Duke Energy®

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

Subject: Oconee Nuclear Station
Units 1, 2, and 3
Docket Nos. 50-269, -270, -287
10 CFR 21 Notification - Identification of Defect
Problem Investigation Process No.: O-03-4686

Gentlemen:

Pursuant to 10 CFR 21.21(d)(3)(ii), Duke Power Company LLC d/b/a Duke Energy Carolinas, LLC (Duke) is providing the required written notification of the identification of a defect. This information was initially reported to the NRC Operation Center on October 9, 2006. The NRC assigned event number 42893 to this notification.

The attachment to this letter provides the information requested by 10CFR 21.21(d)(4). In addition, the attachment discusses the relevance of this issue to Duke's Oconee Nuclear Station. The attachment contains one commitment related to inspection of the suspect material installed in applications where an assumed failure could potentially result in "a significant safety hazard."

Should you have any questions or require additional information, please contact R. P. Todd, in Oconee Regulatory Compliance, at (864) 885-3418.

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

Very truly yours,

Bruce Hamilton

Bruce H. Hamilton, Vice President
Oconee Nuclear Site

Attachment

IE19

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 Power Company LLC d/b/a Duke Energy Carolinas, LLC (Duke)
Oconee Nuclear Station
7800 Rochester Highway
Seneca, SC, 29672

Basic component which fails to comply or contains a defect:

3/4 in thick, 32 sq ft (4 ft by 8 ft) A36 steel plate, heat number A2WT, manufactured in accordance with ASTM/ASME Section II, purchased under purchase order ON 46703, dated June 18, 2001

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

Supplied by (dedicating entity):

Consolidated Pipe & Supply
Consolidated Power Supply Division
3556 Mary Taylor Road
Birmingham, AL 35235

Manufactured by:

CORUS

(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:

An area of lamination approximately 15 inches by 36 inches, which resulted in a laminate layer 1/32 inch to 3/32 inches thick, was found in one 4 ft by 8 ft steel plate, heat number A2WT.

Safety hazard which could be created by such defect:

One sheet of steel plate was issued and cut into smaller pieces for use as pipe support base plates at Oconee Nuclear Station. If the defective material had been used to fabricate pipe supports as intended, the supports may have failed during a design basis transient or accident due to failure of the thin lamination layer. The supports being fabricated were intended for use in safety related systems. The material known to be defective was not actually installed, but in accordance with the provisions of 10CFR Part 21, it must be assumed that this defective material may have resulted in a significant safety hazard and therefore must be reported under Part 21.

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

The material was supplied under purchase order ON 46703, dated June 18, 2001. The order was accepted by a receipt inspection dated September 15, 2001.

On July 22, 2003, the plate steel deviation issue was recognized and entered into the Duke corrective action program (PIP). A 10CFR21 reportability evaluation was initiated. Due to an administrative error, the reportability evaluation was not completed in a timely manner as required by Part 21.

On August 21, 2006, work on the open Part 21 reportability evaluation was resumed. On October 3, 2006, the condition was determined to be reportable under Part 21. The responsible officer subject to the regulations (Site Vice President) was notified on October 9, 2006. (Note: Oconee Nuclear Site staff operates on a four day work week so this notification was made on the third working day after the reportability determination.) The NRC notification was made by fax (with confirmation via ENS phone) at 11:25, October 9, 2006. The NRC assigned event number 42893 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.

Review of Duke records as part of the reportability evaluation revealed that, in addition to the one sheet observed to contain the defect, three (3) additional 4 ft by 8 ft sheets of plate steel with the same heat number were received on the same purchase order. Portions of two of these sheets have been issued at Oconee and used for a number of purposes with no recorded indication of problems.

Forty square feet (i.e. more than one full sheet) of the material were transferred to Duke's Catawba Nuclear Station. Catawba was notified of the issue. It was determined that the material had been used to fabricate base plates for four vital power inverters. Catawba personnel performed a visual inspection of these base plates and no concerns were noted.

Duke has no information on the extent of condition with respect to other material manufactured by CORUS and/or supplied by Consolidated Power Supply Division to the nuclear industry.

(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.

Corrective actions taken:

In 2003, Duke performed an Ultrasonic Test (UT) on the remainder of the original 4 foot by 8 foot sheet. The UT revealed an area of lamination approximately 15 inches by 36 inches, 1/32 inch to 3/32 inches thick. The area containing the deviation was cut out and discarded and the remainder of that sheet was considered acceptable for use.

On September 29, 2006, after the reportability determination was resumed, and the use of the additional sheets was recognized, immediate operability determinations were performed which concluded that there is reasonable expectation of operability for the material actually used at Oconee and Catawba.

The Duke Nuclear Generation Metallurgy Laboratory tested a piece of the sheet containing the lamination. The laboratory found that the steel plate contained some foreign material (aluminum oxide) which apparently had been rolled into the plate during manufacture and may have contributed to the creation of the lamination.

The dedicating entity, Consolidated Power Supply Division of Consolidated Pipe & Supply, was notified by letter dated October 17, 2006. Duke is in the process of sending a piece of the material to Consolidated Power Supply Division for their examination.

Because the portions of the original sheet which were actually used had received additional UT inspection, only components fabricated using material from the "additional sheets" remain suspect. Duke has performed visual inspections of the material used at Catawba. Duke is in the process of identifying the other specific components fabricated using material from the "additional sheets" and will inspect, in a timely manner, the material installed in applications where an assumed failure could potentially result in "a significant safety hazard." This corrective action constitutes a commitment to the NRC. Additional actions, if any, will be dependent upon the results of these inspections.

Duke is also conducting a root cause investigation to determine the cause of the failure to report the lamination issue in a more timely manner.

Individual or organization responsible for the action:

Oconee Nuclear Station, Mechanical and Civil Engineering, Civil Engineering Section, has lead for corrective actions involving the installed material at Oconee. However the Duke Energy point of contact for questions or additional information is R. P. Todd, in Oconee Regulatory Compliance, at (864) 885-3418.

Length of time to complete the action:

Due to the expected locations and accessibility of the installed components, inspections may need to be deferred until the next refueling outage on each Oconee unit. Therefore completion of these inspections may be as late as June, 2008. Additional time may be needed for any actions resulting from these inspections.

(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.

Since Duke has no information on the extent of condition with respect to other material manufactured by CORUS and/or supplied by Consolidated Power Supply Division to the nuclear industry, Duke has not generated any advice for other purchasers or licensees.