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December 13, 2007

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

Subject: Duke Power Company LLC, d/b/a Duke Energy Carolinas,
LLC
Oconee Nuclear Station, Unit 2, and 3
Docket No. 50-270,-287
Completion of Confirmatory Action Letter Requirements
and Summary Ultrasonic Examination Results of
Completed Alloy 82/182 Weld Overlays
Relief Requests 07-ON-001 and 07-ON-004

By letters dated January 31, 2007 (ADAMS Accession # ML070390049) and February 22, 2007 (ADAMS Accession # ML070600169), Duke Power Company LLC, d/b/a Duke Energy Carolinas, LLC (Duke) committed to a mitigation schedule regarding Alloy 82/182 butt welds on Pressurizer piping for Units 2 and 3 of the Oconee Nuclear Station (Oconee). The NRC Confirmatory Action Letter (CAL) of March 27, 2007 (ADAMS Accession # ML070790113) regarding Alloy 82/182 butt welds requires a report within 60 days of unit restart of any mitigative actions taken on the subject welds.

In order to support these mitigative actions, on March 12, 2007 Duke submitted Relief Requests (RR) 07-ON-001 (ADAMS Accession # ML070790293) to support application of full structural weld overlays on various pressurizer nozzle to flange, nozzle-to-safe end, and surge line welds. NRC verbally approved this request on May 17, 2007 and provided written approval by letter dated August 6, 2007 (ADAMS Accession # ML071280781). In this request Duke committed to provide a report summarizing the results of the UT examinations of the weld overlays within 14 days of completion of the UT examinations.

By letter dated May 29, 2007, (ADAMS Accession # ML071560504) Duke notified the NRC of the completion of the actions applicable to Unit 2 within the scope of the CAL, and included

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the report relative to UT examinations for associated weld overlays as committed in RR 07-ON-001.

In addition, on September 13, 2007, Duke submitted RR 07-ON-004 (ADAMS Accession # ML072620149), applicable to all three Oconee units, to seek similar relief related to full structural weld overlays on the Decay Heat Removal (DHR) Drop line to Hot Leg Nozzle welds. These welds are not subject to the CAL, but the RR also included a commitment to provide the results of the UT examinations within 14 days of completion of examinations on the DHR line overlay. The NRC staff provided verbal approval of RR 07-ON-004 on November 27, 2007.


This letter is to inform you of the completion of the mitigative repairs for Oconee Unit 3 as listed on Enclosure 4 of our January 31, 2007 letter. These actions were completed during 3EOC23 refueling outage and complete the actions related to all three Oconee units to satisfy the CAL. Enhanced leakage detection requirements committed to in our February 22, 2007 letter are no longer required on any Oconee unit due to the completion of mitigation of the subject welds.

Also, the Unit 3 UT examinations of the Pressurizer and DHR drop line weld overlays were completed November 30, 2007. No flaws outside the IWB-3514 criteria were identified, and no repairs were made to the weld overlays, the original base materials or original 82/182 weld materials. The attached Enclosure provides a report summarizing the results of these examinations, per the commitments contained in RR 07-ON-001 and RR 07-ON-004, respectively.

Thus this letter provides the required response for the CAL and its Enclosures satisfy the RR commitments for work performed during 3EOC23.

If there are any questions, please contact Randy Todd at (864) 885-3418.

Very truly yours,

 for Bruce Hamilton
B.H. Hamilton, Vice President
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Enclosure

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Enclosure
Weld Overlay Ultrasonic Examination
3EOC23
Summary Report

Pressurizer Weld Overlays
Reference Relief Request 07-ON-001

Safety/Relief Nozzle Weld: 3-PZR-WP91-3
Safety/Relief Nozzle Weld: 3-PZR-WP91-1
Safety/Relief Nozzle Weld: 3-PZR-WP91-2
Spray Nozzle Welds: 3-PZR-WP45; 3-PSP-1
Surge Nozzle Weld: 3-PZR-WP23
Hot Leg Surge Nozzle Welds: 3-PHB-17; 3-PSL-10

Decay Heat Removal Drop Line Weld Overlay
Reference Relief Request 07-ON-004

Hot Leg Decay Heat Nozzle Welds:
3-PHA-17; 3-53A-18-11

Ultrasonic Examination Procedure

SI-UT-126 Revision 3, *Procedure for the Phased Array Ultrasonic Examination of Weld Overlaid Similar and Dissimilar Metal Welds*, was used during the examinations. This procedure, and the examiners who applied the procedure, are qualified through the PDI Program at the EPRI NDE Center. No flaws outside the ASME Section XI Table IWB-3514-1, Table IWB-3514-2, or Table IWB-3514-3 acceptance standards were identified and no repairs were made to the weld overlays, the original base materials or original 82/182 weld materials.

Safety/Relief Nozzle Weld Overlay Examination

Component Identification: Nozzle to Flange Weld: 3-PZR-WP91-3
Examination Date: November 22, 2007 Examination Time: 12:23 – 13:25
Examination Regions: Weld Overlay Material, Outer 25% Dissimilar Metal Weld & Adjacent Base Material and Outer 25% Safe End-to-Pipe Weld & Adjacent Base Material
Examination Coverage: 100% coverage of the Code-required volume was achieved during the examinations.

Axial Examination Angles: 0° through 83° (in 1° Increments)
Circumferential Examination Angles: 0° through 64° (in 1° Increments)

Examination Summary: One subsurface flaw indication in the weld overlay material (above the interface of the butt weld and the inconel buttering) was observed during the examinations. The flaw was not crack-like and is believed to be welding-related. The flaw indication was sized, characterized and compared to the acceptance standards of Table IWB-3514-2 and was found to be acceptable. The following Table provides flaw evaluation details:

Flaw Length	Flaw Through-Wall	Flaw Aspect Ratio	Flaw a/t%	Code Allowable a/t%
1.0"	0.025"	0.025	5.56%	9.22%

The examination gain was adjusted to maintain the procedure-specified baseline noise level from 5% to 20% of full screen height. The lower range of examination angles detected responses from the inside surface of the component which were useful for monitoring search unit contact / coupling effectiveness during the examination.

Safety/Relief Nozzle Weld Overlay Examination

Component Identification: Nozzle to Flange Weld: 3-PZR-WP91-1
Examination Date: November 22, 2007 Examination Time: 02:34 – 02:59
Examination Regions: Weld Overlay Material, Outer 25% Dissimilar Metal Weld & Adjacent Base Material and Outer 25% Safe End-to-Pipe Weld & Adjacent Base Material
Examination Coverage: 100% coverage of the Code-required volume was achieved during the examinations.

Axial Examination Angles: 0° through 83° (in 1° Increments)
Circumferential Examination Angles: 0° through 64° (in 1° Increments)

Examination Summary: No suspected flaw indications were observed during the examinations. The examination gain was adjusted to maintain the procedure-specified baseline noise level from 5% to 20% of full screen height. The lower range of examination angles detected responses from the inside surface of the component which were useful for monitoring search unit contact / coupling effectiveness during the examination.

Safety/Relief Nozzle Weld Overlay Examination

Component Identification: Nozzle to Flange Weld: 3-PZR-WP91-2
Examination Date: November 22, 2007 Examination Time: 02:34 – 03:04
Examination Regions: Weld Overlay Material, Outer 25% Dissimilar Metal Weld & Adjacent Base Material and Outer 25% Safe End-to-Pipe Weld & Adjacent Base Material
Examination Coverage: 100% coverage of the Code-required volume was achieved during the examinations.

Axial Examination Angles: 0° through 83° (in 1° Increments)
Circumferential Examination Angles: 0° through 64° (in 1° Increments)

Examination Summary: No suspected flaw indications were observed during the examinations. The examination gain was adjusted to maintain the procedure-specified baseline noise level from 5% to 20% of full screen height. The lower range of examination angles detected responses from the inside surface of the component which were useful for monitoring search unit contact / coupling effectiveness during the examination.

Spray Nozzle Weld Overlay Examination

Component Identification: Nozzle to Safe End Weld: 3-PZR-WP45
Safe End to Pipe Weld: 3-PSP-1
Examination Date: November 22, 2007 Examination Time: 03:05 – 03:44
Examination Regions: Weld Overlay Material, Outer 25% Dissimilar Metal Weld & Adjacent Base Material and Outer 25% Safe End-to-Pipe Weld & Adjacent Base Material
Examination Coverage: 100% coverage of the Code-required volume was achieved during the examinations.

Axial Examination Angles: 0° through 82° (in 1° Increments)
Circumferential Examination Angles: 0° through 64° (in 1° Increments)

Examination Summary: No suspected flaw indications were observed during the examinations. The examination gain was adjusted to maintain the procedure-specified baseline noise level from 5% to 20% of full screen height. The lower range of examination angles detected responses from the inside surface of the component which were useful for monitoring search unit contact / coupling effectiveness during the examination.

Surge Nozzle Weld Overlay Examination

Component Identification: Nozzle to Safe End Weld: 3-PZR-WP23

Examination Date: November 23, 2007 Examination Time: 23:28 to 01:26

Examination Regions: Weld Overlay Material, Outer 25% Dissimilar Metal Weld & Adjacent Base Material and Outer 25% Safe End-to-Pipe Weld & Adjacent Base Material

Examination Coverage: 100% coverage of the Code-required volume was achieved during the examinations.

Axial Examination Angles: 0° through 83° (in 1° Increments) - Circumferential Examination Angles: 0° through 68° (in 1° Increments)

Examination Summary: One subsurface flaw indication in the ferritic nozzle material (about 0.50" below the ferritic steel surface and 0.35" from the nozzle buttering) was observed during the examinations. The flaw was not crack-like and is believed to be nozzle material-related. The flaw indication was sized, characterized and compared to the acceptance standards of Table IWB-3514-1 and was found to be acceptable. The following Table provides flaw evaluation details:

Flaw Length	Flaw Through-Wall	Flaw Aspect Ratio	Flaw a/t%	Code Allowable a/t%
1.0"	0.033"	0.03	2.88%	12.37%

The examination gain was adjusted to maintain the procedure-specified baseline noise level from 5% to 20% of full screen height. The lower range of examination angles detected responses from the inside surface of the component which were useful for monitoring search unit contact / coupling effectiveness during the examination.

Hot Leg Surge Nozzle Weld Overlay Examination

Component Identification: Nozzle to Butter/Safe End Weld: 3-PHB-17
3-PSL-10

Examination Date: November 30, 2007 Examination Time: 14:46 to 16:49

Examination Regions: Weld Overlay Material, Outer 25% Dissimilar Metal Weld & Adjacent Base Material and Outer 25% Safe End-to-Pipe Weld & Adjacent Base Material

Examination Coverage: 100% coverage of the Code-required volume was achieved during the examinations.

Axial Examination Angles: 0° through 83° (in 1° Increments)

Circumferential Examination Angles: 0° through 65° (in 1° Increments)

Examination Summary: Two subsurface flaw indications in the weld overlay material (about 0.05" above the surface of the inconel buttering) were observed during the examinations. The flaw was not crack-like and is believed to be welding-related. The flaw indications were sized,

characterized and compared to the acceptance standards of Table IWB-3514-2 and were found to be acceptable. The following Table provides flaw evaluation details:

Flaw Length	Flaw Through-Wall	Flaw Aspect Ratio	Flaw a/t%	Code Allowable a/t%
2.90"	0.004"	0.00	0.55%	8.85%
2.30"	0.006"	0.00	0.79%	8.85%

The examination gain was adjusted to maintain the procedure-specified baseline noise level from 5% to 20% of full screen height. The lower range of examination angles detected responses from the inside surface of the component which were useful for monitoring search unit contact / coupling effectiveness during the examination.

Hot Leg Decay Heat Nozzle Weld Overlay Examination

Component Identification: Nozzle to Butter/Safe End Weld: 3-PHA-17
3-53A-18-11

Examination Date: November 30, 2007 Examination Time: 20:30 to 21:30
Examination Regions: Weld Overlay Material, Outer 25% Dissimilar Metal Weld & Adjacent Base Material and Outer 25% Safe End-to-Pipe Weld & Adjacent Base Material
Examination Coverage: 100% coverage of the Code-required volume was achieved during the examinations.

Axial Examination Angles: 0° through 83° (in 1° Increments)
Circumferential Examination Angles: 0° through 70° (in 1° Increments)

Examination Summary: No suspected flaw indications were observed during the examinations. The examination gain was adjusted to maintain the procedure-specified baseline noise level from 5% to 20% of full screen height. The lower range of examination angles detected responses from the inside surface of the component which were useful for monitoring search unit contact / coupling effectiveness during the examination.