



**Ronald A. Jones**  
Vice President  
New Nuclear Operations

December 19, 2013  
NND-13-0749  
10 CFR 50.55(e)

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555-001

Subject: 10 CFR 50.55(e) Report Regarding Results of Root Cause  
Analysis for Deviations Associated with Sub-Modules Being  
Supplied by CB&I Lake Charles for V.C. Summer Units 2 & 3.

This letter provides a written notification in accordance with 10 CFR 50.55(e)(4)(iii) pertaining to the results of the root cause analysis for deviations associated with sub-modules being supplied by Chicago Bridge and Iron (CB&I) Lake Charles for the Virgil C. Summer Units 2 & 3 nuclear construction project.

The written notification pursuant to 50.55(e) is for a failure to comply by CB&I Lake Charles, a supplier to the V.C. Summer Nuclear Station Units 2 & 3 Construction Project, to meet the requirements of 10 CFR 50 Appendix B. CB&I Power, as an agent for SCE&G, has concluded that a significant breakdown in the Quality Assurance Program at CB&I Lake Charles, as identified by the root cause analysis on deviations associated with sub-modules being supplied for the domestic AP1000 Nuclear Projects, could have produced a defect and this condition is reportable in accordance with 10 CFR 50.55(e)(3)(iii)(C). This letter is the follow up to the previously reported condition in EN 49582. See Enclosure for the detailed content of the notification.

Please address any questions to Mr. Alfred M. Paglia, Manager, Nuclear Licensing, New Nuclear Deployment, by telephone at 803-941-9876; or by email at [apaglia@scana.com](mailto:apaglia@scana.com).

Sincerely,

Ronald A. Jones  
Vice President  
New Nuclear Operations

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Enclosure

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South Carolina Electric & Gas

NND-13-0749

Enclosure

Virgil C. Summer Nuclear Station (VCSNS) Units 2 & 3

10 CFR 50.55(e) Notification

**Enclosure**

**10 CFR 50.55(e) Notification:**

**Significant Breakdowns in the CB&I-Lake Charles Quality Assurance Program as identified by CB&I-LC Root Cause Analysis (RCA) 2013-739**

- (i) Name and address of the individual or individuals informing the Commission.

Ronald A. Jones  
South Carolina Electric & Gas  
Vice President, New Nuclear Operations  
V.C. Summer Nuclear Station Units 2 & 3  
PO Box 88 Mail Code 800  
Jenkinsville, SC 29065

- (ii) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

CB&I Lake Charles (LC)  
3191 West Lincoln Road  
Lake Charles LA 70605

No basic components have been found that contain a defect or fails to comply with the Atomic Energy Act of 1954, as amended, or any applicable rule, regulation, order, or license of the Commission relating to substantial safety hazards. However, it has been concluded that the condition is reportable in accordance with 10 CFR 50.55(e)(3)(iii)(C).

- (iii) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

CB&I Power (formerly Shaw Power) is conducting engineering, procurement, and construction activities for V.C. Summer Units 2 & 3, under contract South Carolina Electric & Gas (SCE&G).

- (iv) Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

A Root Cause Analysis (RCA) was performed for deviations associated with sub-modules being supplied by CB&I Lake Charles facility for the V.C. Summer Units 2 and 3 and Vogtle Units 3 and 4 nuclear construction projects. The RCA identified failures to comply with Appendix B associated with Quality Assurance Records and Corrective Action. The results of that root cause analysis have been evaluated in accordance with 10 CFR 50.55(e) and it has been concluded that the identified condition is reportable in accordance with the applicable reporting criterion, as described in 10 CFR 50.55(e)(3)(C), which states, "(C) Undergoes any significant breakdown in any portion of the quality assurance program conducted under the requirements of Appendix B to 10 CFR Part 50 which could have produced a defect in a basic component. These breakdowns in the quality assurance program are reportable whether or not the breakdown actually resulted in a defect in a design approved and released for construction, installation, or manufacture."

No basic components have been found that contain a defect or fail to comply with the Atomic Energy Act of 1954, as amended, or any applicable rule, regulation, order, or license of the Commission relating to a substantial safety hazard. However, based on our best judgment, the criterion described in 10 CFR 50.55(e)(3)(C) as to whether a breakdown in the quality assurance program "could have" produced a defect has been met. Actions are in progress to verify that the sub-modules meet the applicable design requirements. This will ensure that the sub-modules conform to the applicable requirements prior to use.

- (v) The date on which the information of such defect or failure to comply was obtained.

The root cause analysis was completed by CB&I-LC on September 24, 2013. This is considered the discovery date for performing the evaluation of the condition.

- (vi) In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

No basic components have been found that contain a defect or fails to comply with the Atomic Energy Act of 1954, as amended, or any applicable rule, regulation, order, or license of the Commission relating to substantial safety hazards.

- (vii) In the case of a completed reactor manufactured under part 52 of this chapter, the entities to which the reactor was supplied

Not Applicable.

- (viii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

Actions are in progress to verify that the sub-modules meet the applicable design requirements. This will ensure that the sub-modules conform to the applicable requirements prior to use. Additionally, actions based on the results of the CB&I Lake Charles root cause analysis have been identified and are being implemented via the CB&I Lake Charles corrective action program. These actions include, but are not limited to the following:

-Prior to shipment of affected sub-modules, perform a document (traveler) review and develop as-built inspection packages. A Finish team has been established to verify as-built documentation to physical configuration of components within sub-modules.

-Revise appropriate fabrication procedures to restructure traveler packages.

-Have the Design Authority review and approve fabrication drawings prior to being issued for fabrication.

-Revise Corrective Action and trending programs to reflect industry standards.

- (ix) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

None.