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

November 10, 2014

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: VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3 – NRC INTEGRATED INSPECTION REPORTS 05200027/2014004 and 05200028/2014004

Dear Mr. Jones:

On September 30, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Virgil C. Summer Nuclear Station Units 2 and 3. The enclosed inspection report documents the inspection results, which the inspectors discussed on September 29, 2014, with you and other members of your staff.

The inspection examined a sample of construction activities conducted under your Combined License (COL) as it relates to safety and compliance with the Commission's rules and regulations and with the conditions of these documents. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings of significance were identified. In accordance with 10 CFR2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Should you have any questions concerning this letter, please contact us.

Sincerely,

/RA/

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

Docket Nos.: 05200027, 05200028
License Nos.: NPF-93, NPF-94

Enclosure: Inspection Report 05200027/2014004
and 05200028/2014004
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

Should you have any questions concerning this letter, please contact us.

Sincerely,

/RA/

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

Docket Nos.: 05200027, 05200028
License Nos.: NPF-93, NPF-94

Enclosure: Inspection Report 05200027/2014004
and 05200028/2014004
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cc w/encl: (See page 3)

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ADAMS: □ Yes ACCESSION NUMBER: ML14314A851 ■ SUNSI REVIEW COMPLETE ■ FORM 665 ATTACHED

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Letter to R. Jones from Michael E. Ernstes dated November 10, 2014

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3 – NRC INTEGRATED INSPECTION REPORTS 05200027/2014004 and 05200028/2014004

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U.S. NUCLEAR REGULATORY COMMISSION
Region II

Docket Numbers:	5200027 5200028
License Numbers:	NPF-93 NPF-94
Report Numbers:	05200027/2014004 05200028/2014004
Licensee:	South Carolina Electric & Gas
Facility:	Virgil C. Summer Nuclear Station Unit 2 Virgil C. Summer Nuclear Station Unit 3
Location:	Jenkinsville, SC
Inspection Dates:	July 1, 2014 through September 30, 2014
Inspectors:	T. Chandler, Resident Inspector, DCP B. Davis, Senior Construction Inspector, DCI P. Donnelly, Resident Inspector, DCP D. Failla, Resident Inspector, DCP D. Harmon, Construction Inspector, DCI P. Heher, Senior Construction Project Inspector, DCP G. Khouri, Senior Construction Project Inspector, DCP E. Michel, Senior Construction Inspector, DCI C. Oelstrom, Construction Inspector, DCI A. Ponko, Senior Construction Inspector, DCI M. Shannon, Senior Construction Inspector, DCI I. Spivack, Reactor Operations Engineer, NRO T. Steadham, Senior Construction Inspector, DCI J. Vasquez, Construction Inspector, DCI M. Vera, Structural Engineer, NRO
Approved by:	Michael Ernstes Branch Chief Construction Projects Branch 4 Division of Construction Projects

Enclosure

SUMMARY OF FINDINGS

Inspection Report (IR) 05200027/2014004, 05200028/2014004; 07/01/2014 through 09/30/2014; Virgil C. Summer Nuclear Station Unit 2, Virgil C. Summer Nuclear Station Unit 3, routine integrated inspection report.

This report covers a three-month period of inspection by resident inspectors, and announced Inspections, Tests, Analysis, and Inspection Criteria (ITAAC) inspections by regional and resident inspectors. 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

No findings were identified.

B. Licensee-Identified Violations

No findings were identified.

REPORT DETAILS

Summary of Plant Construction Status

During this inspection period, for Unit 2, the licensee continued construction of the auxiliary building walls up to elevation 100' and construction of the shield building walls up to 82'-6". Fabrication of the Containment Vessel (CV) middle and upper rings continued, and assembly of modules CA01 and CA05 continued. For Unit 3, the licensee continued construction of the auxiliary building walls and floors up to elevation 82'-6", rebar was placed in the Containment Vessel Bottom Head (CVBH), and fabrication of the CV lower and middle rings continued.

1. CONSTRUCTION REACTOR SAFETY

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

1A01 (Unit 2) ITAAC Number 2.2.01.02a (91) / Family 06F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.02a (91):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) The components identified in Table 2.2.1-1 as American Society of Mechanical Engineers (ASME) Code Section III are designed and constructed in accordance with ASME Code Section III requirements.	Inspection will be conducted of the as-built components as documented in the ASME design reports.	The ASME Code Section III design reports exist for the as-built components identified in Table 2.2.1-1 as ASME Code Section III.

The inspectors used the following NRC inspection procedures (IP)/sections to perform this inspection:

- 65001.06-02.01 - General Installation
- 65001.06-02.02 - Component Welding
- 65001.F-02.02-Fabrication Records Review
- 65001.11-02.03 - Installation and Welding
- 65001.11-02.05 - Nondestructive Examination
- 65001.11-02.06 - PWR Containment Construction

The inspectors reviewed a sample of Ishikawajima-Harima Heavy Industries Co., Ltd. (IHI) and Chicago Bridge and Iron (CB&I) records associated with containment vessel pressure boundary welds (such as the traveler, procedures, welder qualifications, and CMTRs) to determine if they met the requirements of ASME Code, Section III, Subsection NE, and 10 Code of Federal Regulations (CFR) Part 50 Appendix B. The specific welds were:

- insert plate to containment shell weld B2-A4 to B2-A5 on the lower personnel airlock (H-03);
- insert plate to containment shell weld B2-A5 to H02 on the main equipment hatch (H-01);
- insert plate to containment shell weld WB2-A5-A on spare penetration P-41; and
- cap (flange) to sleeve weld WB2-P41-F on spare penetration P-41.

b. Findings

No findings were identified.

1A02 (Unit 2) ITAAC Number 2.2.01.02a (91) / Family 06F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.02a (91). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.F-02.02-Fabrication Records Review

The inspectors reviewed the following three certified material test reports (CMTRs) for pressure boundary material to determine whether the chemical composition of the pressure retaining materials were in accordance with the applicable requirements of ASME Section II-Part A:

- IHI/Japan Steel Works CMTR No. 6271-11, dated April 26, 2012, for hot rolled steel plate used for the Unit 2 containment vessel middle ring course 7, plate B2-C29-1;
- IHI/Japan Steel Works CMTR No. 6271-12, dated April 26, 2012, for hot rolled steel plate used for the Unit 2 containment vessel middle ring course 7, plate B2-C30-1; and
- IHI/SEO Koatsu Kogyo CMTR No. G24280-005CM, dated October 18, 2011, for the Unit 2 containment vessel spare penetration P42 flange.

b. Findings

No findings were identified.

1A03 (Unit 2) ITAAC Number 2.2.01.03a (93) / Family 06B

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.03a (93):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
3.a) Pressure boundary welds in components identified in Table 2.2.1-1 as ASME Code Section III meet ASME Code Section III requirements.	Inspection of the as-built pressure boundary welds will be performed in accordance with the ASME Code Section III.	A report exists and concludes that the ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.06-02.01 - General Installation
- 65001.06-02.02 - Component Welding
- 65001.B-02.02-Welding Procedure Qualification
- 65001.B-02.03-Welder Qualification
- 65001.B-02.05-Inspection
- 65001.B-02.06-Records
- 65001.11-02.03 - Installation and Welding
- 65001.11-02.05 - Nondestructive Examination
- 65001.F- Inspection of the ITAAC-Related Design and Fabrication Requirements
- 65001.F-02.02-Fabrication Records Review

The inspectors reviewed a sample of IHI and CB&I records such as travelers, welder qualifications, and CMTRs, to determine if pressure boundary welds in containment met the requirements of ASME Code, Section III, Subsection NE, and 10 CFR Part 50 Appendix B.

For the lower personnel airlock (H-03) the inspectors reviewed CB&I records associated with the insert plate to containment shell weld (B2-A4 to B2-A5). Specifically, the inspectors reviewed:

- the traveler to verify that the work process was adequately controlled and documented and that all required steps, hold points, and inspections were signed;
- the CMTR for the welding filler metal that was used to verify that it met the requirements of ASME Section II Part C;
- the welding procedures to verify that they met the requirements of ASME Section III, Subsection NE, Class MC Components and that they specified the applicable essential and non-essential variables;
- the qualification records of the welders to verify that welding personnel had demonstrated their skill by performing the required qualification tests specified in ASME Section IX, and that those tests were fully documented;
- the associated nondestructive examination reports to verify that the welds were

examined in accordance with ASME Section V and met the acceptance criteria of ASME Section III, Subsection NE; and
- a sample of radiography film and the associated report to verify that the image quality indicators were of the correct type and thickness and that the required sensitivity and radiograph density met the ASME Section V requirements.

Also for the lower personnel airlock (H-03), the inspectors reviewed IHI records associated with the insert plate to sleeve weld (WB2-A4-A). Specifically, the inspectors reviewed:

- the weld check list to verify that the work process was adequately controlled and documented and that all required steps, hold points, and inspections were signed;
- the CMTR for the welding filler metal that was used to verify that it met the requirements of ASME Section II Part C;
- the welding procedure to verify that it met the requirements of ASME Section III, Subsection NE, Class MC Components and that it specified the applicable essential and non-essential variables;
- the qualification records of the welders to verify that welding personnel had demonstrated their skill by performing the required qualification tests specified in ASME Section IX, and that those tests were fully documented;
- the associated nondestructive examination reports to verify that the welds were examined in accordance with ASME Section V and met the acceptance criteria of ASME Section III, Subsection NE; and
- a sample of radiography film and the associated report to verify that the image quality indicators were of the correct type and thickness and that the required sensitivity and radiograph density met the ASME Section V requirements.

For the main equipment hatch (H-01), the inspectors reviewed CB&I records associated with the insert plate to containment shell weld (B2-A5 to H02). Specifically, the inspectors reviewed:

- the traveler to verify that the work process was adequately controlled and documented and that all required steps, hold points, and inspections were signed;
- the CMTR for the welding filler metal that was used to verify that it met the requirements of ASME Section II Part C;
- the welding procedures to verify that they met the requirements of ASME Section III, Subsection NE, Class MC Components and that they specified the applicable essential and non-essential variables;
- the qualification records of the welders to verify that welding personnel had demonstrated their skill by performing the required qualification tests specified in ASME Section IX, and that those tests were fully documented;
- the associated nondestructive examination reports to verify that the welds were examined in accordance with ASME Section V and met the acceptance criteria of ASME Section III, Subsection NE; and
- a sample of radiography film and the associated report to verify that the image quality indicators were of the correct type and thickness and that the required sensitivity and radiograph density met the ASME Section V requirements.

For the steam & feed water penetration (P-25), the inspectors reviewed IHI records associated with the insert plate to sleeve weld (WB2-P25-N). Specifically, the inspectors reviewed:

- the weld check list to verify that the work process was adequately controlled and documented and that all required steps, hold points, and inspections were signed;
- the CMTRs for the welding filler metal that was used to verify that they met the requirements of ASME Section II Part C;
- the welding procedure to verify that it met the requirements of ASME Section III, Subsection NE, Class MC Components and that it specified the applicable essential and non-essential variables;
- the qualification records of the welders to verify that welding personnel had demonstrated their skill by performing the required qualification tests specified in ASME Section IX, and that those tests were fully documented; and
- the associated nondestructive examination reports to verify that the welds were examined in accordance with ASME Section V and met the acceptance criteria of ASME Section III, Subsection NE.

For spare penetration (P-41) the inspectors reviewed IHI records associated with the insert plate to S1 containment shell plate (WB2-A5-A). Specifically, the inspectors reviewed:

- the weld check list to verify that the work process was adequately controlled and documented and that all required steps, hold points, and inspections were signed;
- the welding procedure to verify that it met the requirements of ASME Section III, Subsection NE, Class MC Components and that it specified the applicable essential variables;
- the qualification records of the welders to verify that welding personnel had demonstrated their skill by performing the required qualification tests specified in ASME Section IX, and that those tests were fully documented;
- the associated nondestructive examination reports to verify that the welds were examined in accordance with ASME Section V and met the acceptance criteria of ASME Section III, Subsection NE; and
- a sample of radiography film and the associated report to verify that the image quality indicators were of the correct type and thickness and that the required sensitivity and radiograph density met the ASME Section V requirements.

For spare penetration (P-41) the inspectors also reviewed IHI records associated with the flange to sleeve weld (WB2-P41-F). Specifically, the inspectors reviewed:

- the weld check list to verify that the work process was adequately controlled and documented and that all required steps, hold points, and inspections were signed;
- the CMTRs for the welding filler metal that was used to verify that they met the requirements of ASME Section II Part C. The inspectors verified that the CMTR chemical and physical tests complied with the SFA 5.18 Specification for Carbon Steel Electrodes and Rods for Gas Shielded Arc Welding;
- the welding procedure to verify that it met the requirements of ASME Section III,

Subsection NE, Class MC Components and that it specified the applicable essential and non-essential variables;
- the qualification records of the welders to verify that they were qualified to make the weld in accordance with ASME Section IX. The inspectors verifies welding personnel had demonstrated their skill by performing the required qualification tests specified in ASME Section IX, and that those tests were fully documented;
- the associated nondestructive examination reports to verify that the welds were examined in accordance with ASME Section V and met the acceptance criteria of ASME Section III, Subsection NE; and
- a sample of radiography film and the associated report to verify that the image quality indicators were of the correct type and thickness and that the required sensitivity and radiograph density met the ASME Section V requirements.

For the mechanical penetration, "Charging in" (P-07), the inspectors reviewed IHI records associated with the insert plate to containment shell weld (WB2-A12-A). Specifically, the inspectors reviewed:

- the weld check list to verify that the work process was adequately controlled and documented and that all required steps, hold points, and inspections were signed;
- the CMTR for the welding filler metal that was used to verify that it met the requirements of ASME Section II Part C;
- the welding procedure to verify that it met the requirements of ASME Section III, Subsection NE, Class MC Components and that it specified the applicable essential and non-essential variables;
- the qualification records of the welders to verify that welding personnel had demonstrated their skill by performing the required qualification tests specified in ASME Section IX, and that those tests were fully documented;
- the associated nondestructive examination reports to verify that the welds were examined in accordance with ASME Section V and met the acceptance criteria of ASME Section III, Subsection NE; and
- a sample of radiography film and the associated report to verify that the image quality indicators were of the correct type and thickness and that the required sensitivity and radiograph density met the ASME Section V requirements.

Also for the mechanical penetration, "Charging in" (P-07), the inspectors reviewed IHI records associated with the insert plate to sleeve weld (WB2-P07-N). Specifically, the inspectors reviewed:

- the weld check list to verify that the work process was adequately controlled and documented and that all required steps, hold points, and inspections were signed;
- the CMTR for the welding filler metal that was used to verify that it met the requirements of ASME Section II Part C;
- the welding procedure to verify that it met the requirements of ASME Section III, Subsection NE, Class MC Components and that it specified the applicable essential and non-essential variables;
- the qualification records of the welder to verify that he had demonstrated his skill by performing the required qualification tests specified in ASME Section IX, and that those tests were fully documented; and

- the associated nondestructive examination reports to verify that the welds were examined in accordance with ASME Section V and met the acceptance criteria of ASME Section III, Subsection NE.

For the mechanical penetration "Fire protection standpipe in" (P-12), the inspectors reviewed IHI records associated with the insert plate to containment shell weld (WB2-A12-B). Specifically, the inspectors reviewed:

- the weld check list to verify that the work process was adequately controlled and documented and that all required steps, hold points, and inspections were signed;
- the CMTR for the welding filler metal that was used to verify that it met the requirements of ASME Section II Part C;
- the welding procedure to verify that it met the requirements of ASME Section III, Subsection NE, Class MC Components and that it specified the applicable essential and non-essential variables;
- the qualification records of the welders to verify that welding personnel had demonstrated their skill by performing the required qualification tests specified in ASME Section IX, and that those tests were fully documented;
- the associated nondestructive examination reports to verify that the welds were examined in accordance with ASME Section V and met the acceptance criteria of ASME Section III, Subsection NE; and
- s sample of radiography film and the associated report to verify that the image quality indicators were of the correct type and thickness and that the required sensitivity and radiograph density met the ASME Section V requirements.

Also for the mechanical penetration "Fire protection standpipe in" (P-12), the inspectors reviewed IHI records associated with the insert plate to sleeve weld (WB2-P12-N). Specifically, the inspectors reviewed:

- the weld check list to verify that the work process was adequately controlled and documented and that all required steps, hold points, and inspections were signed;
- the CMTR for the welding filler metal that was used to verify that it met the requirements of ASME Section II Part C;
- the welding procedure to verify that it met the requirements of ASME Section III, Subsection NE, Class MC Components and that it specified the applicable essential and non-essential variables;
- the qualification records of the welders to verify that welding personnel had demonstrated their skill by performing the required qualification tests specified in ASME Section IX, and that those tests were fully documented; and
- the associated nondestructive examination reports to verify that the welds were examined in accordance with ASME Section V and met the acceptance criteria of ASME Section III, Subsection NE.

For the mechanical penetration "Chilled water out" (P-34), the inspectors reviewed IHI records associated with the insert plate to containment shell weld (WB2-B1-C). Specifically, the inspectors reviewed:

- the weld check list to verify that the work process was adequately controlled and

documented and that all required steps, hold points, and inspections were signed;
- the CMTR for the welding filler metal that was used to verify that it met the requirements of ASME Section II Part C;
- the welding procedure to verify that it met the requirements of ASME Section III, Subsection NE, Class MC Components and that it specified the applicable essential and non-essential variables;
- the qualification records of the welders to verify that welding personnel had demonstrated their skill by performing the required qualification tests specified in ASME Section IX, and that those tests were fully documented;
- the associated nondestructive examination reports to verify that the welds were examined in accordance with ASME Section V and met the acceptance criteria of ASME Section III, Subsection NE; and
- a sample of radiography film and the associated report to verify that the image quality indicators were of the correct type and thickness and that the required sensitivity and radiograph density met the ASME Section V requirements.

Also for the mechanical penetration "Chilled water out" (P-34), the inspectors reviewed IHI records associated with the insert plate to sleeve weld (WB2-P34-N). Specifically, the inspectors reviewed:

- the weld check list to verify that the work process was adequately controlled and documented and that all required steps, hold points, and inspections were signed;
- the CMTRs for the welding filler metal that was used to verify that it met the requirements of ASME Section II Part C;
- the welding procedure to verify that it met the requirements of ASME Section III, Subsection NE, Class MC Components and that it specified the applicable essential and non-essential variables;
- the qualification records of the welders to verify that welding personnel had demonstrated their skill by performing the required qualification tests specified in ASME Section IX, and that those tests were fully documented; and
- the associated nondestructive examination reports to verify that the welds were examined in accordance with ASME Section V and met the acceptance criteria of ASME Section III, Subsection NE.

b. Findings

No findings were identified.

1A04 (Unit 2) ITAAC Number 2.2.01.03a (93) / Family 06B

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.03a (93). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.06-02.02 - Component Welding
- 65001.11-02.05 - Nondestructive Examination

- 65001.F-02.02-Fabrication Records Review

The inspectors reviewed IHI and CB&I records for fabrication of the Unit 2 containment vessel upper ring shell to determine whether code, design, and material specifications were met; proper reviews, approvals, and inspections were documented; traceability of shell and insert plates, and weld filler metals were maintained; qualified welding procedures, welders, and welding operators were used for welding activities; and nondestructive examinations (NDE) with acceptable results were performed in accordance with the requirements of:

- ASME Section II, Part A - Ferrous Material Specifications, and Part C - Specifications for Welding Rods, Electrodes, and Filler Metals;
- ASME Section III, Subsections NCA - General Requirements, NC - Class 2 Components, and NE - Class MC Components;
- ASME Section V - Nondestructive Examination;
- ASME Section IX - Welding and Brazing Qualification;
- Updated Final Safety Analysis Report (UFSAR) with reference to 10 CFR Part 50, Appendix B, and 10 CFR 21 applicability; and
- Westinghouse Electric Company (WEC) containment vessel design specification APP-MV50-Z0-001.

For the upper ring S9 course vertical position weld seam "K" fabricated by CB&I with one NDE report, the inspectors reviewed:

- two CMTRs of S9 shell plates B2-E23-1 and B2-E24-1 for weld seam "K" to determine whether dimensions, basic oxygen furnace degassing process, chemical compositions, mechanical properties (tensile and yield strength, elongation and reduction of area, and carbon equivalency), heat treatment, and NDE reports were in accordance with the requirements of ASME Section II, Part A, and ASME Section III, Subsection NE;
- one CB&I weld traveler B2E-S9-K documenting the applicable drawing for field edge preps and weld detail drawing, NDE procedures, weld filler metal specifications, WPSs, recording traceable weld filler metal control numbers and welding operators and welder identification stamps, and hold point sign-offs for acceptable fit-up and tack, final visual inspection on the first-side of the weld joint, back grinding and/or gouging second side before start of welding, final visual inspection on the second-side of the weld joint, and final radiography;
- two welding operator certifications for 838 and 921; and
- one CB&I NDE-RT report VCS-U2-2014-RT-021 for vertical weld "K" to determine if acceptable results were achieved in accordance with the requirements of ASME Section III, paragraph NE-5320, Radiographic Acceptance Standards, and ASME Section V, Article 2, Radiographic Examination.

b. Findings

No findings were identified.

1A05 (Unit 2) ITAAC Number 2.2.01.04a.ii (96) / Family 06F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.04a.ii (96):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
4.a) The components identified in Table 2.2.1-1 as ASME Code Section III retain their pressure boundary integrity at their design pressure.	ii) Impact testing will be performed on the containment and pressure-retaining penetration materials in accordance with the ASME Code Section III, Subsection NE, to confirm the fracture toughness of the materials.	ii) A report exists and concludes that the containment and pressure-retaining penetration materials conform with fracture toughness requirements of the ASME Code Section III.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.06-02.02 - Component Welding
- 65001.F-02.01-Design Document Review
- 65001.F-02.02-Fabrication Records Review

The inspectors reviewed CB&I welding procedure E91TG-H4, revision 10 and associated welding procedure qualification records 12690, 12691, 12723, and 12757 to determine whether the welding procedure qualification was in accordance with the fracture toughness requirements of ASME Section III, Subsection NE for welding the Unit 2 containment vessel middle ring course S7 plates B2-C29-1 to B2-C30-1 and the upper ring course S9 plates B2-E-24 to B2-E23. The inspectors reviewed IHI welding procedure IT-1118G, revision 1, and associated welding procedure qualification records I-11Q8G and T-11M7G to determine whether the welding procedure qualification was in accordance with the fracture toughness requirements of ASME Section III, Subsection NE for welding the Unit 2 containment vessel middle ring spare penetration P42 flange to the P42 sleeve, weld WB2-P42-F.

The inspectors reviewed eight CMTRs consisting of the following materials to determine whether Charpy V-notch impact tests of pressure retaining materials for the Unit 2 containment vessel were performed in accordance with the fracture toughness requirements of ASME Section II-Part A, ASME Section III, Subsection NE, and WEC containment vessel design and material specification APP-MV50-Z0-001, revision 8:

- two middle ring shell plates;
- two middle ring weld filler materials;
- two upper ring shell plates;
- one lower ring spare penetration weldneck flange; and
- one lower ring spare penetration sleeve.

b. Findings

No findings were identified.

1A06 (Unit 2) ITAAC Number 2.2.02.07b.ii (139) / Family 06F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.02.07b.ii (139):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
7.b) The PCS wets the outside surface of the containment vessel. The inside and the outside of the containment vessel above the operating deck are coated with an inorganic zinc material.	ii) Inspection of the containment vessel exterior coating will be conducted.	ii) A report exists and concludes that the containment vessel exterior surface is coated with an inorganic zinc coating above elevation 135'-3".

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.06-02.01 - General Installation
- 65001.F-02.03-Observation of Fabrication Activities
- 65001.F-02.04-General Quality Assurance (QA) Review

The inspectors performed a direct inspection of construction activities associated with ITAAC No. 139 (2.2.02.07b.ii) for the Unit 2 containment vessel. The inspectors reviewed subcontractor, Williams Specialty Services, coating procedures to determine whether the procedures met the requirements of the UFSAR, design specification, industry standards, and manufacturer's recommendations. The inspectors reviewed certificates of conformance for the coating material, Carboline Carbozinc 11 HSN (base, filler, activator, and thinner) to determine whether the material met the requirements of the UFSAR and design specification.

The inspectors walked down the inorganic zinc coating storage area to determine whether procedure and industry standard requirements were being followed. The inspectors observed testing of compressed air used for blast cleaning of the containment vessel exterior surfaces to determine whether oil or water was present in the compressed air, procedures were followed, and the requirements of ASTM D4285 were met. The inspectors observed blast cleaning of the exterior surface of the containment vessel middle ring to determine whether the cleaning was conducted in accordance with the design specification, procedures, and industry standards.

The inspectors observed mixing of the inorganic zinc coating for the containment vessel middle ring to determine whether the proportions were mixed correctly, the mixture was being agitated, and procedures were followed. The inspectors observed testing of the environmental conditions to determine whether the testing was performed in accordance with procedures and coatings were not applied until environmental conditions were

achieved. The inspectors examined the measuring and test equipment to determine whether the sling psychometer and temperature gauge were being used past their calibration due date. The inspectors observed application of the inorganic zinc coating on the exterior surface of the containment vessel middle ring to determine whether the coating was applied in accordance with the design specification, procedures, and industry standards. The inspectors reviewed the work traveler for the application of the inorganic zinc coating on the containment vessel to determine whether hold points were observed, acceptance criteria were met, and if the work traveler contained the most current versions of the applicable procedures and specifications.

The inspectors observed these coating activities and reviewed post coating inspection reports related to the following plates for the Unit 2 containment vessel middle ring: B2-D15, B2-C29, B2-C18, B2-E6, B2-D22, B2-C30, B2-C23, and B2-E5.

b. Findings

No findings were identified.

1A07 (Unit 2) ITAAC Number 2.2.02.07b.iii (140) / Family 06F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.02.07b.iii (140):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
7.b) The PCS wets the outside surface of the containment vessel. The inside and the outside of the containment vessel above the operating deck are coated with an inorganic zinc material.	iii) Inspection of the containment vessel interior coating will be conducted.	iii) A report exists and concludes that the containment vessel interior surface is coated with an inorganic zinc coating above 7' above the operating deck.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.06-02.01 - General Installation
- 65001.06-02.03 - Post Installation Activities
- 65001.F- Inspection of the ITAAC-Related Design and Fabrication Requirements
- 65001.F-02.02-Fabrication Records Review

The inspectors conducted a walkdown of the Unit 2 containment vessel middle ring to determine whether approved procedures and industry standards were being followed for coating the interior surfaces.
The inspectors reviewed the subcontractor's, Williams Specialty Services' (WSS), coating procedures to determine whether the procedures met the requirements of the UFSAR, the design specification, industry standards, and manufacturer's recommendations.

The inspectors reviewed a sample of WSS Post Coating Application Inspection Logs for the interior surfaces of containment vessel to determine if plates B2-E4, B2-C15, B2-C28, and B2-D24 met the coating thickness acceptance criteria.

b. Findings

No findings were identified.

1A08 (Unit 2) ITAAC Number 2.2.03.08c.xi (196) / Family 06A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.03.08c.xi (196):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
8.c) The PXS provides RCS makeup, boration, and safety injection during design basis events.	xi) Inspection of the as-built CMT inlet diffuser will be conducted.	xi) The CMT inlet diffuser has a flow area ≥ 165 in2.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.A- As-Built Attributes for Structure, System, or Component (SSCs) associated with ITAAC

The inspectors reviewed as-built drawings and dimensional test reports for Unit 2 Core Makeup Tanks (CMT) A & B to determine whether the surface area of the inlet diffusers were greater than or equal to 165 square inches. The inspectors performed an independent calculation to determine whether the surface area of the inlet diffusers were greater than or equal to 165 square inches.

b. Findings

No findings were identified.

1A09 (Unit 2) ITAAC Number 3.1.00.01 (733) / Family 18A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.1.00.01 (733):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
1. The Technical Support Center (TSC) has floor space of at least 75 ft2 per person for a minimum of 25 persons.	An inspection will be performed of the TSC floor space.	The TSC has at least 1875 ft2 of floor space.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.06 - Records
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors conducted a walkdown of the TSC to determine if the total floor space is at least 1875 square feet. Specifically, the inspectors reviewed a drawing of the TSC layout and performed independent measurements to verify a sample of dimensions from that drawing. The inspectors also performed independent calculations to determine if the total floor space of the TSC was greater than 1875 square feet.

b. Findings

No findings were identified.

1A10 (Unit 2) ITAAC Number 3.3.00.02a.i.a (760) / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.a (760):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) 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.	i) 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.	i.a) A report exists which reconciles deviations during construction and concludes that the as-built containment internal 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 used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.05 - Steel Structures
- 65001.F-02.03-Observation of Fabrication Activities
- 65001.B-02.04-Production Controls

The inspectors performed a direct inspection of construction activities associated with module CA05. The inspectors reviewed drawings and fabrication records to determine whether the documents met the requirements of the design specification, design drawings, and AWS D1.1, Structural Steel Welding Code.

The inspectors performed a direct inspection of sub-module CA05_03 dimensions to determine whether the sub-module was fabricated in accordance with the dimensions on design drawings. The inspectors observed stud welding of weld number VS2-CA05-

VWK-084-FW-03-S-067 on sub-module CA05_03 to determine whether the welding was performed in accordance with the requirements of AWS D1.1. During the welding observation the inspectors:

- reviewed the associated weld data record to determine whether correct WPS were referenced, hold points were observed, and inspections were performed;
- ensured surfaces to be welded met the requirements of AWS D1.1;
- observed that the welder was welding within the WPS variables; and
- ensured the weld was traceable to the welder.

b. Findings

No findings were identified.

1A11 (Unit 2) ITAAC Number 3.3.00.02a.i.a (760) / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.a (760). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01 - Inspection of ITAAC-Related Foundations & Buildings
- 65001.01-02.01 - Procedures
- 65001.01-02.05 - Steel Structures
- 65001.01-02.07 - Identification and Resolution of Problem
- 65001.F- Inspection of the ITAAC-Related Design and Fabrication Requirements
- 65001.F-02.03-Observation of Fabrication Activities
- 65001.B-02.01-Program and Procedures Review
- 65001.B-02.02-Welding Procedure Qualification
- 65001.B-02.03-Welder Qualification
- 65001.B-02.04-Production Controls
- 65001.B-02.05-Inspection
- 65001.B-02.06-Records
- 65001.02-02.01 - Inspection of Concrete Placement
- 65001.02-02.02 - Laboratory Testing
- 65001.02-02.07 - Problem Identification and Resolution
- 65001.A.02.01 - Observation of in-Process Installation Activities
- 65001.A.02.03 - Independent Assessment/Measurement Inspection
- 65001.A.02.04 - Review As-built Deviations/Nonconformance

The inspectors performed a field inspection of containment internal reinforcing steel from elevation 71'-6" to 76'-6". The inspectors conducted inspections of concrete reinforcement steel placement, reviewed applicable design drawings and specifications, and interviewed licensee personnel to determine whether structural concrete work and related licensee quality control activities were being performed in accordance with design specifications and approved procedures. Specifically, the inspectors verified if:

- structural concrete design and construction was accomplished under controlled conditions and in accordance with applicable procedures, specifications, drawings, and approved procedures using qualified personnel;
- key building critical dimensions and materials satisfied design specifications, requirements, and relevant ITAAC;
- deviations from the design due to as-built conditions were identified and documented appropriately;
- records reflected that completed work met design specifications and acceptance criteria;
- reinforcing steel installation was controlled and performed in accordance with the applicable specifications, codes, drawings, and procedures;
- reinforcing steel was located properly in the structures, secured, free of excess rust, and had proper clearances; and
- Quality control (QC) inspections were performed to verify correct placement of reinforcing steel.

The inspectors observed the concrete placement inside containment from elevation 71'-6" to 76'-6". The inspectors observed placement of the containment vessel bottom head 1A concrete pour and final quality control inspections of the reinforcing steel. The inspectors also observed in process testing of the fresh concrete, reviewed concrete batch tickets, and observed the final finish and curing techniques used. The inspectors observed the pour, reviewed the applicable concrete procedures and specifications, and reviewed the work package to determine whether:

- contractors had approved implementing procedures, which addressed the requirements of applicable American Concrete Institute (ACI) codes, prescribed adequate methods of QC inspection, and specified appropriate quantitative and qualitative acceptance criteria;
- the batch plant was producing the specified mix, using the proper qualified and approved constituents;
- concrete subgrade, form work, and reinforcing steel were free of foreign materials and excess rust;
- concrete was placed and consolidated by properly trained individuals using the proper equipment;
- fresh concrete tests; including slump, air content, temperature, and unit weight; were performed by qualified personnel and equipment; at the appropriate intervals; and

- proper finishing, curing, and temperature monitoring techniques and equipment were utilized.

In addition, inspectors reviewed applicable design specifications, engineering and design coordination reports (E&DCRs), nonconformance reports, and corrective action reports associated with the containment vessel bottom head 1A concrete pour and rebar installation to determine if:

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

The inspectors performed a direct inspection of construction activities associated with the assembly of CA01. The inspectors observed fit up and welding for the seam weld joining submodules CA01-22 and CA01-23 which form part of the south reactor cavity wall from elevation 98'-0" to 135'-3". The inspectors reviewed the drawings, weld procedures (WPS), and supporting procedure qualification records (PQRs) to determine whether the welding activities were performed in accordance with the design specifications, design drawings, and American Welding Society (AWS) D1.1, Structural Steel Welding Code. The inspectors also reviewed the welder qualification records to determine whether the welders performing the activities were qualified in accordance with the applicable AWS D1.1 requirements. The inspectors reviewed the weld travelers in work package VS2-CA01-S4W-06002, to verify the traceability of each welder and the filler material used to the weld observed. The inspectors also reviewed the CMTRs for the weld filler material used to determine whether the material was in accordance with the WPS.

In addition, the inspectors reviewed construction documentation and performed a visual inspection of the seam weld joining submodules CA01-24 to CA01-01 which form part of the south reactor cavity wall from elevation 98'-0" to 135'-3". The inspectors observed QC inspectors perform NDE of the weld in the form of magnetic particle testing and ultra-sonic testing to determine whether the weld met the acceptance criteria in QC inspection plan. The inspectors reviewed the drawings, WPS, and supporting PQRs to determine whether the welding activities were performed in accordance with the design specifications, design drawings, and AWS D1.1, Structural Steel Welding Code. The inspectors also reviewed the welder qualification records to determine whether the welders performing the activities were qualified in accordance with the applicable AWS D1.1 requirements. The inspectors reviewed the weld travelers to verify the traceability of each welder and the filler material used to the weld observed. The inspectors also reviewed the CMTRs for the weld filler material used to determine whether the material was in accordance with the WPS.

The inspectors performed an inspection of construction activities associated with the assembly of CA05. The inspectors reviewed construction documentation and performed a visual inspection of the seam welds joining submodules CA05-03 to CA05-04 and CA05-04 to CA05-05 which form part of the passive core cooling system valve/equipment room B. The inspectors reviewed the drawings, WPS, and supporting PQRs to determine whether the welding activities were performed in accordance with the design specifications, design drawings, and American Welding Society (AWS) D1.1, Structural Steel Welding Code. The inspectors also reviewed the welder qualification records to determine whether the welders performing the activities were qualified in accordance with the applicable AWS D1.1 requirements. The inspectors reviewed the weld travelers to verify the traceability of each welder and the filler material used to the weld observed. The inspectors also reviewed the CMTRs for the weld filler material used to determine whether the material was in accordance with the WPS.

b. Findings

No findings were identified.

1A12 (Unit 2) ITAAC Number 3.3.00.02a.i.a (760) / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.a (760). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.F- Inspection of the ITAAC-Related Design and Fabrication Requirements
- 65001.F-02.02-Fabrication Records Review
- 65001.B-02.02-Welding Procedure Qualification
- 65001.A- As-Built Attributes for SSCs associated with ITAAC
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors visually examined repairs that had been completed on submodule CA01-22, which forms a portion of the south and west refueling cavity walls, to verify that they met the requirements of AWS D1.1 2000 edition, Structural Welding Code - Steel. Specifically the inspectors examined studs FW-22-S-196, FW-22-S-579, FW-22-S-580, and FW-22-S-581 which had been found deficient and replaced by the licensee.

The inspectors performed a walk down and visual examination of submodules CA01-35, CA01-40, and CA01-44, which forms a portion of the south, west, and east refueling cavity walls, to determine whether they had been fabricated in accordance with the requirements of the approved design drawings and AWS D1.1 2000 edition, Structural Welding Code – Steel, and D1.6 1999 edition, - Structural Welding Code – Stainless Steel. Specifically the inspectors took dimensional measurements of the submodules to verify whether they were within the design tolerance and visually examined a number of welds to verify that they were of adequate size and quality.

The inspectors also reviewed a sample of inspection records and drawings associated with submodules CA01-35, CA01-40, and CA01-44 to verify if they had been adequately inspected and reworked as required by their receipt inspection procedures.

b. Findings

No findings were identified.

1A13 (Unit 2) ITAAC Number 3.3.00.02a.i.c (762) / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.c (762):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are	i) An inspection of the nuclear island structures will be performed. Deviations from the design due to as-built conditions	i.c) A report exists which reconciles deviations during construction and concludes that the as-built structures in the non-radiologically

designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions.	will be analyzed for the design basis loads.	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 NRC IPs/sections to perform this inspection:

- 65001.02-02.01 - Inspection of Concrete Placement

The inspectors reviewed the work package prior to the concrete placement for the auxiliary building wall P, located in the non-radiological controlled area, to determine if design changes have been properly addressed and all quality control inspections were completed in accordance with licensee procedures. The inspectors observed the concrete pour for wall P from elevation 66'-6" to 82'-6" of the non-radiological controlled area of the auxiliary building to determine if the concrete placement was performed in accordance with procedures, design specifications, and ACI 349-01. The inspectors specifically observed:

- pre-placement inspections were completed by QC before concrete was placed;
- concrete temperature, slump, air content, and unit weight were determined at the proper location and frequency as required by design specifications;
- test specimens samples, for concrete strength determination, were sampled at the required location and frequency and were cured in accordance with specified requirements;
- time limit between mixing and placing was not exceeded;
- batch ticket was reviewed for proper mix, transport time, and placement location;
- placement drop distances did not exceeded specification requirements; and
- consolidation of the concrete.

b. Findings

No findings were identified.

1A14 (Unit 2) ITAAC Number 3.3.00.02a.i.d (763) / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.d (763):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) 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.	i) 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.	i.d) 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 NRC IPs/sections to perform this inspection:

- 65001.01 - Inspection of ITAAC-Related Foundations & Buildings
- 65001.F - Inspection of the ITAAC-Related Design and Fabrication Requirements

The inspectors observed the installation of reinforcement steel including horizontal, vertical, shear reinforcement, and bar splices associated with the radiation area of the auxiliary building. Specifically, the inspectors observed steel reinforcement placement on wall I, between column lines 4 and 7 from elevation 82'-6" to 100'-0", to determine if the as built conditions of the wall were in conformance with design drawings, specifications, and with ACI 349-01. The inspectors reviewed the work package associated with the installation of reinforcement on wall I to verify that:

- the latest approved procedures, drawings, and other work instructions were available in the area;
- the items being installed were not damaged during the installation; and
- any differences between the as-built and as-designed SSC's were in accordance with approved modification or change procedures, have an adequate basis and were appropriately dispositioned.

The inspectors also performed independent field verifications and measurements to determine if the installed steel reinforcement conformed to the final design. The inspectors were able to verify that:

- the installation activities met applicable quality and technical requirements established by approved procedures, specifications, and drawings;
- the shape, size, dimensions, type, and grade of material conformed to the approved specifications and design drawings; and
- reinforcement steel was free of concrete or excessive rust.

b. Findings

No findings were identified.

1A15 (Unit 2) ITAAC Number 3.3.00.02a.i.d (763) / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.d (763). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.A.02.01 - Observation of in-Process Installation Activities
- 65001.A.02.02 - Installation Records Review

The inspectors observed the drilling and tapping of brackets and supports used to anchor module CA20 to radiological controlled area of the basemat. The inspectors reviewed work package VS2-CA20-M0W-003, "Drill and Tap Base Mat Embed Plates for CA20 Module Attachment Brackets," to determine whether construction records were being adequately maintained, work accomplished was being adequately documented, and that the appropriate QC inspections were being performed during the process. The inspectors also reviewed the design drawings and procedures to verify if the work was conducted in accordance with design requirements and controlled in a quality manner.

b. Findings

No findings were identified.

1A16 (Unit 2) ITAAC Number 3.3.00.02a.ii.c (766) / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.ii.c (766):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) 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.	ii) An inspection of the as-built concrete thickness will be performed.	ii.c) A report exists that concludes that as-built concrete thicknesses of the non-radiologically controlled area of the auxiliary building sections conform to the building sections defined in Table 3.3-1.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.A.02.02 - Installation Records Review

The inspectors performed a review of the as-built survey data associated with the thickness report for the non-radiological portion of the Unit 2 basemat. Specifically, the inspectors reviewed a sample of the final survey data to determine the data reflected the as-built condition of the basemat with regards to the minimum thickness criteria as described in the FSAR. For this review, the inspectors:

- reviewed a sample of as-built survey records to provide reasonable assurance the records reflected the as-built basemat technical requirements were met; and
- performed a walk-down of the basemat to provide reasonable assurance the as-built survey conforms to the final design and construction documents.

b. Findings

No findings were identified.

1A17 (Unit 2) ITAAC Number 3.3.00.02a.ii.c (766) / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.ii.c (766). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.04 - Key Dimensions and Volumes

The inspectors performed direct measurements and reviewed the as-built condition of the non-radiological controlled auxiliary building walls to verify they conformed to the as-built thickness requirements as specified in the UFSAR Tier 1 Table 3.3-1. Specifically, the inspectors verified the as-built thickness of the following walls:

- Column Line Q wall between the shield building and Column Line 11 from elevation 82'-6" to 100'-0"
- Column Line P wall between the shield building and Column Line 11 from elevation 66'-6' to 82'-6"
- Column Line K wall between the shield building and Column Line 11 from elevation 66'-6" to 82'-6"
- Column Line J wall between Column Lines 7.3 and 11 from elevation 66'-6" to 82'-6"
- Column Line I wall between Column Lines 7.3 and 11 from elevation 66'-6" to 82'-6"

b. Findings

No findings were identified.

1A18 (Unit 2) ITAAC Number 3.3.00.02a.ii.d (767) / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.ii.d (767):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) 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.	ii) An inspection of the as-built concrete thickness will be performed.	ii.d) A report exists that concludes that the as-built concrete thicknesses of the radiologically controlled area of the auxiliary building sections conform to the building sections defined in Table 3.3-1.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.A.02.02 - Installation Records Review

The inspectors performed a review of the as-built survey data associated with the thickness report for the radiological controlled area of the Unit 2 basemat. Specifically, the inspectors reviewed a sample of the final survey data to determine the data reflected the as-built condition of the basemat with regards to the minimum thickness criteria as described in the FSAR. For this review, the inspectors:

- reviewed a sample of as-built survey records to provide reasonable assurance the records reflected the as-built basemat technical requirements were met; and
- performed a walk-down of the basemat to provide reasonable assurance the as-built survey conforms to the final design and construction documents.

b. Findings

No findings were identified.

1A19 (Unit 2) ITAAC Number 3.3.00.02a.ii.d (767) / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.ii.d (767). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.A.02.03 - Independent Assessment/Measurement Inspection
- 65001.A- As-Built Attributes for SSCs associated with ITAAC

The inspectors reviewed survey data associated with wall thicknesses in the auxiliary building radiation controlled area. Specifically, the inspectors performed independent wall thickness measurements, reviewed as-built drawings, and survey inspection reports of walls on column line 1 and column line I from elevation 66'-6" to 82'-6", to verify that:

- the measuring and surveying activities were conducted in accordance with the licensee's QA requirements; and
- the critical attributes of the wall conform to the final design.

b. Findings

No findings were identified.

1A20 (Unit 2) ITAAC Number 3.3.00.02a.ii.d (767) / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.ii.d (767). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.04 - Key Dimensions and Volumes

The inspectors performed direct measurements and reviewed the as-built condition of the radiological controlled auxiliary building walls to verify they conformed to the as-built thickness requirements as specified in the UFSAR Tier 1 Table 3.3-1. Specifically, the inspectors verified the as-built thickness of the Column Line I wall between Column Lines 4 and 5 from elevation 82'-6" to 100'-0" and the Column Line 5 wall between Column Line I and the Shield Building from elevation 66'-6' to 82'-6".

b. Findings

No findings were identified.

1A21 (Unit 2) ITAAC Number 3.3.00.03c (779) / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.03c (779):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
3. Walls and floors of the nuclear island structures as defined on Table 3.3-1 except for designed openings or penetrations provide shielding during normal operations.	Inspection of the as-built nuclear island structures wall and floor thicknesses will be performed.	c) A report exists and concludes that the shield walls and floors of the non-radiologically controlled area of the auxiliary building as defined in Table 3.3-1 except for designed openings or penetrations are consistent with the concrete wall thicknesses provided in Table 3.3-1.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.04 - Key Dimensions and Volumes

The inspectors performed direct measurements and reviewed the as-built condition of the non-radiological controlled auxiliary building walls to verify they conformed to the as-built thickness requirements as specified in the UFSAR Tier 1 Table 3.3-1. Specifically, the inspectors verified the as-built thickness and concrete density for the following walls to ensure they provided shielding:

- Column Line K wall between the shield building and Column Line 11 from elevation 66'-6" to 82'-6"
- Column Line P wall between the shield building and Column Lines 11 from elevation 66'-6' to 82'-6"

b. Findings

No findings were identified.

1A22 (Unit 2) ITAAC Number 3.3.00.03d (780) / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.03d (780):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
3. Walls and floors of the nuclear island structures as defined on Table 3.3-1 except for designed openings or penetrations provide shielding during normal operations.	Inspection of the as-built nuclear island structures wall and floor thicknesses will be performed.	d) A report exists and concludes that the shield walls and floors of the radiologically controlled area of the auxiliary building as defined in Table 3.3-1 except for designed openings or penetrations are consistent with the concrete wall thicknesses provided in Table 3.3-1.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.04 - Key Dimensions and Volumes

The inspectors performed direct measurements and reviewed the as-built condition of the radiological controlled auxiliary building walls to verify they conformed to the as-built thickness requirements as specified in the UFSAR Tier 1 Table 3.3-1. Specifically, the inspectors verified the as-built thickness and concrete density of the Column Line 5 wall between Column Lines I and the shield building from elevation 66'-6" to 82'-6" to ensure shielding was provided.

b. Findings

No findings were identified.

1A23 (Unit 2) ITAAC Number 3.3.00.07c.ii.a (797) / Family 15A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.07c.ii.a (797):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
7.c) Separation is maintained between Class 1E divisions in accordance with the fire areas as identified in Table 3.3-3.	ii) Inspections of the as-built fire barriers between the fire areas identified in Table 3.3-3 will be conducted.	ii.a) Results of the inspection will confirm that fire barriers exist between fire areas identified in Table 3.3-3 inside the non-radiologically controlled area of the auxiliary building.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.15-02.15 - Structures

Inspectors verified that fire barriers existed between fire areas specified in Table 3.3-3, inside the non-radiologically controlled area. Specifically, the inspectors focused on walls K (1202 AF 03) and L (1201 AF 02) at elevation 66'6". Inspectors reviewed design and construction drawings to determine if the fire barriers were adequately constructed. During the review the inspectors focused on plant specific design features for rated fire barriers. This included the witnessing of on-going construction of fire rated walls within the nuclear island regarding materials of construction and dimensional requirements necessary for the approved fire rating. Specifically, the inspectors took measurements of a sample of as-built walls and compared the results to the requirements of ACI 216.1-07, “Code Requirements for Determining Fire Resistance of Concrete and Masonry Construction Assemblies,” to determine if the required fire area rating was met.

b. Findings

No findings were identified.

1A24 (Unit 2) ITAAC Number 3.3.00.07c.ii.b (798) / Family 15A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.07c.ii.b (798):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
7.c) Separation is maintained between Class 1E divisions in accordance with the fire areas as identified in Table 3.3-3.	ii) Inspections of the as-built fire barriers between the fire areas identified in Table 3.3-3 will be conducted.	ii.b) Results of the inspection will confirm that fire barriers exist between fire areas identified in Table 3.3-3 inside the radiologically controlled area of the auxiliary building.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.15-02.15 - Structures

The inspectors verified that fire barriers existed between fire areas specified in Table 3.3-3, inside the radiologically controlled area. Specifically, the inspectors verified that fire barriers existed in RM. 12163 (normal RHR pump room) which corresponds to fire area 1204 AF 01. Inspectors reviewed the licensee's design and construction drawings to determine that the fire barriers were adequately constructed. During the review the inspectors focused on plant specific design features for rated fire barriers. This included the witnessing of on-going construction of fire rated walls within the nuclear island regarding materials of construction and dimensional requirements necessary for the approved fire rating. Specifically, the inspectors took measurements of a sample of as-built walls and compared the results to the requirements of ACI 216.1-07, “Code Requirements for Determining Fire Resistance of Concrete and Masonry Construction Assemblies,” to determine if the required fire area rating was met.

b. Findings

No findings were identified.

1A25 (Unit 2) ITAAC Number C.3.8.01.04.01 (848) / Family 18A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number C.3.8.01.04.01 (848):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria

4.1 The licensee has provided space which may be used for a limited number of the news media. [G.3.b]	4.1 An inspection of the facility/area provided for the news media will be performed in the Joint Information Center (JIC). The space provides adequate equipment to support JIC operation, including communications with the site and with the Emergency Operation Centers in the state and counties as well as a limited number of news media.	4.1 The licensee has provided space which may be used for a limited number of the news media in the Joint Information Center. This space provides the needed equipment per approved administrative procedures

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.A.02.03 - Independent Assessment/Measurement Inspection
- 65001.18-02.08 - Emergency Facilities and Equipment

The inspectors conducted a walkdown of the Joint Information Center (JIC), reviewed a drawing of the JIC, performed independent measurements of a sample of dimensions from that drawing, and reviewed approved administrative procedures related to the JIC to determine if the licensee had provided space which may be used for a limited number of the news media in the JIC consistent with their procedures.

b. Findings

No findings were identified.

1A26 (Unit 2) ITAAC Number C.3.8.01.05.01.01 (849) / Family 18A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number C.3.8.01.05.01.01 (849):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
5.1 The licensee has established a TSC and onsite OSC. [H.1, H.9]	5.1.1 An inspection of the TSC and OSC will be performed, including a test of the capabilities. These facilities will meet the criteria of NUREG-0696 with exceptions.	5.1.1 The TSC has at least 3000 ft2 of floor space.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.18-02.08-Emergency Facilities and Equipment
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors conducted a walkdown of the TSC to determine if the total floor space is at least 3000 square feet. Specifically, the inspectors reviewed a drawing of the TSC layout and performed independent measurements to verify a sample of dimensions from that drawing. The inspectors also performed independent calculations to determine if the total floor space of the TSC was greater than 3000 square feet.

b. Findings

No findings were identified.

1A27 (Unit 2) ITAAC Number C.3.8.01.05.02.01 (857) / Family 18A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number C.3.8.01.05.02.01 (857):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
5.2 The licensee has established an EOF. [H.2]	5.2 An inspection of the EOF will be performed, including a test of the capabilities. The EOF is located outside of the 10 mile Emergency Planning Zone.	5.2.1 The EOF working space size is consistent with NUREG-0696 (75 ft2/ person), and is large enough for required systems, equipment, records and storage.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.18-02.08-Emergency Facilities and Equipment
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors conducted a walkdown of the Emergency Operations Facility (EOF) to determine if the total floor space is consistent with NUREG-0696 (75 square feet per person with a minimum of 35 persons) and the licensee's Emergency Plan, which states that the EOF "is of sufficient size to accommodate about 50 people including NRC representatives". The inspectors reviewed drawings of the EOF layout and performed independent measurements to verify a sample of dimensions from the drawings. The inspectors also conducted independent calculations to determine if the total floor space was greater than 3750 square feet (or 75 square feet per person assuming 50 people, per the licensee's Emergency Plan).

b. Findings

No findings were identified.

1A28 (Unit 2) ITAAC Number C.3.8.01.05.02.02 (858) / Family 18A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number C.3.8.01.05.02.02 (858):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
5.2 The licensee has established an EOF. [H.2]	5.2 An inspection of the EOF will be performed, including a test of the capabilities. The EOF is located outside of the 10 mile Emergency Planning Zone.	5.2.2 The EOF habitability is consistent with Table 2 of NUREG-0696. • Distance at or beyond 10 mi of the TSC • Built to meet the criteria of the County Building Code

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.18-02.08-Emergency Facilities and Equipment
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors reviewed the certificate of occupancy, issued by the county, to ensure that the EOF was built to meet the criteria of the county building code. The inspectors also reviewed the 10 mile Emergency Planning Zone map, located in the EOF (Dose Assessment room), to determine if the distance from the EOF to the TSC was at or beyond 10 miles.

b. Findings

No findings were identified.

1A29 (Unit 3) ITAAC Number 2.2.01.02a (91) / Family 06F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.02a (91). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.06-02.01 - General Installation
- 65001.F-02.03-Observation of Fabrication Activities
- 65001.11-02.03 - Installation and Welding

The inspectors performed a direct inspection of construction activities associated with the Unit 3 containment vessel. The inspectors observed fit-up, tack, and welding activities for the penetration B3-B14 (Steam/Feed line Insert Plate) to containment vessel shell weld to determine whether the welding was performed in accordance with the drawings, containment vessel design specification, and ASME Code Section III, Subsection NE.

The inspectors reviewed weld filler material CMTR for penetration B3-B14 to determine

whether the procured material met the requirements of the material specification and ASME Code Section III, Subsection NE. The inspector reviewed welder qualifications to determine whether the welders were qualified in accordance with ASME Code Section III, Subsection NE.

b. Findings

No findings were identified.

1A30 (Unit 3) ITAAC Number 2.2.01.03a (93) / Family 06B

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.03a (93). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.06-02.02 - Component Welding
- 65001.B-02.04-Production Controls
- 65001.11-02.03 - Installation and Welding

The inspectors performed a direct inspection of construction activities associated with the Unit 3 containment vessel. The inspectors observed fit-up, tack, and welding activities for the penetration B3-B14 (Steam/Feed line Insert Plate) to shell weld to determine whether the welding was performed in accordance with the drawings, containment vessel design specification, and ASME Code Section III, Subsection NE.

During the weld observations, the inspectors reviewed the following:

- the associated weld data record to determine whether correct WPS were referenced, hold points were observed, and inspections were performed;
- weld root spacing was within the tolerances specified on the drawing;
- tack welds to be incorporated into the final weld were free of defects and met the requirements of ASME Code Section III;
- that the welder was welding within the WPS variables;
- the weld joint was protected from wind and rain in accordance with the general welding procedure specification for the flux cored arc welding process;
- the welding gas to determine whether the gas was in accordance with the WPS;
- preheat and interpass temperatures were monitored and controlled in accordance with the general welding procedure specification for the flux cored arc welding process, submerged arc welding process, and the specific WPS; and
- the weld was traceable to the welder.

The inspectors reviewed weld filler material CMTR for penetration B3-B14 to determine whether the procured material met the requirements of the material specification and ASME Code Section III, Subsection NE. The inspector reviewed welder qualifications to determine whether the welders were qualified in accordance with ASME Code Section III, Subsection NE.

b. Findings

No findings were identified.

1A31 (Unit 3) ITAAC Number 3.1.00.01 (733) / Family 18A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.1.00.01 (733). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.06 - Records
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors conducted a walkdown of the TSC to determine if the total floor space is at least 1875 square feet. Specifically, the inspectors reviewed a drawing of the TSC layout and performed independent measurements to verify a sample of dimensions from that drawing. The inspectors also performed independent calculations to determine if the total floor space of the TSC was greater than 1875 square feet.

b. Findings

No findings were identified.

1A32 (Unit 3) ITAAC Number 3.3.00.02a.i.c (762) / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.c (762). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.01 - Procedures
- 65001.F-02.01-Design Document Review
- 65001.02-02.01 - Inspection of Concrete Placement

The inspectors performed a direct inspection of the vertical and horizontal wall reinforcement and embed plates on wall 11 within the non-radiological controlled portion of the auxiliary building from elevation 66'6" to 82'6". The inspectors observed construction activities associated with the auxiliary building wall to determine whether wall 11 was built in accordance with design drawings, design specifications, and ACI 349-01.

The inspectors independently measured horizontal and vertical lap splices as well as clear cover dimensions to determine whether field conditions conformed to ACI 349-01. While in the construction area, the inspectors also verified whether the latest approved-for-construction work package, procedures and drawings were readily available in the installation area and whether these documents were legible and appropriately maintained.

b. Findings

No findings were identified.

1A33 (Unit 3) ITAAC Number 3.3.00.02a.i.c (762) / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.c (762). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.04 - Key Dimensions and Volumes
- 65001.02-02.01 - Inspection of Concrete Placement
- 65001.A.02.01 - Observation of in-Process Installation Activities
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors observed the concrete placement for the Column Line 11 wall between Column Lines I and K from elevation 66'-6" to 82'-6". The inspectors reviewed the final form work and reinforcement for cleanliness to ensure there was no deleterious material within the placement. The inspectors also observed in process testing of the fresh concrete to determine whether the tests were performed by qualified personnel and equipment, the test were performed at the appropriate interval, and that the concrete met the applicable acceptance criteria. The inspectors reviewed the concrete batch tickets to verify if the specified concrete mix was batched and the constituents used where in accordance with the design requirements. The inspectors reviewed work package VS3-1210-C0W-002, Rev. 0. to determine whether all QC inspections were performed prior to placement and that the pre-placement construction activities were performed and documented adequately.

b. Findings

No findings were identified.

1A34 (Unit 3) ITAAC Number 3.3.00.02a.ii.c (766) / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.ii.c (766). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.A-02.02 – Installation Records Review

The inspectors performed a review of the as-built survey data associated with the thickness report for the non-radiological area of the Unit 3 basemat. Specifically, the inspectors reviewed a sample of the final survey data to determine whether the data reflected the as-built condition of the basemat with regards to the minimum thickness criteria as described in the FSAR. For this review, the inspectors:

- reviewed a sample of as-built survey records to provide reasonable assurance

the records reflect the as-built basemat technical requirements were met; and
- performed a walk-down of the basemat to provide reasonable assurance the as-built survey conforms to the final design and construction documents.

b. Findings

No findings were identified.

1A35 (Unit 3) ITAAC Number 3.3.00.02a.ii.c (766) / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.ii.c (766). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.04 - Key Dimensions and Volumes

The inspectors performed direct measurements and reviewed the as-built condition of the non-radiological controlled auxiliary building walls to verify they conformed to the as-built thickness requirements as specified in the UFSAR Tier 1 Table 3.3-1. Specifically, the inspectors verified the as-built thickness of the following walls:

- Column Line I wall between Column Lines 7.3 and 11 from elevation 66'-6" to 82'-6"
- Column Line J wall between Column Lines 7.3 and 11 from elevation 66'-6' to 82'-6"
- Column Line K wall between the shield building and Column Line 11 from elevation 66'-6" to 82'-6"
- Column Line 11 wall between Column Lines I and Q from elevation 66'-6" to 82'-6"

b. Findings

No findings were identified.

1A36 (Unit 3) ITAAC Number 3.3.00.02a.ii.d (767) / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.ii.d (767). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.A.02.02 - Installation Records Review

The inspectors performed a review of the as-built survey data associated with the thickness report for the radiological controlled area of the Unit 3 basemat. Specifically, the inspectors reviewed a sample of the final survey data to determine whether the data reflected the as-built condition of the basemat with regards to the minimum thickness

criteria as described in the FSAR. For this review, the inspectors:

- reviewed a sample of as-built survey records to provide reasonable assurance the records reflect the as-built basemat technical requirements were met; and
- performed a walk-down of the basemat to provide reasonable assurance the as-built survey conforms to the final design and construction documents.

b. Findings

No findings were identified.

1A37 (Unit 3) ITAAC Number 3.3.00.02a.ii.d (767) / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.ii.d (767). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.04 - Key Dimensions and Volumes

The inspectors performed direct measurements and reviewed the as-built condition of the radiological controlled auxiliary building walls to verify they conformed to the as-built thickness requirements as specified in the UFSAR Tier 1 Table 3.3-1. Specifically, the inspectors verified the as-built thickness of the Column Line 1 wall between Column Lines K-2 and J-2 from elevation 66'-6" to 82'-6" and the Column Line N wall between Column Lines 1 and 2 from elevation 66'-6' to 82'-6".

b. Findings

No findings were identified.

1A38 (Unit 3) ITAAC Number 3.3.00.03c (779) / Family 01A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.03c (779). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.04 - Key Dimensions and Volumes

The inspectors performed direct measurements and reviewed the as-built condition of the non-radiological controlled auxiliary building walls to verify they conformed to the as-built thickness requirements as specified in the UFSAR Tier 1 Table 3.3-1. Specifically, the inspectors verified the as-built thickness and concrete density for the Column Line K wall between the shield building and Column Line 11 from elevation 66'-6" to 82'-6" to ensure it met the design requirements for shielding.

b. Findings

No findings were identified.

1A39 (Unit 3) ITAAC Number 3.3.00.05a (784) / Family 02C

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.05a (784):

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
5.a) Exterior walls and the basemat of the nuclear island have a water barrier up to site grade.	An inspection of the as-built water barrier will be performed during construction.	A report exists that confirms that a water barrier exists on the nuclear island exterior walls up to site grade.

The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.02-02.05 - Water Barriers for Foundations and Buildings

The inspectors performed a walk down of the warehouse storage facility and the construction site storage trailer to ensure materials associated with the vertical waterproof membrane (primer, liquid membrane and sheet membrane) were adequately stored and handled per drawing and manufacturer requirements.

The inspectors reviewed drawing VS3-1000-XE-800010, VC Summer Unit 3 Nuclear Island & Turbine Building Waterproof Membrane Installation Details Sheet 1, to determine if the installation requirements met the manufacturer instructions included in Grace Waterproofing Systems Contractor's Handbook Bituthene Details Installation Instructions.

The inspectors observed the installation of the vertical waterproof membrane in various stages of progression. The inspectors observed surface preparation such as cleaning, patching, and priming. The inspectors observed the sheet membrane installation to verify the as-installed condition met the drawing requirements. The inspectors performed independent measurements of key installation dimensions for membrane overlap and liquid membrane corner and edge troweling.

The inspectors reviewed N&D Report VS3-AT01-GNR-000003, "Nail hole in horizontal membrane", and determined that the evaluation, disposition, and justification were adequate. The inspectors observed the repair work in the field to determine if the requirements of the N&D disposition were met.

b. Findings

No findings were identified.

1A40 (Unit 3) ITAAC Number C.3.8.01.04.01 (848) / Family 18A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number C.3.8.01.04.01 (848). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.18-02.08 - Emergency Facilities and Equipment
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors conducted a walkdown of the Joint Information Center (JIC), reviewed a drawing of the JIC, performed independent measurements of a sample of dimensions from that drawing, and reviewed approved administrative procedures related to the JIC to determine if the licensee had provided space which may be used for a limited number of the news media in the JIC consistent with their procedures.

b. Findings

No findings were identified.

1A41 (Unit 3) ITAAC Number C.3.8.01.05.01.01 (849) / Family 18A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number C.3.8.01.05.01.01 (849). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.18-02.08 - Emergency Facilities and Equipment
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors conducted a walkdown of the Technical Support Center (TSC) to determine if the total floor space is at least 3000 square feet. Specifically, the inspectors reviewed a drawing of the TSC layout and performed independent measurements to verify a sample of dimensions from that drawing. The inspectors also performed independent calculations to determine if the total floor space of the TSC was greater than 3000 square feet.

b. Findings

No findings were identified.

1A42 (Unit 3) ITAAC Number C.3.8.01.05.02.01 (857) / Family 18A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number C.3.8.01.05.02.01 (857). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.18 - 02.08-Emergency Facilities and Equipment
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors conducted a walkdown of the EOF to determine if the total floor space is consistent with NUREG-0696 (75 square feet per person with a minimum of 35 persons) and the licensee's Emergency Plan, which states that the EOF "is of sufficient size to accommodate about 50 people including NRC representatives". The inspectors reviewed drawings of the EOF layout and performed independent measurements to verify a sample of dimensions from the drawings. The inspectors also conducted independent calculations to determine if the total floor space was greater than 3750 square feet (or 75 square feet per person assuming 50 people, per the licensee's Emergency Plan).

b. Findings

No findings were identified.

1A43 (Unit 3) ITAAC Number C.3.8.01.05.02.02 (858) / Family 18A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number C.3.8.01.05.02.02 (858). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.18-02.08-Emergency Facilities and Equipment
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors reviewed the certificate of occupancy, issued by the county, to ensure that the EOF was built to meet the criteria of the county building code. The inspectors also reviewed the 10 mile Emergency Planning Zone map, located in the EOF (Dose Assessment room), to determine if the distance from the EOF to the TSC was at or beyond 10 miles.

b. Findings

No findings were identified.

1P01 Quality Assurance Implementation, Appendix 15 Inspection of Criterion XV – Nonconforming Materials, Parts, or Components (35007)

a. Inspection Scope

Inspection of QA Program Implementation
The inspectors reviewed a sample of nonconformance and disposition reports (N&Ds), to determine whether the conditions were adequately reviewed and accepted, rejected, repaired, or reworked in accordance with the Quality Assurance program implementing documents for the control of nonconforming material, parts, and components. The inspectors reviewed N&D reports associated with Unit 2.

The inspectors selected the following evaluations of nonconforming items that the

licensee either rejected, repaired, reworked or accepted through evaluation:

- VS2-CA04-GNR-000010, "CA04 Bent Plate Splice Welds"
- APP-GW-GNR-850043, "WPS 1-1-86 (NCR 14-159) Struct. WPS Non-Compliance to AWS Code Requirements"

b. Findings

No findings were identified.

1P02 Quality Assurance Implementation, Appendix 16 Inspection of Criterion XVI – Corrective Action (35007)

a. Inspection Scope

Daily Corrective Action Program Review
As part of the various IPs 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. The inspectors verified that adequate attention was being given to timely corrective actions and any adverse trends were identified and addressed. Attributes reviewed included:

- 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;
- 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; and
- completion of corrective actions in a timely manner commensurate with the safety significance of the issue.

Routine Review of Items Entered into the Corrective Action Program
On a routine basis, the inspectors screened a sample of issues entered into the licensee and the Engineering, Procurement, and Construction (EPC) consortium's corrective action programs. The inspectors attended several weekly management review committee meetings at the site and held discussions with licensee and EPC consortium personnel responsible for the screening and correction of the issues to verify that:

- the licensee and the EPC consortium were identifying equipment, human performance, and program issues at an appropriate threshold and were entering the issues into their respective corrective action programs;
- the licensee and the EPC consortium appropriately classified the issues and took appropriate short-term corrective actions;
- conditions adverse to quality were controlled in accordance with each company's quality assurance program; and
- potentially adverse trends were appropriately identified and corrected by the

licensee or their contractors.

Selected Issues for Follow-Up Inspection
Based on the inspectors' routine screening of corrective action records, the inspectors selected a sample of issues entered in the corrective action programs to determine if the handling of these issues was consistent with the applicable quality assurance program requirements and 10 CFR Part 50, Appendix B. Specifically, the inspectors reviewed the corrective actions associated with Stop Work Order 132177-300-304-002-00001, "Stop Work on Procurement and Storage of Material and Components," to determine whether the corrective actions for a partial release of the stop work were adequate.

b. Findings

No findings were identified.

4. OTHER INSPECTION RESULTS

4OA6 Meetings, Including Exit

.1 Exit Meeting.

On September 29, 2014, the inspectors presented the inspection results to Mr. R. Jones, Vice President for New Nuclear Operations for V.C. Summer Units 2 and 3, 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

Licensees and Contractor Personnel
C. Baucom, CB&I Licensing
C. Beard, CB&I Project Engineer
W. Hicks, WSS Coatings Superintendent
J. Holl, Mistras Quality Oversight
R. Jones, Vice President, New Nuclear Operations, SCE&G
F. Salter, SCE&G Licensing
R. Thompson, ITAAC Supervisor
R. Williamson, Manager - Emergency Planning

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Section 1A01:

CMTRs
NNN034
RINJQ-229-2-5
RINJQ-229-2-7
RINJQ-229-2-1
KN-1466
RINJQ-232-1-1

IHI Welding Procedures
I-11R2G Rev. 3
IT-1116G R0
IT-1120G rev. 0
I-11R3G rev. 4
IT-1118G, Rev 1

CB&I Welding Procedures
E9018M H4 R Rev. 6
E91TG-H4 Rev. 5

Welder Qualification Records (by welder Company and ID#)
CB&I
351, 838, 451, 171

IHI
1820, 1831, 1881, 1925, 1963, 1964, 2001, 2006, 2050, 2431, 2535, 2553, 2556, 2565, 2567, 2595, 2705

Other
NCR VC-043 Rev. 1
IHI Magnetic Particle Examination (MT)Procedure, Drawing #026R205 rev. 3

Section 1A02:

IHI Weld Procedures and Qualifications
IHI WPS IT-1118G, GMAW Semi-Automatic, Rev. 1
IHI PQR I-11Q8G, GMAW Semi-Automatic Qualification, dated 10/27/2009
IHI PQR T-11M7G, GTAW Manual Qualification, dated 8/18/2009

CB&I Weld Procedure and Qualifications
CB&I WPS E91TG-H4, Flux-cored Arc Welding (FCAW) Semi-Automatic, dated 10/29/2013
CB&I PQR 12690, FCAW Semi-Automatic Qualification, dated 12/17/2009
CB&I PQR 12691, FCAW Semi-Automatic Qualification, dated 1/4/2010
CB&I PQR 12723, FCAW Semi-Automatic Qualification, dated 3/8/2010
CB&I PQR 12757, FCAW Semi-Automatic Qualification, dated 5/3/2010

CMTRs
IHI/JFE Steel CMTR No. 6271-11, hot rolled steel plate, dated 4/26/2012
IHI/JFE Steel CMTR No. 6271-12, hot rolled steel plate, dated 4/26/2012
IHI/JFE Steel CMTR No. 6341-11, hot rolled steel plate, dated 8/24/2012
IHI/JFE Steel CMTR No. 6341-12, hot rolled steel plate, dated 8/24/2012
IHI/SEO Koatsu CMTR No. G24280-005CM, weldneck flange, dated 10/18/2011
IHI/Nippon Steel CMTR No. RINJQ-232-1-1, flange sleeve material, dated May 31, 2012
IHI/Kobe Steel CMTR No. KN-1466, weld filler material, dated 9/21/2010
CB&I/Lincoln Electric CMTR for Q3 Lot 1075G weld filler material, dated 5/22/2013

Other
IHI/Japan Steel Works CMTR No. 6271-11, dated April 26, 2012, for hot rolled steel plate used for the Unit 2 containment vessel middle ring course 7, plate B2-C29-1
IHI/Japan Steel Works CMTR No. 6271-12, dated April 26, 2012, for hot rolled steel plate used for the Unit 2 containment vessel middle ring course 7, plate B2-C30-1
IHI/SEO Koatsu Kogyo CMTR No. G24280-005CM, dated October 18, 2011, for containment vessel penetration P42 flange

Section 1A03:

CMTRs
NNN034
RINJQ-229-2-5
RINJQ-229-2-7
RINJQ-229-2-1
KN-1466
RINJQ-232-1-1

IHI Welding Procedures
I-11R2G Rev. 3
IT-1116G R0
IT-1120G rev. 0
I-11R3G rev. 4
IT-1118G, Rev 1

CB&I Welding Procedures
E9018M H4 R Rev. 6
E91TG-H4 Rev. 5

NDE Reports
VCS-U2-2012-RT-095
VCS-U2-2012-PT-017
VCS-U2-2012-RT-095
VCS-U2-2012-PT-017
MT-004-BG-WB2-A4-A
MT-004-EP-WE12-AE-N-S
MT-004-EP-WE12-AE-N-P
MT-004-RP-WE12-AE-N
MT-004-BG-WE12-AE-N
MT-004-BR-WE12-AE-N
MT-004-BP-WE12-AE-N
MT-004-AP-WE12-AE-N
LT-004-WB2-A4-A-R
RT-004-WB2-A4-A
RT-004-WB2-A4-A SR
VCS-U2-2012-RT-099
VCS-U2-2012-RT-100
VCS-U2-2012-PT-025
VCS-U2-2012-PT-026
VCS-U2-2012-RT-099
VCS-U2-2012-RT-100
VCS-U2-2012-PT-025
VCS-U2-2012-PT-026
MT-004-RP-WB2-P25-N
MT-004-EP-WB2-P23, P25-N
MT-004-RP-WB2-P25-N
MT-004-BG-WB2-P23, P25-N
MT-004-BR-WB2-P25-N
MT-004-BP-WB2-P23, P25-N
MT-004-AP-WB2-P25-N
MT-004-EP-WB2-A12-A
MT-004-EP-WB2-P07-N-P
MT-004-RP-WB2-P07-N
MT-004-BG-WB2-P07-N
MT-004-BG-WB2-A12-A
MT-004-BR-WB2-P07-N
MT-004-BP-WB2-P07-N
MT-004-AP-WB2-P07-N
RT-004-WB2-A12-A
MT-004-EP-WB2-A12-B
MT-004-BG-WB2-A12-B
RT-004-WB2-A12-B
MT-004-EP-WB2-P12-N-P
MT-004-RP-WB2-P12-N
MT-004-BG-WB2-P12-N
MT-004-BR-WB2-P12-N

MT-004-BP-WB2-P12-N
MT-004-AP-WB2-P12-N
MT-004-EP-WB2-B1-C
MT-004-BG-WB2-B1-A-C
RT-004-WB2-B1-C
MT-004-EP-WB2-P34, P35-N-P
MT-004-RP-WB2-P34, P35-N
MT-004-BG-WB2-P34, P35-N
MT-004-BR-WB2-P34, P35-N
MT-004-BP-WB2-P34, P35-N
MT-004-AP-WB2-P34, P35-N
MT-004-EP-WB2-P40~P42-F
MT-004-EP-B2-A5-31
RT-004-WB2-A5-A SR
RT-004-WB2-P40,41,42-F

Welder Qualification Records (by welder Company and ID#)
CB&I
351, 838, 451, 171

IHI
1820, 1831, 1881, 1925, 1963, 1964, 2001, 2006, 2050, 2431, 2535, 2553, 2556, 2565, 2567, 2595, 2705

Radiograph Films
Weld B2-A4 to B2-A5; Films 0-1, 1-2, 2-3, 7-8
Weld B2-A5 to H02; Films 0-1, 3-4, 6-7, 4-5, 9-10, 12-13
Weld WB2-P41-F; Films 1, 7, 9
Weld WB2-A5-A; Films 5, 6
Weld WB2-A12-A; Films 1, 5
Weld WB2-A12-B; Films 3, 6
Weld WB2-B1-C; Films 1, 2

Other
NCR VC-043 Rev. 1
IHI MT Procedure, Drawing #026R205 rev. 3

Section 1A04:

CB&I weld traveler B2E-S9-K, dated 6/11/2014
CB&I WPS E91TG-H4, FCAW semi-automatic machine welding, Rev. 10
IHI/JFE Steel Coporation CMTR No. 6341-11, dated 8/24/2012
IHI/JFE Steel Coporation CMTR No. 6341-12, dated 8/24/2012
CB&I welder performance qualification for welder number 838, dated 8/18/2011
CB&I welder performance qualification for welder number 921, dated 11/18/2013
CB&I VCS-U2-2014-RT-021, RT Report, dated 7/14/14

Section 1A05:

IHI Weld Procedures and Qualifications
IHI WPS IT-1118G, Gas metal Arc Welding (GMAW) Semi-Automatic, Rev. 1

IHI PQR I-11Q8G, GMAW Semi-Automatic Qualification, dated 10/27/2009
IHI PQR T-11M7G, GTAW Manual Qualification, dated 8/18/2009

CB&I Weld Procedure and Qualifications
CB&I WPS E91TG-H4, FCAW Semi-Automatic, dated 10/29/2013
CB&I PQR 12690, FCAW Semi-Automatic Qualification, dated 12/17/2009
CB&I PQR 12691, FCAW Semi-Automatic Qualification, dated 1/4/2010
CB&I PQR 12723, FCAW Semi-Automatic Qualification, dated 3/8/2010
CB&I PQR 12757, FCAW Semi-Automatic Qualification, dated 5/3/2010

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IHI/JFE Steel CMTR No. 6271-11, hot rolled steel plate, dated 4/26/2012
IHI/JFE Steel CMTR No. 6271-12, hot rolled steel plate, dated 4/26/2012
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IHI/SEO Koatsu CMTR No. G24280-005CM, weldneck flange, dated 10/18/2011
IHI/Nippon Steel CMTR No. RINJQ-232-1-1, flange sleeve material, dated May 31, 2012
IHI/Kobe Steel CMTR No. KN-1466, weld filler material, dated 9/21/2010
CB&I/Lincoln Electric CMTR for Q3 Lot 1075G weld filler material, dated 5/22/2013

Section 1A06:

Procedures
WSS-3081-TWI-Z0-604-01, Preparing and Applying Coatings to Service Level I, II and III Surfaces, rev. 4
AP1000-PQAP-09-02, Qualifying and Certifying Coating Applicators, rev. 1

Miscellaneous
Specification APP-GW-Z0-604, Application of Protective Coatings to Systems, Structures and Components for the AP1000 Reactor Plant, rev. 7
Work Traveler 3081-004-002, Unit 2 Exterior Containment Vessel Middle Ring, rev. 0
Carboline Certificate of Conformance for Carboline shipment/release 1162141-1, dated 07/30/2014

Section 1A07:

WEC
Design Specification APP-GW-Z0-604, Application of Protective Coatings to Systems, Structures and Components, Rev. 7

WSS Docs
WSS Traveler, 3081-004-003, Unit 2 Interior Containment Vessel Middle Ring Blast and Coat Carbozinc 11 HSN, Rev. 0
WSS-3081-ITP-APP-GW-Z0-604, Inspection/Test Plan Application of Protective Coatings to Systems, Structures and Components for the AP1000 Reactor Plant, Rev. 4
WSS-3080-3081-QWI-10-01-06, Performing a Blotter Test, Rev 0
WSS-3081-QWI-10-01-03, Performing Methyl Ethyl Ketone Rub Test, Rev 0

Other
UFSAR for V.C. Summer Nuclear Station Units 2 and 3, Rev. 2

Section 1A08:

VC Summer Core Makeup Tanks Data Packages
VS2-MT01-VQQ-001, rev.1, pages 4030-4031, Mangiarotti Dimensional Test Report
VS2-MT01-VQQ-001, rev. 1, Section 8, Mangiarotti As-Built Drawing
VS2-MT01-VQQ-002, rev. 0, pages 4132-4133, Mangiarotti Dimensional Test Report
VS2-MT01-VQQ-002, rev. 0, Section 8, Mangiarotti As-built Drawing

Section 1A09:

Drawing Number 1MS-82-202, "V.C. Summer Nuclear Operations Building", Rev. 0 (Basement Floor Plan)

Section 1A10:

Drawings
VS2-CA05-S5-03001, Containment Building Area 3 Module CA05 submodule CA05_03 Isometric views, rev. 2
VS2-CA05-S5-03002, Containment Building Area 3 Module CA05 submodule CA05_03 Brake Down, rev. 2
VS2-CA05-S5-03003, Containment Building Area 3 Module CA05 submodule CA05_03 Structural Outline - Vertical Sections, rev. 2
VS2-CA05-S5-03004, Containment Building Area 3 Module CA05 submodule CA05_03 Structural Outline - Horizontal Sections, rev.3
VS2-CA05-S5-03005, Containment Building Area 3 Module CA05 submodule CA05_03 Structural Outline - Specific Details, rev.2
VS2-CA05-S5-03006, Containment Building Area 3 Module CA05 submodule CA05_03 Structural Outline - Vertical Sections View II, rev. 1
VS2-CA05-S5-03007, Containment Building Area 3 Module CA05 submodule CA05_03 Structural Outline - Specific Details II, rev. 2
VS2-GW-S9-300 Onward, Standard Weld Details

Work Package
VS2-CA05-S5W-00001, Submodule CA05_03

Specifications
APP-CR01-Z0-010, Specification for Supply and Installation of Mechanical Splices for Reinforcing Steel, Rev. 6
VS2-CC01-Z0-031, Safety Related Placing Concrete and Reinforcing Steel, Rev. 5

Non-Conformances and Disposition
VS2-1110-GNR-000001, Rev. 0
VS2-CR01-GNR-000166, Rev. 0
VS2-1110-GNR-000005, Rev. 0
VS2-CC01-GNR-000142, Rev. 0
VS2-1110-GNR-000004, Rev. 0
VS2-1110-GNR-000003, Rev. 0

Drawings
APP-0000-C9-002, AP1000 Concrete General Notes, Rev. 4
APP-0000-C9-001, AP1000 Concrete General Notes, Rev. 8

APP-1100-CRL-003, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0" Installation Sequence, Rev. 3
APP-1110-CC-120, Containment/Shield Building Concrete Floor @ EL. 71'-6" Areas 1 & 2, Rev. 4
APP-1100-CC-901, Containment/Shield Buildings Section A-A, Rev. 6
APP-1110-CR-508, Containment Concrete Reinforcement up to EL. 71'-6" Sections, Rev. 5
APP-1110-CR-509, Containment Concrete Reinforcement up to EL. 71'-6" Sections, Rev. 5
APP-1110-CR-520, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Plan at EL. 80'-0" & 80'-6", Rev. 4
APP-1110-CR-521, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Plan at EL. 80'-0" & 80'-6", Rev. 4
APP-1110-CR-524, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Plan at EL. 80'-0" & 80'-6", Rev. 4
APP-1110-CR-525, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 4
APP-1120-CR-545, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 4
APP-1120-CR-546, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 4
APP-1120-CR-547, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 4
APP-1120-CR-548, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 3
APP-1120-CR-549, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 3
APP-1120-CR-550, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 3

Nondestructive Examination Records
V2-14-W-U-0579, Ultrasonic Examination (UT) Report for Weld VS2-CA01-VWK-061-FW-2401-01, 8/20/2014
V2-14-W-M-1096, MT Record for Weld VS2-CA01-VWK-061-FW-2401-01, 8/20/2014
Magnetic Particle Lift Test Record for Yoke SN 423, 6/13/2014
Certificate of Certification for Magnetic Flux 8A Red Powder, Batch# 13K001, 10/1/2013
Certificate of Compliance for UT Calibration Block from Curtis Industries, Inc., Block# 301314, 2/17/2014
UT Equipment Calibration from Olympus, Transducer SN 928249, 4/14/2014
UT Equipment Calibration from Olympus, UT Equipment Epoch600 SN 130577712, 12/06/2013

Work Package
VS2-CA01-S4W-06002
VS2-CA05-S4W-00001

Weld Procedure Specifications
WPS2-1M72
WPS2-1.1S02
WPS2-1.1T30
WPS2-1.1T71

Procedure Qualification Record
SP121
SP122
SP123
SP124
SP125
SP144
SP155
SP156
SP157
SP158
SP176
SP177
SP178
SP212
SP214
SP227

Section 1A11:

Specifications
APP-CR01-Z0-010, Specification for Supply and Installation of Mechanical Splices for Reinforcing Steel, Rev. 6
VS2-CC01-Z0-031, Safety Related Placing Concrete and Reinforcing Steel, Rev. 5

Non-Conformances and Disposition
VS2-1110-GNR-000001, Rev. 0
VS2-CR01-GNR-000166, Rev. 0
VS2-1110-GNR-000005, Rev. 0
VS2-CC01-GNR-000142, Rev. 0
VS2-1110-GNR-000004, Rev. 0
VS2-1110-GNR-000003, Rev. 0

Drawings
APP-0000-C9-002, AP1000 Concrete General Notes, Rev. 4
APP-0000-C9-001, AP1000 Concrete General Notes, Rev. 8
APP-1100-CRL-003, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0" Installation Sequence, Rev. 3
APP-1110-CC-120, Containment/Shield Building Concrete Floor @ EL. 71'-6" Areas 1 & 2, Rev. 4
APP-1100-CC-901, Containment/Shield Buildings Section A-A, Rev. 6
APP-1110-CR-508, Containment Concrete Reinforcement up to EL. 71'-6" Sections, Rev. 5
APP-1110-CR-509, Containment Concrete Reinforcement up to EL. 71'-6" Sections, Rev. 5
APP-1110-CR-520, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Plan at EL. 80'-0" & 80'-6", Rev. 4
APP-1110-CR-521, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Plan at EL. 80'-0" & 80'-6", Rev. 4
APP-1110-CR-524, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Plan at EL. 80'-0" & 80'-6", Rev. 4
APP-1110-CR-525, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 4

APP-1120-CR-545, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 4
APP-1120-CR-546, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 4
APP-1120-CR-547, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 4
APP-1120-CR-548, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 3
APP-1120-CR-549, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 3
APP-1120-CR-550, Containment Concrete Reinforcement EL. 71'-6" up to 83'-0"/84'-6" Sections, Rev. 3

Nondestructive Examination Records
V2-14-W-U-0579, Ultrasonic Examination Report for Weld VS2-CA01-VWK-061-FW-2401-01, 8/20/2014
V2-14-W-M-1096, MT Record for Weld VS2-CA01-VWK-061-FW-2401-01, 8/20/2014
Magnetic Particle Lift Test Record for Yoke SN 423, 6/13/2014
Certificate of Certification for Magnetic Flux 8A Red Powder, Batch# 13K001, 10/1/2013
Certificate of Compliance for UT Calibration Block from Curtis Industries, Inc., Block# 301314, 2/17/2014
UT Equipment Calibration from Olympus, Transducer SN 928249, 4/14/2014
UT Equipment Calibration from Olympus, UT Equipment Epoch600 SN 130577712, 12/06/2013

Work Package
VS2-CA01-S4W-06002
VS2-CA05-S4W-00001

Weld Procedure Specifications
WPS2-1M72
WPS2-1.1S02
WPS2-1.1T30
WPS2-1.1T71

Procedure Qualification Record
SP121
SP122
SP123
SP124
SP125
SP144
SP155
SP156
SP157
SP158
SP176
SP177
SP178
SP212
SP214
SP227

Section 1A12:

Procedures
CSI-3-75-1, Parallel Module Fabrication/Risk Assessment Process
F-Q445-001, Receipt Inspection, Rev. 5

NND's
CR-NND-14-01050

Inspection Reports
14-527363-0003, Type "B" Inspection Report Module CA01-40
13-527363-0576, Type "B" Inspection Report Module CA01-44
13-527363-0548, Type "B" Inspection Report Module CA01-44
C112-14-0408, Type "A" Inspection Report Module CA01-40
S561-14-0147, Type "A" Inspection Report Module CA01-40
S561-14-0115, Type "A" Inspection Report Module CA01-40
S511-14-0183, Type "A" Inspection Report Module CA01-40
Q445-14-0671, Preliminary Receipt Inspection of Modules CA01-40 through CA01-45
C112-14-0233, Type "A" Inspection Report Module CA01-44
S561-14-0116, Type "A" Inspection Report Module CA01-44
C112-14-0414, Type "A" Inspection Report Module CA01-41
S561-14-0114, Type "A" Inspection Report Module CA01-41
C112-14-0253, Type "A" Inspection Report Module CA01-35
S540-14-0136, Type "A" Inspection Report Module CA01-35
S561-14-0128, Type "A" Inspection Report Module CA01-35
Q445-14-0404, Type "A" Inspection Report Module CA01-35
Certificate of Compliance J.O. No.132177, P.O. No. 527363, VS2-CA01-35 Wall Sub-Module

Drawings
APP-GW-S9-100, AP 1000 Structural Modules General Notes – I, Rev. 4
APP-GW-S9-102, AP 1000 Structural Modules General Notes – II, Rev. 3
APP-GW-S9-101, AP 1000 Structural Modules General Notes – VII, Rev. 0
APP-CA01-S5X-35001, Containment Building Areas 1 & 4 Module CA01 Sub-module CA01-35 Index, Rev. 4
APP-CA01-S5-35003, Containment Building Areas 1 & 4 Module CA01 Sub-module CA01-35 Structural Outline-Vertical Section Views, Rev. 4
APP-CA01-S5-35004, Containment Building Areas 1 & 4 Module CA01 Sub-module CA01-35 Structural Outline-Horizontal Section Views, Rev. 3
APP-CA01-S5X-44001, Containment Building Area 4 Module CA01-44 Index, Rev. 5
APP-CA01-S5B-44001, Containment Building Area 4 Module CA01-44 Bill of Materials, Rev. 5
APP-CA01-S5-44001, Containment Building Area 4 Module CA01-44 Isometric Views, Rev. 5
APP-CA01-S5-44004, Containment Building Area 4 Module CA01-44 Structural Outline-Horizontal Section Views, Rev. 5
APP-CA01-S5X-40001, AP 1000 Containment Building Area I Module CA01-40 Index, Rev. 6
APP-CA01-S5B-40001, AP 1000 Containment Building Area I Module CA01-40 Bill of Materials, Rev. 6
APP-CA01-S5-40001, AP 1000 Containment Building Area I Module CA01-40 Isometric Views, Rev. 6
APP-CA01-S5-40002, AP 1000 Containment Building Area I Module CA01-40 Break-Down, Rev.6

APP-CA01-S5-40003, AP 1000 Containment Building Area I Module CA01-40 Structural Outline-Vertical Section Views, Rev. 6
APP-CA01-S5-40004, Containment Building Area 4 Module CA01-40 Structural Outline-Horizontal Section Views, Rev. 6
APP-GW-S9-300, AP 1000 Structural Modules Standard Weld Details, Rev. 5
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APP-GW-S9-302, AP 1000 Structural Modules Standard Weld Details, Rev. 3
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Weld Traveler
B3-CVLR-B3-B14

Welder Qualifications
Welder Stamp #63023529 and 63055715

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CMTR
5825164 ES-RAVT, 1.2mm Outershield 91K2-HSR 33# SP

Weld Traveler
B3-CVLR-B3-B14

Welder Qualifications
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LIST OF ACRONYMS

ACI	American Concrete Institute
ADAMS	Agencywide Document Access and Management System
ASME	American Society of Mechanical Engineers
AWS	American Welding Society
CB&I	Chicago Bridge and Iron
CFR	Code of Federal Regulations
SMT	Core Make-up Tanks
CMTR	Certified Material Test Report
CV	Containment Vessel
CVBH	Containment Vessel Bottom Head
E&DCR	Engineering and Design Coordination Reports
EOF	Emergency Operations Facility
EPC	Engineering, Procurement, and Construction
FCAW	Flux-cored Arc Welding
GMAW	Gas Metal Arc Welding
IHI	Ishikawajima-Harima Heavy Industries Co., Ltd.
IP	Inspection Procedure
ITAAC	Inspections, Tests, Analyses, and Acceptance Criteria
JIC	Joint Information Center
MT	Magnetic Particle Examination
N&D	Nonconformance and Disposition Reports
NDE	Nondestructive Examination
NRC	Nuclear Regulatory Commission
PQR	Procedure Qualification Record
QA	Quality Assurance
QC	Quality Control
RT	Radiographic Examination
SCE&G	South Carolina Electric and Gas
SSC	Structure, System, or Component
TSC	Technical Support Center
UFSAR	Updated Final Safety Analysis Report
UT	Ultrasonic Examination
WEC	Westinghouse Electric Company
WPS	Welding Procedure Specification
WSS	Williams Specialty Services