR 2011-0087, 5/18/11, CAR Classification

CAR 2011-0219, 7/19/11  
 CAR 2011-0285, 8/10/11  
 CAR 2011-0286, 8/10/11  
 CAR 2011-0288, 8/9/11, Weld Procedures Failed To Meet Requirement  
 CAR 2011-0292, 8/9/11, Impact Damage to Waterproof Membrane  
 CAR 2011-0310, 8/17/11, N&D Problems and Related ITAAC Issues  
 CAR 2011-0311, 8/4/11, Incomplete Review of Calculations  
 CAR 2011-0328, 8/18/11, ITAAC Testing for Vogtle Unit 3 NI Membrane  
 CAR 2011-0349, 8/29/11, Personnel Training Records Missing from Documentum  
 CAR 2011-0387, 9/1/11, Timely Resolution of NRC Identified Issues  
 CAR 2011-0392, 8/18/11, Notification of Subcontractor SCAQ  
 CAR 2011-0408, 9/9/11, Procedural Noncompliance  
 CAR 2011-0548, 9/27/11, Westinghouse Review of SMS Drawings  
 CAR 2011-0556, 10/11/11, Drawings Issued at Vogtle  
 CAR 2011-0706, 10/31/11, Work Package Signed Prior to Completing Checklist  
 CAR 2011-0728, 11/16/11, Change Procedure Violation  
 CAR 2011-0737, 11/17/11, Failure to Code N&D Significance  
 CAR 2011-0750, 11/9/11, M&TE Procedures Conflict  
 CAR 2011-0776, 7/6/11, N&D Justification is Inadequate  
 CAR 2011-0825, 12/22/11, E&DCR Not Incorporated Into Drawings  
 CAR 2012-0037, 1/17/12, E&DCR Not Incorporated Into Drawings  
 CAR 2012-0047, 1/6/12, M&TE Sticker Incorrect  
 CAR 2012-0050, 1/24/12, Pressure Gage Out of Range  
 CAR 2012-0061, 1/26/12, E&DCR Not Posted Against Drawings  
 CAR 2012-0087, 1/30/12, Material Moved with QC Reject Tags  
 CAR 2012-0097, 2/1/12, Loss of Configuration Management for Drawing  
 CAR 2012-0114, 2/12/12, QC Hold Point Violation  
 CAR 2012-0120, 2/7/12, IR Contained Incorrect Data  
 CAR 2012-0121, 2/8/12, CAR Timeliness  
 CAR 2012-0165, 2/20/12, Extended Delay in Supervisor Review  
 CAR 2012-0197, 2/29/12, Failure to Timely Complete RCA  
 CAR 2012-0246, Recurring adverse trend for nonconformances in concrete placements  
 CAR 2012-0261, Workers excavated a ditch without a required prerequisite survey  
 CAR 2012-0270, (NRC Identified) N&D failed to identify potential for reportability under Part 21  
 CAR 2012-0271, (NRC Identified) Ineffective implementation of procedures for Part 21 and 50.55(e) screening  
 CAR 2012-0401, (NRC Identified) Ineffective evaluation and disposition of condition report received from SNC

#### Shaw Nonconformance and Disposition Reports

V-ND-11-0247, 8/11/11, Damage to Unit-3 Nuclear Island Waterproofing Membrane  
 V-ND-11-0283, 9/7/2011, Foreign Material Introduction in Drilled Shafts  
 V-ND-11-0418, 12/6/11, Material Test and NDE Test Report Incorrectly Changed  
 V-ND-11-0439, 12/15/11, Horizontal Waterproof Membrane Damaged  
 V-ND-11-0451, 12/20/11, Conflict between PO, Vendor Documentation and Actual Dimension  
 V-ND-11-0452, 12/22/11, Damage to Electrical Manhole Trenches  
 V-ND-11-0454, 12/22/11, Damage to Electrical Manhole Trenches  
 V-ND-12-0005, 1/16/12, Vendor Supplied Embed Plate Deficiencies  
 V-ND-12-0006, 1/10/12, Slump and Air Entrainment Out of Specified Range  
 V-ND-12-0029, 1/16/12, Waterstop Not Installed Per Drawing

V-ND-12-0030, 1/19/12, Waterstop Not Installed Per Drawing  
 V-ND-12-0034, 1/19/12, Low Air on Electrical Duct Bank  
 V-ND-12-0035, 1/16/12, Embed Plates Have Deficient Welding  
 V-ND-12-0038, 1/23/12, Shaw Engineering Approval for MACTEC CR  
 V-ND-12-0040, 2/24/12, Concrete Slump Out of Spec  
 V-ND-12-0045, 1/25/12, Waterstop Not Per Design  
 V-ND-12-0055, 1/27/12, Embed Plates Have Deficient Welding  
 V-ND-12-0060, 2/1/12, Gradation Testing for Seismic Category 2 Fill  
 V-ND-12-0063, 3/6/12, Concrete Out Of Spec  
 V-ND-12-0081, 2/13/12, Filler Metal Not Correctly Identified  
 V-ND-12-0107, 3/8/12, Material Exceeding Maximum Storage Temperature  
 V-ND-12-0127, 3/12/12, Concrete Slump and Temperature Out Of Spec  
 V-ND-12-0137, 3/19/12, Rebar Thread Nonconforming

### Procedures

(Shaw) QSI 12.2 Control of Measuring and Test Equipment, Rev. B, 1/31/2012  
 (Shaw) QS 14.2, Rev. K, Inspection Report System  
 (Shaw) QS 15.1 Corrective Action System, Rev. F, 1/26/2012  
 (Shaw) QS 16.5 Nonconformance & Disposition Report, Rev. G, 4/11/2011  
 (Shaw) QS 18.1, Rev. K, Shaw Quality Audit Program, 4/18/11  
 (Shaw) QAD 18.1, Rev. Q, Shaw Quality Assurance Internal Audits, 9/10/10  
 (Shaw) NCSP 2-13-1, Shaw Best Practices and Improvement Opportunities, 8/19/09  
 (Shaw) NCSP 2-13-2, Shaw Best Practices and Improvement Opportunities, 4/5/12  
 (Shaw) NDG 11-03-00, Shaw New Nuclear Plant Project OE/LL Program, 10/22/10  
 (SNC) ND-AD-002, Nuclear Development Corrective Action Program, Version 10.0  
 (SNC) ND-AD-002, Nuclear Development Corrective Action Program, Version 12.0, 4/13/12  
 (SNC) ND-AD-VNP-001, Integrated Corrective Action Program, Version 1.0  
 (SNC) ND-AD-VNP-004, ConE Program, Version 5.0, 3/8/12  
 (SNC) ND-QA-004, ND Internal Quality Assurance Audits  
 (SNC) ND-QA-005, Quality Assurance Reviews, Version 5.0, 4/3/12  
 (SNC) NMP-GM-003, Self-Assessment Procedure, Version 18.0, 12/07/11  
 (SNC) NMP-GM-008, OE Program, Version 14.1, 1/25/12  
 (WEC) WEC 16.2, Corrective Actions Process, Rev. 4, 03/12/2012  
 (WEC) WEC 16.9, "Trending Process," Rev. 1  
 (WEC) WEC 18.1, Internal Audits, Rev. 2  
 (WEC) F-18.1-1, Internal Audit Worksheet  
 (WEC) APP-GW-GAM-200, "AP1000 Quality Assurance Requirements for RTNSS Systems, structures, and Components," Rev. 2  
 (WEC) APP-GW-GAP-136, WEC NPP Organizational Learning, Rev. 0, 1/31/11

### Audits and Assessments

ND-11-1012, Southern Nuclear Operating Co. ND QA Audit Report of WEC, 5/26/11  
 ND-12-0459, NDQA Audit of NDQA-2012.01-CAP, 3/2/12  
 ND-11-1261, NDQA Audit of ND CAP, 6/23/11  
 ND-11-0165, NDQA Audit of Corrective Action, 1/25/11  
 CAP/ICAP Focused Self-Assessment, 3/13/12  
 ND-11-0724, NDQA Limited Scope Audit Report of Shaw Nuclear Services, Inc and MACTEC, 4/11/11  
 SNC Audit Report SNC-ND-2010.10-Shaw-Site-QA



SNC Audit Finding Reports for SNC-ND-2011.02-SHAW/MACTEC-SITE CAP, 1/20/12  
 SVP\_SV0-000857, Response to ND-11-0724 SNC AFR 2011-1 through 2011-4, 5/12/11  
 Shaw QA Audit Report – Audit No. 2010-05, Audit of Vogtle Units 3 and 4 Site Auditions,  
 Shaw Audit of Vogtle Site Project- Audit No. V2011-06, 7/14/11  
 WEC-11-58, WEC Global Quality Programs, Internal Audit Report

#### Corrective Action Program Trend Reports

SNC CAP Program – CAP Indicators, February 2012  
 SNC CAP Program – CAP Indicators, January 2012  
 Corrective Action Tracking Status Report, Month Ending August 31, 2010  
 Corrective Action Tracking Status Report, Month Ending October 31, 2010  
 Shaw Trend Report V-QTR-CY2011-Q4-QPR, “Trend Evaluation Report: Vogtle Quality  
 Program Results,” Issued March 29, 2012  
 Shaw Trend Report V-QTR-CY2011-Q3-QPR, “Trend Evaluation Report: Vogtle Quality  
 Program Results,” Issued November 16, 2011  
 Shaw 12 Month Analysis – CAR Program Trend Evaluation Report: Vogtle Results, dated May  
 4, 2012  
 Vogtle Units 3 and 4 CARB Report, March 13, 2012  
 Vogtle Units 3 and 4 CARB Report, February 13, 2012  
 Vogtle Units 3 and 4 CARB Report, January 16, 2012  
 Vogtle Units 3 and 4 CARB Report, December 7, 2011  
 WEC NPP trend Report Quarter 1 – FY11  
 WEC NPP trend Report Quarter 2 – FY11  
 WEC CB&I Surveillance Quality Report October 2011

#### Corrective Action Tracking Issued for CAP Performance Trends

Shaw CAR 2010-01-14-357, identification and resolution of emergent adverse trend  
 Shaw CAR 2012-0246, from recent trending efforts  
 Shaw CAR 2012-0282, from recent trending efforts  
 SNC CAR 193443, adverse trend identified and corrected  
 SNC CR 339491, potential adverse trend  
 SNC CAR 191465, potential adverse trend  
 SNC CR 348648, potential adverse trend  
 SNC CR 400029, potential adverse trend  
 WEC IR 11-297-M031, potential adverse trend

#### **4.OA1 Followup of Licensee Reports and NOVs**

WEC SCAR 10-320-M057  
 CB&I RCA SWO/CB/001  
 SNC readiness review checklist from ND-QA-012-F01  
 List of SNC surveillances on containment vessel  
 List of SNC surveillances on External Contractors (Westinghouse, Shaw various, Gerdau  
 Ameristeel, etc.)

#### Corrective Action Program Documents

TEs 307832 readiness review on Mistras Group;  
 TE 302341 readiness review on NTS

TE 282296, TE 280917, & associated CAR 191823

Procedures

(SNC) ND-AD-006, Nuclear Development Cause Analysis; and

(SNC) NMP-GM-002-006. Root Cause Analysis Instruction

(Shaw) QS 16.6, Cause Analysis

(Shaw) Root Cause Analysis Workshop Handbook

CA-01, Engineering Services Scope of Work (ESSOW) 132175-E-C-00012-04

Shaw Report No: SVO-AT01-ITR-800001, R5

Vogtle ITAAC Execution Team Charter, R0

Procedure DAPIP 5-16/APP-GW-GAP-117, ITAAC Implementation

**LIST OF ACRONYMS**

ACD	Apparent Cause Determination
ADS	Automatic Depressurization System
AFR	Audit Finding Report
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CAQ	Condition Adverse to Quality
CAR	Corrective Action Report
CB&I	Chicago Bridge and Iron
CE	Construction Experience
CFR	Code of Federal Regulations
COL	Combined License
CR	Condition Report
DRAP	Design Reliability Assurance Program
EGM	Enforcement Guidance Memorandum
EPC	Engineering, Procurement, and Construction
FSAR	Final Safety Analysis Report
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Issue Report
ITAAC	Inspection, Test, Analysis, and Acceptance Criteria
ND	Nuclear Development
N&D	Nonconformance and Disposition
NDQAM	Nuclear Development Quality Assurance Manual
NOV	Notice of Violation
NRC	Nuclear Regulatory Commission
OE	Operating Experience
QA	Quality Assurance
QAPD	Quality Assurance Program Description
QMS	Quality Management System
RCE	Root Cause Evaluation
RTNSS	Regulatory Treatment of Non-Safety Systems
SCAQ	Significant Condition Adverse to Quality
SCWE	Safety Conscious Work Environment
SDP	Significance Determination Process
SNC	Southern Nuclear Operating Company
SSC	System, Structure, and Component
S&W	Stone and Webster
SWSQAP	Shaw Standard Nuclear Quality Assurance Program
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VEGP	Vogtle Electric Generating Plant
WEC	Westinghouse Electric Company