



Tom Simril
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RA-20-0197

July 13, 2020

10 CFR 50.73

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Subject: Duke Energy Carolinas, LLC
Catawba Nuclear Station, Unit 1
Docket No. 50-413
Licensee Event Report (LER) 413/2020-002-01

Pursuant to 10 CFR 50.73(a)(1) and (d), attached is LER 413/2020-002-01, entitled "Unacceptable Indication Identified During Reactor Pressure Vessel Head Nozzle Penetration Inspection."

This report is being submitted in accordance with 10 CFR 50.73(a)(2)(ii)(A).

There are no regulatory commitments contained in this letter or its attachment.

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

If questions arise regarding this LER, please contact Sherry E. Andrews of Regulatory Affairs at (803) 701-3424.

Sincerely,

A handwritten signature in black ink that reads "Tom Simril". The signature is fluid and cursive, with the first name "Tom" and last name "Simril" clearly distinguishable.

Tom Simril
Vice President, Catawba Nuclear Station

Attachment

United States Nuclear Regulatory Commission
Page 2
July 13, 2020

xc (with attachment):

L. Dudes
Regional Administrator
U.S. Nuclear Regulatory Commission - Region II
Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, GA 30303

K. Cotton
NRC Project Manager (CNS)
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Mailstop O-8G9A
Rockville, MD 20852

J. Austin (without enclosure)
NRC Senior Resident Inspector

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Information Services Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: oir_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.



LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form

<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

1. Facility Name Catawba Nuclear Station, Unit 1	2. Docket Number 05000 413	3. Page 1 OF 3
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4. Title Unacceptable Indication Identified During Reactor Pressure Vessel Head Nozzle Penetration Inspection

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved	
Month	Day	Year	Year	Sequential Number	Rev No.	Month	Day	Year	Facility Name	Docket Number
05	12	2020	2020	- 002	- 00	07	13	2020	Facility Name	Docket Number 05000

9. Operating Mode	11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)			
Defueled	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input checked="" type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
10. Power Level	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
000	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(i)
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)
		<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> Other (Specify in Abstract below or in NRC Form 366A)	

12. Licensee Contact for this LER	
Licensee Contact Sherry Andrews	Telephone Number (Include Area Code) 803-701-3424

13. Complete One Line for each Component Failure Described in this Report									
Cause	System	Component	Manufacturer	Reportable to ICES	Cause	System	Component	Manufacturer	Reportable to ICES
B	AB	RPV	W120	Yes					

14. Supplemental Report Expected	15. Expected Submission Date	Month	Day	Year
<input type="checkbox"/> Yes (If yes, complete 15. Expected Submission Date) <input checked="" type="checkbox"/> No				

Abstract (Limit to 1400 spaces, i.e., approximately 14 single-spaced typewritten lines)

During the performance of reactor vessel closure head (RVCH) inspections, at 2220 EDT on May 12, 2020, it was determined the Unit 1 RVCH nozzle penetration 18 did not meet ASME code case N-729-4 requirements. A surface examination (penetrant test) identified a linear indication on nozzle penetration 18. The indication was not through-wall as determined by ultrasonic testing examination, is not service induced and is attributed to a localized weld fabrication anomaly.

Surface conditioning of the weld in the area of the indication was performed which completely removed the linear indication. An engineering evaluation performed determined the as-left condition of the weld was acceptable for continued service. The ultrasonic testing examination and repair activity performed met the requirements of ASME code case N-729-4.

This event was reported to the NRC as an eight-hour, non-emergency Event Notification Number 54707 on May 13, 2020 per 10 CFR 50.72(b)(3)(ii)(A). This report is being submitted in accordance with 10 CFR 50.73(a)(2)(ii)(A), "any event or condition that results in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded."

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

(See NUREG-1022, R.3 for instruction and guidance for completing this form
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Information Services Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: oira_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER
		YEAR SEQUENTIAL NUMBER REV NO.
Catawba Nuclear Station, Unit 1	05000- 413	2020 - 002 - 00

NARRATIVE**BACKGROUND**

The following information is provided to assist readers in understanding the event described in this LER. Applicable Energy Industry Identification [EII] system and component codes are enclosed within brackets. Catawba Nuclear Station unique system and component identifiers are contained within parentheses.

On May 12, 2020, Unit 1 of Catawba Nuclear Station (CNS) was in a scheduled refueling outage (Defueled, 0% power) for cycle 25. During the outage, the inspection of the reactor vessel closure head (RVCH) [RPV] penetration nozzles [NZL] occurred. The RVCH is a Westinghouse Design manufactured by Rotterdam Dockyard.

No Structures, Systems, or Components (SSCs) were inoperable at the start of this event that contributed to the event. No change in plant mode or in reactor power occurred as a result of this event.

EVENT DESCRIPTION

A volumetric (UT) examination was performed during Catawba Unit 1 Spring 2020 refueling outage (C1R25) for all 78 CRDM j-groove weld nozzle penetrations in the RVCH in accordance with ASME Code Case N-729-4, as conditioned by 10 CFR 50.55a. During data analysis of the UT examination of nozzle penetration 18, additional examinations were performed for a suspect indication near the interface of the CRDM tube material with the j-groove weld toe. A supplemental liquid penetrant (PT) examination was performed to confirm that a suspect UT indication on nozzle penetration 18 was not surface breaking. The PT exam successfully validated that the UT indication was not surface breaking. However, during the PT examination an unacceptable linear indication was detected on the J-Groove weld away from the suspect UT area. The indication was found to be 0.1 inch length and met the criteria of ASME Section III, Article NB-5000, Paragraph NB-5352 to be classified as a linear indication. Linear surface indications are unacceptable.

This event is reportable in accordance with 10 CFR 50.73(a)(2)(ii)(A), "Any event or condition that results in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded" because the linear indication did not meet the applicable acceptance criterion referenced in ASME Code Case N-729-4, as conditioned by 10 CFR 50.55a.

CAUSAL FACTORS

The linear indication identified in the weld material of nozzle penetration 18 at Catawba Unit 1 is not service induced and is attributed to a localized weld fabrication anomaly.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

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1. FACILITY NAME	2. DOCKET NUMBER	YEAR	3. LER NUMBER	REV NO.
			SEQUENTIAL NUMBER	
Catawba Nuclear Station, Unit 1	05000-413	2020	002	00

NARRATIVE**CORRECTIVE ACTIONS**

The indication was addressed by the application of light surface conditioning. A PT was performed after the surface conditioning evolution. No indications were identified by final PT. The amount of material removed from the j-groove weld was evaluated for structural integrity acceptance in accordance with ASME code requirements. The evaluation of the as-left condition after indication removal determined the j-groove weld to be acceptable for continued service.

SAFETY ANALYSIS

Ultrasonic testing determined the linear indication was not through-wall. There was not a breach in the fission product barrier, and the structural integrity of the reactor vessel was not compromised. Therefore, there was no impact to the health and safety of the public.

ADDITIONAL INFORMATION

There have been no previous Licensee Event Reports at Catawba Nuclear Station on this issue.