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March 23, 2009

U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTENTION: Document Control Desk

Duke Energy Carolinas, LLC (Duke)
McGuire Nuclear Station Unit 2
Docket No. 50-370

SUBJECT: Proposed Relief Request No. 09-MN-001
for the Third Ten-Year Inservice Inspection Interval

REFERENCE: Letter from Duke to NRC dated July 9, 2008

Pursuant to 10 CFR 50.55a(g)(5)(iii), Duke Energy Carolinas, LLC (Duke) hereby requests NRC approval of a proposed relief request for the Third Ten-Year Inservice Inspection Interval at the McGuire Nuclear Station. The third interval began on March 1, 2004. This submittal, applicable to a Unit 2 reciprocating charging pump to flange weld, requests relief from inservice examination requirements that have been determined to be impractical. The details of the request are included in the enclosure. In the Inservice Inspection Report for the end of cycle 18 (referenced letter), Duke notified the NRC of the intent to submit this request.

This submittal document contains no additional regulatory commitments.

If there are any questions or if additional information is needed, please contact M. K. Leisure at (704) 875-5171.

Sincerely,

Bruce H. Hamilton

Enclosure

A047
NRR

U.S. Nuclear Regulatory Commission
March 23, 2009
Page 2

xc with enclosure:

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Administrator, Region II
U.S. Nuclear Regulatory Commission
Atlanta Federal Center
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Atlanta, GA 30303

J. B. Brady
NRC Senior Resident Inspector
McGuire Nuclear Station

J. H. Thompson (addressee only)
NRC Project Manager (MNS)
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ENCLOSURE

REQUEST NO. 09-MN-001

Relief Request 09-MN-001

Proposed Relief in Accordance with 10 CFR 50.55a(g)(5)(iii)

Inservice Inspection Impracticality

Duke Energy Corporation

McGuire Nuclear Station - Unit 2 (EOC-18)

Third 10-Year Interval - Inservice Inspection Plan

Interval Start Date = 3-1-2004 Interval End Date = 3-1-2014

This Relief Request has 1 weld for which relief is being sought.

The ID, Item/Summary Number for the weld is:

Weld ID	Item/Summary Number
2RCHP-IN	M2.R1.11.0279

The Item in this relief request was examined during March, repaired, and re-examined in April of 2008.

I. ASME Code Component Affected

Chemical and Volume Control System
Reciprocating Charging Pump Inlet to Flange Weld
ASME Code Class 2
Weld ID = 2RCHP-IN
Item Number/Summary Number = M2.R1.11.0279

II. Applicable Code Edition and Addenda

ASME Boiler and Pressure Vessel Code, Section XI - 1998 Edition thru the 2000 Addenda

III. Applicable Code Requirement

The examination requirements for Class 1 and 2 piping welds are governed by the Risk-Informed Inservice Inspection program which is based on WCAP-14572, Revision 1-NP-A. The WCAP Table 4.1-1, Examination Category R-A, Risk-Informed Piping Examinations, requires 100% of the exam location to be examined per Figure IWC-2500-7(a) for Item Number R1.11. Code Case N-460 is applicable.

IV. Impracticality of Compliance

The material is stainless steel. This weld has a wall thickness of 0.237 inches and a nominal diameter of 4.0 inches.

During the radiographic examination of this weld, only 78.0 % coverage of the required examination volume was obtained due to the geometry of the Pipe Flange-to-Pump Inlet weld. 100% of the weld volume and the required base metal on the flange side were examined. The exam limitation was restricted to the base metal on the pump housing side of the weld. In order to provide more coverage, the weld would have to be re-designed. This is impractical.

Rejectable fabrication flaws were detected in the weld metal during the exam. The weld was repaired by welding and then reexamined by the radiographic method and was found to be acceptable. During the subsequent examination following the repair, the same examination limitation of 78.0 % was encountered.

The McGuire Inservice Inspection Plan allows the use of Code Case N-460, which requires greater than 90% volumetric coverage of examination volume C-D-E-F. Therefore, the available coverage will not meet the criteria of this Code Case.

V. Burden Caused by Compliance

See section IV, second paragraph.

VI. Proposed Alternative and Basis for Use

Due to the material and configuration, there is no viable alternative examination and ultrasonic examination would not provide additional examination coverage.

There are only two welds in this segment. The only other weld in this segment was examined by UT this outage once it was discovered that 2RCHP-IN had a relevant condition exceeding acceptance standards and was limited. The UT was "clear" with greater than 90 % coverage.

VII. Duration of Proposed Alternative

This request is for the duration of the third inservice inspection interval, currently scheduled to end on March 1, 2014.

VIII. Justification for Granting Relief

Radiographic examination of the weld for item number M2.R1.11.0279 was conducted using personnel qualified in accordance with ASME Section XI of the 1998 Edition with the 2000 Addenda. Radiographic procedures complied with the requirements of ASME Section V, Article 2 of the 1998 Edition with the 2000 Addenda.

System Leakage Tests and VT-2 visual examinations performed each refueling outage provide adequate assurance of pressure boundary integrity.

In addition to the above Code required examinations (volumetric and pressure test), there are other activities which provide confidence that, in the event that leakage did occur through this weld, it would be detected and proper action taken. Specifically, visual observations performed during operator rounds provide additional assurance that any leakage would be detected prior to gross failure of the component. This weld is also inspected during the leak rate test for the NV system as required by Technical Specifications 5.5.3, "Primary Coolant Sources Outside Containment", on a refueling frequency.

The component weld was not examined by volumetric NDE methods during construction.

Based on the coverage and results of the volumetric and the pressure testing VT-2 examinations performed and the clear volumetric examination of the other

weld in this segment, it is Duke's position that a reasonable assurance of component integrity exists.

IX. Precedents

None.

This weld did not require a radiographic examination during construction, therefore the examination results of this Inservice Inspection exam could not be compared to previous data.

X. Attachments

Attachments (2) contain the examination data for the two examinations of this weld.

**DUKE POWER COMPANY
RADIOGRAPHIC EXAMINATION REPORT / TECHNIQUE**

Weld / Component ID: 2RCHP-IN Project: McGuire Unit 2
 Procedure No./Rev: NDE 12 / 12 Acceptance/Reporting Standards: A
 Radiographer: J.D. Shepard Level: II Date: 03-14-08
 Code Reference: ASME Sec. XI

Material: CS: SS: Diameter: 4" Thickness: .237"
 Source: Ir-192 Size: .148" Curies: 77.1 Estimated Weld Build-Up: .062" SFD: 4.625"
 IQI: Film Side Source Side Size(s) 5 IQI Design: Standard Hole-Type
 Film View: Single Composite Number of Film Per Cassette: 2 Film Stand Off NA
 Film Brand/Type: Front Fuji 50 Center NA Back Fuji 50 Shim Size(s): NA
 Screen Thickness: Front .010" Center NA Back .010" (Ug = Ft/D) Actual Ug: .008
 Exposure Time: Hrs. _____ Min. _____ Sec. _____ Thicker member used as shim:
 Exposure: Single Wall Double Wall Image View: Single Wall Double Wall

TECHNIQUE SET UP

<input type="checkbox"/> A 	<input checked="" type="checkbox"/> C 	<input type="checkbox"/> E 	<input type="checkbox"/> F 	<input type="checkbox"/> G 	<input type="checkbox"/> H 	<input type="checkbox"/> I Other Draw Sketch
<input type="checkbox"/> B 	<input type="checkbox"/> D 	<input type="checkbox"/> Offset Single Wall View	<input type="checkbox"/> Offset Double Wall View	<input type="checkbox"/> Superimposed Double Wall View	<input type="checkbox"/> Single Wall Exposure, Film Inside Pipe	<input type="checkbox"/> Sketch Attached

FILM REVIEW

Interval	Date	Indication	Length/Size/Comment	Reviewer	Level	Date	Accept	Record	Reshoot	Reject
0-1	03-14-08	17	3/4" (0.750")	RGS	III	03-14-08	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1-2	03-14-08	14	1/8"	RGS	III	03-14-08	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2-3	03-14-08	14	1/8"	RGS	III	03-14-08	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3-4	03-14-08	17	3/8" (0.400")	RGS	III	03-14-08	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4-5	03-14-08	14	1/16"	RGS	III	03-14-08	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5-0	03-14-08	17, 14	(0.200) 3/16", 1/16"	RGS	III	03-14-08	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Indication and Flaw types:

1. Incomp. Fusion	3. Excessive Pen.	5. Crack	8. Porosity	11. Concavity	14. Rounded
2. Incomp. Pen.	4. Unconsumed Insert	6. Slag	9. Tungsten	12. Inclusion	15. Surface
Exam Limitations: <input checked="" type="checkbox"/> Yes: <u>78</u> % Examined	<input type="checkbox"/> No: (100% Examined)	7. Undercut	10. Convexity	13. Elongated	16. Film Artifact
					17. Linear

Comments: See attached sheet for limitation calculations.

Second Review: Jerome F. Swan Level: III Date: 03-14-08
 ANI/ANII Review: Jerome F. Swan Date: 3-14-08
 ISI Item: M2.R1.11.0279

Limitation Record

Site/Unit: MNS / 2
 Summary No: M2.R1.11.0279
 Workscope: RT ISI Exam

Procedure: NDE-12
 Procedure Rev: 12
 Work Order No: 01748135-09

Outage No: 2EOC18
 Report No: _____
 Page: 2 of 2

Description of Limitation: 4" x ^{237" TL} .437" NPS welded pipe flange to pump housing weld ISI ID # 2RCHP-IN. Required exam area includes the 0.625" weld width and 0.250" on both sides of the weld.

The Pipe Flange-to-Pump Inlet configuration does not allow for RT film placement to capture the radiographic image of the 0.250" of base metal on the pump side of the exam area. See sketch of the limitation below.

Calculations:

Required weld/exam area length (L): 16.250" L (measurement taken from the RT film intervals)

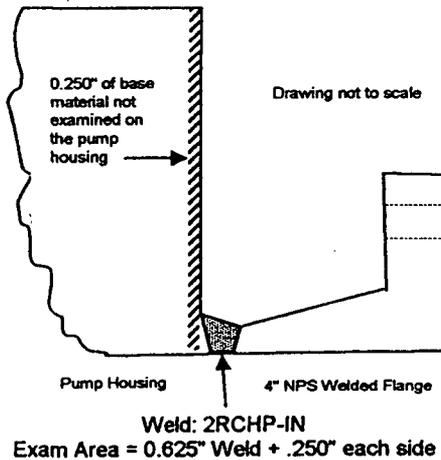
Required exam area width (W): 0.625" + .250" + .250" = 1.125" W

Required exam area in sq inches: 16.250" L x 1.125" W = 18.281"

Actual area examined in sq inches: 16.250" L x 0.875" W = 14.218"

Percent of coverage: 14.218" / 18.281" * 100 = 78% coverage

Sketch of Limitation:



Limitations removal requirements: N/A

Radiation field: N/A

Examiner <i>TLT</i>	Level <i>III</i>	Signature <i>TLT</i>	Date 03-14-2008	Reviewer <i>RGS</i>	Signature <i>Rod Swartz</i>	Date 03-14-2008
Examiner	Level	Signature	Date	Site Review	Signature	Date
Other	Level	Signature	Date	ANII Review <i>J. F. Swartz</i>	Signature	Date 3-14-08

Rejectable Indication Evaluation Report

	STATION MNS	UNIT 2	ISI PLAN ITEM NUMBER M2.R1.11.0279	ISI PLAN ID NUMBER 2RCHP-IN
	NDE METHOD RT	NDE PROCEDURE USED NDE-12 Rev 12		INDICATION SERIAL NUMBER RT Intervals 0-1, 3-4 and 5-0
	DESCRIPTION OF ITEM CONTAINING INDICATION 4" welded pipe flange to pump housing		DATE INSPECTED 03-14-2008	EVALUATION NEEDED BY DATE 03-14-2008
A	COMMENTS RT Interval 0-1 contains a 0.750" linear indication RT Interval 3-4 contains a 0.400" linear indication RT Interval 5-0 contains a 0.200" linear indication			
	ORIGINATED BY T L Tucker - NDE Level III-RT		DATE 03-14-2008	
B	ACCEPTANCE STANDARD: Examination procedure; NDE-12 Appendix A and ASME Section XI, 1998/2000, IWC-3514 / IWB-3514 and Table IWB-3514-4 CALCULATIONS/COMMENTS: The lengths of the linear indications in intervals 0-1, 3-4 and 5-0 exceeds the allowable limits of the above acceptance standards. Indications are Rejectable.			
	Evaluated By (NDE LEVEL III) <u><i>T L Tucker</i></u>		DATE: 03-14-2008	
C	PIP SERIAL NO. <u><i>M-08-01705</i></u> ISI COORDINATOR <u><i>J R Hess</i></u> DATE <u><i>3/14/2008</i></u>			
D	ADDITIONAL EXAMINATIONS <input type="checkbox"/> NOT REQUIRED <input type="checkbox"/> REQUIRED: ISI PLAN ADDENDA S/N: _____ SUCCESSIVE EXAMINATIONS <input type="checkbox"/> NOT REQUIRED <input type="checkbox"/> REQUIRED: ISI PLAN ADDENDA S/N: _____			
	ISI PLAN MANAGER _____		DATE _____	
E	DISPOSITION <input type="checkbox"/> ACCEPTABLE IN ACCORDANCE WITH IWB-3600 (FMA) <input type="checkbox"/> REPAIRED <input type="checkbox"/> REPLACED-			
	COMMENTS _____			
	DISPOSITIONED BY (ISI Plan Manager) _____		DATE _____	

DUKE POWER COMPANY RADIOGRAPHIC EXAMINATION REPORT / TECHNIQUE

Weld / Component ID: 2RCHP-IN Project: McGuire Unit 2
 Procedure No./Rev: NDE 10/23, 12/12 Acceptance/Reporting Standards: 10-A and 12-A
 Radiographer: J.D. Shepard Level: II Date: 04-13-08 Code Reference: ASME III-NC & XI

Material: CS: SS: Diameter: 4" Thickness: .237"
 Source: Ir-192 Size: .148" Curies: 57.7 Estimated Weld Build-Up: .062" SFD: 4.625"
 IQI: Film Side Source Side Size(s) 7 & 12 IQI Design: Standard Hole-Type
 Film View: Single Composite Number of Film Per Cassette: 2 Film Stand Off: NA
 Film Brand/Type: Front Fuji 50 Center NA Back Fuji 50 Shim Size(s): NA
 Screen Thickness: Front .010" Center NA Back .010" (Ug = Ft/D) Actual Ug: .008
 Exposure Time: Hrs. _____ Min. _____ Sec. 20 Thicker member used as shim:
 Exposure: Single Wall Double Wall Image View: Single Wall Double Wall

TECHNIQUE SET UP

<input type="checkbox"/> A	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> F	<input type="checkbox"/> G	<input type="checkbox"/> H	<input type="checkbox"/> I Other Draw Sketch
<input type="checkbox"/> B	<input type="checkbox"/> D	Offset Single Wall View	Offset Double Wall View	Superimposed Double Wall View	Single Wall Exposure, Film Inside Pipe	<input type="checkbox"/> Sketch Attached

FILM REVIEW

Interval	Date	Indication	Length/Size/Comment	Reviewer	Level	Date	Accept	Record	Reshoot	Reject
0-1	04-13-08	10,14,16	.0625"	<i>JKT</i>	III	04-13-08	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-2	04-13-08	14,16	.0938"	<i>JKT</i>	III	04-13-08	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2-3	04-13-08	16		<i>JKT</i>	III	04-13-08	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3-4	04-13-08	16		<i>JKT</i>	III	04-13-08	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4-5	04-13-08	14	.0625"	<i>JKT</i>	III	04-13-08	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5-0	04-13-08	14	.0625"	<i>JKT</i>	III	04-13-08	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Indication and Flaw types:		5. Crack	8. Porosity	11. Concavity	14. Rounded
1. Incomp. Fusion	3. Excessive Pen.	6. Slag	9. Tungsten	12. Inclusion	15. Surface
2. Incomp. Pen.	4. Unconsumed Insert	7. Undercut	10. Convexity	13. Elongated	16. Film Artifact
Exam Limitations:	<input checked="" type="checkbox"/> Yes: <u>*78</u> % Examined	<input type="checkbox"/> No: (100% Examined)		17. Linear	

Comments: *See attached sheet for ASME XI limitation calculations. Weld metal and base material on the flange side of the weld was examined. Base material on the pump side of the weld was not examined. 12-2T or 7-4T equivalent sensitivity. ID hand written on 4-5 interval with a permanent marker.

Second Review: *R. Taylor* Level: III Date: 04-13-08
 ANI/ANII Review: *J.F. [Signature]* Date: 4-14-08
 ISI Item: M2.R1.11.0279

A-15

Limitation Record

Site/Unit: MNS / 2
 Summary No: M2.R1.11.0279
 Workscope: RT PSI Exam R1

Procedure: NDE-12
 Procedure Rev: 12
 Work Order No: 01802766

Outage No: 2EOC18
 Report No: _____
 Page: 2 of 2

Description of Limitation: 4" x .237" NPS welded pipe flange to pump housing weld ISI ID # 2RCHP-IN. Required exam area includes the 0.625" weld width and 0.250" on both sides of the weld.

The Pipe Flange-to-Pump Inlet configuration does not allow for RT film placement to capture the radiographic image of the 0.250" of base metal on the pump side of the exam area. See sketch of the limitation below.

Calculations:

Required weld/exam area length (L): 16.250" L (measurement taken from the RT film intervals)

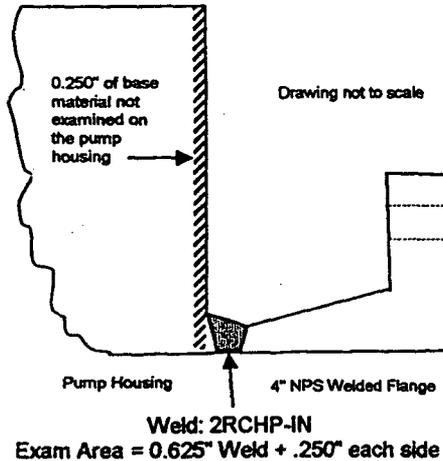
Required exam area width (W): 0.625" + .250" + .250" = 1.125" W

Required exam area in sq inches: 16.250" L x 1.125" W = 18.281"

Actual area examined in sq inches: 16.250" L x 0.875" W = 14.218"

Percent of coverage: 14.218" / 18.218" * 100 = 78% coverage

Sketch of Limitation:



Limitations removal requirements: N/A

Radiation field: N/A

Examiner	Level	Signature	Date	Reviewer	Signature	Date
<i>James K. Folds III</i>			04-13-2008	<i>T. Tushu</i>	<i>RTL-III</i>	04-13-2008
Examiner	Level	Signature	Date	Site Review	Signature	Date
Other	Level	Signature	Date	ANII Review	Signature	Date
				<i>J. F. Swar</i>		4-14-08