



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

February 14, 2013

Mr. Ronald A. Jones
Vice President, New Nuclear Operations
South Carolina Electric and Gas
P.O. Box 88 (Mail Code P40)
Jenkinsville, SC 29065-0088

**SUBJECT: SOUTH CAROLINA ELECTRIC AND GAS V.C. SUMMER NUCLEAR STATION
UNITS 2 AND 3 - NRC INSPECTION REPORT 05200027/2012005,
05200028/2012005, AND NOTICE OF VIOLATION**

Dear Mr. Jones:

On December 31, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your V.C. Summer Nuclear Station Units 2 and 3. The enclosed inspection report documents the inspection results, which were discussed on January 10, 2013, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents two findings of very low safety significance that were determined to involve violations of NRC requirements. The violations were evaluated in accordance with the NRC Enforcement Policy, Section 2.3 and the temporary enforcement guidance outlined in enforcement guidance memorandum number EGM-11-006. 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 enclosed report. As described in Section 2.3, "Disposition of Violations," of the NRC Enforcement Policy, the violations are 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 for NRC identified violations. As of this inspection, the NRC had not yet made this determination for V.C. Summer Nuclear Station Units 2 and 3.

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 either the

violations or significance of the findings, 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 II; (2) the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and (3) NRC Senior Resident Inspector at V.C. Summer Nuclear Station Units 2 and 3.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

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

Docket Nos.: 05200027, 05200028
License Nos.: NPF-93 (Unit 2), NPF-94 (Unit 3)

Enclosures:

1. Notice of Violation
2. Inspection Report 05200027/2012005
and 05200028/2012005
w/ Attachment: Supplemental Information

cc w/encl: (See next page)

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

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 NON-PUBLICLY AVAILABLE
 SENSITIVE
 NON-SENSITIVE
 ADAMS: Yes
 ACCESSION NUMBER: ML13046A091
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 FORM 665 ATTACHED

OFFICE	RII:DCI	RII:DCI	RII:DCI	RII: NRO	RII:DCP	RII DCP	RII
SIGNATURE	CTJ1 via e-mail	CNO1 via e-mail	RXM3 via e-mail	GAN via e-mail	ECM2 via e-mail	RLJ3 via e-mail	DAA via e-mail for SLL1
NAME	C. Jones	C. Oelstrom	R. Mathis	G. Newman	E. Michel	R. Jackson	S. Lewis
DATE	01/30/2013	01/25/2013	01/23/2013	01/23 /2013	01/28 /2013	01/29/2013	01/28/2013
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO		

OFFICE	RII:DCP	RII:DCP	RII:DCP	RII:DCP	RII:DCI	RII DCP	RII: DCI
SIGNATURE	PBD1 via e-mail	MSM4 via e-mail	PJH4 via e-mail	CKH1 via e-mail	BJD4 via e-mail	JXK1 via e-mail	JGV1 via e-mail
NAME	P. Donnelly	M. Magee	P. Heher	C. Huffman	B. Davis	J. Kent	J. Vasquez
DATE	01/29/2013	01/25/2013	02/01/2013	02/01/2013	02/04/2013	02/04/2013	01/30/2013
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

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Letter to Ronald A. Jones from Michael E. Ernstes dated February 14, 2013

SUBJECT: SOUTH CAROLINA ELECTRIC AND GAS V.C. SUMMER NUCLEAR STATION
UNITS 2 AND 3 - NRC INSPECTION REPORT 05200027/2012005,
05200028/2012005, AND NOTICE OF VIOLATION

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PUBLIC

NOTICE OF VIOLATION

South Carolina Electric & Gas Company
V.C. Summer Units 2 and 3

Docket Nos.: 052-00027, 052-00028
License Nos.: NPF-93 (Unit 2), NPF-94 (Unit 3)

During an NRC inspection conducted between November 5, 2012, and November 9, 2012, two violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

1. Criterion V of Appendix B to 10 CFR Part 50 requires, 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 licensee delegated overall project quality requirements for safety related activities to their contractors through Section 5.1, "Quality Assurance Program," of Article 5, "Quality Assurance", of the Engineering Procurement and Construction Agreement. This agreement required, in part, that safety-related activities be performed in accordance with the quality requirements of 10 CFR Part 50, Appendix B, Criterion V.

Contrary to the above, from December 8, 2010, to May 11, 2012, the licensee failed to ensure that corrective action program activities affecting quality were accomplished in accordance with applicable procedures. Specifically, Shaw corrective action report 2010-12-08-971, dated December 8, 2010, was not identified as a significant condition adverse to quality in accordance with procedure QS 16.5, "Corrective Action System," Revision D. The failure to follow procedure QS 16.5 resulted in the failure to establish actions to evaluate the extent and potential for adverse impact to activities that used the invalid documents.

This violation is associated with a Green SDP finding.

2. Criterion XVI of Appendix B to 10 CFR Part 50 requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected.

The licensee delegated overall project quality requirements for safety related activities to their contractors through Section 5.1, "Quality Assurance Program," of Article 5, "Quality Assurance", of the Engineering Procurement and Construction Agreement. This agreement required, in part, that safety-related activities be performed in accordance with the quality requirements of 10 CFR Part 50, Appendix B, Criterion XVI.

Contrary to the above, from August 5, 2010, to November 9, 2012, the licensee failed to establish measures to ensure that conditions adverse to quality were promptly corrected. This failure contributed to the licensee failing to assure that conditions adverse to quality were promptly corrected. For example, the licensee failed to promptly correct a condition adverse to quality as documented in Shaw corrective action report 2012-0239 when the

licensee failed to provide the training they determined was required to correct the condition. Although the condition was identified in February 2011, an action item to notify appropriate staff of the necessary measures to ensure the use of controlled design inputs was not implemented as of November 2012. The corrective action was not prompt because Shaw continued to perform calculations during that time frame.

This violation is associated with a Green SDP finding.

Pursuant to the provisions of 10 CFR 2.201, South Carolina Electric and Gas 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 14th day of February, 2013

U.S. NUCLEAR REGULATORY COMMISSION
Region II

Docket Numbers: 05200027
05200028

License Numbers: NPF-93
NPF-94

Report Numbers: 05200027/2012005
05200028/2012005

Licensee: South Carolina Electric and Gas

Facility: V.C. Summer Nuclear Station Unit 2
V.C. Summer Nuclear Station Unit 3

Location: Jenkinsville, SC

Inspection Dates: October 1, 2012 through December 31, 2012

Inspectors: J. Brady, Senior Construction Inspector, DCI
B. Davis, Senior Construction Inspector, DCI
P. Donnelly, Resident Inspector, DCP
P. Heher, Construction Project Inspector, DCP
C. Huffman, Resident Inspector, DCP
R. Jackson, Senior Resident Inspector, DCP
C. Jones, Senior Construction Inspector, DCI
J. Kent, Construction Project Inspector, DCP
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R. Mathis, Construction Inspector, DCI
E. Michel, Senior Construction Inspector, DCI
G. Newman, Vendor Inspector, DCIP
C. Oelstrom, Construction Inspector, DCI
S. Smith, Senior Construction Inspector, DCI
J. Vasquez, Construction Inspector, DCI

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

SUMMARY OF FINDINGS

Inspection Report 05200027/2012005, 05200028/2012005; 10/01/2012 through 12/31/2012; V.C. Summer Nuclear Station Unit 2, V.C. Summer Nuclear Station Unit 3, Quality Assurance Program Implementation During Construction and Pre-Construction Activities.

This report covers a three-month period of inspection by resident inspectors, announced programmatic inspections by regional and headquarters inspectors, and announced Inspections, Tests, Analysis, and Inspection Criteria (ITAAC) inspections by regional inspectors. Two Green findings associated with two violations were identified consistent 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". 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 IMC 2506, "Construction Reactor Oversight Process General Guidance and Basis Document."

A. NRC-Identified and Self Revealed Findings

Cornerstone: Construction Installation

- Green. The inspectors identified a technical finding and cited violation (VIO) of 10 CFR Part 50, Appendix B, Criterion V, for the failure to ensure that corrective action program activities affecting quality were accomplished in accordance with applicable procedures. The licensee initiated condition report CR-NND-12-00793 to document this finding in their corrective action program.

This performance deficiency had greater than minor safety significance because the uncorrected conditions could render the quality of construction activities 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 was 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 not associated with a construction cross cutting aspect. (Section 1P01(3).i)

- Green. The inspectors identified a technical finding and cited violation (VIO) of 10 CFR Part 50, Appendix B, Criterion XVI, for the licensee's failure to promptly correct conditions adverse to quality in accordance with regulatory requirements and applicable quality standards. The licensee initiated condition report CR-NND-12-00792 to document this finding in their corrective action program.

This performance deficiency had greater than minor safety significance because the uncorrected conditions could render the quality of construction activities 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 was 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 engineering, procurement, and construction consortium failed to adequately evaluate and correct conditions adverse to quality. [A.5(c)]. (Section 1P01(3).ii)

B. Licensee-Identified Violations

No findings were identified.

REPORT DETAILS

1. CONSTRUCTION REACTOR SAFETY

Cornerstones: Design/Engineering, Procurement/Fabrication, Construction/Installation, Inspection/Testing

1A01 (Unit 2) ITAAC Number 761 / Family 01F

a. Inspection Scope

During the week of October 15, 2012, the inspectors performed a direct inspection of construction activities associated with V.C. Summer Unit 2 ITAAC Number 761 (3.3.00.02a.i.b).

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	An inspection of the nuclear island structures will be performed. Deviations from the design due to as-built conditions will be analyzed for the design basis loads.	A report exists which reconciles deviations during construction and concludes that the as-built shield building structures, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions.

The inspectors performed a field inspection of construction activities associated with this ITAAC for the nuclear island basemat within the area of the shield building. The field activities applied the guidance in inspection procedure (IP) 65001.01, "Inspection of ITAAC-Related Foundation and Buildings," IP 65001.02, "Inspection of ITAAC Related Installation of Structural Concrete" and IP 65001.F, "Inspection of ITAAC-Related Design and Fabrication Requirements." The inspectors conducted inspections of the concrete reinforcing steel placement, reviewed documents and applicable design drawings and specifications, and interviewed licensee personnel to verify construction activities were being conducted in accordance with design documents and applicable processes and procedures. Specifically, the inspectors verified if:

- structural concrete work, design and installation was completed in accordance with applicable specifications, drawings, approved procedures using qualified personnel;
- key building critical dimensions, materials, and separation satisfied design specifications, requirements, and relevant ITAAC;
- licensee records established an adequate basis for the acceptance of ITAAC with design and fabrication attributes; and
- records reflected that completed work met design specifications and acceptance criteria.

The inspectors performed independent measurements and observations on sample areas of the basemat reinforcing steel for the proposed unit 2 nuclear island structures. Specifically, the inspectors observed the shield building area basemat reinforcing steel placement, including basemat reinforcing steel layers, inner and outer wall dowels, and mechanical reinforcing steel splices. In addition, the inspectors reviewed various documents within the work packages and design control documents for the reinforcing steel, to verify if:

- reinforcing steel was controlled and placement performed in accordance with the applicable specifications, codes, drawings, and procedures;
- analyses, calculations, bounding condition checks, functional assessments, engineering evaluations and other design reports, were consistent with the safety significance and inspection resources, so that reinforcing steel and embedment placement conformed to design drawings, all nonconforming conditions were appropriately resolved; and the licensee established an effective method for tracking, evaluating, and dispositioning changes or modifications to the design;
- contractors had approved implementing procedures;
- reinforcing steel installation was controlled and performed in accordance with the applicable specifications, codes, drawings, and procedures;
- reinforcing steel was located properly in the structure, secured, free of concrete or excessive rust, and have proper clearances;
- procedures clearly prescribed acceptable methods of quality control inspection and included appropriate acceptance criteria; and
- reinforcing steel conformed to design drawings and there were no deviations from design.

In addition, inspectors reviewed applicable design specifications, engineering and design coordination reports (E&DCRs), certified material test reports, nonconformance reports and corrective action reports associated with the basemat rebar installation to determine if:

- the licensee was identifying problems at an appropriate threshold and entering them into the corrective action program;
- nonconforming material was adequately identified and segregated; and
- deviations from requirements were effectively resolved.

b. Findings

Introduction: The inspectors identified an unresolved item (URI) related to the design control process and procedures associated with the nuclear island basemat.

Description: Westinghouse Electric Company (WEC) document APP-GW-GEP-010, "Process and Procedure for AP1000 Internal Open Items and Holds," provided the process for controlling hold and open items affecting documents used during construction. Section 4.2 of this procedure stated, in part, open items were items that needed to be resolved but did not affect construction. Section 4.6 stated, in part, that holds were items that did affect construction. Section 8.9.3 stated, in part, that hold items could not be changed to open items. During the inspectors' review of construction drawings associated with the nuclear island basemat, open item DI-OI-034617 was identified on certain drawings as an open item and on other drawings as a hold item. It was unclear to the inspectors as to whether the item should have been controlled as a

hold or open item. In addition, the inspectors observed that only the open or hold item numeric description was provided on affected construction documents. A detailed description was not provided. Given that hold and open items were internal to WEC, it was unclear how field engineering or quality control personnel could fully understand the impacts of the items posted against the construction documents used in the field. The inspectors were concerned that the lack of clarity could result in inappropriate construction in the field.

Table 3.8.4-2 of the Updated Final Safety Analysis (UFSAR) provided the load combinations required for seismic category I structures. Per this table, one of the load combinations required seismic and thermal loads to be combined in the structural analysis of seismic category I structures. The table and load combinations were considered Tier 2* information. The inspectors reviewed WEC Issue Report (IR) 11-138-M013 which indicated that seismic forces and ambient thermal loads did not need to be directly combined as a load combination in the structural analysis. This IR appeared to be inconsistent with the structural design requirements of UFSAR Table 3.8.4-2. In addition, the inspectors reviewed WEC IR 11-297-M003 which identified that a design change was made to revise the flood heights of the auxiliary building to 14 feet. As identified in the IR, the design change was not captured in the formal design change proposal process and was not reviewed by all affected design organizations. The inspectors questioned whether the change in flood height was adequately reviewed by all affected organizations for impacts to all associated equipment and structures.

Based on a review of the documentation provided during the inspection, the inspectors could not verify that the design changes were adequately controlled and met the licensing basis. As a result, the inspectors requested that the licensee provide additional information to demonstrate the design control process was followed, items were properly closed, and the licensing basis for the nuclear island structures was met.

This issue of concern is unresolved pending the inspectors' review and evaluation of the licensee's documentation to determine if a performance deficiency was involved. (URI 05200027/2012-005-01, Design Control and Open Items for the Basemat).

1A02 (Unit 2) ITAAC Number 762 / Family 01F

a. Inspection Scope

During the week of October 15, 2012, the inspectors performed a direct inspection of construction activities associated with V.C. Summer Unit 2 ITAAC Number 762 (3.3.00.02a.i.c).

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	An inspection of the nuclear island structures will be performed. Deviations from the design due to as-built conditions will be analyzed for the design basis loads.	A report exists which reconciles deviations during construction and concludes that the as-built structures in the non-radiologically controlled area of the auxiliary building, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions.

The inspectors reviewed activities related to rebar construction as described in Section 1A01 of this report. The inspectors focused on activities associated with the design and construction of the basemat beneath the non-radiologically controlled area of the auxiliary building in a similar manner as described in Section 1A01 of this report for the basemat beneath the shield building.

For the inspectors' independent measurements and observations related to this ITAAC, the inspectors sampled critical sections of the bay between reference column lines 9.1 to 11 and K to L (non-radiologically controlled areas of the auxiliary building) as listed in UFSAR Table 3.3-7, including basemat reinforcing steel layers, inner and outer wall dowels, mechanical reinforcing steel splices, and embedment plates.

b. Findings

The inspectors determined that URI 05200027/2012-005-001, Design Control and Open Items for the Basemat, as described in Section 1A01 of this report, was also related to this ITAAC.

1A03 (Unit 2) ITAAC Number 763 / Family 01F

a. Inspection Scope

During the week of October 15, 2012, the inspectors performed a direct inspection of construction activities associated with VC Summer Unit 2 ITAAC Number 763 (3.3.00.02a.i.d).

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	An inspection of the nuclear island structures will be performed. Deviations from the design due to as-built conditions will be analyzed for the design basis loads.	A report exists which reconciles deviations during construction and concludes that the as-built structures in the radiologically controlled area of the auxiliary building, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions.

The inspectors reviewed activities related to rebar construction as described in Section 1A01 of this report. The inspectors focused on activities associated with the design and construction of the basemat beneath the radiologically controlled area of the auxiliary building in a similar manner as described in Section 1A01 of this report for the basemat beneath the shield building.

For the inspectors' independent measurements and observations related to this ITAAC, the inspectors sampled critical sections of the bay between reference column lines 1 to 2 and K-2 to N (radiologically controlled areas of the auxiliary building) as listed in UFSAR Table 3.3-7, including basemat reinforcing steel layers, inner and outer wall dowels, mechanical reinforcing steel splices, and embedment plates.

b. Findings

The inspectors determined that URI 05200027/2012-005-001, Design Control and Open Items for the Basemat, as described in Section 1A01 of this report, was also related to this ITAAC.

1A04 (Unit 2) ITAAC Number 763 / Family 01F (65001.B)

a. Inspection Scope

During this inspection period, the inspectors performed a direct inspection of construction activities associated with VC Summer Unit 2 ITAAC Number 763 (3.3.00.02a.i.d).

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	An inspection of the nuclear island structures will be performed. Deviations from the design due to as-built conditions will be analyzed for the design basis loads.	A report exists which reconciles deviations during construction and concludes that the as-built structures in the radiologically controlled area of the auxiliary building, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions.

The inspectors used the following IP to perform this inspection:

- 65001.B, "Inspection of the ITAAC-Related Welding Program," Sections 02.01, 02.02, 02.03, 02.04 and 02.06.

The following inspection activities were related to ITAAC 763, which required any deviations from the design to be properly reconciled. Nonconformance and Disposition Report (N&D) VCS-ND-12-0263 documented a deviation from design drawing APP-CA20-S5-04004, "Auxiliary Building Areas 5 & 6 Module CA20 Sub-module CA20-04 Structural Outline Vertical Sections / Views," Revision 6, that 20 studs were not installed as required by drawing APP-CA20-S5-04004. Shaw's corrective action was to install these studs per drawing requirements in order to restore conformance with the design.

The inspectors reviewed Shaw N&D VCS-ND-12-0263, which documented the missing studs on the inside of submodule CA20-04 as required by drawing APP-CA20-S5-04004. The inspectors reviewed Shaw's disposition of this N&D to determine if Shaw adequately performed the rework (welding) of these studs to restore compliance with the design drawings. Specifically, the inspectors observed and reviewed the installation of one safety-related stud on submodule CA20-04 to determine if the stud welding activities were performed in accordance with the applicable quality and technical requirements, including:

- 10 CFR Part 50, Appendix B;
- ASME NQA-1-1994;
- Shaw SWSQAP-174A;
- specification APP-VW01-Z0-001, "Structural Module Shear Stud Welding Specification," Revision 2;
- American Welding Society (AWS) D1.1-2000 "Structural Welding Code;" and drawing APP-CA20-S5-04005.

The inspectors also observed the in-process manual stud welding of stud number EC4 to determine if the welding activity was performed in accordance with the welding

procedures WPS6-1.1M02, "GMAW-Pulse," Revision 1; and GWS-6, "Stud Welding – General Welding Specification," Revision 0. The inspectors also observed the stud ends before welding to determine if the stud end was clean and the flux ball was removed along with the tapered portion of the stud as required by AWS D1.1 and specification APP-VW01-Z0-001. The inspectors observed the fit-up activities for stud EC4 to determine if the base material surface was adequate for welding and the stud fit was square and tight against the base metal. The inspectors also reviewed the weld data sheets for the above welds in work package number VS2-CA20-S4W-01001, Revision 0, "CA20 Sub-Assembly 1 Fabrication Repair Work," to determine if the welding records were sufficient to provide evidence of activities affecting quality. The inspectors reviewed welder qualifications and welder continuation records to determine if the welder performing the work was appropriately qualified.

The inspectors observed gas metal arc welding performed on the plate seam between CA20-02 and CA20-03 using an automated welder to determine whether the welding parameters, including heat input, weld voltage, and amperage, were within the allowable ranges permitted by procedure WPS 2-1.1M71. The inspectors reviewed welder qualifications for the personnel performing the welding. Welder qualifications were reviewed to ensure compliance with the requirements of AWS D1.1.

b. Findings

No findings were identified.

1P01 Corrective Action Program Annual Assessment (35007)

.1 Assessment Of The Corrective Action Program Effectiveness

a. 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 and WEC. The delegation was permitted by the licensee's quality assurance plan; however, the plan also stated that the licensee maintained responsibility for the effectiveness of corrective action measures. Consequently, the inspection scope included a review of programs established by both the licensee and the EPC consortium.

The inspectors verified that the licensee's and the EPC consortium's QA implementing documents for the identification, evaluation, and corrective action for conditions adverse to quality was consistent with the NRC-approved QAPD and commitments in the UFSAR, including the appropriate version of NQA-1, as applicable. The inspectors reviewed the implementing documents to determine if the documents included the following provisions:

- classification, prioritization, and evaluation for reportability (i.e., 10 CFR 50.55(e)) of conditions adverse to quality;
- complete and accurate identification of the problem in a timely manner commensurate with its significance and ease of discovery;

- screening of items entered into the CAP, as necessary to determine the proper level of evaluation;
- identification and correction of: procurement document errors; deviations from procurement document requirements; defective items; poor workmanship; incorrect vendor instructions; significant recurring deficiencies at both vendor shops and on site; and generic procurement related deficiencies;
- identification and correction of design deficiencies (errors). For significant deficiencies, the procedure included determining the cause and instituting fixes to the design process and QA program to prevent recurrence of similar deficiencies;
- consideration of extent of condition, generic implications, common cause, and previous occurrences;
- classification and prioritization of the resolution of the problem commensurate with its safety significance;
- identification of root and contributing causes, as well as actions to preclude recurrence for significant conditions adverse to quality;
- identification of corrective actions that were appropriately focused to correct the problem;
- completion of corrective actions in a timely manner commensurate with the safety significance of the issue; and
- provisions for escalating to higher management those corrective actions that are not adequate or not timely.

Corrective action program procedures, documents and records were reviewed to determine whether the licensee and the EPC consortium were identifying conditions adverse to quality, evaluating identified conditions for significance and reportability, and implementing corrective actions to correct adverse conditions. 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 licensee and consortium 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 was established.

Trending

The inspectors reviewed a sample of licensee and EPC consortium implementing documents to determine whether they established adequate measures to implement the requirements of the licensee's QAPD related to the identification and resolution of adverse trends. The inspectors noted that Section 16, Corrective Action, of the licensee's QAPD, stated in part, that reports of conditions adverse to quality are analyzed to identify trends and that significant adverse trends were 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 into the trending process. The inspectors' assessment specifically evaluated whether each of three program's project management used performance assessment to perform 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 licensee and EPC consortium 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 into the CAP. The inspectors also reviewed the project's use of more formal, in-depth analysis of CAP data to determine whether the project 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 to determine whether the licensee and the EPC consortium adequately evaluated the data for potential adverse trends.

The inspectors also reviewed corrective action documents that the licensee and their contractors initiated to determine whether potential adverse trends were appropriately identified, evaluated, and corrected. Specifically, inspectors reviewed licensee condition report (CR) NND-12-00631, which documented the lack of an overall project related trend report. This condition report noted the lack of a project trend report was a repetitive, unresolved issue and was escalated to an adverse trend status. The inspectors reviewed corrective actions in progress to address the lack of trend data being provided from the consortium members. The inspectors also attended a presentation by consortium personnel which outlined progress to date, and allowed a forum for further discussion on the development of an overall project trend report.

Regulatory Treatment of Non-Safety Systems (RTNSS)

The inspectors reviewed the quality assurance program requirements in Part III of the licensee's QAPD for non-safety-related systems, structures, and components (SSCs) to determine whether the licensee established adequate corrective action program measures for the systems that were included in the RTNSS and Design Reliability Assurance Program requirements. Specifically, the inspectors reviewed CAP implementing procedures for the licensee and the EPC consortium 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 licensee and the EPC consortium's corrective action programs would apply to RTNSS systems. The inspectors noted that Section 1.0 of APP-GW-GAM-200 stated RTNSS was 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 quality assurance (QA) Category II applied to RTNSS SSCs.

The inspectors reviewed a sample of corrective action documents for both Shaw and WEC to determine if issues identified with RTNSS SSCs were appropriately captured and corrected.

b. Assessment

(1) Overall Assessment

The inspectors concluded that the licensee established adequate CAP implementing procedures and, overall, was effectively implementing those procedures. Overall, the licensee was adequately identifying issues at an appropriate threshold, prioritizing and evaluating those issues, and correcting the issues. Although the inspectors identified isolated instances where the licensee did not adequately implement portions of the program, those instances taken in context of the overall CAP did not represent a programmatic deficiency with the licensee's CAP. Specifically, the significance of each issue being of very low safety significance indicated that the licensee routinely identified and corrected conditions adverse to quality including significant conditions adverse to quality.

(2) Effectiveness of Problem Identification

The inspectors determined that the licensee was identifying conditions adverse to quality at an appropriate threshold. 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 licensee CRs, Shaw corrective action requests (CARs), and WEC IRs generally followed the implementing procedures and applicable corrective action program performance attributes. In general, adverse conditions identified under other programs, including QA audits, Shaw N&Ds, and Shaw quality inspection reports were appropriately handled in accordance with requirements.

Findings

No findings were identified.

(3) Effectiveness of Prioritization and Evaluation of Issues

Overall, the licensee was effectively prioritizing and evaluating issues entered into the CAP. The inspectors' reviewed a large sample of corrective action program entries by the licensee and the EPC consortium. They determined that each of the programs provided methods for prioritizing issues and developing technical evaluations of issues. The inspectors identified some instances in which the EPC consortium did not effectively evaluate and correct conditions adverse to quality. However, when taken in context of the number of samples reviewed, these failures did not represent a programmatic weakness in the CAP. In all cases, the licensee initiated corrective actions to address the inspectors' concerns.

Observations

The inspectors identified the following examples where the failure to properly evaluate concerns entered into the corrective action program contributed to the failure to develop comprehensive corrective actions.:

- Shaw CAR 2012-1146 documented a failure to establish an adequate procedure for the sampling and testing of safety related concrete constituents. No corrective actions were established to ensure that the procedure was properly revised. Shaw issued CAR 2012-1511 to address this issue.
- Shaw CAR 2010-08-05-743 corrective action plan did not address an identified condition in which multiple drawing errors occurred because designers had implemented construction drawings from unapproved and uncontrolled source documents. Shaw issued CAR 2012-1513 to address this issue.
- Shaw CAR 2010-12-15-982 reported that timely dispositions were not provided for two N&D reports. Shaw issued CAR 2012 1513 to address this issue.
- WEC issue report 12-017-M043 described the failure of a WEC supplier to complete all inspections on the chemical and volume control system nozzle. WEC determined that the supplier needed to conduct root cause analyses on these two issues. However, WEC closed this issue report without ensuring that the root cause analyses would be completed. WEC issued IR 12-313-C006 to address this issue.

Findings

.i Failure to Adequately Implement Procedure Guidance for Evaluating, Classifying, and Correcting Conditions Adverse to Quality

Introduction: The inspectors identified a Green technical finding and a cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to ensure that corrective action program activities affecting quality were accomplished in accordance with applicable procedures.

Description: The inspectors identified a concern where Shaw CAR 2010-12-08-971 was not categorized as a significant condition adverse to quality; however, the condition met procedure requirements for a significant condition adverse to quality. The condition described in the CAR disclosed that the most current versions of a number of E&DCRs and N&Ds were deleted from the electronic document management system (i.e. ShawDocs). The deletions were performed by individuals who should not have had permission to delete records.

The inspectors determined that the condition described in the CAR satisfied the criteria defined by procedure QS-16.5, Revision D, Attachment 3.1, to be classified as a significant condition adverse to quality. Specifically, the concern represented a condition

which if uncorrected, could have adversely affected an item or activity to the extent that safety or operability would be seriously affected.

The failure to characterize the condition as a significant condition adverse to quality precluded implementation of the applicable section 4.3.2 of procedure QS-16.5, which would have required more detailed evaluations, such as evaluating the extent of condition.

As identified in the CAR, the deletions of the most current versions of quality assurance documents resulted in the use of outdated versions to obtain design inputs for design products. The indeterminate status of documents and records affected by the condition could preclude the licensee from taking appropriate action on safety-significant matters, or from objectively or properly assessing, auditing, or otherwise evaluating safety-significant activities.

Analysis: The failure to follow procedures was a performance deficiency. This performance deficiency had greater than minor safety significance because it identified issues that, if left uncorrected, could render the quality of the construction activities 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 it did not impair the design function of a system or structure listed in the construction Significance Determination Process risk importance table. The inspectors determined that this finding was not associated with a construction cross-cutting aspect.

Enforcement: Criterion V of Appendix B to 10 CFR Part 50, requires, 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 licensee delegated overall project quality requirements for safety related activities to their contractors through Section 5.1, "Quality Assurance Program," of Article 5, "Quality Assurance", of the EPC Agreement. This agreement required, in part, that safety-related activities be performed in accordance with the quality requirements of 10 CFR Part 50, Appendix B, Criterion V.

Contrary to the above, since December 8, 2010, the licensee failed to accomplish activities affecting quality in accordance with applicable procedures. Specifically, an issue identified in Shaw CAR 2010-12-08-971, dated December 8, 2010, concerning a failure to maintain the integrity of quality-related engineering documents was not identified as a significant condition adverse to quality in accordance with procedure QS-16.5, "Corrective Action System," Revision D, and resulted in a failure to establish

actions to evaluate the extent and potential for adverse impact to activities that used the invalid documents.

This violation was evaluated under the risk significance determination process as having very low safety significance (Green). Because the licensee's corrective action program is not currently evaluated for effective implementation as guided by IMC 2505P, this violation is being treated as a cited violation (VIO) in the enclosed Notice of Violation, consistent with the NRC Enforcement Policy Section 2.3.2, and the temporary enforcement guidance outlined in EGM 11-006 (VIO 05200027/2012-005-02, 05200028/2012-005-02: Failure to adequately implement procedure guidance for evaluating, classifying, and correcting conditions adverse to quality).

The licensee issued CR NND-12-00793 to address this issue.

.ii Failure to Adequately Evaluate and Correct Conditions Adverse to Quality

Introduction: The inspectors identified a Green technical finding and cited violation for a failure to adequately correct conditions adverse to quality as required by 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," for the licensee's failure to ensure that conditions adverse to quality were corrected.

Description: The inspectors identified the following instances where the licensee did not implement corrective actions on a timely basis:

- Shaw CAR 2012-0239 identified an adverse programmatic practice where calculations performed by Shaw engineers were using uncontrolled design inputs provided by WEC. Action to stop this practice was not prompt considering that Shaw continued to perform calculations. The condition was identified in February 2011, but the corrective action to notify Shaw engineers of necessary measures to ensure the use of controlled design inputs was not implemented as of November 2012. Shaw issued CAR 2012-1510 to address this issue.
- Shaw CAR 2011-01-27-1040 identified a condition where quality-related documents issued by WEC did not include requirements of the applicable structural welding code. Shaw identified the condition as a Level 2 condition adverse to quality and transferred responsibility for developing corrective actions to WEC. WEC documented the issue in IR 11-11-241-M021 but failed to identify it as a condition adverse to quality. Both Shaw and WEC later closed the CAR and IR, respectively, without taking any actions to correct the identified condition. Shaw issued CARs 2012-1488 and 1489 to address this issue.
- Shaw CAR 2010-10-14-879 identified a condition adverse to quality where field engineers deviated from procedure when they authorized the installation of unapproved designs. Shaw failed to develop and implement corrective actions to

address the failure to follow procedure. Shaw issued CAR 2012-1513 to address this issue.

Based on these examples, the inspectors determined that the licensee did not ensure that prompt actions were taken to correct conditions adverse to quality as required by 10 CFR Part 50, Appendix B, Criterion XVI. The failure to promptly correct the identified conditions adverse to quality 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 failures to properly transfer tasks necessary for evaluation and correction of adverse conditions between the licensee and its contractors led to adverse conditions not being adequately evaluated and corrected.

Analysis: The failure to promptly correct conditions adverse to quality was a performance deficiency. This performance deficiency was determined to be greater than minor because the uncorrected conditions could render the quality of construction activities and installed items 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 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 had a construction cross cutting component aspect under the Corrective Action Program component of baseline inspection because the licensee failed to adequately evaluate conditions adverse to quality. The failure to evaluate the conditions directly contributed to the failure to promptly correct the conditions. [A.5(c)].

Enforcement: Criterion XVI of Appendix B to 10 CFR Part 50, 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 non-conformances are promptly identified and corrected.

The licensee delegated overall project quality requirements for safety related activities to their contractors through Section 5.1, "Quality Assurance Program," of Article 5, "Quality Assurance", of the EPC Agreement. This agreement required, in part, that safety-related activities be performed in accordance with the quality requirements of 10 CFR Part 50, Appendix B, Criterion XVI.

Contrary to the above, from August 5, 2010, to November 9, 2012, the licensee failed to establish measures to ensure that conditions adverse to quality identified in Shaw CARs 2010-10-14-879, 2011-01-27-1040, and 2012-0239, were promptly corrected.

This is a violation which was evaluated under the risk significance determination process as having very low safety significance (Green). Because the licensee's corrective action program is not currently evaluated for effective implementation as guided by IMC 2505P, this violation is being cited in the enclosed Notice of Violation, consistent with the NRC Enforcement Policy Section 2.3.2, and the temporary enforcement guidance outlined in EGM 11-006 (VIO 05200027/2012-005-03, 05200028/2012-005-03: Failure to adequately evaluate and correct conditions adverse to quality).

The licensee initiated CR NND-12-00792 to document this finding in their corrective action program.

(4) Effectiveness of Corrective Actions

The inspectors reviewed the licensee's and the EPC consortium's performance assessment programs for the CAPs to determine if the contractors were periodically analyzing performance information. The inspectors determined that the licensee and the EPC consortium were monitoring and trending corrective action program performance, and reporting the results to management.

Findings

No findings were identified.

.2 Assessment of the Use of Construction Experience

a. Inspection Scope

The inspectors reviewed the construction experience (CE) and operating experience (OE) implementing procedures for SCE&G (NDD-AP-0025, Construction Experience Program), Shaw (VCS – Knowledge Management Program), and WEC (APP-GW-GAP-136, NPP Organizational Learning); conducted interviews with responsible personnel from each organization; and sampled CE and OE reports to assess whether the reports received from both internal and external sources were properly handled with respect to whether items were conditions adverse to quality. The inspectors also verified that the licensee implemented an adequate process to collect, evaluate, document, and communicate both OE and CE information (including vendor recommendations and internally generated lessons learned) to affected internal stakeholders.

b. Assessment

The inspectors determined that the licensee and the EPC consortium established a process to collect, evaluate, and communicate internal and external OE and CE information, including vendor recommendations, internally generated lessons-learned, industry CE/OE, and NRC CE/OE, to affected internal stakeholders. The inspectors identified procedural links between the CE/OE programs and the CAP programs for the licensee and the EPC consortium. The inspectors also verified that the SCE&G CE/OE program identified the issues potentially applicable to the facility and effectively entered those issues into their CAP.

The program interfaced with the EPC consortium CE/OE programs to ensure that OE and CE information were entered into their programs so that appropriate knowledge and lessons learned were provided to the appropriate personnel performing the affected work. Shaw and WEC also had their own CE/OE programs which allowed applicable lessons learned to be evaluated and entered into their CAP programs by that method as well. Consequently, an external experience item had three entrance pathways to get into the collective programs of the licensee and the EPC consortium. Internally generated items were kept within the individual company (WEC or Shaw) if the item was not approved for external communication. Applicability between V.C. Summer and other AP1000 plants was handled within the associated CAP programs for that company. Once an item was entered into the Shaw or WEC CAP at another site it was immediately available to WEC or Shaw at V.C. Summer.

Findings

No findings were identified.

.3 Use of Self-Assessments and Audits

a. Inspection Scope

The inspectors evaluated the quality assurance audits completed by the licensee and the EPC consortium to verify if audit findings were documented and entered into the CAPs and resolutions were effectively evaluated. The inspectors reviewed licensee QA audit activities including audits of their CAP, audits of the QA programs managed by consortium members, QA surveillances, and also self-assessments performed by the licensee's line organization. Inspectors reviewed a sample of the CRs generated from the audits, surveillances, and self-assessments, as well as the associated resolutions to confirm the conditions adverse to quality were identified and corrected on a timely basis.

Because the licensee delegated virtually all construction activities to the EPC consortium, the licensee's problem identification opportunities were limited to oversight activities. Because 10 CFR 50, Appendix B, Criterion I allowed delegation of portions of the licensee's QA program to the EPC consortium, the inspectors also assessed the licensee's actions to determine if they adequately retained responsibility and were adequately assessing implementation effectiveness as required by Criteria I and II.

The inspectors reviewed Shaw audit activities, including QA audits and surveillance reports, to determine whether problems were being identified and whether the problems were being entered into the corrective action program for resolution.

The inspectors reviewed WEC audit activities, including licensee-specific QA audits and corporate wide corrective action program self-assessment, to determine if problems were being identified and whether the problems were being entered into the corrective action program for resolution.

b. Assessment

The inspectors determined the CAP audits and self-assessments provided an adequate assessment of the licensee's CAP. The inspectors' review determined the audits and

self-assessments, in general, were in accordance with procedures, and that the findings were entered into the CAP.

The inspectors found that the licensee assessed the QA program implementation effectiveness, for the portion of the QA program delegated to the EPC consortium, was achieved through audits, surveillances, and assessments. The inspectors were able to conclude that collectively, the audits, surveillances, and self-assessments provided reasonable oversight of the consortium implementation of the delegated portions of the QA program, and were adequate to conclude that problem identification opportunities were being provided in the delegated areas.

The inspectors concluded the oversight activities (audits, surveillances, and self-assessments) were effective in identifying problems and entering them into the corrective action program. The collective findings from the oversight activities were similar to the findings from this inspection.

Findings

No findings were identified.

.4 Safety Conscious Work Environment

a. Inspection Scope

The inspectors' evaluation of the environment for free expression of safety concerns included interviews of a cross section of employees in the consortium organizations, including representatives from craft workers, professional staff, and managers. In addition, corrective action program records and procedures were reviewed to evaluate the handling of concerns submitted from anonymous sources. Specifically, the inspectors reviewed entries received from anonymous sources to identify any issues that might hinder the willingness of individuals to identify issues within the corrective action program or allow for effective resolution.

b. Assessment

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.

Findings

No findings were identified.

1P02 Quality Assurance Implementation Semi-Annual Team Inspection (35007)

.1 Appendix 1, Inspection of Criterion I – Organization

a. Inspection Scope

The inspectors reviewed procedures related to the receipt inspection process and interviewed responsible staff to determine whether there was an adequate

understanding of their roles and responsibilities in performing activities to support the quality objectives of the QA program as described in QAPD. The interviews were also used to determine whether responsible staff were aware of the levels of management to which quality issues could be elevated. Specifically, the inspectors interviewed five personnel from Shaw including three receipt inspectors, the warehouse general foremen, and the warehouse manager.

The following inspection samples were completed:

- A1.03.02 - 5 samples (staff not assigned to conduct specific QA functions but who implement the licensee's QA program)

b. Findings

No findings were identified.

.2 Appendix 3. Inspection of Criterion III – Design Control

a. Inspection Scope

The inspectors reviewed a sample of the licensee's and WEC's QA implementing documents for 10 CFR 50 Appendix B Criteria 3, Design Control, and verified they were consistent with the licensee's QAPD, commitments in the UFSAR, and 10 CFR 50, Appendix B. The inspectors reviewed a sample of changes implemented on safety-related SSCs to ensure those changes were consistent with the requirements of NQA-1 and the QA program, and verified the design changes received the proper level of engineering review in accordance with licensee procedures.

The inspectors verified the design output documents met design requirements specified in the UFSAR and that the output documents were updated to reflect the design changes and material substitutions. The inspectors reviewed and verified that impacted design and licensing documents were updated with design changes in accordance with applicable procedures. For material substitutions, the inspectors verified that the applicable critical characteristics of the subject material were evaluated and appropriately documented in accordance with the applicable procedures.

The inspectors reviewed a design change associated with design change proposal (DCP) APP-GW-GEE-111, "Addition of Flow Skirt to the Reactor Vessel Lower head and Tapered Edge to Lower Core Support Plate," Revision 1; and a material substitution DCP APP-GW-GEE-396, "Change Cobalt Requirements for Reactor Vessel Internals, Small Parts, and Fasteners," Revision 0. The inspectors reviewed these design changes to determine if the affected documents were updated to reflect any changes, material substitutions, pre-service and in-service inspection impacts, and analyses. The inspectors also verified if the affected design documents remained applicable with valid design assumptions.

The inspectors reviewed a design change associated with E&DCR APP-ME02-GEF-028, "PRHR HX PSI Scope Change," Revision 0; and DCP APP-GW-GEE-604, "PRHR Heat Exchanger Inlet/Outlet Nozzle Length Change," Revision 0 to verify that the design change received the proper level of engineering, technical, and licensing review in accordance with licensee procedures; that the design and design changes were

incorporated into their respective documents in accordance with licensee procedures; and that applicable design and licensing documents were updated in accordance with licensee and WEC procedures.

The inspectors reviewed a material substitution associated with supplier deviation notice VSG-MV20-GNR-006, "Deviation Notice for VC Summer 2 & 3 Pressurizer Heater Weld Filler Material," Revision 0, and WEC's disposition as a requested field change to determine if the licensee and the EPC consortium provided the proper level of engineering review in accordance with procedures WEC 15.1, "Deviation Notices," Revision 0, and WEC 3.4.6, "Field Change Notice," Revision 0. The inspectors verified that affected design documents were reviewed to ensure their continued applicability and that all design input assumptions remained valid.

The inspectors reviewed a design change associated with E&DCRs APP-MV20-GEF-010, "AP1000 Pressurizer ADS Lug Design Change," Revision 0; and APP-MV20-GEF-016, "AP1000 Pressurizer Ring Girder and Q601 Interface," Revision 0. These E&DCRs were related to changes to the pressurizer ring girder, including changes to the postulated loading and resultant changes to the ADS support lugs and hardware. The inspectors also reviewed a materials substitution associated with DCP APP-GW-GEE-427, "AP1000 Accumulator Tank Upper and Lower Head Configuration Change," Revision 2, associated with a modification to the materials and fabrication of the PXS accumulators. The inspectors reviewed the E&DCRs and DCP to determine if the engineering changes received the proper level of engineering review in accordance with WEC APP-GW-GAP-420, "Engineering and Design Coordination Report," Revision 6, and WEC 3.4.1, "Change Control for the AP1000 Plant Program," Revision 0.1. The inspectors also reviewed the E&DCRs to determine if affected drawings and calculations were identified and that all design input assumptions remained valid and were not in conflict with the UFSAR.

The inspectors reviewed a design change associated with the addition of a course to the pressurizer shell section, as documented in DCP APP-GW-GEE-422, Revision 0. The inspectors reviewed the ASME design specification, generic ASME design reports, an associated calculation, and interviewed the ASME QA Manager. The inspectors verified that:

- replacement materials were compatible;
- the original design features affecting operations were unchanged;
- pressure boundary integrity and other licensing basis considerations were adequately addressed; and
- the change was adequately reviewed in accordance with WEC 3.4.1, Revision 0.1.

The inspectors reviewed a design change associated with the elimination of tensile testing of the reactor pressure vessel heat affected zone under the 10 CFR Part 50, Appendix H, "Materials Surveillance Program," as documented in E&DCR APP-MV01-GEF-095, Revision 0. The inspectors reviewed the ASME Design Specification, UFSAR, and associated industry standards. The inspectors verified that pressure boundary integrity and licensing basis considerations were adequately addressed. The inspectors verified that the change was adequately reviewed in accordance with WEC 3.4.1, Revision 0.1.

The following inspection samples were completed:

- A3.03.02 - 5 samples (design changes)
- A3.03.02 - 1 sample (field change)
- A3.03.02 - 3 samples (material substitution)

b. Findings

No findings were identified.

.3 Appendix 4, Inspection of Criterion IV – Procurement Document Control

a. Inspection Scope

The inspectors verified that a sample of licensee QA implementing documents for 10 CFR 50 Appendix B, Criteria IV, "Procurement Document Control," were consistent with the licensee's QAPD, commitments in the UFSAR, and 10 CFR 50, Appendix B. The inspectors reviewed applicable sections of the licensee's QAPD and UFSAR to ensure that appropriate implementing documents had been developed to address the QAPD requirements and UFSAR commitments for purchases of safety-related and risk significant items and services.

The inspectors verified that the implementing documents provided: scope of work; technical, regulatory, and administrative requirements; specific identification or traceability of services; hold points and acceptance requirements; access for audits; and identification of required documentation. The inspectors verified that the implementing documents contained requirements for the licensee's contractor to provide a QA program consistent with Appendix B to 10 CFR Part 50, requirements that the provisions of 10 CFR Part 21, and requirements for reporting and approving disposition of non-conformances applied to the purchase orders.

The inspectors also verified applicable sections of the QAPD and implementing documents provided measures for control of activities including initiation of procurement documents and appropriate review, and approval, of specifications and procurement documents.

The inspectors reviewed the purchase orders (POs) listed below to determine whether the procurement documents were prepared in accordance with implementing documents, services were purchased from qualified contractors, and procurement documents contained requirements for the contractor to provide appropriate documentation of quality, procurement documents were maintained in a document control program, and if specifications differing from the original design documents were reviewed and approved by qualified technical personnel. The inspectors also reviewed the approval of changes to procurement documents in order to determine if they were completed by the same individual/organization that approved the original document, unless another qualified organization was formally designated.

- PO number 4500274164, Pressurizer;
- PO number 4500273230, PXS Accumulator;

- PO number 4500266008, Reactor Vessel; and
- PO number 4500274210, PRHR Heat Exchanger.

The following inspection samples were completed:

- A4.03.02 - 4 samples

b. Findings

No findings were identified.

.4 Appendix 7, Inspection of Criterion VII – Control of Purchased Material, Equipment, and Services

a. Inspection Scope

The inspectors reviewed implementing procedures, interviewed responsible personnel, and conducted field observations to verify the adequacy of controls for the evaluation, selection, and the placement of suppliers on the WEC qualified suppliers list for safety-related items. The inspectors also examined receipt inspection records to verify the acceptance of purchased items delivered to the plant site to ensure specified technical and quality requirements were met.

The inspectors reviewed WEC implementing documents WEC 7.1, "Supplier Qualification and Assessment," Revision 3.2; and QA-7.5, "Quality Releases," Revision 3 to ensure the requirements of the QAPD and commitments in the UFSAR were adequately addressed. Supplier audit packages WES-2012-017, "Senior Flexonics Pathway Audit Package," and WES-2012-102, "FlawTech Inc. Audit Package" were reviewed to verify the addition and removal of suppliers on the qualified suppliers list were conducted in accordance with the prescribed implementing procedures. The inspectors evaluated Quality Releases QR-12-2033, "8" Gate Valves," Revision 0 and QR-12-963, "Reactor Coolant Loop/Surge Lines," Revision 0 to verify if the items were received from a qualified supplier, conformed to the requirements specified in the procurement documents, accepted by qualified personnel, and tagged appropriately.

The following inspection samples were completed:

- A7.03.01 - 2 samples
- A7.03.02c - 2 samples
- A7.03.02d - 2 samples

b. Findings

No findings were identified.

.5 Appendix 8, Inspection of Criterion VIII – Identification and Control of Materials, Parts and Components

a. Inspection Scope

The inspectors reviewed measures for the identification and control of safety-related items that were received on-site by WEC and procured under POs 4500315849 (8" gate valves) and 4500269783 (reactor coolant system loop piping). The inspectors conducted field observations of the stored items to ensure that the requirements of WEC implementing procedure WEC 8.1, "Identification and Control of Items," Revision 1 were met.

The inspectors reviewed associated documentation including contingent quality release CQR-678, Revision 0 and CQR-761, Revision 0 to ensure the items were properly identified. The items were observed in storage in order to verify the use of physical markings including equipment tags and corresponding hold tags referencing the appropriate contingent quality release. The inspectors also reviewed equipment preservation check records to ensure that items needing preventive maintenance while in storage were properly identified and captured on surveillance schedules.

The following inspection samples were completed:

- A8.03.02 - 2 samples

b. Findings

No findings were identified.

.6 Appendix 15, Inspection of Criterion XV – Nonconforming Materials, Parts, or Components

a. Inspection Scope

The inspectors reviewed applicable sections of the UFSAR and the WEC QAPD related to nonconforming items to determine if the implementing documents were consistent with the QAPD and 10 CFR 50 Appendix B, and if they had established adequate measures to control nonconforming materials, parts, and components. The inspectors observed components in the warehouse to verify implementation of measures to ensure control of nonconforming materials, parts, and components. The inspectors verified that nonconforming items were segregated to prevent their inadvertent use. The inspectors reviewed nonconformance report, NCR 1390, from the WEC vendor, Mangiarotti, to determine if WEC provided adequate oversight of their supplier. The report was also reviewed to confirm that identified deficiencies were documented and properly dispositioned in accordance with WEC procedures.

The following inspection samples were completed:

- A15.03.02 - 2 samples (nonconforming items in storage)

b. Findings

No findings were identified.

1P03 Quality Assurance Implementation, Appendix 6, Inspection of Criterion VI – Document Control (35007)

a. Inspection Scope

The inspectors walked down work activities associated with unit 3 dental and backfill concrete. The inspectors reviewed two controlled work packages to determine if the licensee implemented their processes to review, approve, revise, and issue the associated documents in accordance with QAPD requirements. Specifically, the inspectors reviewed VS3-1000-CCW-001, "Unit 3 Nuclear Island Dental Concrete," Revision 0, and VS3-1000-CCW-002, "Unit 3 Nuclear Island Backfill Concrete," Revision 0. The inspectors verified all the required E&DCRs, N&Ds, concrete pour cards, and requests for information documentation were contained in these work packages. The inspectors also verified abandoned-in-place construction aides, such as rebar, formwork, and temperature couple wiring instrumentation were located and constructed as specified in work packages.

The inspectors also reviewed the above work packages to verify if the document evaluation list, technical document list, and impact evaluation lists were in compliance with work package control procedure NCSP 2-19, Revision 1. The inspectors also reviewed the work packages to determine if they contained, as applicable, the required drawings, specifications, E&DCRs, N&Ds, and requests for information. The samples were reviewed to determine if the access to documents and any paper copy documents were indicated as controlled documents at the work location. The inspectors performed this review to determine if:

- controlled documents had the proper documents and revisions listed and present in each work package;
- controlled documents were reviewed and approved by independent, authorized personnel;
- the reviews required by the implementing documents were conducted;
- documents were reviewed and approved by the same organization that originally reviewed and approved the documents unless otherwise noted; and
- the controlled installation documents were made available promptly to construction personnel.

The inspectors reviewed applicable sections of the licensee's and the EPC consortium's QAPDs and relevant document control procedures. The inspectors reviewed work control packages for a fill concrete placement for the Unit 3 nuclear island basemat. The inspectors verified documents were handled and processed in accordance with approved procedures.

The inspectors interviewed responsible staff concerning the document control system. The inspectors interviewed field personnel to determine whether personnel using designated work packages had the most current controlled implementing documents needed to conduct the concrete placement activity to ensure consistency and technical

adequacy. The inspectors reviewed a selected sample of implementing documents to determine whether the following requirements were addressed:

- documents were reviewed for adequacy, completeness, and correctness by designated personnel other than the preparer of the documents;
- documents were approved by designated personnel other than the preparer of the documents;
- documents were approved for release by authorized personnel;
- documents were issued with a unique identification and revision status and placed under document control; and
- current revisions of documents were made available where the prescribed activity is being performed to ensure staff uses the most recent controlled documents.

The inspectors reviewed the following work packages and documents that Shaw used to prescribe the activities affecting the quality of the installation activities:

- VS3-1000-CCW-00, Revision 0, "Nuclear Island Backfill Concrete Unit 3;"
- NCSP 2-19-1, "Work Package Planning, Development, Approval, and Closure;"
- CSI 2-19-6, "Work Package Planning, Development, Approval, and Closure;" and
- QS 10.66, "Work Packaging."

The inspectors performed these reviews to determine if:

- controlling documents in the work package were adhered to by personnel performing concrete placement activities affecting quality;
- installation documents were made available to construction personnel; and
- work affecting quality was conducted in accordance with current revisions of approved documents.

The following inspection samples were completed:

- A6.03.01 - 1 sample; and
- A6.03.02 - 3 samples.

b. Findings

No findings were identified.

1P04 Quality Assurance Implementation, Appendix 9, Inspection of Criterion IX – Control of Special Processes (35007)

a. Inspection Scope

The inspectors reviewed the concrete batch plant laboratory certifications, laboratory personnel qualifications, specifications, procedures, and E&DCR's associated with a zone B unit 3 nuclear island fill concrete placement. The inspectors observed batch plant operations of the batch plant to establish compliance with WEC design specification APP-CC01-Z0-027.

The inspectors observed in-process testing for slump, air content, unit weight, density, and concrete temperature associated with this placement. The inspectors observed the preparation and transportation of the concrete cylinder, and interviewed personnel performing in-process field testing to determine if the proper controls were being implemented as specified by applicable procedures.

The following inspection samples were completed:

- A9.03 - 2 samples

b. Findings

No findings were identified.

1P05 Quality Assurance Implementation, Appendix 10, Inspection of Criterion X – Inspection (35007)

a. Inspection Scope

The inspectors observed the placement of dental and fill concrete to determine if the proper documentation was readily available to personnel performing the inspections, and that proper inspection techniques were being used. The inspectors interviewed licensee quality control inspectors and examined a sample of inspection records to determine whether inspection results were properly documented.

The inspectors reviewed work packages VS3-1000-CCW-001, "Nuclear Island Dental Concrete," Revision 0 and VS3-1000-CCW-002, "Unit 3 Nuclear Island Backfill Concrete," Revision 0, related to the dental and fill concrete placement. The inspectors directly observed the following concrete placement and associated inspection activities conducted by the licensee:

- concrete slump test;
- concrete air content test;
- concrete temperature test;
- concrete density test;
- test cylinder pours;
- test cylinder curing box setup and monitoring;
- concrete curing methods;
- concrete dropchute height; and
- concrete consolidation.

The inspectors reviewed implementing documents to determine whether they were developed to address the QAPD requirements and UFSAR commitments for conducting inspections of the unit 3 nuclear island fill concrete placement. Specifically, the inspectors reviewed work instructions and procedures to determine whether the licensee's documents established adequate measures to provide for the following:

- examinations and measurements for each work operation, where necessary;
- methods/documents used to perform inspections and were documented adequately;

- frequency and/or timing of inspections;
- acceptance criteria;
- qualified inspection personnel and those who perform and supervise the work; and
- monitoring of process methods.

The following inspection samples were completed:

- A10.03.02 – 2 completed inspection samples

b. Findings

No findings were identified.

1P06 Quality Assurance Implementation, Appendix 12, Inspection of Criterion XII – Control of Measuring and Test Equipment (35007)

a. Inspection Scope

The inspectors examined measuring and test equipment being used for unit 3 nuclear island backfill concrete placements by licensee personnel to determine if it met the requirements of the implementing documents shown below:

- measuring and test equipment was calibrated within specified calibration interval;
- accuracy was within specified limits; and
- documentation and test/inspection results were traceable to measuring and test equipment being verified.

Specifically, the inspectors examined the following measuring and test equipment and associated documentation:

- ID 15571 – moisture meter;
- ID 54991 – weight scale;
- ID 63812 – thermometer;
- ID 15603 – slump cone;
- ID 15611 – slump cone;
- ID 15581 – moisture meter;
- ID 54990 – weight scale; and
- ID 54747 – thermometer.

The following inspection samples were completed:

- A12.04.02 - 2 samples.

b. Findings

No findings were identified.

1P07 Quality Assurance Implementation, Appendix 13, Inspection of Criterion XIII – Handling, Storage, and Shipping (35007)

a. Inspection Scope

During field installation activities, the inspectors toured the site level D laydown areas to determine whether the items were being stored in accordance with NQA-1-1994, subpart 2.2, level D storage requirements. The inspectors observed material storage areas containing concrete, reinforcing steel, embed plates, and reinforcing steel couplers to determine if:

- items were stored in an area marked and designated for storage;
- designated storage area was well drained;
- designated storage area was reasonably removed from the actual construction area and traffic; and
- items were stored on cribbing or equivalent.

The following inspection samples were completed:

- A13.03.02a - 1 sample; and
- A13.04.02 - 1 sample.

b. Findings

No findings were identified.

1P08 Quality Assurance Implementation, Appendix 16, Inspection of Criterion XVI – Corrective Actions (35007)

.1 Routine Review of Items Entered into the Corrective Action Program

As part of the various inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during inspection activities and plant status reviews to verify they were being entered into the licensee's corrective action program at an appropriate threshold, adequate attention was being given to timely corrective actions, and adverse trends were identified and addressed. Attributes reviewed included: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

The inspectors performed routine screenings of issues entered into the licensee's and the EPC consortium's corrective action programs to determine if conditions adverse to quality were controlled in accordance with the quality assurance program and if potential adverse trends were appropriately identified and corrected by the licensee or the EPC consortium.

Specifically, the inspectors screened items entered into the corrective action program by:

- attending weekly issue review committee meetings at the site;
- reviewing corrective action program database entries; and
- examining paper copies of corrective action documents.

The inspectors verified that the licensee and the EPC consortium:

- identified and implemented corrective actions commensurate with the significance of the issue; and
- were identifying equipment, human performance, and program issues at an appropriate threshold and entered into their respective CAPs.

The inspectors selected a sample of the routine CAP issues to verify that the licensee appropriately classified the issues and had taken appropriate short-term corrective actions.

b. Findings

No findings were identified.

.3 Selected Issues for Follow-Up Inspection

a. Inspection Scope

The inspectors selected a sample of issues entered in the licensee's and the EPC consortium's corrective action programs to determine if the issues were dispositioned consistent with the applicable QAPD requirements and 10 CFR 50, Appendix B. The inspectors reviewed the corrective action documents referenced above to determine if:

- 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:
 - the cause was determined;
 - corrective actions were taken to prevent recurrence; and
 - the cause and corrective actions taken were documented and reported to appropriate levels of management.
- conditions were appropriately screened;

- the organization properly evaluated and reported the condition in accordance with 10 CFR 50.55(e) and 10 CFR 21;
- the identification and correction of design deficiencies were being adequately addressed;
- extent of condition was being adequately addressed; and
- appropriate corrective actions were developed and implemented.

Specifically, the inspectors reviewed the following corrective action documents:

- CR NND-12-00499;
- CR NND-12-00583;
- CR NND-12-00635;
- CAR 2012-0874;
- Root Cause Analysis Report - CAR 2012-0874;
- CAR 2012-1237;
- ACE 2012-1237;
- CAR 2012-1304;
- CAR 2012-1483;
- IR 12-216-M010; and
- IR 12-338-M066.

The following inspection samples were completed:

- A16.03.02 - 2 samples; and
- A16.04.02 - 2 samples.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA3 Follow-up of Licensee Reports and NOV's

.1 (Closed) VIO 05200027/2012-003-02, 05200028/2012-003-02, Failure to Establish an Adequate Authentication Process for Records in Electronic Media

The inspectors reviewed the licensee's corrective actions and commitments to correct the violation number 05200027/2012-003-02, 05200028/2012-003-02, (ML12219A188). The violation was associated with records converted into electronic format that were insufficient to furnish evidence of activities affecting quality. Specifically, QSI-17.1, "Quality Assurance Records Processing," Revision C, did not provide sufficient measures to ensure that all pages contained in document packages were exactly in accordance with the source document.

The purpose of this inspection was to determine whether the licensee's corrective actions associated with the commitments made in their supplemental response to the Notice of Violation, dated September 26, 2012, (ML12272A160), were met and adequately corrected the issues identified by the aforementioned Notice.

The inspectors reviewed the licensee's and the EPC consortium's corrective actions. Corrective actions reviewed included revisions to the procedure QSI-17.1, briefing records for QA/QC and Shaw Quality Services personnel regarding handing of quality related documents, results of a document review conducted to identify additional discrepancies between hard and electronic copies of documents, and a review of Nuclear Information and Records Management Association guideline TG11-1998 versus QSI 17.1, Revision G. The inspectors confirmed that QSI-17.1, Revision G, met the guidelines contained in TG11-1998.

The inspectors determined that the stated corrective actions implemented by the licensee adequately corrected violation 05200027/2012-003-02, and 05200028/2012-003-02. This violation is closed.

4OA6 Management Meetings

.1 Exit Meeting Summary

On January 10, 2013, the inspectors presented the inspection results to Mr. R. Jones, Vice President - New Nuclear Operations, along with other licensee and consortium staff members. The inspectors stated that no proprietary information would be included in the inspection report.

KEY POINTS OF CONTACT

Licenses and Contractor Personnel

B. Barwick, SCE&G Licensing
C. Baucom, Shaw, Licensing & Regulatory Compliance
J. Beebe, Shaw, Warehouse Manager
K. Brown, Shaw, Preventive Maintenance Engineer
M. Burley, WEC Principal Quality Engineer
M. Corletti, WEC, Technical Projects
L. Cunningham, SCE&G QA manager
D. Doyle, WEC Site Quality Assurance Manager
R. Driscoll, WEC site Quality Assurance Manager
D. Jaynes, Shaw, Warehouse General Foreman
J. Johnson, Shaw Quality Assurance Manager
R. Jones, SCE&G Vice President – New Nuclear Operations
D. Marcelli, Shaw Project Manager
B. McIntyre, Westinghouse
J. McLaughlin, Shaw, Corrective Action Program Manager
A. Paglia, SCE&G Licensing Manager
J. Smith, Shaw, Project Engineering Manager
B. Stokes, SCE&G Engineering Manager
R. Thompson, SCE&G ITAAC Team Supervisor
A. Torres, SCE&G General Manager – Nuclear Plant Construction
A. Vargas, Shaw, Preventive Maintenance Manager
B. Wood, Site Engineering Manager
R. Word, SCE&G Manager Organizational Development & Performance

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05200027/2012-005-01, 05200028/2012-005-01	URI	Design Control and Open Items for the Basemat (Sections 1A01, 1A02, and 1A03)
05200027/2012005-002, 05200028/2012005-002	VIO	Failure to adequately implement procedure guidance for evaluating, classifying, and correcting conditions adverse to quality (Section 1P01(3).i)
05200027/2012005-003, 05200028/2012005-003	VIO	Failure to adequately evaluate and correct conditions adverse to quality (Section 1P01(3).ii)

Closed

05200027/2012-003-02, 05200028/2012-003-02	VIO	Failure to Establish an Adequate Authentication Process for Records in Electronic Media (Section 4OA3.1)
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Discussed

None.

LIST OF DOCUMENTS REVIEWED

Sections 1A01, 1A02, and 1A03:

Procedures:

NCSP 3-42-1, Reinforcing Steel Installation

APP-GW-VH-001, Rev. 0, AP1000 Site Receiving, inspection, and Storage Requirements for System Materials and Equipment

Drawings:

APP-0000-C9-001, Rev. 7, AP1000 Concrete General Notes

APP-0000-C9-002, Rev. 4, AP1000 Concrete General Notes

APP-1000-CR-002, Rev. 6, Nuclear Island Basemat Top Reinforcement

APP-1000-CR-901, Rev. 10, Nuclear Island Basemat Reinforcement Sections

APP-1000-CR-904, Rev. 6, Nuclear Island Basemat Reinforcement Section Details

APP-1010-CR-003, Rev. 2, Nuclear Island Basemat Dowel Plan at El. 66'-6" Shield Building Southwest Quadrant

APP-1010-CR-011, Rev. 3, Nuclear Island Basemat Reinforcement Sections & Details

APP-1210-CR-901, Rev. 5, Auxiliary Building Basemat Reinforcement Sections NS and Details El 66'-6"

APP-1210-CR-902, Rev. 5, Auxiliary Building Basemat Reinforcement Sections EW and Details El 66'-6"

APP-1211-CE-001, Rev. 6, Auxiliary Building Area 1 Battery Racks Embedment Plate Locations Room 12104 – Plan at El. 66'-6"

APP-1215-CE-006, Rev. 5, Auxiliary Building Area El. 66'-6" CA20 Basemat Interface Embedment & Recess Locations

NIB-B-11 Nuclear Island Basemat Bottom Reinforcement - Layer 3

NIB-T-01 Nuclear Island Basemat Top Reinforcement – Layer 4

NIB-T-05 Nuclear Island Basemat Top Reinforcement – Layer 5

Specifications:

APP-SS01-Z0-003, Rev. 3, Embedded and Miscellaneous Steel, Westinghouse Safety Class C

Miscellaneous:

APP-GW-IT-001, Rev. 0, Guidelines for Concrete Wall and Slab Thickness Measurements

C112-12-0313, FNC/ Unit 2 Reinforcing Steel Installation

APP-1000-GEF-033, Rev. 0, Changes to Basemat Reinforcement Drawings

VS2-1000-GEF-000075, Rev. 0, FNC-Cold Joint Contingency Plan

APP-1010-GEF-040, Rev. 0, FNC Update of Basemat Dowel Location

APP-1010-GEF-018, Rev. 0, Correction to Shield Building Dowels

VS2-1200-GEF-000040, rev. 0, FNC- N&S Truss Modification

VS2-CA20-GEF-000044, Rev. 0, FNC- CA20 Embed/formwork Coupler

132177-J400-00-405-004-D011, #5, #8, and #11 Rebar

132177-J400-00-405-004-D008, #8, #11, and #14 Rebar

VS2-1000-GEF-000052, Rev. 0, NI Basemat Embedded Plate Supports

VS2-1000-GEF-000070: APP-1000-CR-001 Drawing Revision, Rev. 0

VS2-1000-GEF-000065: Layer 3 Dimension Change, Rev. 0

VS2-1000-GEF-000069: APP-1000-CR-910 Drawing Revision, Rev. 0

VS2-1000-GEF-000039: CA-20 Embed Plate Support Detail, Rev. 0

VS2-1000-GEF-000064: CA-20 Plate Support on South Truss, Rev. 0

MRR-05640, Heat No. V911779, Rebar Size 14

MRR-05735, Heat No. K100610, Rebar Size 11
 MRR-05641, Heat No.V911785
 MRR-12-09056, Purchase Order: J400

Section 1A04:

Corrective Action / Nonconformance Records:

N&D VCS-ND-12-0263

Drawings:

APP-CA20-S5-04004, "Auxiliary Building Areas 5 & 6 Module CA20 Sub-module CA20-04 Structural Outline Vertical Sections / Views," Rev. 6
 APP-CA20-S5-04005, "Auxiliary Building Areas 5 & 6 Module CA20 Sub-module CA20-04 Structural Outline Specific Details Sheet 1," Rev. 6

Miscellaneous:

VS2-CA20-S4W-01001, "CA20 Sub-Assembly 1 Fabrication Repair Work," Rev. 0
 VS2-CA20-S5W-02030, "CA20_02 to CA20_03 Wall Submodule Assembly," Rev. 0
 APP-VW01-Z0-001, "Structural Module Shear Stud Welding Specification," Rev. 2
 WPS2-1.1M71, "GMAW of AWS D1.1, Group 1 Carbon Steel Materials," Revision 0
 WPS6-1.1M02, "Pulsed GMAW of A108 1010-1020 Studs to AWS Group I, II or III A572-60 per AWS D1.1", Revision 1
 GWS-6, "Stud Welding – General Welding Specification," Revision 0

Section 1P01:

Procedures:

NND-AP-0002, Corrective Action and Trending Program, Rev. 11
 NND-AP-0015, Cause Determination, Rev. 5
 NNDG-0008, Cause Determination Guidelines, Rev. 2
 NND-AP-0010, NND QA Audit/Surveillance, QA Program Effectiveness Review, and QA Plan Review Programs, Revision 6
 NNDG-ES-0001, Design Document Reviews, Rev. 4
 NND-AP-0801, Corrective Action Interface
 NCAP 3.1 R000, Experience/Lessons Learned Program
 APP-GW-GAP-136, NPP Organizational Learning
 QS 15.1, Nonconformance & Disposition Report, Rev. 002
 QS 16.5, Corrective Action System, Rev. D
 QSI 17.1, Quality Assurance Records Processing, Rev. 002
 WEC 16.2, Corrective Action Process, Rev. 4.1
 WEC 16.3, Corrective Action Board, Rev. 2
 WEC 16.5, Apparent Cause Analysis, Rev. 16.5
 WEC 16.9, Trending Process, Rev. 1.3
 WEC 21.0, Identification and Reporting of Conditions Adverse to Nuclear Safety, Rev. 7.1

Audits, Assessments and Surveillances:

NND-QA-201004, Corrective Action Program Audit
 NND-AUD-201102-0, Corrective Action
 NND-AUD-201201-0, Construction Audit
 NND-AUD-201203-0, Corrective Action Program
 NND-QA-2012-08, Corrective Action Program (Shaw)
 SA-11-ES-02, Consortium Design Change and Configuration Control Process
 SA-12-CON-03, Shaw Welding Program

SA-12-DE-04, Design Change and Configuration Control
 SA-12-OR-01, Construction Security and Access/Fitness-for-Duty Program(s)
 SA-12-DE-05, Evaluation of Consortium Configuration Management Practices
 Engineering detailed observations for 2012
 SCE&G Audit Schedules
 Shaw QA Audits: 2011-11, 2012-05, 2012-10,
 Shaw QA surveillances: S-132177-2011-012, -015, S-132177-2012-0183, -095
 Shaw QA Inspection Reports: 132177-D100.00-405-004-0001, J400-00-405-004-001, C111-11-0011, C113-12-0066, M330-12-0002, Q445-11-0273, Q445-12-0225, Q445-12-0294, Q445-12-0395, Q445-12-0766, S511-11-0008, S-511-12-0072, S534-12-0006, S534-12-0014
 WEC Audit: 11-62
 SCE&G DCP review listing for 2008 till present
 SCE&G's Westinghouse/Shaw design review schedule 2010 to present
 SCE&G's Engineering Good catches for 2011 & 12
 WEC self-assessment: WEC-12-04

SCE&G Condition Reports, Corrective Action Reviews, and Technical Evaluations:

CR 11-0195
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IR 12-312-C020
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CAR 2010-09-16-823
CAR 2010-09-17-826
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VCS-ND-12-0293
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Corrective Action Program Trend Reports:

Examples of Westinghouse Trending PI&R Inspection VC Summer 2 & 3 11-7-2012
 Westinghouse CAPs Diagnostic Trends
 Westinghouse FY11 Diagnostics

SCE&G Problem Identification Program Reports:

PIP 0-L-10-0152
 PIP 0-L-12-0010
 PIP 0-L-12-0012
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 PIP 0-L-12-0099
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WEC, APP-PL01-Z0-200, Reactor Coolant Loop Seamless Forged and Formed Pipe
 Fabrication, Rev. 4
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WEC, WES-2012-017, Senior Flexonics Pathway Audit Package, 03/01/2012
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WEC, APP-MI01-V6-539, AP1000 Reactor Internals Roto-Lock Insert Details, Rev 0, 1 and 2

WEC APP-MI01-V6-218, AP1000 Reactor Internals Core Shroud locking Cup and Pin, Rev 1

WEC APP-MI01-V6-542, AP1000 Reactor Internals .750 Locking Cup, Rev 1

WEC APP-MI01-V6-133, AP1000 Reactor Internals Head and Vessel Alignment Pin Dowel Pin, Rev 1

WEC APP-MI01-V2-340, AP1000 Reactor Vessel Flow Skirt Final Machining, Rev 7

WEC APP-MI01-V2-341, AP1000 Reactor Vessel Flow Skirt Final Machining, Rev 0

WEC APP-MV01-V2-003, AP1000 Reactor Vessel and Closure Head Assembly Elevation Thru Inlet Nozzles, Rev 0 and Rev 1

WEC, APP-EH20-V2-101, AP1000 Pressurizer Heater Assembly, Rev 1

WEC, APP-MT02-V2-001, Accumulator Tank Assembly Drawing, Rev 1 and 2

WEC, APP-MT02-V2-002, Accumulator Tank Taps and Connections Assembly Drawing, Rev 1 and 2

WEC, APP-MV20-V2-002, AP1000 Pressurizer Complete Assembly, Rev 3

WEC, APP-MV20-V2-004, AP1000 Pressurizer Upper Head and Upper Shell Assembly, Rev 1 and 2

WEC, APP-PH01-V2-005, AP1000 Pressurizer Upper Support Ring Girder Final Machining and Welding, Rev 0 and 1

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 WEC 7.5, Control of Purchased Items and Service, Rev 4.0
 WEC, APP-GW-GAP-006, AP1000 Technical Release packages and Released Document Lists, Rev 4
 WEC, APP-GW-GAP-434, AP1000 Nuclear Power Plant Change Notice Procedure, Rev 0
 NF 15.3, Control of Non-conformances, Rev. 1
 WEC 3.2.6, Design Analysis, Rev. 0.0
 WEC 3.2.7, Design Process, Rev. 0.1
 WEC 4.1, Customer Order Process/Work Authorization, Rev. 2.0
 WEC 15.1, Deviation Notices, Rev. 0
 NND-AP-0200, Reporting of Defects and Noncompliance under 10CFR 21 and 10CFR 50.55(e), Rev. 0
 QS 15.1, Nonconformance and Disposition Report, Rev. 2
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 WEC 3.4.6, Field Change Notice, Rev 0

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WEC, APP-GW-GEE-111, Addition of Flow Skirt to the Reactor Vessel Lower head and Tapered Edge to Lower Core Support Plate, Rev 1
 WEC, APP-GW-GEE-396, Change Cobalt Requirements for Reactor Vessel Internals Small Parts and Fasteners, Rev 0
 WEC, APP-GW-GEE-427, AP1000 Accumulator Tank Upper and Lower Head Configuration Change, Rev 2
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 WEC, APP-MV01-GEF-010, Design Change Request to Allow the Use of SA-540, Grade B24, Class 3 for the AP1000 Reactor Vessel Closure Stud, Nut and Washer, Rev 0
 WEC, APP-MV01-GEF-011, Design Change Request to Increase Machining Length on Outside Surface of Guide Stud support Block Prior to Cladding, Rev 0
 WEC, APP-MV01-GEF-013, Design Change Request to Allow Excess Material on RV Lower Shell Forgings to Exceed $\frac{3}{4}$ " Over Finished Size, Rev 0
 WEC, APP-MV01-GEF-014, Design Change Request to Reduce Cladding Depth Inside of Stud Hole, Rev 0
 WEC, APP-MV01-GEF-015, Design Change Request to Reduce Cladding Depth on Inside of Guide Stud Hole, Rev 0
 WEC, APP-MV01-GEF-016, Design Change Request to Allow Different PWHT Times Than Defined in Weld procedure Specification, Rev 0

WEC, APP-MV01-GEF-017, Design Change Request to Modify Dimensions Between Centerline of Monitor Tubes and Upper Vessel Sealing Surface, Rev 0
 WEC, APP-MV01-GEF-018, Design Change Request to Modify Tolerance of Guide Stud Bracket Length Prior to Welding Onto Closure Head, Rev 0
 WEC, APP-MV01-GEF-019, Design Change Request to Increase Length and Thickness of IHP Support pad and IHP Support With Lifting Lug, Rev 0
 WEC, APP-MV01-GEF-020, Design Change Request to Reduce Side Length of IHP Support Lift Lug and Gusset Prior to Welding Onto Closure Head, Rev 0
 WEC, APP-MV01-GEF-021, Design Change Request to Modify Requirements for MT Examinations of Guide Stud Support Block Welds, Rev 0
 WEC, APP-MV01-GEF-023, Design Change Request to Modify Maximum Marking Depth Requirement on APP-MV01-V6-721, Rev 0
 WEC, APP-MV01-GEF-024, Addition of Parallel Tolerance for the Top Surface of the Closure Head Flange Relative to the Final Closure Head Mating Surface on APP-MV01-V6-102, Detail E, Step 2, Rev 0
 WEC, APP-MV01-GEF-025, Design Change Request to Modify Tolerance on Bend Radius for APP-MV01-V6-125, Rev 0
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 WEC, APP-MV01-GEF-037, Clarification of applicable Welding Material Specifications for Doosan AP1000 Reactor Vessel Contracts, Rev 0

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 4500273230, PXS Accumulator
 4500274210, PRHR Heat Exchanger
 4500315849, 8" Gate Valves
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 WEC, VSG-MV01-VFX-001, AP1000 Reactor Vessel Released Document List for V.C. Summer Unit 2 & 3, Rev 0, 12, 14, 26, and 27
 WEC, APP-MV01-VMR-001, AP1000 Component ISI Inspectability Assessment: Reactor Pressure Vessel & Reactor pressure Vessel Head, Rev 0
 WEC, APP-MI01-Z0-370, AP1000 Reactor Vessel Flow Skirt (RVFS) Design Specification, Rev 1
 WEC, PDR-07-06-75, AP1000 Design Review Action Item – Flow Skirt
 WEC, PDR-07-06-76, AP1000 Design Review Action Item – Lower Shell to Lower Shell-to-Head Transition Weld
 WEC, APP-ME02-Z0-101, AP1000 Passive Residual Heat Removal Heat Exchanger, Rev. 06
 WEC, APP-ME02-VFX-002, AP1000 PRHR Hx Released Document List, Rev. 07

WEC, APP-ME02-Z0C-007, AP1000 PRHR Hx Header Nozzle Analysis, Rev. 0
 WEC, APP-PH01-Z0R-001, AP1000 Pressurizer Upper Support Bracket Analysis, Rev 1,
 WEC, APP-PH01-Z0R-002, AP1000 Pressurizer Support Analysis, Rev 1
 WEC, APP-SS30-Z0-001, RCS Primary Equipment Supports, Rev 2
 WEC, APP-VW20-Z0-092, AP1000 Filler Metal Specification: SFA-5.9 Class ER316L/EC316L
 Bare Stainless Steel Material for GTAW, PAW or GTAW of ASME Section III Applications,
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 WEC, APP-MV20, Z0R-101, AP1000 Pressurizer ASME Generic Design Report, Rev 1
 WEC, APP-RCS-M8-003, AP1000 Pressurizer Interface Control Document (ICD), Rev 2
 WEC, APP-MV01-Z0-101, Design Specification for AP1000 Reactor Vessel for System: Reactor
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 WEC, APP-RCS-M3C-017, AP1000 RCS Mass and Heat Capacity, Rev 2
 WEC, APP-MV20-Z0C-107, AP1000 Pressurizer Sizing Calculation, Rev 1

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 VS2-1210-CRW-009, Rev 2, "Nuclear island South Rebar Assembly"
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CR NND-12-00499
 CR NND-12-00583
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 CAR 2012-0874
 Root Cause Analysis Report - CAR 2012-0874
 CAR 2012-1237
 ACE 2012-1237
 CAR 2012-1304
 CAR 2012-1483
 IR 12-216-M010
 IR 12-338-M066

LIST OF ACRONYMS

ASME	American Society of Mechanical Engineers
AWS	American Welding Society
CAP	Corrective Action Program
CAR	Corrective Action Request
CE	Construction Experience
CFR	Code of Federal Regulations
CR	Condition Report
DCP	Design Change Proposal
E&DCR	Engineering and Design Coordination Reports
EGM	Enforcement Guidance Memorandum
EPC	Engineering, Procurement, and Construction
IMC	Inspection Manual Chapter
IR	Issue Report
ITAAC	Inspection, Tests, Analyses, and Acceptance Criteria
N&D	Nonconformance and Disposition Report
NRC	Nuclear Regulatory Commission
OE	Operating Experience
PO	Purchase Order
QA	Quality Assurance
QAPD	Quality Assurance Program Description
RTNSS	Regulatory Treatment of Non-Safety Systems
SSC	Structure, System, or Component
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VIO	Cited Violation
WEC	Westinghouse Electric Company, LLC