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March 24, 2010

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

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
NRC Event Number 45722
10 CFR 21 Notifications - Identification of Defect
DuBose National Energy Services, Inc. - Nelson Stud Missing from QA Embed Plate

Gentlemen:

Pursuant to 10 CFR 21.21(d)(3)(ii), Duke Energy Carolinas, LLC (Duke Energy) is providing the required written notification of the identification of a defect. This information was initially reported to the NRC Operations Center at 14:44 EST on February 24, 2010. The NRC assigned event number 45722 to this notification.

The attachment to this letter provides the information requested by 10 CFR 21.21(d)(4). In addition, the attachment discusses the relevance of this issue to Duke Energy's Oconee Nuclear Station. There are no commitments contained in this letter or its attachment.

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

This issue is considered to be of no significance with respect to the health and safety of the public.

Sincerely,

Richard J. Freudenberger

for Dave Baxter, Vice President
Oconee Nuclear Site

Attachment

IE19
NRR

bxc: ONS Site:
Document Control (Master File)
PIP FILE
Site PORC Members
RGC MGR / K. R. Alter
RGC: Commitment Index / J.E. Smith
WOE MGR / S. J. Magee

Work Control:
D.V. Deatherage

Site Engineering:
Tommy Mills
EPIX Coordinator / R.E. Harris

Nuclear Procurement Quality INOS:
Sherry Grier
Jennifer Snead

NSC:
Dan Cunningham

GO:
NRIA / R.L. Gill
ELL / EC050

LEGAL / L.F. Vaughn

CNS:
SA MGR / K. W. Phillips
RGC MGR / R. D. Hart

MNS:
SA MGR / H.D. Brewer
RGC MGR / K. L. Ashe

Attachment
Oconee Nuclear Station
Notification per 10 CFR 21.21(d)(3)(ii)

This notification follows the format of and addresses the considerations contained in 10 CFR 21.21(d)(4)(i) - (viii).

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

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(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:

Embed plates with stud welded anchors
Fluor purchase order A3PB-1-0011-00-Q1 (December 18, 2008)

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

Fabricated 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:

The embed plates with stud welded anchors (i.e., Nelson studs) provided by DuBose National Energy Services, Inc. (DuBose) exhibited unexpected and unacceptable structural characteristics. Upon delivery to the worksite, one stud was found detached from the embed plate. Two additional studs detached during a "ping" test, and six studs detached during 15 degree bend tests. Evaluation by site and vendor personnel concluded that process controls in the areas of cleanliness and operator/equipment performance at DuBose have resulted in cold weld joints and weld failures.

Safety hazard which could be created by such defect:

The embed plates described were to be used for a variety of QA Condition 1 functions, including reaction points for the new Protected Service Water (PSW) Building structural steel framing and support/restraint of PSW electrical equipment. According to the investigating team, the process controls in the areas of cleanliness and operator/equipment performance at DuBose had resulted in cold weld joints and weld failures thus causing the failure of the Nelson studs on the embed plates. Depending upon the installation location of these embedded plates and the number and location of ineffectively attached Nelson studs, this deviation could have created a substantial safety hazard were it to remain uncorrected.

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

January 20, 2010 - The original issue was identified in Oconee corrective action program PIP O-10-0369.

February 17, 2010 - Oconee corrective action program PIP O-10-0369, corrective action (CA) #3 concluded the identified deviation could create a substantial safety hazard and is therefore reportable pursuant to Part 21.21(d)(1)(ii).

February 23, 2010 - Oconee Site Vice President was notified of the completion of the evaluation pursuant to Part 21.21(a)(3)(ii).

February 24, 2010 - NRC was notified of the defect via ENS pursuant to Part 21.21(d)(3)(i). The NRC assigned event number 45722 to this notification.

(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 is aware of the 15 embedded plates installed in the PSW project from Fluor purchase order A3PB-1-0011-00-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 embed plates purchased under Fluor purchase order A3PB-1-0011-00-Q1 to other entities.

(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.

Duke Energy has retained one embed plate with stud welded anchors for testing purposes. Fluor has returned to DuBose all of the remaining embed plates with stud welded anchors fabricated with suspect welding. The plates will be re-worked by adding a fillet weld on each stud. None of the suspect embed plates is in use at Duke Energy nuclear facilities.

Corrective actions taken or planned:

The 15 embed plates installed in the PSW Building prior to this discovery have not been placed into service. These plates will be evaluated through additional testing and/or repaired prior to placing the system in service.

Length of time to complete the action:

Duke Energy estimates that issues with the installed embedded plates will be resolved within 60 days. As previously noted, Fluor has returned to DuBose the remaining embed plates with stud welded anchors.

(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.

Duke Energy will not allow use of the DuBose automatically timed stud welding process without resolution of process areas of concern and Fluor formal release.