

March 27, 2013

Mr. Paul Russ, Director
US Licensing
Westinghouse Electric Company
CWHQ-1 512B
1000 Westinghouse Drive
Cranberry Township, PA 16066

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT
NO. 99900404/2013-201

Dear Mr. Russ:

The U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at the Westinghouse Electric Company (WEC) facility in Cranberry Township, PA, from February 11-14, 2013. The purpose of the limited scope inspection was to assess WEC's compliance with the provisions of selected portions of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," and 10 CFR Part 21, "Reporting of Defects and Noncompliance."

This inspection specifically evaluated WEC's design control of the U.S. AP1000 plants being constructed at Vogtle and V.C. Summer. The inspection focused on the design change issues that had occurred over the past year at the Vogtle and V.C. Summer sites and WEC's root cause analyses and other program reviews to address those issues and any future design changes. The enclosed report presents the results of the inspection. This NRC inspection report does not constitute NRC endorsement of your overall quality assurance (QA) or 10 CFR Part 21 programs.

Based on the inspection samples, the NRC inspection team concluded WEC met all program requirements and the team did not identify any violations or nonconformances within the scope of this inspection.

In accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system, Agencywide Documents Access and Management System (ADAMS), which is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or Safeguards Information so that it can be made available to the public without redaction.

If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you

request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements."

Sincerely,

/RA/

Richard A. Rasmussen, Chief
Electrical Vendor Branch
Division of Construction Inspection
and Operational Programs
Office of New Reactors

Docket No.: 99900404

Enclosures:

1. Inspection Report 99900404/2013-201

request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements."

Sincerely,

/RA/

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NAME	JBartleman	RRasmussen		
DATE	03/25/2013	03/21/2013		

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**U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NEW REACTORS
DIVISION OF CONSTRUCTION INSPECTION AND OPERATIONAL PROGRAMS
VENDOR INSPECTION REPORT**

Docket No.: 99900404

Report No.: 99900404/2013-201

Vendor: Westinghouse Electric Company
1000 Westinghouse Drive
Cranberry Township, PA 16066

Vendor Contact: Mr. Ron Wessel
Regulator Inspection Coordinator
Phone: 412-374-4023
WesselRP@westinghouse.com

Background: Westinghouse Electric Company (WEC) holds a design certificate for the AP1000 and is responsible for detailed design and testing for safety-related components to be used in AP1000 plants. These tests, including qualification and functional tests, are associated with and may directly affect closure of Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) from Revision 19 of the certified AP1000 design. Currently, these ITAAC are incorporated into the combined licenses of Vogtle Units 3 and 4 and V.C. Summer Units 2 and 3.

Inspection Dates: February 11-14, 2013

Inspection Team Leader: Douglas Bollock, NRO/DCIP/CEVB

Inspectors: Phil OBryan NRO/DCIP/CIPB
Shavon Edmonds NRO/DCIP/CEVB
Anthony Ponko RII/DCI/CIB2
John Bartleman RII/DCI/CIB3

Approved by: Richard A. Rasmussen, Chief
Electrical Vendor Branch
Division of Construction Inspection and Operational Programs
Office of New Reactors

EXECUTIVE SUMMARY

Westinghouse Electric Company
99900404/2013-201

The U.S. Nuclear Regulatory Commission (NRC) conducted this vendor inspection to verify aspects of Westinghouse Electric Company's (WEC's) implementation of its quality assurance (QA) program as required by Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," and 10 CFR Part 21, "Reporting of Defects and Noncompliance."

This inspection specifically evaluated WEC's design control, change control, corrective action program, and procurement processes to ensure they were being effectively implemented to meet the applicable requirements of Appendix B to 10 CFR Part 50. Specifically, the NRC inspection assessed the design process, design change process, and field change process, along with the ties to the corrective action and 10 CFR Part 21 program of these processes. The inspection focused on the design change issues that had occurred over the past year at the Vogtle and V.C. Summer sites and WEC's root cause analyses and other program reviews to address those issues and any future design changes. The inspection took place at the WEC facility in Cranberry Township, PA.

The following regulations served as the bases for this NRC inspection:

- Appendix B to 10 CFR Part 50
- 10 CFR Part 21

The inspectors used Inspection Procedure (IP) 43002, "Routine Inspections of Nuclear Vendors," dated April 25, 2011, and IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance," dated February 13, 2012.

The NRC last performed an inspection of WEC in September 2012, to inspect the corrective actions to several NRC inspection findings identified during two previous NRC inspections—Inspection Report Number 00000404/2011-201 and NRC Inspection 99900404/2012-201.

The information below summarizes the results of this inspection.

Procurement

The inspectors determined that WEC's procurement processes conformed to the requirements of Criterion IV, "Procurement Document Control," and Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B to 10 CFR Part 50 and that WEC's QA policy and procedures were being implemented effectively for the design engineering for the U.S. AP1000 plants. No findings of significance were identified.

Design Control

The inspectors determined, based on the samples reviewed, that the vendor design control process met the requirements of Criterion III, "Design Control," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

Nonconformances and Corrective Actions

The U.S. Nuclear Regulatory Commission (NRC) inspectors determined that the implementation of WEC's programs for control of nonconforming material, parts, or components and corrective action were consistent with the regulatory requirements in Criterion XV, "Nonconforming Materials, Parts, or Components," and Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

REPORT DETAILS

1. Procurement

a. Inspection Scope

The inspectors reviewed WEC's policies and procedures for procurement processes to verify compliance with Criterion IV, "Procurement Document Control," and Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities." Specifically, the inspection evaluated WEC's procurement controls to ensure they included the regulatory requirements, design basis, and other applicable requirements in procurement documents for the design work for the U.S. AP1000 sites. In addition, the inspectors reviewed WEC's applicable implementing procedures, along with samples of purchase orders (POs) that contained work scopes, contract services requirements, supplier quality assurance program descriptions, and methods WEC used to dedicate suppliers of commercial items and services.

b. Observations and Findings

The inspectors reviewed WEC 7.5, "Control of Purchased Items and Services," describing the basic overall control of components and services and find it to be in accordance with Criterion VII of Appendix B to 10 CFR Part 50. Westinghouse passes down these requirements to its suppliers through POs and oversight.

WEC controls all safety-related designs in accordance with APP-GW-G8Y-001, "AP1000 Standard Plant Division of Responsibility-US Projects," which gives the specific breakdown of each component and the responsible vendor for design and construction between Shaw and WEC. To control the overall design of individual components, the controls are set in place in the PO, making the contracted manufacturers follow the quality controls for WEC design. These requirements have the manufacturers submit WEC engineering and design coordination reports (E&DCR) for any proposed design changes or enhancements that the manufacturers discover.

APP-GW-GAH-030, "Quality Assurance Requirements for Safety Related Components/Services of Standard AP1000 Plants," is referenced in every PO issued to safety-related subsuppliers and manufacturers. The inspectors confirmed that technical requirements were transferred to the relevant POs reviewed without modification or amendment. The inspectors reviewed the POs for AP1000 steam generators and reactor vessels for Vogtle and reviewed the POs AP1000 reactor containment vessels for V.C. Summer.

c. Conclusions

The inspectors determined that WEC's procurement processes conform to the requirements of Criterion IV and VII of Appendix B to 10 CFR Part 50 and that WEC's QA policy and procedures were being implemented effectively for U.S. AP1000 construction. No findings of significance were identified.

2. Design Control

a. Inspection Scope

The inspectors reviewed WEC's design control processes and verified compliance with the requirements of Appendix B to 10 CFR Part 50. In the areas of mechanical and civil/structural design, the inspectors verified that design control activities were accomplished in accordance with approved procedures. The inspectors verified that WEC procedures provided adequate controls for design inputs, design outputs, design analyses, records, organizational interfaces, and responsibilities.

From January 7–11, 2013, the inspectors conducted meetings with the onsite WEC design engineering staff and licensee personnel at both plants—Vogtle Units 3 and 4 and V.C. Summer Units 2 and 3—to evaluate how the design change process was conducted and implemented at current AP1000 construction sites. The inspectors determined that design change requests originating from the sites were adequately documented in E&DCRs.

The inspectors verified that WEC adequately translated its applicable design changes into design change proposals (DCPs). WEC used DCPs as part of the design control process to communicate proposed design changes to departments and groups that would be affected by the change, including but not limited to: design engineering, systems engineering, licensing, quality assurance, operations, construction project sites, licensees, and suppliers.

b. Observations and Findings

The inspectors verified that design control activities were accomplished in accordance with approved procedures. The inspectors verified that WEC adequately processed E&DCRs and translated design changes into DCPs that the appropriate groups reviewed and approved. The inspectors reviewed two calculations, seven DCPs, and 20 E&DCRs during the scope of this inspection. The inspectors observed WEC initiated an Issue Report within WEC's corrective action process to track and address concerns identified.

c. Conclusions

The inspectors determined, based on the samples reviewed, that WEC's design control process met the requirements of Criterion III, "Design Control," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

3. Nonconformances and Corrective Actions

a. Inspection Scope

The inspectors reviewed WEC's policies and procedures governing the implementation of corrective actions resulting from the design control processes for the AP1000 construction sites to verify compliance with Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. In addition, the inspectors conducted several interviews of WEC's management and technical staff about the evaluation process of corrective actions, and extent of condition reports. The inspectors also verified that WEC's corrective action process provides guidance to evaluate and identify issues for

reportability under WEC's 10 CFR Part 21, "Reporting of Defects and Noncompliance," program. In addition, the inspectors reviewed WEC's root cause analysis (WEC Issue Report 12-062-M069) conducted in response to previous NRC findings and WEC's self-identified design issues that resulted in design documents not being consistent with the AP 1000 current licensing basis. These design issues were identified between 2010 and 2012 and evaluated through the root cause analysis, which was completed in May 2012.

b. Observations and Findings

The NRC inspectors reviewed a sample of corrective action documents to ensure that conditions adverse to quality: (1) were properly identified and correctly dispositioned in the appropriate processes, (2) contained proper management review approval, and (3) were evaluated for their effect on the item's safety function or qualification, when applicable. In addition, the NRC inspection team verified that the corrective actions that were sampled accurately reflected the guidelines in the WEC procedure for significance classification levels for each corrective action reviewed. Specifically, the NRC inspection team sampled corrective actions that were conditions adverse to quality with a medium significance level, in which all were required to include an extent of condition review in accordance with WEC's corrective action process. The inspectors noted that the reviews identified adequate causes and assign specific actions to prevent recurrence. The inspection team also reviewed corrective action reports to verify that WEC adequately evaluated such reports for applicability to 10 CFR Part 21. These 10 CFR Part 21 evaluations provided detailed technical descriptions of the nonconforming issues, and gave a determination whether a substantial safety hazard existed. The NRC inspectors also sampled nonconformances in accordance with the design change process to ensure that appropriate corrective actions were taken and that the changes were being reviewed for 10 CFR Part 21 applicability.

The NRC inspection team determined that the root causes for the design control issues outlined in WEC Issue Report 12-062-M069 were accurate. These included: (1) incomplete procedural control for verifying that design and specification documents do not conflict with the plant and generic licensing basis, (2) lack of training of personnel on how to locate licensing-basis information, (3) lack of documentation requirements for licensing impact evaluations, and (4) over-reliance on the authors of design control documents and specifications for compliance with the licensing basis.

The NRC inspectors also concluded that completed and ongoing corrective actions associated with the design control issues identified in WEC Issue Report 12-062-M069 are appropriate. These include: (1) creating a new procedure for licensing-basis reviews (APP-GW-GAP-147, "AP1000 Current Licensing Basis Review"), (2) establishing an electronic search tool to allow workers to more easily review licensing-basis impacts of design documents, (3) changes to the design change process to ensure licensing--basis impact reviews are performed for all design changes, and (4) performing licensing-basis reviews of design documents already existing in the Vogtle Units 3 and 4, and the V.C. Summer Units 2 and 3 Site Data Centers.

c. Conclusions

The inspectors determined that the implementation of WEC's programs for control of nonconforming material, parts, or components and corrective action were consistent with

the regulatory requirements in Criterion XV and Criterion XVI of Appendix B to 10 CFR Part 50. No findings of significance were identified.

4. Entrance and Exit Meetings

On February 11, 2013, the NRC inspection team presented the inspection scope during an entrance meeting with Mr. Paul Russ, Director, US Licensing, Westinghouse Electric Company, and other WEC personnel. On February 14, 2013, the inspectors presented the inspection results during an exit meeting with Mr. Russ and other WEC personnel.

ATTACHMENT

1. PERSONS CONTACTED AND NRC STAFF INVOLVED:

Name	Title	Affiliation	Entrance	Exit	Interviewed
Robert Laubham	Manager, Licensing/Engineering Interface	WEC	X	X	X
Ronald Wessel	Principal Engineer	WEC	X	X	X
Michelle Merwin	Manager, Licensing	WEC	X		X
Zack Harper	Licensing Engineer	WEC			X
Paul Russ	Director, US Licensing	WEC			X
David Arrigo	Manager, Global Quality Programs	WEC			X
David Bevilacqua	Director, IMS Operations	WEC			X
Rick Caruso	Principal Quality Engineer	WEC			X
Rick Foote	Performance Improvements Program Manager	WEC			X
J. Kevin Moore	Manager, AP1000 Civil/Structural and Containment Vessel Design Support	WEC			X
Keith L. Coogler	Senior Engineer, AP1000 Civil/Structural and Containment Vessel Design Support	WEC			X
Tod H. Baker	Fellow Engineer, AP1000 Civil/Structural and Containment Vessel Design Support	WEC			X
Chris Susini	Project Manager	WEC			X
Joe Halackna	Senior Engineer, Layout Group	WEC			X
Timothy Nowicki	Senior Engineer, Structures Design and Analysis	WEC			X
Luca Oriani	Acting Director, AP1000 Piping Engineering	WEC			X
James Koontz	Civil Engineer	WEC			X
Venkitesh Prabhu	Senior Engineer, China Design Integration	WEC			X
Gregory Smith	Manager, Structural Modules Design	WEC			X
John Robertson	Manager, Summer Site Design Engineering	WEC			X

Name	Title	Affiliation	Entrance	Exit	Interviewed
Philip Kotwicki	Principal Engineer, U.S. Piping Supports and Mechanical Modules	WEC			X
Douglas Bollock	Inspection Team Leader	NRC	X	X	
Phil OBryan	Inspection Team Member	NRC	X	X	
John Bartleman	Inspection Team Member	NRC	X	X	
Anthony Ponko	Inspection Team Member	NRC	X	X	
Shavon Edmonds	Inspection Team Member	NRC	X	X	

2. INSPECTION PROCEDURES USED:

IP 43002, "Routine Inspections of Nuclear Vendors"

IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance"

3. ITEMS OPENED, CLOSED, AND DISCUSSED:

None

4. DOCUMENTS REVIEWED:

WEC Procedures

APP-GA-G1-001, "AP1000 Module Design Criteria," Revision 2, November 30, 2010

APP-GW-G0Y-002, "AP1000 Configuration Management Plan," Revision 3, November 11, 2010

APP-GW-GAP-420, "Engineering and Design Coordination Report," Revision 6, May 24, 2012

APP-GW-GAP-420, "Engineering and Design Coordination Report," Revision 7, November 5, 2012

APP-GW-GAP-450, "Work Instruction for Revising AP1000 E&DCR Impacted Document Information," Revision 1, December 17, 2012

APP-GW-S1-008, "Design Guide for Reinforcement in Walls and Floor Slabs", Revision 1, August 13, 2003

APP-1000-CCC-002, "Guidance on Checking Results of Design Macros", Revision 0, October 7, 2003

APP-1000-CCC-001, "Verification of Design Macro for Reinforced Concrete Walls and Floors", Revision 5, June 22, 2011

APP-GW-C1-001, "AP1000 Civil/Structural Design Criteria", Revision 2, November 29, 2010

APP-GW-G1X-001, "Governing AP1000 Design Codes and Standards," Revision 7, September 30, 2011

NSNP 6.3, "Document and Component Numbering," Revision 0, November 3, 2008

NSNP 3.3.3, "Design Verification by Independent Review or Alternate Calculations," Revision 4, December 10, 2011

WEC 3.2.6, "Design Analysis," Revision 0.0, August 22, 2012

WEC 3.3.1, "Design Reviews," Revision 4.1, November 20, 2012

QMP-1001, "Index to Quality Management System Procedures," Revision E, December 3, 2007

QMP-1004, "Design Control," Revision E, October 19, 2007

WEC 3.1.1, "Design Planning and Project Development," Revision 1, August 3, 2009

WEC 3.3.3, "Design Verification by Independent Review or Alternate Calculation," Revision 4, March 21, 2011

WEC 7.5, "Control of Purchased Items and Services," Revision 4, September 12, 2012

APP-GW-GAP-147, "AP1000 Current Licensing Basis Review," Revision 1, October 22, 2012

APP-GW-GLR-158, "Vogtle 3 and 4 Construction to Licensing Basis Plan," Revision 0, May 2012

WEC 16.2, "Westinghouse Corrective Action Process," Revision 4.1, April 17, 2012

APP-GW-GEP-010, "WEC Process & Procedure for AP1000 Internal Open Items and Holds," Revision 5, August 29, 2011

APP-GW-M8-045, "Westinghouse-Shaw Nuclear-Toshiba Engineering Interface Agreement for the Domestic Standard AP1000 Project," Revision 7, February 23, 2012

APP-GW-GAP-426, "NPP AP1000 Procurement Process Handbook," Revision 1, March 2012

APP-GW-GAP-118, "AP1000 Work Instructions for Processing Supplier Documents Submitted to Westinghouse for Information, of for Review and Approval," Revision 1, January 2, 2013

APP-GW-G8Y-001, "AP1000 Standard Plant Division of Responsibility—US Projects," Revision 0, April 8, 2008

APP-GW-GAH-030, "Quality Assurance Requirements for Safety Related Components/Services of Standard AP1000 Plants," Revision 4, March 29, 2012

APP-GW-GAP-140, "AP1000 Licensing Applicability Determination and 10 CFR 50.59/10CFR 52 Appendix D Section VIII Screening," Revision 0, June 16, 2011

APP-GW-GAP-604, "AP1000 Two Stage Gate Design Change Process," Revision 1, October 25, 2012

WEC 7.5, "Control of Purchase Items," Revision 4, September 12, 2012

WEC Design Documents

AP1000 Calculation No. APP-PXS-PLR-050, "AP1000 CMT 02A Supply Line Piping Stress Analysis Report," Revision 5, January 24, 2013

AP1000 Calculation No. APP-1200-CCC-110, Auxiliary Building Wall L Reinforcement Design, Revision 5, December 28, 2009

DCP Doc No. APP-GW-GEE-1402, "PXS Changes due to Gas Accumulation," Revision 0, April 1, 2010

DCP Doc No. APP-GW-GEE-4001, "Modifications of Piping Isometrics and Pipe Supports on APP-CAS-PLR-710," Revision 0, January 7, 2013

DCP Doc No. APP-GW-GEE-4084, "PCS Valve Room Piping Layout. E&DCR APP-1278-GEF-003," Revision 0, November 2, 2012

DCP Doc No. APP-GW-GEE-4104, "Modifications of Piping Isometric and Pipe Supports on APP-RCS-PLR-900," Revision 0, November 5, 2012

DCP Doc. No. APP-GW-GEE-3413, "Revisions to NI Basemat Reinforcement Drawings", Revision 0, May 23, 2012

DCP Doc. No. APP-GW-GEE-2081, "MSIV Compartment Structural Design Changes," Revision 0, August 6, 2010

DCP Doc. No. APP-GW-GEE-1119, "Additional Miscellaneous Changes to the Enhanced Shield Building Design," Revision 0, June 18, 2012

E&DCR No. APP-CA20-GEF-596, "CA20_01—Fillet Weld Modifications," Revision 0, October 2, 2012

E&DCR No. APP-CA20-GEF-597, "CA20_03—Fillet Weld Modifications," Revision 0, September 25, 2012

E&DCR No. APP-CA20-GEF-598, "CA20_05—Fillet Weld Modifications," Revision 0, October 2, 2012

E&DCR No. APP-CA20-GEF-603, "CA20_20—Fillet Weld Modifications," Revision 0, September 25, 2012

E&DCR No. APP-CA20-GEF-666, "CA20_26—Repair of Fillet Weld Modifications," Revision 0, October 24, 2012

E&DCR No. APP-CA20-GEF-679, "CA20_18—Repair of Fillet Weld Modifications," Revision 0, November 9, 2012

E&DCR No. APP-CA20-GEF-691, "CA20_01—Faceplate Weld Rework for SV3 and VS2 Plants," Revision 0, December 5, 2012

E&DCR No. APP-CA20-GEF-692, "CA20_03—Rework of Fillet Weld Modifications," Revision 0, December 5, 2012

E&DCR No. APP-CA20-GEF-694, "CA20_10 and CA20_06 - Faceplate Weld Rework for SV3 and VS2 Plants," Revision 0, December 20, 2012

E&DCR No. APP-CA20-GEF-695, "CA20_14 and CA20_08—Faceplate Weld Rework for SV3 Plant," Revision 0, December 20, 2012

E&DCR No. APP-CA20-GEF-698, "CA20 Standard Details—Fillet Weld Modifications," Revision 0, December 11, 2012

E&DCR No. APP-CA20-GEF-705, "CA20_12 - Rework of Fillet Weld Modifications," Revision 0, December 5, 2012

E&DCR No. APP-1010-GEF-025, "E&DCR to put A2-CS-X Documents on Concrete Placement Hold due to DI-OI-036335," Revision 0, November 20, 2012

E&DCR No. SV0-CC01-GEF-000038, "Ch80 and CH82 Grade Beam Details," Revision 0, October 15, 2011

E&DCR No. SV0-CC01-GEF-000117, "Supersede SV0-CC01-GEF-000115", Revision 0, December 11, 2012

E&DCR No. SV0-CC02-GEF-000006, "Repair of Mud Mat Cracks (3)," Revision 0, January 17, 2013

E&DCR No. SV0-CR01-GEF-000134, "Top Mat Rebar Support Bearing," Revision 0, November 21, 2012

E&DCR No. SV3-CA20-GEF-000038, "Removal of Interfering Studs," Revision 0, January 14, 2013

E&DCR No. SV0-CR01-GEF-000143, "Change to Shear ties in NI Basemat," Revision 0, January 17, 2013

E&DCR No. SV0-CC01-GEF-000115, "Consolidation of EDCRs to 031 Spec," Revision 0, November 27, 2012

AP1000 Structural Drawing No. APP-1200-CR-913, "Auxiliary Building Areas 1 & 2 Concrete Reinforcement Walls L & M Elevations," Revision 21, November 21, 2011

AP1000 Structural Drawing No. APP-1210-CR-913, "Auxiliary Building Areas 1 & 2 Concrete Reinforcement Walls L & M Sections & Details EL 66'-6"," Revision 4, July 24, 2011

AP1000 Structural Drawing No. APP-1220-CR-913, "Auxiliary Building Areas 1 & 2 Concrete Reinforcement Wall L & M Section & Details EL 82'-6"," Revision 5, November 21, 2011

AP1000 Structural Drawing No. APP-1230-CR-913, "Auxiliary Building Areas 1 & 2 Concrete Reinforcement Walls L & M Sections & Details EL 100'-0"," Revision 3, November 22, 2011

AP1000 Structural Drawing No. APP-1240-CR-913, "Auxiliary Building Areas 1 & 2 Concrete Reinforcement Walls L & M Sections & Details EL 117'-6"," Revision 3, November 21, 2011

AP1000 Structural Drawing No. APP-1250-CR-913, "Auxiliary Building Areas 1 & 2 Concrete Reinforcement Walls L & M Sections & Details EL 135'-3"," Revision 2, January 23, 2012

AP1000 Structural Drawing No. APP-1200-CR-992, "Auxiliary Building Concrete Reinforcement Typical Opening (Sheet 2)," Revision 7, November 11, 2011

WEC Nonconformance Reports and Corrective Actions

IR No. 12-230-M004, "Structural Module Liner Welding Does Not Meet Licensing Basis," August 17, 2012

IR No. 12-314-M028, "Incorrect Weld Call-out in APP-CA20-GEF-650 Revision 0," December 9, 2012

IR No. 13-045-M045, "Incorrect Responses to Question 2 of DCP Form F-3.4.1-3," February 14, 2013

IR- 3989, February 21, 2012

- 10-182-M006
- 11-021-M015
- 11-199-M030
- 11-199-M054
- 11-208-M038
- 11-346-M016
- 12-052-M033
- 12-060-M024
- 12-062-M069
- 12-093-M093

- 12-103-M026
- 12-103-M039
- 12-103-M041
- 12-124-M001
- 12-128-M032
- 12-152-M020
- 12-222-M033
- 12-280-M001
- 12-298-M095
- 12-339-M023
- 12-356-M030
- 12-356-M031
- 12-356-M033
- 12-335-M010
- 12-254-M021
- 12-353-M084
- 12-242-A001
- 12-353-M079
- 12-353-M079.02
- 12-361-M006
- 12-354-M021
- 12-222-M033.01

WEC Procurement Documents

PO No. 24894 to McWilliams Forge Inc. for Set-up Forging (Carbon Steel), June 5, 2009

PO No. 31564-1 to Kropp Forge Co. for 18" Body Forging, January 5, 2010

PO No. 31658-0, to Certified Service Company for Calibration of (14) Granite Surface Plates, January 21, 2010

PO No. 4500264953 to Doosan for Reactor Vessel, April 29, 2008

PO No. 4500264977 to Doosan for Steam Generator, April 29, 2008

PO No. 4500286170 to Chicago Bridge and Iron for AP1000 Containment Vessels for V.C. Summer, December 4, 2008

Miscellaneous Documents

"Certificate of Qualification–Dave Crayton," February 11, 2010

"Certificate of Qualification–James Conerford," September 30, 2011

WEC Internal Audit Report Number WEC-12-89

APP-FSAR-GLR-047, "Generic Licensing Impact Determination for RCS Piping and Supports," Revision 0, December 2012

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SV0-MV01-Z5-001, "Appendix 3: Technical Requirements for the AP1000 Reactor Vessel Purchase Order for the Southern Project," Revision 0, April 28, 2008

5. ACRONYMS USED:

CEVB	Construction Electrical Vendor Branch
CFR	<i>Code of Federal Regulations</i>
DCIP	Division of Construction Inspection and Operational Programs
DCP	Design Change Proposal
E&DCR	Engineering and Design Coordination Report
IP	Inspection Procedure
IR	Issue Report
NRC	(U.S.) Nuclear Regulatory Commission
NRO	Office of New Reactors
PO	purchase order
QA	quality assurance
WEC	Westinghouse Electric Company