



April Rice
Manager
Nuclear Licensing

July 1, 2015
NND-15-0412
10 CFR 50.55(e)

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

Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3
Combined License Nos. NPF-93 and NPF-94
Docket Nos. 52-027 & 52-028

Subject: 10 CFR 50.55(e) Report Regarding Results of Root Cause Analysis Associated with Deviations Produced During Concrete Core Drilling Activities at 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 a root cause analysis associated with deviations produced during concrete core drilling operations inside the Unit 2 containment vessel bottom head by the primary construction company, Chicago Bridge and Iron (CB&I), at the Virgil C. Summer Units 2 & 3 nuclear construction project.

CB&I, as an agent for SCE&G, has concluded that a significant breakdown in the Quality Assurance Program, as identified by a root cause analysis for structural rebar cut and contact made with the containment vessel bottom head during core drilling operations, could have produced a defect. 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 51158.

This condition is associated with NRC special inspection report 05200027/2015-09. See Enclosure for the detailed content of the notification.

Please address any questions to Mr. Findlay Salter, Nuclear Licensing, New Nuclear Deployment, by telephone at 803-941-9855; or by email at james.salter@scana.com.

Sincerely,

April Rice
Manager
Nuclear Licensing

JFS/RAJ/fs

Enclosure

c: Victor McCree
William M. Cherry
Stephen A Byrne
Jeffrey B. Archie
Ronald A Jones
Joel Hjelseth
Brian McIntyre
Tom Geer
Miachael Frankle
Brian Bedford
Joseph Cole
Patrick Young
Carl D. Churchman
Ken Hollenbach
Alvis J. Bynum
Kathryn M. Sutton
Curtis Castell
Charles Baucom
AJ Marciano
Sean Burk
Benny Buras
Charlie White
Denise McGovern
Jim Reece
Tomy Nazario
April Rice
Larry Cunningham
Findlay Salter
VCSummer2&3ProjectMail@cbi.com
Vcsummer2&3project@westinghouse.com
DCRM-EDMS@SCANA.COM
VCSNNDCorrespondence@SCANA.COM

South Carolina Electric & Gas

NND-15-0412

Enclosure

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

10 CFR 50.55(e) Notification

Enclosure

10 CFR 50.55(e) Notification:

Significant Breakdown in the CB&I- Quality Assurance Program as identified by CB&I Root Cause Analysis (RCA) 2015-0539, "Structural Rebar Cut and Contact Made with the Containment Vessel Bottom Head During Core Drilling Operations at the V.C. Summer Unit 2 Nuclear Construction Site."

- (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.

The activity being conducted involved concrete core drilling to install reinforcing bars (rebar) inside the partially constructed V.C. Summer Unit 2 containment structure. These construction activities were being performed by the primary construction company, Chicago Bridge & Iron (CB&I). It was determined that during core drilling operations the drill impinged upon safety-related rebar and the containment vessel bottom head.

Upon evaluation it was determined that these deviations, had they been left uncorrected, would not have created a substantial safety hazard. 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, 128 South Tryon Street, Charlotte, NC 28202, is conducting engineering, procurement, and construction activities for V.C. Summer Units 2 & 3, under contract to 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 was performed to investigate the causes that lead to impingement of safety related reinforcing steel and the steel containment vessel

during concrete core drilling operations within the Unit 2 containment structure. The results of this 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)(iii)(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."

The relevant quality assurance program elements that failed to prevent the identified conditions from occurring are associated with the following two (2) Criteria of 10 CFR 50, Appendix B:

Criterion V. Instructions, Procedures, and Drawings and
Criterion XV. Nonconforming Materials, Parts, or Components.

No basic components have been found that contain a defect 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.

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

The discovery date of the respective deviations was February 17th, 2015, based on initiation of the corrective action report and nonconformance report that identified the deviations. The root cause analysis associated with the identified conditions was completed on April 10, 2015. An interim report pertaining to the identified conditions was submitted by CB&I by letter dated April 16, 2015 (ML15117A100, NRC Log No. 2015-23-00).

- (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.

The actions necessary to correct the identified conditions and causes have been established and are being tracked to completion under the CB&I Power Corrective Action Program (CAP). The preventative actions to correct the root causes of the condition are currently identified with various due dates, with the latest currently identified due date of July 31, 2015. These dates are subject to change and are being managed in accordance with the CB&I CAP. Actions include development of a procedure to govern core drilling operations, revision to the procedure controlling installation of post-installed anchors, and revisions to multiple procedures governing the nonconformance program.

SCE&G, as the Licensee, is providing oversight of the CB&I Casual Analysis and Corrective Actions through the SCE&G Corrective Action Program.

- (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.

The condition was discovered by CB&I Power and a Root Causes Analysis has been performed. Corrective actions have been developed and are being addressed in accordance with the CB&I Power Corrective Action Program. Therefore, there is no additional action or advice needed at this time.