



T. PRESTON GILLESPIE, Jr.
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February 17, 2011

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
Interim Report of the Evaluation of a Deviation Pursuant to
10CFR21.21(a)(2)
Problem Investigation Process No.: O-10-08732

Gentlemen:

The purpose of this letter is to provide the Commission with the prescribed interim report, as required by 10CFR21.21(a)(2), of a deviation identified by Duke Energy Carolinas, LLC (Duke Energy). The deviation being evaluated is compliance with the American Welding Society (AWS) standard AWS D1.1 with respect to fabrication activities associated with the Natural Phenomenon Barrier System project. Fluor has procurement responsibility for this contract. DuBose National Energy Services, Inc. is contracted to supply the materials and fabrication services through its contract with Fluor for the project.

The attachment to this letter provides the information requested by 10CFR21.21(d)(4). In addition, the attachment discusses the relevance of this issue to Duke Energy's Oconee Nuclear Station (ONS). There are no commitments contained in this letter or its attachment.

This issue is currently considered to be of no significance with respect to the health and safety of the public. However, a final analysis is pending the completion of our current investigation which is expected to be completed by the end of April 2011.

Should you have any questions or require additional information, please contact Sandra N. Severance, ONS Regulatory Compliance, at (864) 873-3466.

Sincerely,

T. Preston Gillespie, Jr., Vice President
Oconee Nuclear Station

Attachment

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cc: Mr. Victor McCree
Administrator, Region II
U.S. Nuclear Regulatory Commission
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, GA 30303-1257

Mr. John Stang
Project Manager
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Mr. Andrew Sabisch
NRC Senior Resident Inspector
Oconee Nuclear Station

Mr. Doug Vickery, Director of Quality
DuBose National Energy Services, Inc.
900 Industrial Drive
PO Box 499
Clinton, NC 28329

Mr. Ram Prabhakar
Fluor Quality Engineering Manager
Oconee Project

Attachment
Oconee Nuclear Station
Interim Report per 10CFR21.21(a)(2)

This notification follows the format of and addresses the considerations contained in 10CFR21.21(d)(4)(i) - (viii).

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

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station (ONS)
7800 Rochester Highway
Seneca, SC 29672

(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.

Facility:

Duke Energy Carolinas, LLC (Duke Energy)
Oconee Nuclear Station
7800 Rochester Highway
Seneca, SC 29672

Basic component which fails to comply or contains a defect:

Structural Steel Components for the Natural Phenomenon Barrier System (NPBS), ONS Units 1, 2, and 3
supplied by DuBose National Energy Services, Inc. (DuBose)
Fluor Purchase Order No. A3PB-2-1017-00-Q1

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

Manufactured and Supplied by:

DuBose National Energy Services, Inc.
900 Industrial Drive
PO Box 499
Clinton, NC 28329

(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.

Nature of the defect:

When removing weld run-out tabs beyond the weld joint on fabricated assemblies as requested by Duke Energy, in accordance with the applicable contract documents, weld discontinuities suspected to be porosity were discovered in the trimmed areas. Initially, DuBose removed backing bars from six of the affected welds to assist in characterizing the discontinuities and determining their extent. Evaluation by Fluor and Duke Energy personnel has concluded that there were process shortcomings in the DuBose welding efforts such that examples of lack of fusion with the weld metal and the weld metal backing bar and lack of penetration into the root of the weld were identified. At that juncture, the decision was made jointly by Fluor and Duke Energy to have DuBose remove all backing bars and weld tabs, inspect the weld for indications and document, and make repairs if required.

Safety hazard which could be created by such defect:

The issue of concern is an inadequate full penetration weld on a structural steel component. The initial fabrication work scope as described was designated for use in the NPBS for the Borated Water Storage Tank Superstructure project. The design for this structure is robust and contains sufficient design margin such that the design function would still be met with the defective welds.

However, the evaluation continues for fabricated steel that is to be used in the NPBS Girts and steel associated with the West Penetration Room and Cask Decon Room Protection Project. The review cannot be completed until the inspection and the associated repairs have been finalized for this population of the fabricated steel. This population of material was procured for Duke Energy under Fluor purchase order A3PB-2-1015-00-Q1.

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

NOTE: This is an interim report. The final determination as to whether this issue constitutes a defect or failure to comply has not been established.

October 11, 2010 - DuBose issued NCR 2833 to document that weld tabs were not removed beyond weld joint.

October 12, 2010 - Weld discontinuities discovered. DuBose marked the NCR as potentially reportable per 10CFR21.

November 1, 2010 - The issue was identified in the ONS corrective action program PIP O-10-8732.

November 18, 2010 - DuBose evaluation concluded that the fabrications produced by DuBose do not contain a Defect or result in a Failure to Comply under the requirements of 10CFR21.

November 23, 2010 - Fluor, procuring organization, initiated NCR 10-339 to initiate an Owner Engineering review and identified the issue as potentially reportable under 10CFR21 (i.e., Part 21).

November 23, 2010 - ONS Problem Investigation Process (PIP) 10-8732 was updated to reflect the potential Part 21 nature of this concern.

On-going - Weld inspection, documentation and repair continues.

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

Duke Energy has not installed any of the fabricated material with suspect welds from Fluor purchase orders A3PB-2-1015-00-Q1 and / or A3PB-2-1017-00-Q1. Duke Energy does not have information from DuBose or otherwise regarding the number of similar components in use at, supplied for, or being supplied for non-Duke Energy facilities.

Duke Energy did not sell any of the fabricated material purchased under Fluor purchase orders A3PB-2-1015-00-Q1 and / or A3PB-2-1017-00-Q1 to other entities.

Duke Energy has no direct knowledge of any other current fabrications from this vendor with potential for the same problem. However, in 2009, welding and back gouging performed by DuBose for use by Duke Energy were performed outside the parameters of pre-qualified welding process and joint design. The inadequate back gouging and welding process allowed slag inclusions to be trapped at the root of the Complete Joint Penetration (CJP). Their process was deemed not acceptable for use on structural steel provided to Duke Energy for the Tornado/High Energy Line Break project. That material was evaluated against the requirements of 10CFR21, and analyses and engineering calculations were required to support the use of the delivered components.

(vii) 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.

Fluor has returned to DuBose all of the fabricated steel that contained welding backing bars and run-out tabs obtained through both referenced Fluor purchase orders. All backing bars and run-out tabs will be removed, welds inspected, mapped and repaired. Weld maps are being generated for all welding repairs. These maps are being provided to ONS Major Projects (ONS) and Fluor Aliso

Viejo (Fluor A/V) engineering to facilitate structural reviews in order to determine structural adequacy.

Corrective actions taken or planned:

The fabricated panels have not been placed into service. Fabricated steel has been returned to DuBose for repair. Fluor has assigned an experienced AWS Certified Welding Inspector to be in the DuBose Shop at all times work is being performed. DuBose has developed a repair procedure (shop traveler) stating how the backing bars and run-out tabs are to be removed; welds mapped, defects excavated; and acceptable weld joint geometry verified prior to initiating welding repairs. All weld defects are documented on the weld map.

Length of time to complete the action:

Because of the length of time required to complete the inspection and repair process, an analysis of the impact of the balance of the welding defects cannot be completed by Duke Energy OMP Engineering / Fluor A/V Engineering until April 2011.

DuBose is performing a cause analysis to determine the reasons for the unacceptable condition(s). This analysis will be completed prior to the final technical evaluation of the identified welding defects and included in the final report.

(viii) 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