

August 3, 2005

NG-05-0417
10 CFR 50.55a(a)(3)

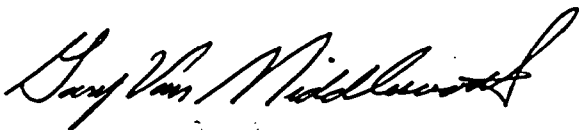
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Duane Arnold Energy Center
Docket 50-331
License No. DPR-49

Request for Relief Regarding Limited Examination Coverage for Vessel Stabilizer
Attachment Welds

In April of 2005, during the Duane Arnold Energy Center's (DAEC's) Refueling Outage (RFO) 19, surface examinations of the reactor vessel stabilizers' attachment welds were performed in accordance with the DAEC Inservice Inspection (ISI) Program. Less than "essentially 100%" coverage was obtained. Accordingly, pursuant to 10 CFR 50.55a(g)(5)(iii), Nuclear Management Company, LLC (NMC) requests relief on the basis that "essentially 100%" coverage is impractical due to physical obstructions.

This letter contains no new commitments and no revisions to existing commitments.



Gary Van Middlesworth
Site Vice President, Duane Arnold Energy Center
Nuclear Management Company, LLC

Enclosures (2)

cc: Administrator, Region III, USNRC
Project Manager, DAEC, USNRC
Resident Inspector, DAEC, USNRC

A047

**ENCLOSURE 1
to NG-05-0417**

Request Number NDE-R035

Request Number NDE-R035

Relief Request In Accordance with 10 CFR 50.55a(g)(5)(iii) --Inservice Inspection Impracticality--

1. ASME Code Components Affected

Code Class: Class 1
References: Subarticle IWB-2500
Table IWB-2500-1
Code Case N-509
Examination Category: B-K
Item Number: B10.10
Description: Surface examination coverage of Reactor Vessel Stabilizers
Component Numbers: VSW-0AZ, VSW-90AZ, VSW-180AZ, and VSW-270AZ

2. Applicable Code Edition and Addenda

ASME Section XI 1989 Edition, No Addenda.

3. Applicable Code Requirement

Subarticle IWB-2500 states, in part, "Components shall be examined and tested as specified in Table IWB-2500-1." Table IWB-2500-1, Examination Category B-H, (Integral Attachments for Vessels) includes reactor vessel integrally welded attachments as Item No. B8.10 and requires essentially 100% surface examination of these welds.

Code Case N-509, "Alternative Rules for the Selection and Examination of Class 1, 2, and 3 Integrally Welded Attachments, Section XI, Division 1," groups Examination Category B-H and Examination Category B-K-1 (Integral Attachments for Piping, Pumps, and Valves) into Category B-K (Integral Attachments for Class 1 Vessels, Piping, Pumps, and Valves). The Duane Arnold Energy Center (DAEC) Inservice Inspection (ISI) Program utilizes Code Case N-509, therefore the vessel stabilizer attachment welds are categorized as Category B-K, Item B10.10. Code Case N-509 requires essentially 100% surface examination of these welds.

4. Impracticality of Compliance

Pursuant to 10 CFR 50.55a(g)(5)(iii) relief is requested on the basis that obtaining "essentially 100%" examination coverage is impractical due to physical obstructions and limitations imposed by design.

These welds integrally attach lugs to the vessel. The lugs are used to connect the vessel stabilizers to the vessel. The stabilizers prevent the necessary access to

perform the surface examination of the bottom side of the lug. In addition, the close proximity of the lug to the vessel prevents access.

5. Burden Caused by Compliance

The vessel stabilizers would require disassembly in order to provide the access necessary to complete the examination of 100% of the bottom weld.

6. Proposed Alternative and Basis for Use

Relief is requested from performing a complete coverage examination of the entire volume or area required. Entire volume or area required is defined by ASME Section XI Code Case N-460 titled "Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1." Code Case N-460 states in part, "... when the entire examination volume or area cannot be examined ... a reduction in examination coverage ... may be accepted provided the reduction in coverage for that weld is less than 10%."

During Refueling Outage (RFO) 19, the stabilizer attachment welds received surface examinations to the extent practical with regard to the limited access available. Approximately 60% coverage was obtained for these surface examinations for attachment welds VSW-0AZ, VSW-90AZ, VSW-180AZ, and VSW-270AZ. No indications were identified.

The surface examination of approximately 60% of the vessel stabilizer attachment welds provides reasonable assurance that significant degradation, if present, would have been detected. Disassembly of the vessel stabilizers is impractical; the configuration of the attachment lugs does not provide an alternative examination to expand the coverage. Based on the percentage of examination coverage obtained, and the lack of indications, there is a high level of confidence in the continued structural integrity of the welds. There is no impact upon the overall plant quality and safety, and no adverse impact on the health and safety of the public.

7. Duration of Proposed Alternative

Relief is requested for the Third Ten Year Interval of the Inservice Inspection Program for the DAEC, currently scheduled to end on October 31, 2006.

8. Precedent

By letter dated November 21, 1997, the NRC granted a similar relief (NDE-024) for limited coverage that was obtained for vessel stabilizer attachment welds VSW-0AZ, VSW-90AZ, VSW-180AZ, and VSW-270AZ during the Second Ten Year Interval.

**ENCLOSURE 2
to NG-05-0417**

SUPPORTING INFORMATION

9 Pages Follow

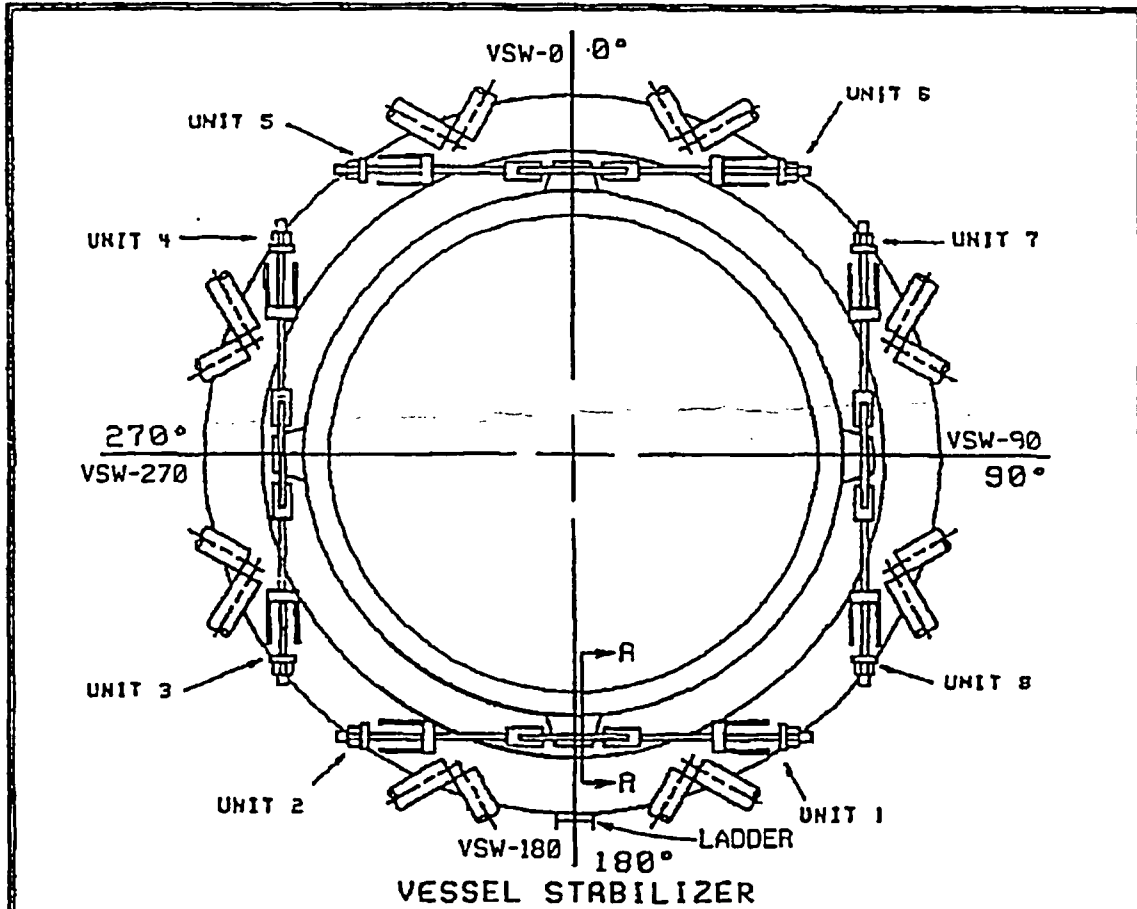
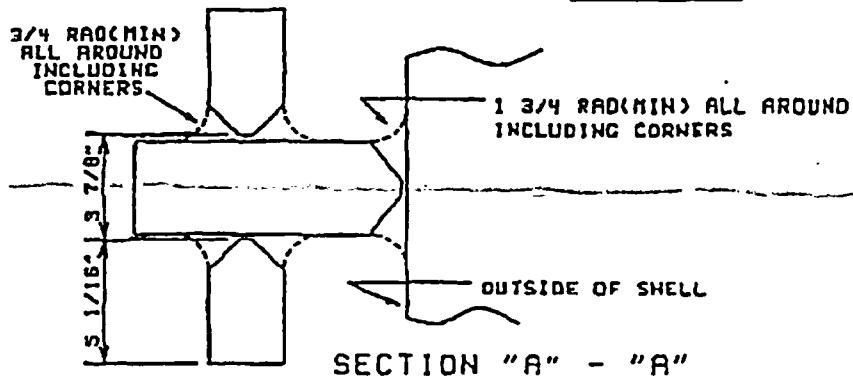


Figure No. 1.1-10



DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
0	5-13-91	DA	DA	RLM	FCN 'B' REV DWS IDENTIFYING SURFACES
1	7-06-95	DA	DA	DA	DELETED DWG PER DURF-0013
2	3/21/96	JAH	DA	DA	RE-ISSUED PER DURF-U0027

DAEC INSERVICE INSPECTION NAME SECTION XI ISOMETRIC

**RECORD OF NONDESTRUCTIVE EXAMINATION
MAGNETIC PARTICLE (DRY OR WET METHOD) MT-1**

ECP NO N/A WO NO. 1132948 ISI/PSI NO I 05158
 AR NO N/A DWG. OR ISO NO 1.1-10 COMPONENT OR SYSTEM RV VESSEL STABILIZER
VSW - 0° AZ.

PROCEDURE NO <u>1211.5</u> REV <u>6</u>	EQUIPMENT NO. ID <u>QD 024</u>	BATCH NO.
ACCEPT STD <u>3.11.6</u>	CAL DUE DATE <u>4/11/06</u> (AC) DC	DRY POWDER: RED <u>N/A</u> BLACK <u>N/A</u> GRAY <u>N/A</u>
	AMPERAGE <u>N/A</u>	WCP <u>CP-1</u> 9CM RED <u>OZK12K</u>
	YOKE/PROD SPACING <u>6"</u>	7C-F or 7HF BLACK <u>N/A</u>

COMP. TEMP. 89 °F THICKNESS 3 7/8"

ITEM	INITIAL INSPECTION		DEFECT CODE*	INITIAL INSPECTION REMARKS (SIZE/LOCATION)	REINSPECTION		DEFECT CODE*	REINSPECTION REMARKS (SIZE/LOCATION)
	ACC	REJ			ACC	REJ		
VSW								
0°	✓	/		NO INDICATIONS	/	/		/
/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/

*DEFECT CODE 60 % WELD EXAMINED PREVIOUS INSPECTION DATA REVIEWED JH

P - POROSITY, R - ROUNDED, LI - LINEAR INDICATION, LA - LAMINATION, O - OTHER (IDENTIFY)

0° AZ COMMENTS/SKETCH

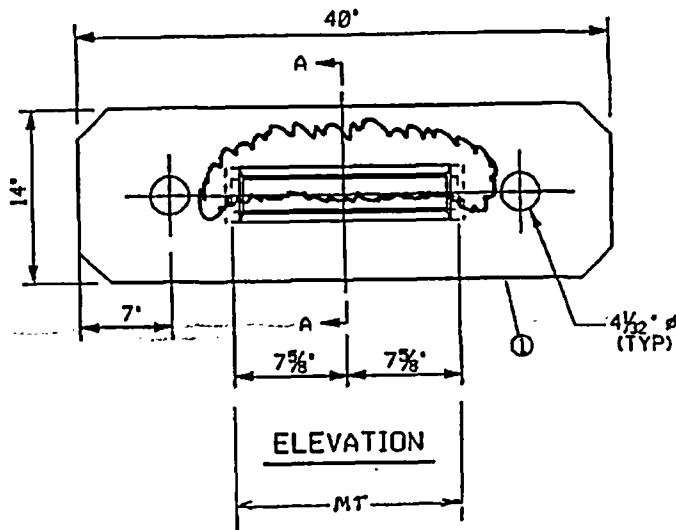
MT EXAMINATION WAS LIMITED ONLY TO THE TOP WELD. THE BOTTOM WELD IS INACCESSABLE THE MT COULD ONLY BE PERFORMED IN THE LONGITUDINAL PLANE OF THE WELD. SEE PAGE 2 SKETCH.
 60% OF THIS WELD WAS MT EXAMINED IN ONE DIRECTION.

Note: For Section XI exams, note indication length, location and component thickness.

Examiner Nick II 4/13/05 Reviewed By Hand Blum 4/17/05 Reviewed By JSE 4-19-05
 Signature/Level/Date Level III Signature/Date ANI Signature/Date
 NG-1112 REV. 3 Page 1 of 2

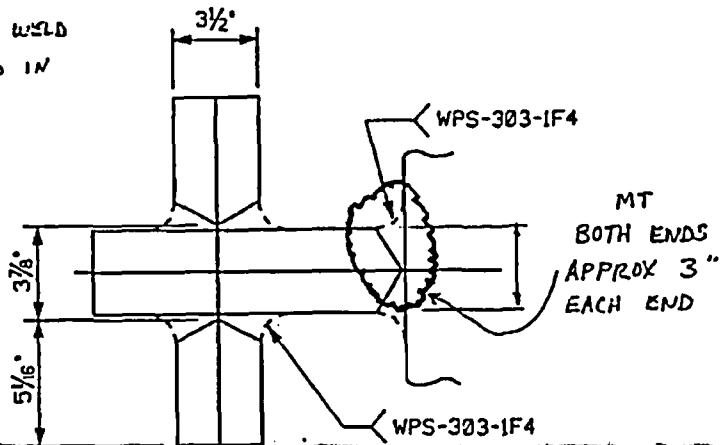
I 05158
VSW-0'AZ

NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	STABILIZER BRACKET	SA533 CLASS 1 GR. B	



ELEVATION
TOP WELD ONLY
LONGITUDINAL PLANE OF THE WELD ONLY

NOTE:
60% OF THIS WELD
WAS MT EXAMED IN
ONE DIRECTION.



SECTION A-A

REFERENCE DRAWINGS:
APED-B11-001K2, APED-B11-2655-207

IES:
Inservice Inspection Program
Reactor Pressure Vessel Sketch

STABILIZER BRACKET

DWG. NO. VS-01-32

REV. 1

**RECORD OF NONDESTRUCTIVE EXAMINATION
MAGNETIC PARTICLE (DRY OR WET METHOD) MT-1**

ECP NO N/A WO NO. 1132948 ISI/PSI NO 105159
 AR NO N/A DWG. OR ISO NO 1.1-10 COMPONENT OR SYSTEM RV VESSEL STABILIZER
VSW-180AZ

PROCEDURE NO <u>1211.5</u> REV <u>6</u>	EQUIPMENT NO. ID <u>9D024</u>	BATCH NO.
ACCEPT STD <u>3.11.6</u>	CAL DUE DATE ^{4/11/06} <u>4/11/06</u> (AC) DC	DRY POWDER: RED <u>N/A</u> BLACK <u>N/A</u> GRAY <u>N/A</u>
	AMPERAGE <u>N/A</u>	WCP <u>CP-1</u> 9CM RED <u>OZK12K</u>
	YOKE/PROD SPACING <u>6"</u>	7C-F or 7H BLACK <u>N/A</u>

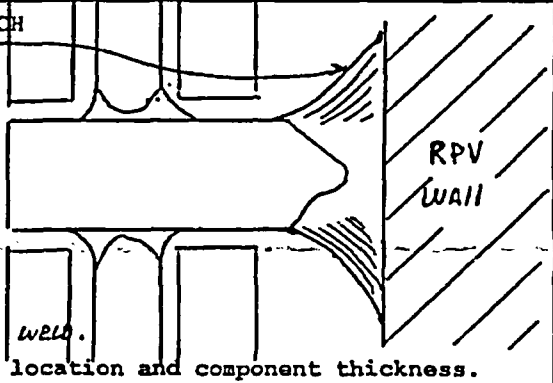
COMP. TEMP. 89 °F THICKNESS 3 7/8"

ITEM	INITIAL INSPECTION		DEFECT CODE*	INITIAL INSPECTION REMARKS (SIZE/LOCATION)	REINSPECTION		DEFECT CODE*	REINSPECTION REMARKS (SIZE/LOCATION)
	ACC	REJ			ACC	REJ		
VSW								
180°	✓	/		NO INDICATIONS	/	/		/
/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/

*DEFECT CODE 60 % WELD EXAMINED PREVIOUS INSPECTION DATA REVIEWED JH

P - POROSITY, R - ROUNDED, LI - LINEAR INDICATION, LA - LAMINATION, O - OTHER (IDENTIFY)

60% OF THIS WELD WAS MT EXAMINED IN ONE DIRECTION.
180° AZ
 SEE PAGE 2 SKETCH.
 THE MT EXAMINATION WAS LIMITED TO THE TOP WELD ONLY, DUE TO OBSTRUCTIONS AND BEING INACCESSIBLE, THE MT OF THE BOTTOM WELD COULD NOT BE PERFORMED.
 THE MT EXAMINATION COULD ONLY BE PERFORMED IN THE LONGITUDINAL PLANE OF THE WELD.



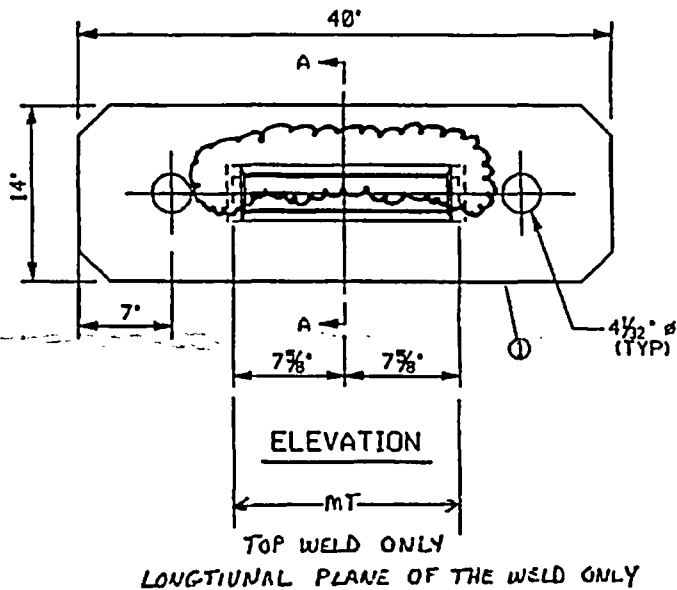
Note: For Section XI exams, note indication length, location and component thickness.

Examiner JH II 4/13/05 Signature/Level/Date
 NG-1112 REV. 3

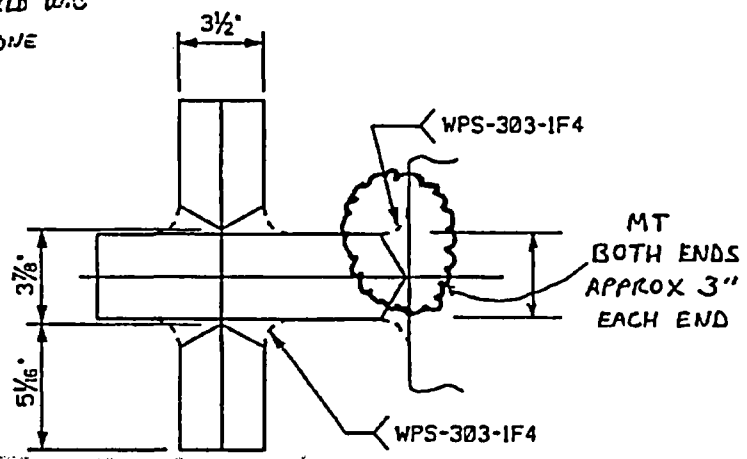
Reviewed By Frank Salmeron 4/13/05 Level III Signature/Date

Reviewed By JG 4-19-05 ANII Signature/Date
 Page 1 of 2

NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	STABILIZER BRACKET	SAS33 CLASS I GR. B	



NOTE:
60% OF THIS WELD WAS
MT EXAMINED IN ONE
DIRECTION.



REFERENCE DRAWINGS:
APED-B11-001(2), APED-B11-2655-207

NO.	DATE	REVISION	MS	DF	GP	SS
1	12-08-94	DRAFTED FOR VESSEL INSPECTION PROGRAM				

IES:
Inservice Inspection Program
Reactor Pressure Vessel Sketch

STABILIZER BRACKET	
DWG. NO.	VS-01-32
REV.	1

**RECORD OF NONDESTRUCTIVE EXAMINATION
MAGNETIC PARTICLE (DRY OR WET METHOD) MT-1**

ECP NO N/A WO NO. 1132948 ISI/PSI NO I 05160
 AR NO N/A DWG. OR ISO NO 1.1-10 COMPONENT OR SYSTEM RV VESSEL STABILIZER VSW-270° AZ.

PROCEDURE NO <u>1211.5</u> REV <u>6</u>	EQUIPMENT NO. ID <u>9D024</u>	BATCH NO.
ACCEPT STD <u>3.11.6</u>	CAL DUE DATE <u>4/11/06</u> (AC) DC	DRY POWDER: RED <u>N/A</u> BLACK <u>N/A</u> GRAY <u>N/A</u>
	AMPERAGE <u>N/A</u>	WCP <u>CP-1</u> 9CM RED <u>02K12K</u>
	YOKE/PROD SPACING <u>6"</u>	7C-F or 7HF BLACK

COMP. TEMP. 89 °F THICKNESS 3 7/8"

ITEM	INITIAL INSPECTION		DEFECT CODE*	INITIAL INSPECTION REMARKS	REINSPECTION		DEFECT CODE*	REINSPECTION REMARKS
	ACC	REJ		(SIZE/LOCATION)	ACC	REJ		(SIZE/LOCATION)
VSW								
270°	✓			NO INDICATIONS				

*DEFECT CODE 60 % WELD EXAMINED PREVIOUS INSPECTION DATA REVIEWED

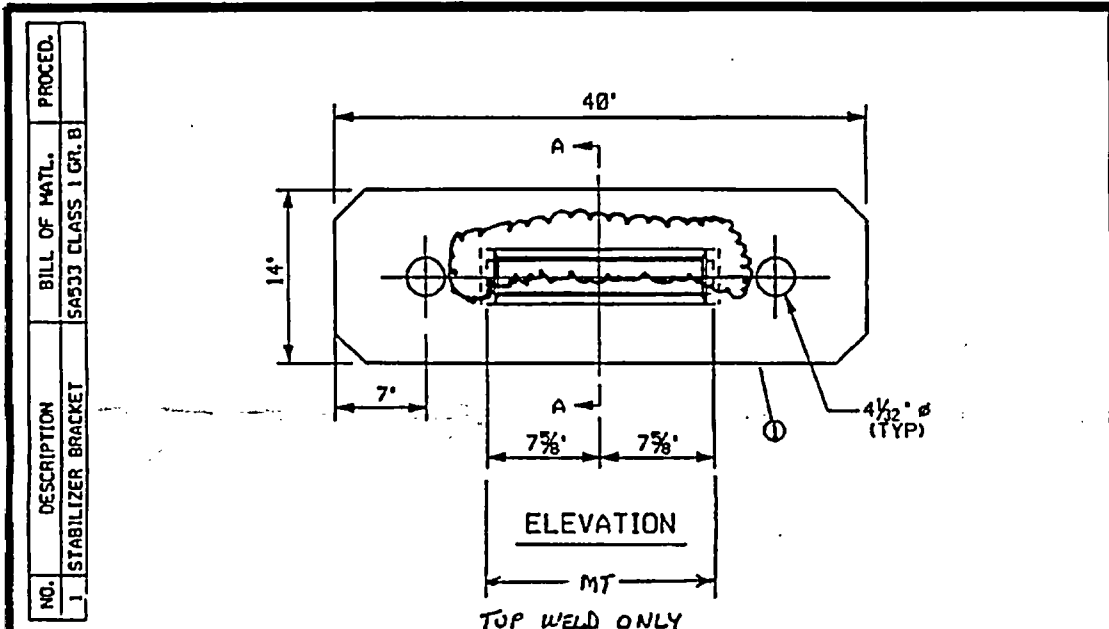
P - POROSITY, R - ROUNDED, LI - LINEAR INDICATION, LA - LAMINATION, O - OTHER (IDENTIFY)

<p align="center"><u>270° AZ.</u></p> <p>THE MT EXAMINATION WAS LIMITED TO THE TOP WELD ONLY DUE TO THE INACCESSIBILITY OF THE BOTTOM WELD. THE MT EXAMINATION COULD ONLY BE PERFORMED IN THE LONGITUDINAL PLANE OF THE WELD. SEE PAGE 2 SKETCH. 60% OF THIS WELD WAS EXAMINED BY MT IN ONE DIRECTION.</p> <p>Note: For Section XI exams, note indication length, location and component thickness.</p>	<p>COMMENTS/SKETCH</p>
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Examiner J. H. II 4/12/05 Reviewed By Paul Selway 4/17/05 Reviewed By JB 4-19-05
 Signature/Level/Date Level III Signature/Date ANII Signature/Date
 NG-1112 REV. 3 Page 1 of 2

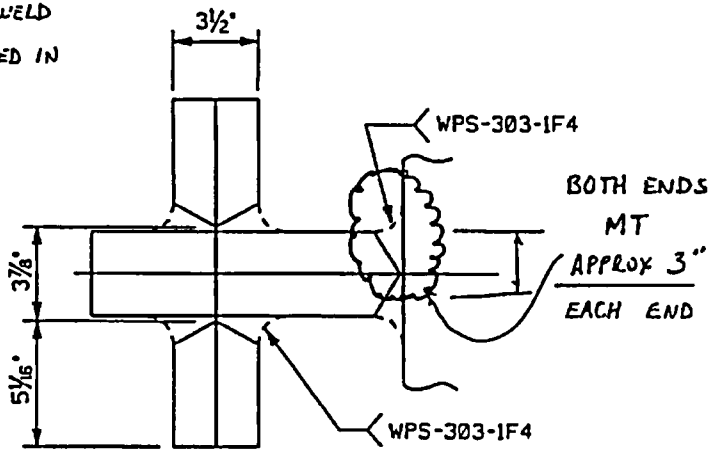
I 05160

VSW-270 AZ



TOP WELD ONLY
LONGITUDINAL PLANE OF THE WELD ONLY

NOTE:
60% OF THIS WELD
WAS MT EXAMINED IN
ONE DIRECTION.



SECTION A-A

REFERENCE DRAWINGS:
APED-B11-001<2>, APED-B11-2655-207

NO.	DESCRIPTION	BILL OF MATL.	PROCD.
1	STABILIZER BRACKET	SAB33 CLASS 1 GR. B	

NO.	DATE	REVISION
1	12-08-94	DRAFTED FOR VESSEL INSPECTION PROGRAM
		MS OF CP SS
		OR IR CHD. ENR. VTR.

IES:
Inservice Inspection Program
Reactor Pressure Vessel Sketch

STABILIZER BRACKET

DWG. NO. VS-01-32

REV. 1

**RECORD OF NONDESTRUCTIVE EXAMINATION
MAGNETIC PARTICLE (DRY OR WET METHOD) MT-1**

ECP NO N/A WO NO. 1132948 ISI/PSI NO I05161
 AR NO N/A DWG. OR ISO NO 1.1-10 COMPONENT OR SYSTEM RV VESSEL STABILIZER VSW - 90° AZ

PROCEDURE NO <u>1211.5</u> REV <u>6</u>	EQUIPMENT NO. ID <u>QD024</u>	BATCH NO.
ACCEPT STD <u>3.11.6</u>	CAL DUE DATE ^{11/11/05} <u>2/11/06</u> (AC) DC	DRY POWDER: RED <u>N/A</u> BLACK <u>N/A</u> GRAY <u>N/A</u>
	AMPERAGE <u>N/A</u>	WCP <u>CP-1</u> 9CM RED <u>O2K12K</u>
	YOKE/PROD SPACING <u>6"</u>	7C-F or 7HF BLACK <u>N/A</u>

COMP. TEMP. 89 °F THICKNESS 3 7/8"

ITEM	INITIAL INSPECTION		DEFECT CODE*	INITIAL INSPECTION REMARKS (SIZE/LOCATION)	REINSPECTION		DEFECT CODE*	REINSPECTION REMARKS (SIZE/LOCATION)
	ACC	REJ			ACC	REJ		
VSW								
90°	✓	/	/	NO INDICATIONS	/	/	/	/
/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/

*DEFECT CODE 60 % WELD EXAMINED PREVIOUS INSPECTION DATA REVIEWED JH

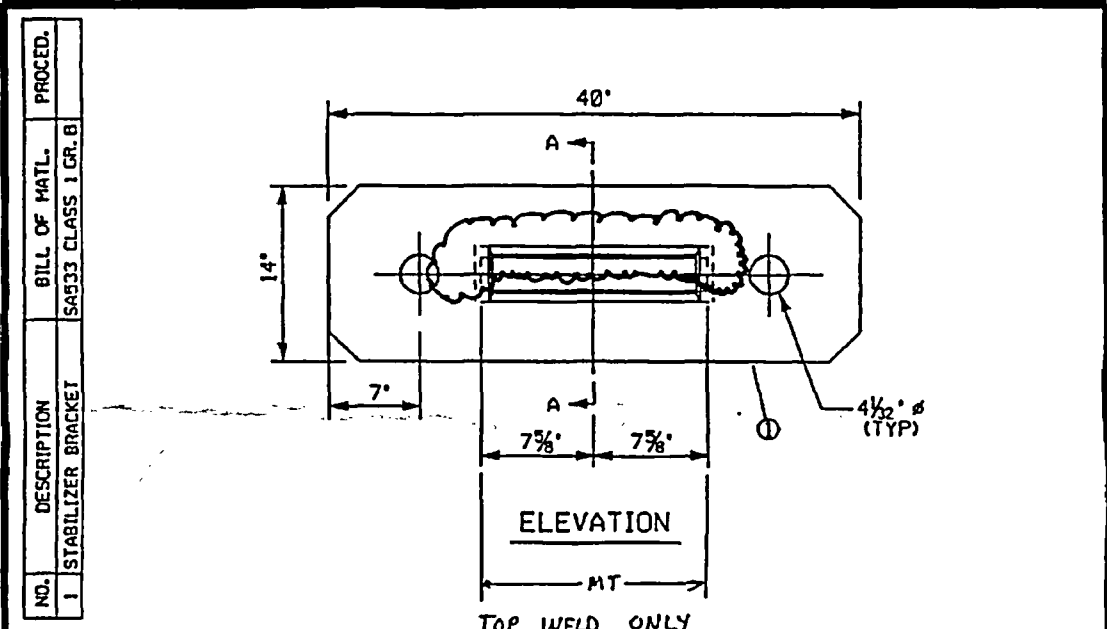
P - POROSITY, R - ROUNDED, LI - LINEAR INDICATION, LA - LAMINATION, O - OTHER (IDENTIFY)

90° AZ. COMMENTS/SKETCH

THE MT EXAMINATION WAS LIMITED TO THE TOP WELD ONLY, DUE TO THE INACCESSABILITY OF THE BOTTOM WELD. THE MT EXAMINATION COULD ONLY BE PERFORMED IN THE LONGITUDINAL PLANE OF THE WELD. SEE PAGE 2 SKETCH. 60% OF THIS WELD WAS MT EXAMINED IN ONE DIRECTION.

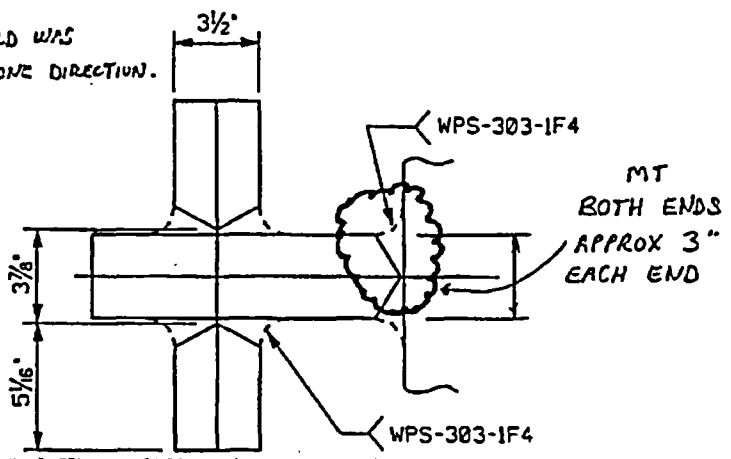
Note: For Section XI exams, note indication length, location and component thickness.

Examiner J. H. II 4/17/05 Reviewed By Frank Johnson 4/17/05 Reviewed By JBL 4-19-05
 Signature/Level/Date Level III Signature/Date ANII Signature/Date
 NG-1112 REV. 3 Page 1 of 2



TOP WELD ONLY
LONGITUDINAL PLANE OF THE WELD ONLY

NOTE:
60% OF THIS WELD WAS
MT EXAMINED IN ONE DIRECTION.



SECTION A-A

REFERENCE DRAWINGS:
APED-B11-001<2>, APED-B11-2655-207

NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	STABILIZER BRACKET	SA533 CLASS 1 CR.B	

NO.	DATE	REVISION	MS	DF	CP	SS
1	12-08-94	DRAFTED FOR VESSEL INSPECTION PROGRAM				
		DRAFT. CHRD. ENGR. I. VFR.				

IES:
Inservice Inspection Program
Reactor Pressure Vessel Sketch

STABILIZER BRACKET	
DWG. NO.	VS-01-32
REV.	1