

14-871
A-35
17/11/83-8-82
RECORD COPY
Form Q-1A
Revision 12
DUKE POWER COMPANY
STATION/PROJECT CATAWBA
UNIT 1, 2, 3
NONCONFORMING ITEM REPORT
USE BLACK BALL POINT PEN ONLY
Serial No. 13955
Description of Item and Statement of Problem Weld INI 162-27 was rejected by radiography
EX 9/22/81 for lack of fusion and concavity. According to the M-4A the
the only work performed to fix these rejectable items was grinding. The
weld was then re-radiographed and was found to be acceptable by the
QA/QA film reviewers and the ANI. A question was raised about the
Evaluation/Disposition Responsibility of Const Design QA Steam Group DM
Originated Date Technical Review Date QA Review Date
PL Power 2/1/82 HL + HLCMS 2/1/82 JC Shropshire 2-1-82
Potentially Reportable Under 10CFR21/50.55a Yes No DM Yes, use Form 290.V 2-8-82 OK/ASME
Disposition/Justification
WELD REPAIR TO RESTORE THICKNESS OF WELD METAL AND RISE
METAL TO MATCH THAT OF SURROUNDING MATERIAL
SEE PAGE 5
SEE PAGE 6
Spec/Calc./Dwg Revised As Below
4-7-82 T.H. Robinson 4/7/82 PR-202 Applicable (Design Only) Yes No DM
DM 2-15-82 2-19-82 C.A. Beale 2-22-82
CORRECTIVE ACTION/INSPECTION REQUIRED
1 REMOVE THE Q-16 TAG SVTW H.P. Power 12-14-82
2 ISSUE PROCESS CONTROL FOR REPAIR CEWL J.D. Donald 5-13-82
3 CAUTION INSPECTOR PER PAGE SIX SVTW H.P. Power 12-14-82
CAUTION INSPECTOR PER PAGE SIX SVTR W.D. Calhoun 5-11-82
CAUTION FILM REVIEWER PER PAGE SIX GAEM JC Shropshire 12-19-82
4-29-82 JC Shropshire 12-1-82
4-7-82 JC Shropshire 4-29-82
Action/Inspection Exceptions or Remarks ATTACHMENTS 1, 2, 3 per 8-15-83
8405240370 331111
PDR ADCK 05000413
PDR
Distribution GEN. SUPV. Sr. Const. Engr. Const. Engr. Project QA Engr. QA Engr. WHSE DESIG QA Dlv ANI NRC
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Trend Info. OFEW Final QA Review H.L. Bluehaus Date 12/20/82

needed of repair on this weld, so the film was reviewed again by QA. This second review indicated that the minimum wall had been violated at interval 2-3. To confirm this call, a UT examination was performed and the results clearly shows that the weld and the base metal are below minimum wall thickness. The area in question is approx. 7' back from the opening of a 6" pipe RGR 12/14/82

ULTRASONIC THICKNESS MEASUREMENT REPORT/TECHNIQUE

ITEM INSPECTED INI 162-27 6" sch 160 UNIT #1 LOCATION RBS #1 elev. 561, 47°
INSTRUMENT SONIC SERIAL NO. 770448
A-SCAN ☒ METETERED OR DIGITAL N/A VELOCITY N/A TYPE COUPLANT EXOSG-N
TRANSDUCER SIZE .25" TYPE Single/Delay FREQUENCY 5 MHZ
ULTRASONIC THICKNESS SCANNING TECHNIQUE USED: SPOT ☒ CONTINUOUS ☐
ZERO SCREEN DISTANCE 0 ^W/₄₉₉ IN. METAL DISTANCE.
SMALLEST SCREEN DIVISION 0.020 ^W/_{0.010} IN. METAL DISTANCE
REFERENCE STANDARD NUMBER DSPUT-6 / DWSP-UT-4

REFERENCE POINT THICKNESS

1	2	3	4	5	MAXIMUM DEVIATION
<u>300</u>	<u>440</u>	<u>451</u>	<u>499</u>		$\pm \frac{0}{0.010} / \frac{0}{0.005}$ (ACCURACY FOR THIS INSPECTION)

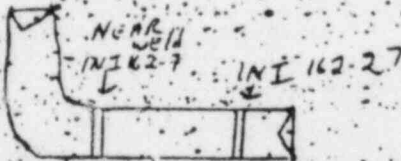
Multi-point well used on well

MATERIAL QUALIFICATION POINTS

POINT	MICROMETER THICKNESS	MICROMETER SERIAL NO.	ULTRASONIC MEASUREMENT	MAXIMUM DEVIATION
		<u>N/A</u>		

MAXIMUM DEVIATION \pm N/A (ACCURACY FOR THIS INSPECTION)

SKETCH OF ITEM INSPECTED



Ref Documents CP-107 Rev 6
NDE-40 Rev 4
Rev _____

INSPECTION RESULTS

Nominal wall: .718"
Minimum wall: .629"
Accuracy \pm .010" / .005" Not included
Lowest Base: .600"
Lowest weld: .610"

INSPECTED BY W.C. Jern LEVEL II SNT-TC-1A DATE 1-30-82

DISPOSITION: ACCEPT ☐ REJECT ☒ ACCEPTANCE STANDARD USED CP107 Rev. 6

BY W.C. Jern LEVEL II SNT-TC-1A DATE 1-30-82

10CFR50, APPENDIX B, CRITERION XVI EVALUATION AND CORRECTION ACTION

STATION: Catawba UNIT: 1 NCIR SERIAL NO. 13,955

1. Is this condition significant YES ☐ NO ☒
2. Are there possible Duke or Industry generic implications? YES ☐ NO ☒
3. What is the root cause of the problem?

Excessive grinding in removal of defect from field weld.

4. What corrective action is required to prevent reoccurrence?

None

5. Is this condition repetitive in nature to the extent corrective action should be implemented? YES ☐ NO ☒
6. Should this condition be investigated at other Duke Sites? YES ☐ NO ☒
If yes, which Sites?

7. Corrective Action

None

BY: _____; DATE: _____

REVIEWED BY: _____; DATE: _____

APPROVED BY: DM Collins; DATE: 2-18-82

2) THE WELDER MAKING THE REPAIR OVERGROUND THE DEFECTIVE AREA. CRAFT FELT THAT THE AREA ~~WAS~~^{IS} OF CONCERN WAS NOT BELOW MIN. WALL THICKNESS WHEN THEY CALLED FOR INSPECTION. AS THE ENTIRE WELD CRAFT HAS BEEN INSTRUCTED TO BE CAUTIOUS OF MIN. WALL VIOLATIONS AND DUE TO THE SMALL NUMBER OF NCIS ORIGINATED ON THIS TYPE OF PROBLEM, WELD TECH SUPPORT DOES NOT FEEL THAT THIS IS A SIGNIFICANT OR WIDE-SPREAD PROBLEM AT THIS TIME. NO FURTHER CRAFT TRAINING NECESSARY AT THIS TIME.

G.A. SHALL ADDRESS THE INSPECTION PROBLEM IN PART 3.

3) (SEE SH 6 OF 6 94)

Weld INI .162-27 was rejected by radiography (on 9-22-81) for lack of penetration and concavity; a copy of the Radiographic Inspection report (NDE-10) is attached. Welding Tech. Support stated on the MYA that the rejection was due to lack of fusion and concavity.

Lack of penetration occurs when the molten puddle does not penetrate, melt, and flow the prepared base material into the weld itself. This type of defect occurs at the root level and would, by nature, show the area to be concave.

Two (2) methods are available for removing this type of defect; (1) grind to achieve acceptable geometry, then re weld or (2) grind and fair the "rejectable" area into the adjacent weld/base material then verify that adequate wall thickness remains in the "reworked" area. In this case craft chose method (2) for the repair.

The welding visual inspector and the radiographers (QC & QA) failed to have the remaining wall thickness verified. These inspectors should be cautioned to have the wall thickness verified when there is a question of minimum wall thickness remaining.

This is not a generic problem and recent changes in weld repair policy prohibits defect removal by grinding when surface NDE cannot be performed.

ATTACH 3
NCI 13,955
Pg 1 of 1

-83-288

June 24, 1983

948 8-16-83

G. W. Grier, Corporate Manager
Quality Assurance Department

Re: Catawba NCI 13,955
Evaluation of Significance
File: CN-1412.16

The removal of .029" of wall thickness by grinding would not have violated any applicable criteria and would not have been of any nuclear safety or structural significance, had it not been repaired.

The weld repair was required by Design Engineering Materials Group because we felt it was the most economical resolution, consistent with nuclear safety.

K. Blackley, Jr., Chief Engineer
Mechanical & Nuclear Division

DM Collings

By: D. H. Collings, Senior Engineer

DMC/clis

Reviewed By:

J. N. Underwood

;

Date:

6/24/83

J. N. Underwood, Supervising Design Engineer
Mechanical & Nuclear Division

NUCLEAR REGULATORY COMMISSION
Doc No. 50-413 Catawba 35
In the matter of Catawba 35
Self ✓
Applicant ✓
Intervenor ✓
Com'n Staff ✓
Contractor ✓
Other ✓
Reported ✓
DATE 11/11/83
Witness Ban Filipow