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A Duke Energy Company

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H. B. Barron
Vice President, McGuire
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April 24, 2002

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

Subject: McGuire Nuclear Station, Unit 1
Docket No. 50-369
Relief Request 01-006

Pursuant to 10CFR50.55a(g)(5)(iii), Duke Energy Corporation requests relief from certain ASME Section XI Code requirements as described in the attached Relief Request No. 01-006.

This relief request addresses cases of limited examination coverage of reactor vessel weld inspections performed during the end of fuel cycle (EOC) 14 for Unit 1. This request is applicable to the Second 10-year Interval Inservice Inspection Program Plan. The 1989 Edition of the ASME Section XI Code contains the applicable requirements.

The enclosed relief request describes for each specified case that the ASME Code requirement is impractical. Each specific instance is described in detail, including a basis for why a reasonable assurance of structural integrity exists.

Although, submittal of Relief Request No. 01-006 satisfies a previous identified commitment,[1] there are no additional commitments associated with this relief request.

Please direct any questions regarding this request to Norman T. Simms of Regulatory Compliance at (704) 875-4685.

Sincerely,

H. B. Barron

Enclosure

[1] Letter, H. B. Barron to NRC, Dated July 11, 2001, Inservice Inspection Report

A047

xc w/enclosure:

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bxc w/ encl: RCG Files
Master File # 1.3.2.13
NRIA File/ELL

ENCLOSURE

RELIEF REQUEST NO. 01-006

Duke Energy Corporation

McGuire Nuclear Station - Unit 1

SECOND 10-YEAR INTERVAL REQUEST FOR RELIEF NO. 01-006
Duke Energy Corporation has determined that conformance with certain ASME Section XI Code requirements is impractical. Therefore, pursuant to 10CFR50.55a (g) (5) (iii), Duke Energy requests relief from applicable portions of the code.

Included in this request are six Examination Category B-A welds.

The McGuire Unit 1 Inservice Inspection Plan was written to the requirements of the 1989 Edition of ASME Section XI, no addenda.

The items in this Request for Relief were performed during refueling outage EOC-14.

Code Case N-460 applies to the examinations performed during this outage.

I. System / Component(s) for Which Relief is Requested:

Examination Category B-A:

Pressure Retaining Welds in Reactor Vessel, Lower Shell to Bottom Head Circumferential Weld

ID Number	Item Number
1RPV10-442	B01.011.003

II. Code Requirement:

ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition, Table IWB-2500-1, lists the following requirements for the examination category as shown below:

Figure IWB-2500-1. Examination Volume E-F-G-H.

III. Code Requirement from Which Relief Is Requested:

Relief is sought from the requirement to scan 100% of the examination volume.

IV. Basis for Relief:

During the ultrasonic examination of this weld, 100% of the required examination volume could not be achieved. As shown in Attachment 1 (Page 1 of 1) the examination coverage was limited to 69.00% due to the proximity of the Core Guide Lugs. The percent of coverage represents the aggregate coverage of all scans for the weld. In order to achieve more coverage, the Core Guide Lugs would have to be moved to allow greater access for scanning, which is impractical.

V. Alternate Examinations or Testing:

No additional ultrasonic examinations are planned during the current interval for this weld. However a visual examination was performed on the interior of the reactor vessel per the requirements of the ASME Section XI Code. The visual examination of the vessel interior did not identify any rejectable conditions.

VI. Justification for the Granting of Relief:

Ultrasonic examination of this weld was conducted using personnel, equipment and procedures qualified in accordance with ASME Section XI, Appendix VIII, 1995 Edition with the 1996 Addenda as administered through the Performance Demonstration Initiative (PDI) Program. Although 100% coverage of the examination volume could not be achieved, the amount of coverage obtained for this examination provides an acceptable level of quality and integrity.

Due to the design of the reactor vessel and location of the Core Guide Lugs it is not feasible to obtain the examination coverage required. Based on the portions and results of the required volumetric and visual examinations performed during this outage, it's our opinion that this combination of examinations provides a reasonable assurance of component integrity.

VII. Implementation Schedule:

No additional ultrasonic examination is planned during the current interval for this weld.

VIII. References:

Attachment 1. Information for this weld is shown on Page 1 of 1.

I. System / Component(s) for Which Relief is Requested:

Examination Category B-A:

Pressure Retaining Welds in Reactor Vessel, Lower Shell Longitudinal Weld

ID Numbers	Item Numbers
1RPV3-442A	B01.012.007
1RPV3-442B	B01.012.008
1RPV3-442C	B01.012.009

II. Code Requirement:

ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition Table IWB-2500-1, lists the following requirements for the examination category as shown below:

Figure IWB-2500-2. Examination Volume A-B-C-D.

III. Code Requirement from Which Relief Is Requested:

Relief is sought from the requirement to scan 100% of the examination volume.

IV. Basis for Relief:

During the ultrasonic examination of these welds, 100% of the required examination volume could not be achieved. As shown in Attachment 2 (Pages 1-2), the examination coverage was limited to 79.00% due to the proximity of the Core Guide Lugs. The percent of coverage represents the aggregate coverage of all scans for these welds. In order to achieve more coverage, the Core Guide Lugs would have to be moved to allow greater access for scanning, which is impractical.

V. Alternate Examinations or Testing:

No additional examinations are planned during the current interval for these welds. However a visual examination was performed on the interior of the reactor vessel per the requirements of the ASME Section XI Code. The visual examination of the vessel interior did not identify any rejectable conditions.

VI. Justification for the Granting of Relief:

Ultrasonic examination of these welds was conducted using personnel, equipment and procedures qualified in accordance with ASME Section XI, Appendix VIII, 1995 Edition with the 1996 Addenda as administered through the Performance Demonstration Initiative (PDI) Program. Although 100% coverage of the examination volume could not be achieved, the amount of coverage obtained for this examination provides an acceptable level of quality and integrity.

Due to the design of the reactor vessel and location of the Core Guide Lugs it is not feasible to obtain the examination coverage required. Based on the portions and results of the required volumetric and visual examinations performed during this outage, it's our opinion that this combination of examinations provides a reasonable assurance of component integrity.

VII. Implementation Schedule:

No additional ultrasonic examination is planned during the current interval for this weld.

VIII. References:

Attachment 2. Information for these welds is shown on Pages 1-2.

I. System / Component(s) for Which Relief is Requested:

Examination Category B-A:

Pressure Retaining Welds in Reactor Vessel, Bottom Head Circumferential Weld

ID Number	Item Number
1RPV4-469	B01.021.002

II. Code Requirement:

ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition Table IWB-2500-1, lists the following requirements for the examination category as shown below:

Figure IWB-2500-3. Examination Volume A-B-C-D.

III. Code Requirement from Which Relief Is Requested:

Relief is sought from the requirement to scan 100% of the examination volume.

IV. Basis for Relief:

During the ultrasonic examination of this weld, 100% of the required examination volume could not be achieved. As shown in Attachment 3 (Page 1 of 1), the examination coverage was limited to 49.00% due to the proximity of In-core Instrument Nozzles. The percent of coverage represents the aggregate coverage of all scans for the weld. In order to achieve more coverage, the In-core Instrument Nozzles would have to be moved to allow greater access for scanning, which is impractical.

V. Alternate Examinations or Testing:

No additional ultrasonic examinations are planned during the current interval for this weld. However a visual examination was performed on the interior of the reactor vessel per the requirements of the ASME Section XI Code. The visual examination of the vessel interior did not identify any rejectable conditions.

VI. Justification for the Granting of Relief:

Ultrasonic examination of this weld was conducted using personnel, equipment and procedures qualified in accordance with ASME Section XI, Appendix VIII, 1995 Edition with the 1996 Addenda as administered through the Performance Demonstration Initiative (PDI) Program. Although 100% coverage of the examination volume could not be achieved, the amount of coverage obtained for this examination provides an acceptable level of quality and integrity.

Due to the design of the reactor vessel and location of the In-core Instrument Nozzles it is not feasible to obtain the examination coverage required. Based on the portions and results of the required volumetric and visual examinations performed during this outage, it's our opinion that this combination of examinations provides a reasonable assurance of component integrity.

VII. Implementation Schedule:

No additional ultrasonic examination is planned during the current interval for this weld.

VIII. References:

Attachment 3. Information for this weld is shown on Page 1 of 1.

I. System / Component(s) for Which Relief is Requested:

Examination Category B-A:

Pressure Retaining Welds in Reactor Vessel, Nozzle Belt Shell to Flange Weld

ID Number	Item Number
1RPV7-442	B01.030.002

II. Code Requirement:

ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition Table IWB-2500-1, lists the following requirements for each examination category as shown below:

Figure IWB-2500-4. Examination Volume A-B-C-D.

III. Code Requirement from Which Relief Is Requested:

Relief is sought from the requirement to scan 100% of the examination volume.

IV. Basis for Relief:

During the ultrasonic examination of this weld, 100% of the required examination volume could not be achieved. As shown in Attachment 4, (Page 1 of 1) the examination coverage was limited to 90.00% due to Keyway Specimen Tube Cutouts. The percent of coverage represents the aggregate coverage of all scans for the weld. In order to achieve more coverage, the Keyway Specimen Tube Cutouts would have to be moved to allow greater access for scanning, which is impractical.

V. Alternate Examinations or Testing:

No additional ultrasonic examinations are planned during the current interval for this weld. However a visual examination was performed on the interior of the reactor vessel per the requirements of the ASME Section XI Code. The visual examination of the vessel interior did not identify any rejectable conditions.

VI. Justification for the Granting of Relief:

Ultrasonic examination of this weld was conducted using personnel, equipment and procedures qualified in accordance with ASME Section XI, Appendix VIII, 1995 Edition with the 1996 Addenda as administered through the Performance Demonstration Initiative (PDI) Program. Although 100% coverage of the examination volume could not be achieved, the amount of coverage obtained for this examination provides an acceptable level of quality and integrity.

Due to the design of the reactor vessel and location of the Keyway Specimen Tube Cutouts it is not feasible to obtain the examination coverage required. Based on the portions and results of the required volumetric and visual examinations performed during this outage, it's our opinion that this combination of examinations provides a reasonable assurance of component integrity.

VII. Implementation Schedule:

No additional ultrasonic examination is planned during the current interval for this weld.

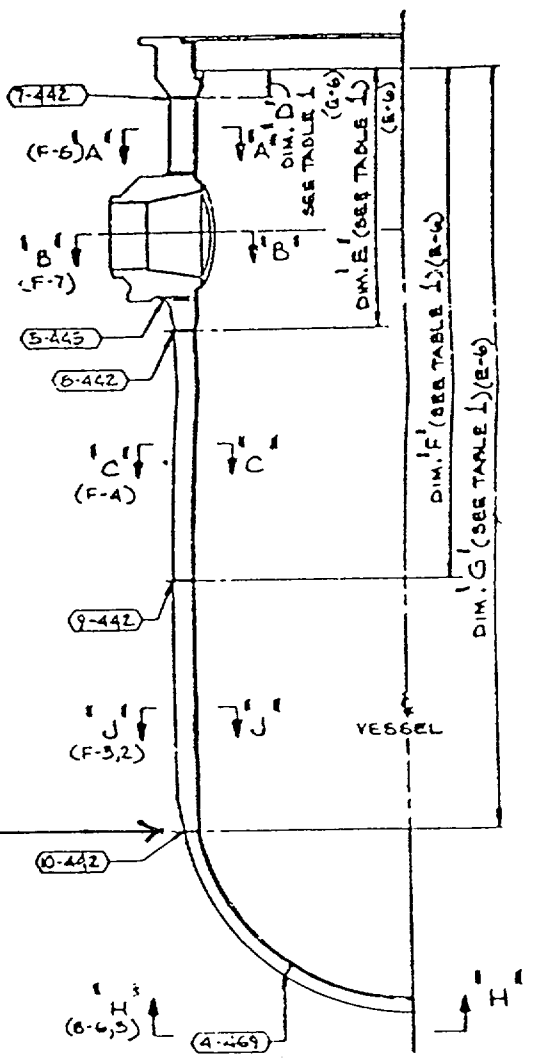
VIII. References:

Attachment 4. Information for this weld is shown on Page 1 of 1.

The following individuals were involved in the development of this request for relief. Terry Moore (McGuire Reactor Systems Engineer) provided input to the engineering justification (Section VI) for granting relief. Jim McArdle (NDE Level III) provided Sections II,III, IV and V. Gary Underwood (McGuire ISI Plan Manager) compiled and completed the request.

Sponsored By: Gary Underwood Date 4/9/02

Approved By: R. Kevin Rhyne Date 4/9/02

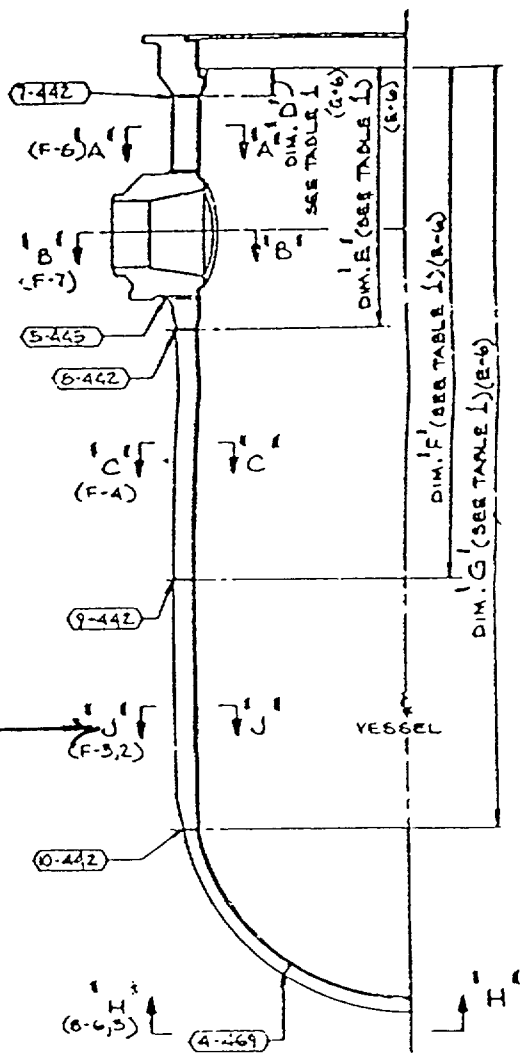


PRESSURE VESSEL ASSEMBLY

SCALE: $\frac{3}{8}$" = 1'-0"

IRPV10-442
B01.011.003

McGUIRE UNIT 1 REACTOR VESSEL
FOR INFORMATION ONLY



PRESSURE VESSEL ASSEMBLY

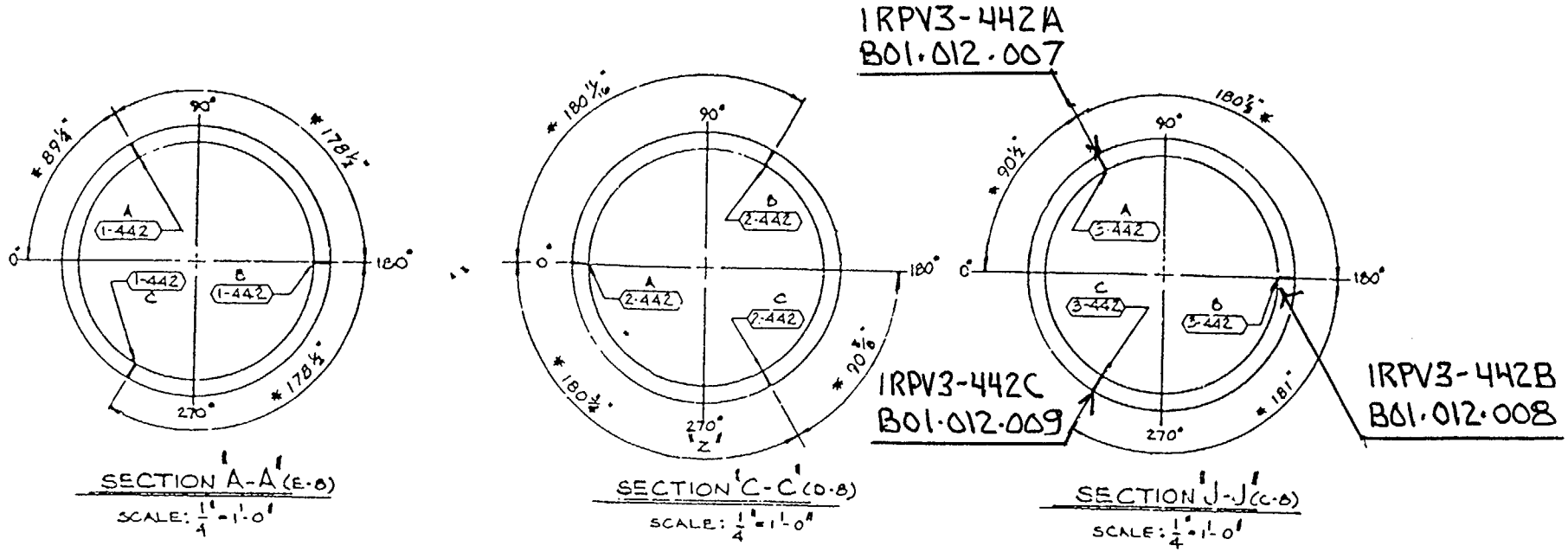
SCALE: $\frac{3}{8}$" = 1'-0"

SEE PAGE 2

1RPV3-442A
1RPV3-442B
1RPV3-442C

McGUIRE UNIT 1 REACTOR VESSEL

FOR INFORMATION ONLY



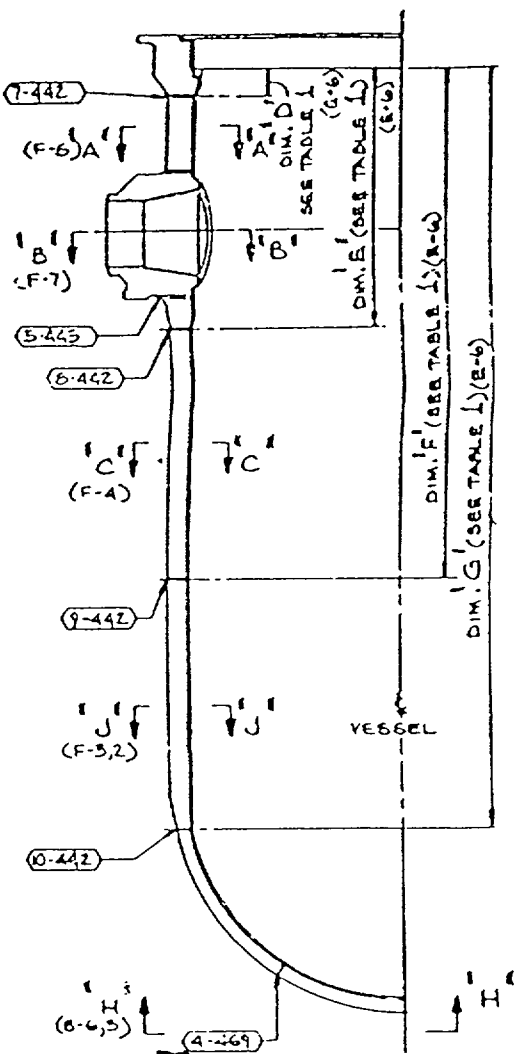
SECTION 'A-A' (E-B)
SCALE: 1/4" = 1'-0"

SECTION 'C-C' (D-B)
SCALE: 1/4" = 1'-0"

SECTION 'J-J' (C-B)
SCALE: 1/4" = 1'-0"

NOTE: * ARC LENGTH MEASURED ON I.D. OF VESSEL SURFACE.

McGUIRE UNIT 1 REACTOR VESSEL
"LONGITUDINAL SHELL WELDS"
FOR INFORMATION ONLY



1RPV4-469
B01-021-002

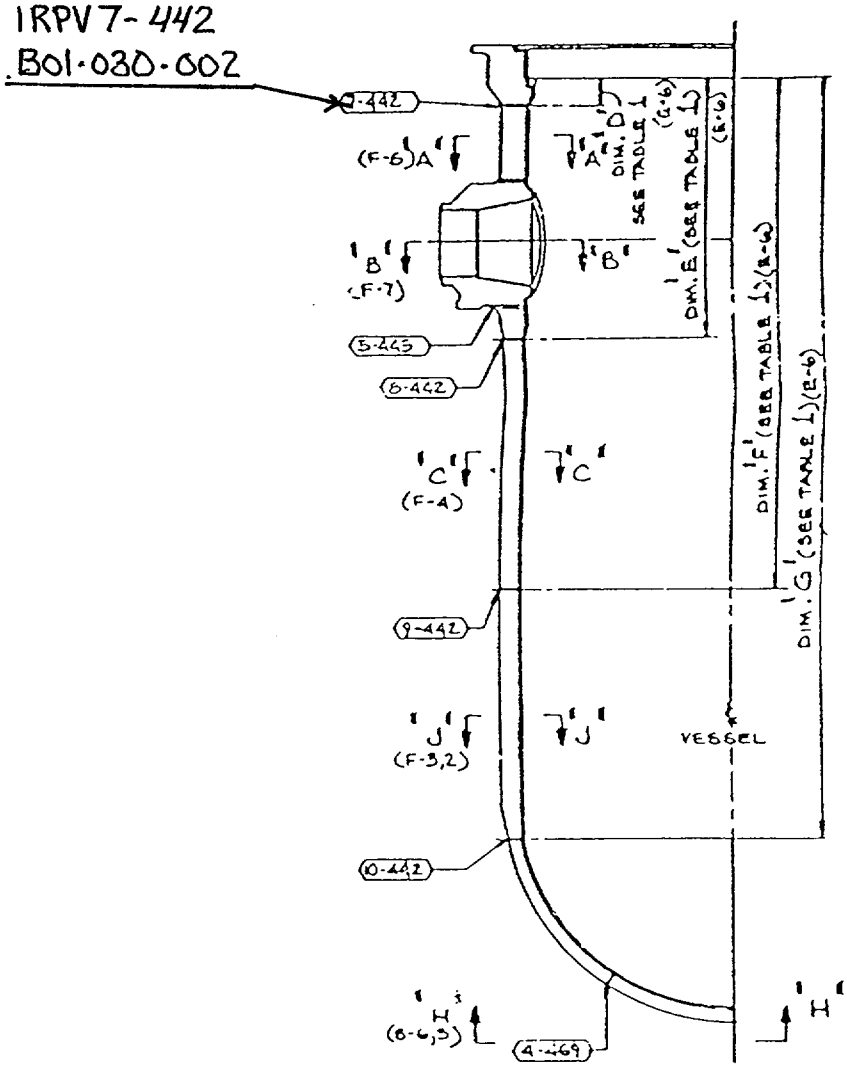
PRESSURE VESSEL ASSEMBLY

SCALE: $\frac{3}{8}$"-1'-0"

McGUIRE UNIT 1 REACTOR VESSEL

FOR INFORMATION ONLY

IRPV 7-442
B01-030-002



PRESSURE VESSEL ASSEMBLY

SCALE: $\frac{3}{8}$"-1'-0"

McGUIRE UNIT 1 REACTOR VESSEL

FOR INFORMATION ONLY