

Part 21 (PAR)

Event # 51507

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Region: 1 City: CHARLOTTE County: State: NC	Docket #: Agreement State: Yes License #:
NRC Notified by: CURTIS CASTELL HQ Ops Officer: HOWIE CROUCH Emergency Class: NON EMERGENCY 10 CFR Section: 21.21(d)(3)(i) DEFECTS AND NONCOMPLIANCE	Notifications: BRIAN BONSER R2DO PART 21/50.55 REACTORS EMAIL

PART 21 REPORT - DEFECT ASSOCIATED WITH PRESSURIZER INSTRUMENTATION PIPING PENETRATION IN MODULE FOR VOGTLE UNIT 3

The following information was excerpted from an email received from CB&I:

"This letter provides a report in accordance with 10 CFR 21.21 pertaining to the identification of a defect associated with a structural module piping penetration for the Vogtle Unit 3 AP1000@ project. The defect is associated with a Pressurizer instrumentation piping penetration in structural module CA01 for Vogtle Unit 3.

"This condition was previously identified by interim report letters dated July 1, 2015, and September 2, 2015.

"The discovery date of these deviations is based on the date of the associated CB&I Power Inspection Report (IR). That IR was initiated on May 5, 2015. Interim Part 21 reports dated July 1, 2015, and September 2, 2015, were submitted to the NRC that state the evaluation of this condition was expected to be completed by October 30, 2015. The interim reports were identified as Accession Nos. ML15254A043 and ML15201A130, and Log Nos. 2015-50-01 and 2015-50-00, on the NRC 'Part 21 Reports' website.

"Name and address of the individual or individuals informing the Commission:

Don DePierro
CB&I Power
128 S. Tryon St., Suite 1000
Charlotte, NC 28202"

JE19
NRR



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10 CFR 21.21

October 29, 2015

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

**SUBJECT: 10 CFR PART 21 REPORT REGARDING A STRUCTURAL MODULE
PIPING PENETRATION FOR THE VOGTLE UNIT 3 AP1000® PROJECT**

The attachment to this letter provides a report in accordance with 10 CFR 21.21 pertaining to the identification of a defect associated with a structural module piping penetration for the Vogtle Unit 3 AP1000® project. The defect is associated with a Pressurizer instrumentation piping penetration in structural module CA01 for Vogtle Unit 3.

This condition was previously identified by interim report letters dated July 1, 2015, and September 2, 2015.

If you have any questions pertaining to this information, please contact Curtis Castell, Licensing Manager, at 980-321-8314.

Sincerely,

Don DePierro
Senior Vice President

cc: Regional Administrator, USNRC, Region II

Attachment

10 CFR PART 21 REPORT REGARDING A STRUCTURAL MODULE PIPING
PENETRATION FOR THE VOGTLE UNIT 3 AP1000® PROJECT

This report is being provided in accordance with 10 CFR 21.21.

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

Don DePierro
CB&I Power
128 S. Tryon St., Suite 1000
Charlotte, NC 28202

(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 basic component being supplied is a wall penetration pipe for the Vogtle Unit 3 AP1000® project. The defect is associated with a Pressurizer instrumentation piping penetration in structural module CA01 for Vogtle Unit 3. The piping penetration is identified as ASME (American Society of Mechanical Engineers) Section III Class 2 Reactor Coolant System (RCS) 1-inch Schedule 80, SA312 TP304L grade stainless steel material.

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

The procurement documentation was provided to the supplier by CB&I Power, 128 South Tryon Street Charlotte, NC 28202. This pipe penetration for structural module CA01 was fabricated by CB&I Laurens and delivered to CB&I Lake Charles. The CA01-36 submodule with the affected pipe penetration was fabricated by CB&I Lake Charles and supplied to CB&I Power for use in the Vogtle Unit 3 AP1000® Project. It is not currently known if the defect was introduced on the pipe penetration by CB&I Lake Charles, CB&I Laurens, or CB&I Power.

(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.

CB&I Vogtle Project Quality Control (QC) discovered the nonconforming grinder marks and gouges on the piping penetration during inspection of the pipe. The inspection report states that the grinder marks and gouges were found approximately 8 inches from the end of the pipe and were approximately 1/32 inch deep. During the initial evaluation of the condition it was determined that additional information regarding the characteristics of the nonconformances was needed. It was discovered that the nonconformances had been repaired, so additional measurements of the conditions were not possible. It was determined that the gouges did not exceed 0.023 inch in depth of the Schedule 80 pipe (0.179 inch nominal wall thickness) after the gouged area was smoothed to a 3:1 taper. A 100% ultrasonic test scan of the wall thickness in the repaired area was conducted. The lowest reading was 0.164 inches, which exceeds the minimum wall thickness acceptance criteria of 0.157 inches.

Additional stress data for the pipe was gathered to further justify and support the analysis. The analyzed stress at the location of the deviation is 18,977 ksi with an allowable limit of 30,160 ksi giving a 0.62 stress ratio. Due to the unknown profile of the gouges and a relatively high stress ratio, it was conservatively concluded that a substantial safety hazard could have occurred if the described conditions were left uncorrected. Specifically, the nonconformance could have impacted the integrity of the reactor coolant pressure boundary.

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

The discovery date of these deviations is based on the date of the associated CB&I Power Inspection Report (IR). That IR was initiated on May 5, 2015. Interim Part 21 reports dated July 1, 2015, and September 2, 2015, were submitted to the NRC that state the evaluation of this condition was expected to be completed by October 30, 2015. The interim reports were identified as Accession Nos. ML15254A043 and ML15201A130, and Log Nos. 2015-50-01 and 2015-50-00, on the NRC "Part 21 Reports" website.

(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.

The basic component is a Pressurizer instrumentation pipe penetration in structural module CA01 for the Vogtle Unit 3 AP1000® project. This is the only basic component currently identified to contain a defect.

(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.

The nonconforming pipe penetration was found during inspection of this material and it has been corrected by performance of rework. The other pipe penetrations have been and are being inspected, as required. A corrective action report (CAR 2015-4015) has been entered in the CB&I Power Corrective Action Program that describes the circumstances that led to the identification of this potential substantial safety hazard. That CAR is identified as a Level 1, significant condition adverse to quality, and a root cause analysis of the condition is required by CB&I Power Corrective Action Program (CAP). The actions necessary to correct the identified conditions and causes, and perform applicable "extent of condition" reviews will be established and tracked to completion under the CB&I Power CAP.

(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.

The condition was discovered by CB&I Power prior to installation of the CA01 module into the Vogtle Unit 3 facility and the component has been corrected. Therefore, there is no additional

action or advice needed for this condition at this time. The condition has also been evaluated by CB&I Power for potential 10 CFR 50.55(e) reporting by the affected Combined Operating License Holder. CB&I Power has recommended to the licensee that this condition also be reported under 10 CFR 50.55(e). The QA program criteria deemed to be most relevant to prevent this type of condition are Criterion VII, "Control of Purchased Material, Equipment, and Services," and Criterion X, "Inspection." As previously stated, CB&I Power will perform a root cause analysis of the condition to enable correction of the causes and conditions associated with the identified defect.

(ix) In the case of an early site permit, the entities to whom an early site permit was transferred.

Not applicable.