NUCLEAR ENERGY SERVICES, INC.
NES DIVISION
SHELTER ROCK ROAD
DANBURY, CONN. 06810
(203) 748-3581

5-25-82
Date

ISI FIELD CHANGE AUTHORIZATION

Document Title NOZZLE SAFE ENDS Document No. 80A0475 Rev. 6

Field Change No. FC-1 Originator G. D. MARTENS

Description of Field Change:

1) ADD: PARA 2(10) APPLICABLE TECHNIQUE SHEETS ATTACHED TO THE PROCEDURE FOR UNIQUE EXAMINATIONS

2) ADD: FEEDWATER TECHNIQUE SHEET (SEE ATTACHED)

3) ADD: BIMETALIC TECHNIQUE SHEET (SEE ATTACHED)

Reason for Change:

ACCOMODATE EXAMINATION REQUIREMENTS

Approvals:

NES	G. D. Martens UT III	5-25-82
NES	[illegible]	5-25-82
HLCO	C. Nichols	5-25-82

Distribute to all Controlled Copy holders of affected Document.

Note: A copy of this authorization shall be attached to the affected document until a subsequent revision incorporates the field change.

T7 - 013

TECHNIQUE SHEET FOR FEEDWATER SAFE ENDS

1) AXIAL SCANS ⊥

A 60° ANGLE BEAM SHEAR WAVE TECHNIQUE, EITHER FULL VEE OR HALF VEE CALIBRATION, SHALL BE USED FOR EXAMINATION AREAS MASKED BY EXCESSIVE EXCAVATIONS.

2) CIRCUMFERENTIAL SCANS =

A 55° ANGLE BEAM SHEAR WAVE TECHNIQUE EITHER FULL VEE OR HALF VEE CALIBRATION, SHALL BE USED FOR EXAMINATION AREAS MASKED BY EXCESSIVE EXCAVATIONS.

TECHNIQUE SHEET FOR BIMETALIC WELDS

1) EXAMINATIONS SHALL BE PERFORMED USING A NOMINAL 1.5 MH_2, DUAL 45° LONGITUDINAL WAVE SEARCH UNIT, WITH A HALF "V" CALIBRATION.

2) REFERENCE SENSITIVITY FOR RECORDING AND EVALUATING INDICATIONS WHERE THE ULTRASONIC BEAM PASSES THROUGH WELD MATERIAL SHALL BE DETERMINED AS FOLLOWS: AFTER CALIBRATION, INCREASE THE GAIN SETTING 4 dB FOR THICKNESSES $\leq \frac{3}{4}$". FOR THICKNESSES $> \frac{3}{4}$" THE GAIN SETTING SHALL BE INCREASED AN ADDITIONAL 3 dB FOR EACH $\frac{1}{4}$" INCREMENT.

3) SCANNING SENSITIVITY SHALL BE 6 dB ABOVE THAT DETERMINED IN 2 (ABOVE) NOMINALLY. IF THE CRT PRESENTATION IS TOO NOISEY AT THIS LEVEL, THE GAIN MAY BE REDUCED AS MUCH AS 5 dB; HOWEVER, THE SCAN SPEED SHALL BE REDUCED BY 1"/SEC FOR EACH 1 dB REDUCTION IN SCAN SENSITIVITY.

NUCLEAR ENERGY SERVICES, INC.
NES DIVISION
SHELTER ROCK ROAD
DANBURY, CONN. 06810
(203) 748-3581

6-16-82
Date

ISI FIELD CHANGE AUTHORIZATION

Document Title NOZZLE SAFE ENDS Document No. 80A0475 Rev. 6

Field Change No. FC-2 Originator A. PENNANEN

Description of Field Change:

REVISE ITEM 1 OF TECHNIQUE SHEET (FC-1) FOR BI-METALLIC WELDS TO READ AS FOLLOWS:

EXAMINATIONS SHALL BE PERFORMED USING A NOMINAL 1.5 MHZ OR 2.25 MHZ DUAL OR SINGLE ELEMENT 45° LONGITUDINAL WAVE OR 45° SHEAR WAVE SEARCH UNITS WITH A ½ VEE CALIBRATION. SEARCH UNIT HOLDERS (SLEDS) MAY BE UTILIZED TO INSURE PROPER ENTRY ANGLE.

Reason for Change:

TO ACCOMODATE EXAMINATION REQUIREMENTS.

Approvals:

NES	PER TELCON S. FOOTE J. MUNSON	6-16-82
LILCO		6-16-82

Distribute to all Controlled Copy holders of affected Document.

Note: A copy of this authorization shall be attached to the affected document until a subsequent revision incorporates the field change.

NUCLEAR ENERGY SERVICES, INC.
NES DIVISION
SHELTER ROCK ROAD
DANBURY CONN. 06810
(203) 748-3581

5/20/82
Date

ISI FIELD CHANGE AUTHORIZATION

Document Title STUDS + NUTS Document No. 8OA0476 Rev. 0

Field Change No. FC-2 Originator S. FOOTE

Description of Field Change:

PARA 8.2(1) + (5) ADD NOTE:

FOR RECIRCULATION PUMP STUDS THE 8TH HORIZONTAL SCREEN POSITION SHALL BE UTILIZED FOR THE STUD CALIBRATION BLOCK HOLE

Reason for Change:

TO ALLOW FULL SCREEN PRESENTATION OF EXAMINATION AREA

Approvals:

NES	Stephen Ward Jewett III	5/20/82
HNCO	C. Nicholas	5/20/82

Distribute to all Controlled Copy holders of affected Document.

Note: A copy of this authorization shall be attached to the affected document until a subsequent revision incorporates the field change.

NUCLEAR ENERGY SERVICES, INC.
NES DIVISION
SHELTER ROCK ROAD
DANBURY, CONN. 06810
(203) 748-3581

6-24-82
Date

ISI FIELD CHANGE AUTHORIZATION

Document Title NOZZLE SAFE ENDS Document No. 80A0475 Rev. 6

Field Change No. FC-3 Originator A. PENNANEN

Description of Field Change:

(1) ADD FIGURE 10 ULTRASONIC EXAMINATION PROCEDURE FOR CORE SPRAY NOZZLE TO SAFE END PIECE AND SAFE END PIECE TO TRANSITION PIECE WELDS. CAL BLOCKS CS-1-1A, CS-1-1B, CS-2-A, CS-2-B

(2) CHANGE PARAGRAPH 1.4.1, 1.4.2, AND 1.5 TO READ ... FIGURE 1 THROUGH 10.

Reason for Change:

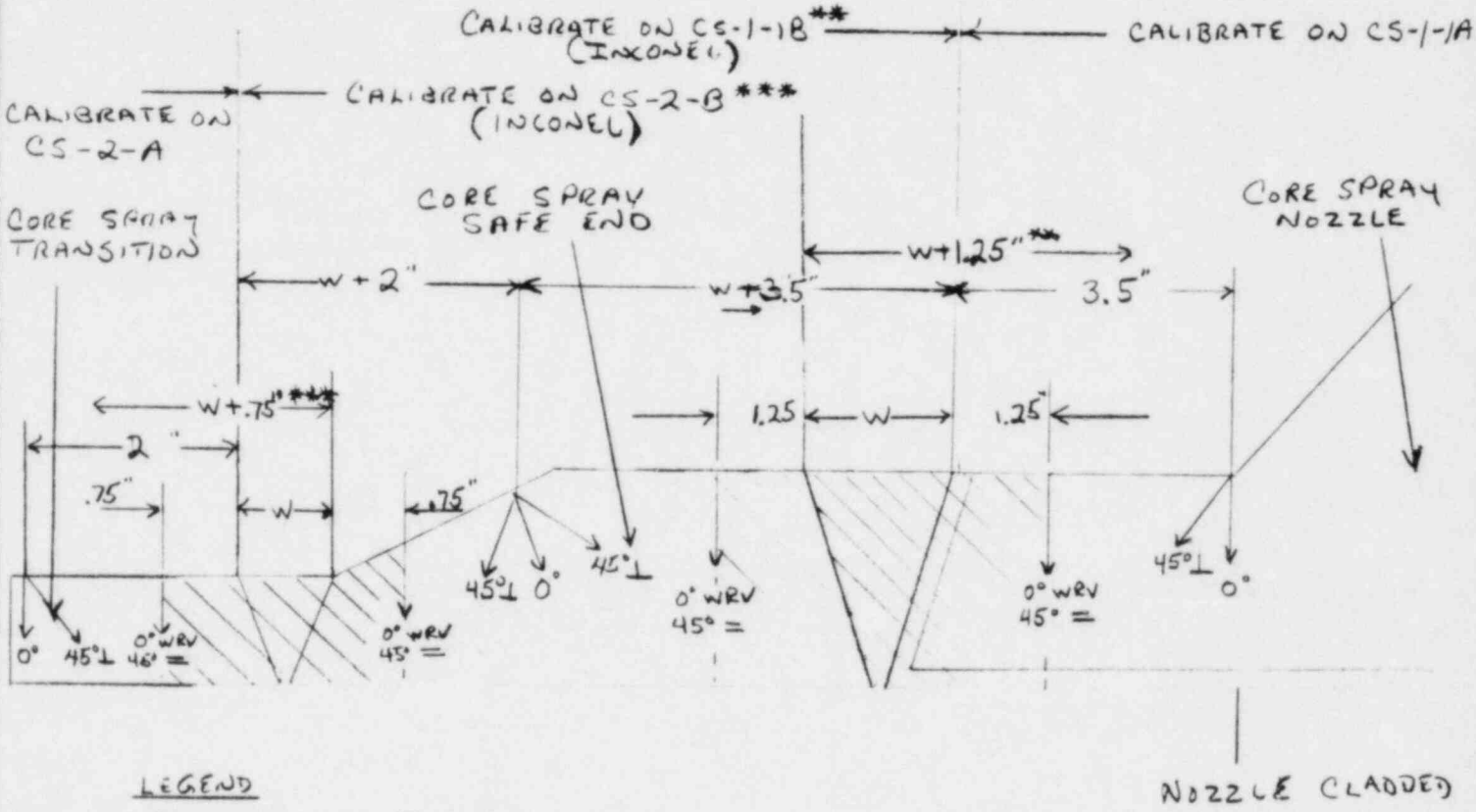
TO INCORPORATE NEW CAL BLOCKS & PROCEDURES FOR CORE SPRAY SAFE END WELDS.

Approvals:

NES	PER TELECON FOR S. FOOTE	6-24-82
ILCC	[illegible]	6-24-82

Distribute to all Controlled Copy holders of affected Document.

Note: A copy of this authorization shall be attached to the affected document until a subsequent revision incorporates the field change.



LEGEND

⊥ PERPENDICULAR TO WELD

= PARALLEL TO WELD

* 0° BASE METAL

** USE CS-1-1B CALIBRATION TO SCAN WELD FROM OPPOSITE SIDE. USE SCAN PATH REQUIRED TO INSPECT ENTIRE WELD TO THE ROOT.

*** USE CS-2-B CALIBRATION TO SCAN WELD FROM OPPOSITE SIDE. USE SCAN PATH REQUIRED TO INSPECT ENTIRE WELD TO THE ROOT.

WRV WELD REQUIRED VOLUME.

FIGURE 10 ULTRASONIC EXAMINATION PROCEDURE FOR CORE SPRAY SAFE END WELDS (CAL BLOCK CS-1-1A, CS-1-1B, CS-2-A, CS-2-B)

NUCLEAR ENERGY SERVICES, INC.

6/3/82
Date

ISI FIELD CHANGE AUTHORIZATION

Document Title PIPING WELDS Document No. 80A0481 Rev. 6

Field Change No. FC-4 Originator S. FOOTE

Description of Field Change:

1) PARA 6.2 ADD ITEM 33 CALIBRATION STANDARD NO. 28-XX2-SS AND RENUMBER REMAINING ITEMS.
2) PARA 1.4.2 REVISE ... 1.781 INCHES TO 2.6 INCHES.
3) FIGURE 1 ADD THE FOLLOWING ITEM...
   28-SPECIAL-2.6-28-W+8-W+5.75-28-XX2-SS
4) FIGURE 3 ADD THE FOLLOWING ITEM...
   28-SPECIAL-2.6-28-W+9.25-W+5.25-28-XX2-SS
5) FIGURE 5 ADD THE FOLLOWING ITEM...
   28-XX2-SS-28-2.6-.187-1/4T 3/4T-1.5
6) PARA 7.1.1 CHANGE TO READ STANDARDS ... THROUGH 33

Reason for Change:

INCORPORATE NEW CALIBRATION BLOCK

Approvals:

NES	Stephen J. [illegible] Level III	6/3/82
NES	[illegible]	6/7/82
LILCO	E. Nichols	6/7/82

Distribute to all Controlled Copy holders of affected Document.

Note: A copy of this authorization shall be attached to the affected document until a subsequent revision incorporates the field change.

Revision 0

Document No.	Latest Rev. No.	Title
80A0448	8	Quality Assurance Plan for Inservice Inspection Program.
80A0462	2	Manual Ultrasonic Exam. Proc. for Reactor Pressure Vessel, Circum. & Long. Welds.
80A0467	4	UT Exam Proc. for Closure Head & Flange Welds.
80A0468	1	UT Exam Proc. for Reactor Vessel to Flange Weld & Stud Ligaments.
80A0469	4	Manual UT Exam. Proc. for Closure Head & Vessel Nozzle Welds.
80A0470	1	Auto. UT Exam. Proc. for Vessel Nozzle Welds.
80A0471	0	Manual UT Exam. Proc. for Vessel Welds & Stabilizer Bracket Welds.
80A0472	1	Liquid Penetrant Exam. Proc.
80A0473	3	Visual Exam. Proc.
80A0474	1	Remote UT Exam. for Nozzle Safe End Welds.
80A0475	6	Manual UT Exam Proc. for Vessel Nozzle Safe-ends & Closure Head Nozzle Flange Welds.
80A0476	0	UT Exam Proc. for Closure Head Studs & Nuts & Recirc. Pump Studs & Nuts.
80A0479	0	Manual UT Exam Proc. for Nozzle Inner Radii.
80A0480	2	Auto. UT Exam. Proc. for Vessel Welds.
80A0481	6	UT Exam Proc. for Piping Butt & Long. Welds.
80A0482	8	Shoreham Nuclear Power Station Unit PSI Plan.
80A0485	-	Ultrasonic Exam Proc. for CRD Housing Welds.
80A0486	1	UT Proc. for Jet Pump Installation Nozzle-Safe-End to Manifold Weld.
80A0487	2	General Magnetic Particle Exam.
80A2942	1	UT Exam. Proc. for integrally Welded Pipe Supports and attachments.
80A4437	1	Preservice Inspection Automated Examinations Scan Plans for Reactor Vessel Welds.

NUCLEAR ENERGY SERVICES, INC.

5/17/82
Date

ISI FIELD CHANGE AUTHORIZATION

Document Title MAGNETIC PARTICLE EXAM Document No. 80A0487 Rev. 2

Field Change No. FC-1 Originator S. FOOTE

Description of Field Change:

REVISE PARA. 2.1.1 TO READ:

ASME BOILER AND PRESSURE VESSEL CODE, SECTION V, 1974 EDITION THROUGH THE SUMMER 1975 ADDENDA. FOR TECHNIQUE

Reason for Change:

REFLECT NEWER CODE REQUIREMENTS.

Approvals:

NES	[signature]	5/17/82
NES	[signature]	5/18/82
ILCO	[signature]	5/19/82

Distribute to all Controlled Copy holders of affected Document.

Note: A copy of this authorization shall be attached to the affected document until a subsequent revision incorporates the field change.

NUCLEAR ENERGY SERVICES, INC.
NES DIVISION
SHELTER ROCK ROAD
DANBURY, CONN. 06810
(203) 748-3581

6-30-82
Date

ISI FIELD CHANGE AUTHORIZATION

Document Title NOZZLE SAFE ENDS Document No. 80A0475 Rev. 6

Field Change No. FC-4 Originator A. PENNANEN

Description of Field Change:

(1) PARA. 5.2.3 CHANGE "NOTE" TO READ ... UTILIZE A 35° ANGLE BEAM TECHNIQUE AND 1/2 VEE CALIBRATION.

(2) CHANGE FIGURES 2, 3, 8, AND 9 TO SHOW SCANNING PROCEDURE & COVERAGE FOR BIMETALLIC SAFE END WELDS IN ACCORDANCE WITH FC-1.

(3) CHANGE 30° = SCAN ANGLE TO 35° = ON FIGURES 2, 5, AND 6.

Reason for Change:

(1) TO ALLOW FOR A USABLE CALIBRATION WHERE T/D RATIOS EXCEED .15

(2) TO ILLUSTRATE SCANNING TECHNIQUE AND SCAN PATHS IN ACCORDANCE WITH FC-1

(3) TO CONFORM WITH PARA. 1.2.1 AND 5.2.3 OF THE PROCEDURE.

Approvals:

NES	PER TELCON [illegible] FOR S. FOOTE LIII	7-1-82
LILCO	E Nicholas	7-1-82

Distribute to all Controlled Copy holders of affected Document.

Note: A copy of this authorization shall be attached to the affected document until a subsequent revision incorporates the field change.

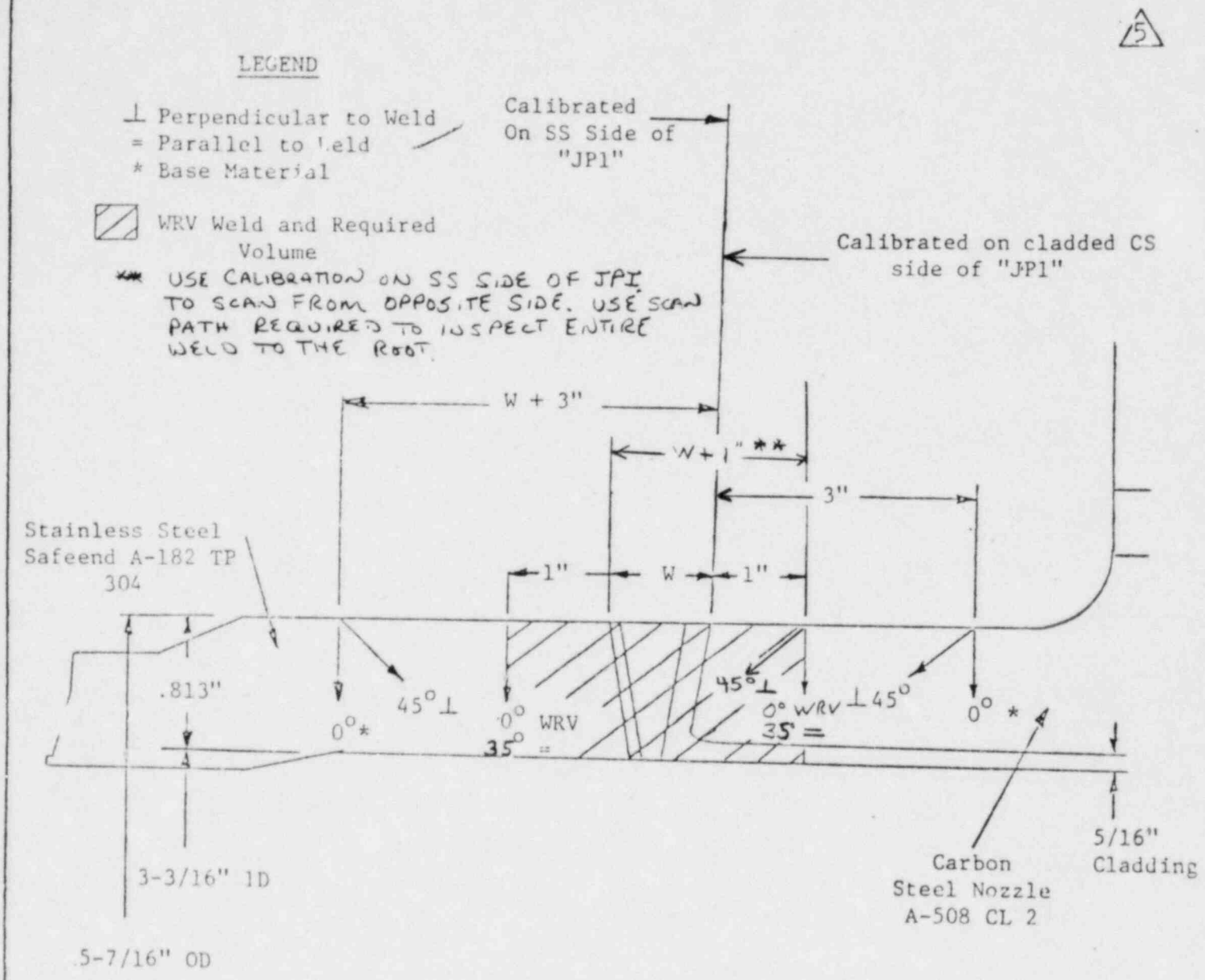


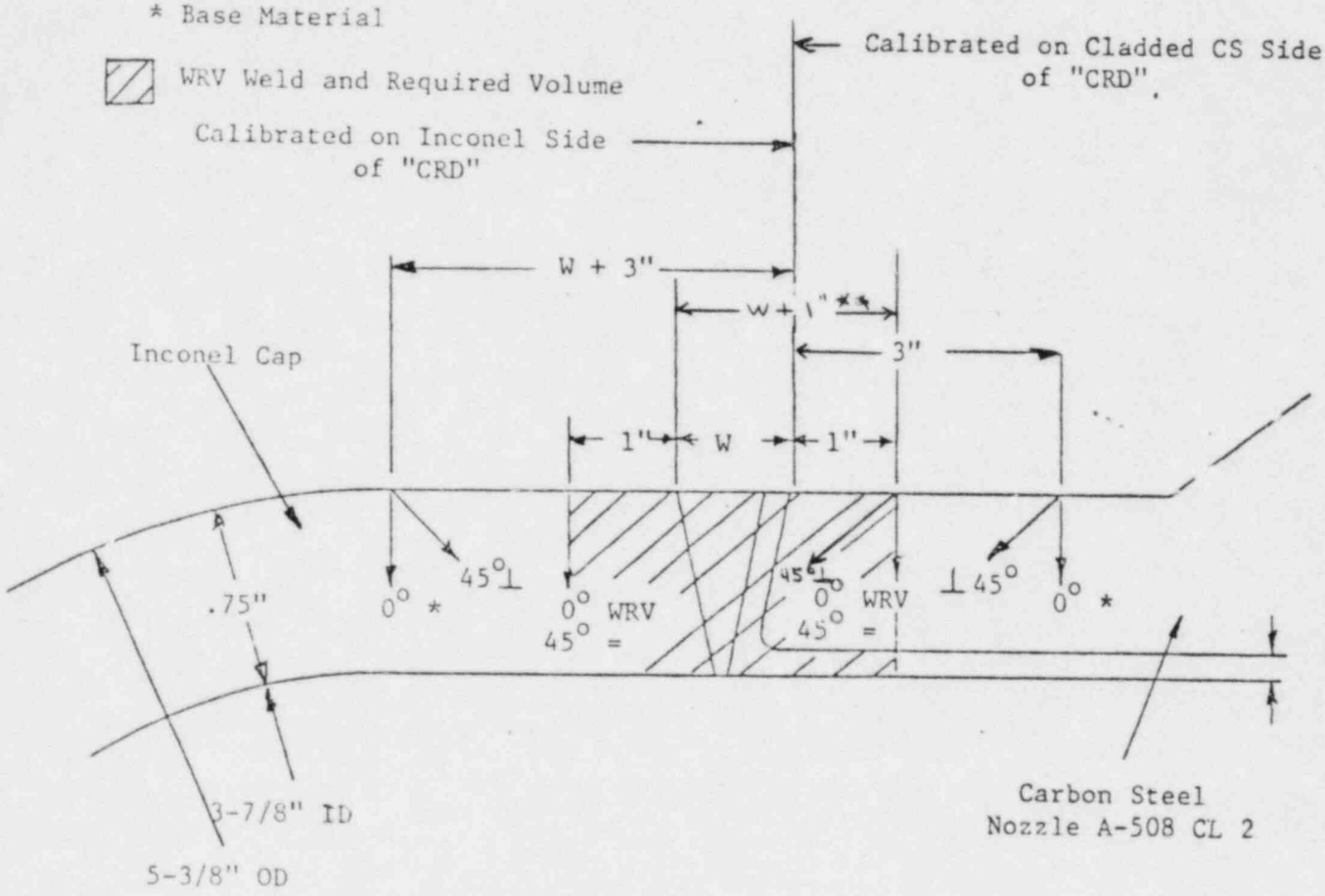
Figure 2 - Ultrasonic Examination Procedures for Jet Pump Instrumentation (N8) Nozzle to Safeend Welds, Cal. Block "JP1"

5

LEGEND

⊥ Perpendicular to Weld
= Parallel to Weld
* Base Material

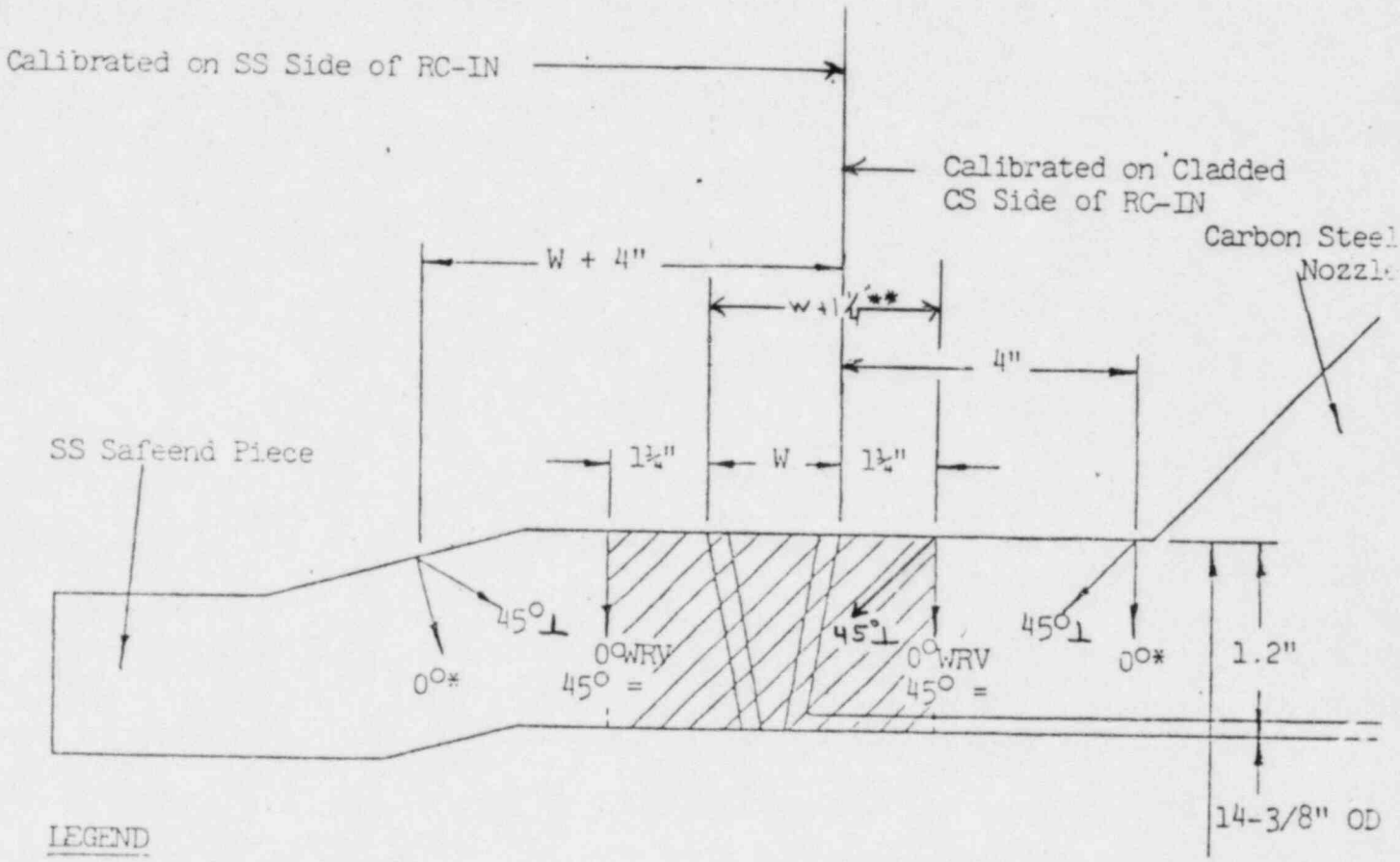
WRV Weld and Required Volume



** USE CALIBRATION ON INCONEL SIDE OF CRD TO SCAN FROM OPPOSITE SIDE. USE SCAN PATH REQUIRED TO INSPECT ENTIRE WELD TO THE ROOT.

Figure 3 - Ultrasonic Examination Procedures for Control Rod Drive (N9) Nozzle to Cap Weld. Cal. Block "CRD"

5



LEGEND

⊥ Perpendicular to Weld
= Parallel to Weld
* 0° Base Material

WRV Weld and Required Volume
** USE CALIBRATION ON SS SIDE OF RC-IN TO SCAN FROM OPPOSITE SIDE. USE SCAN PATH REQUIRED TO INSPECT ENTIRE WELD TO THE ROOT.

Figure 8 Ultrasonic Examination Procedure for Recirculation Inlet Nozzle Safeend Weld (Cal. Block RC-IN).

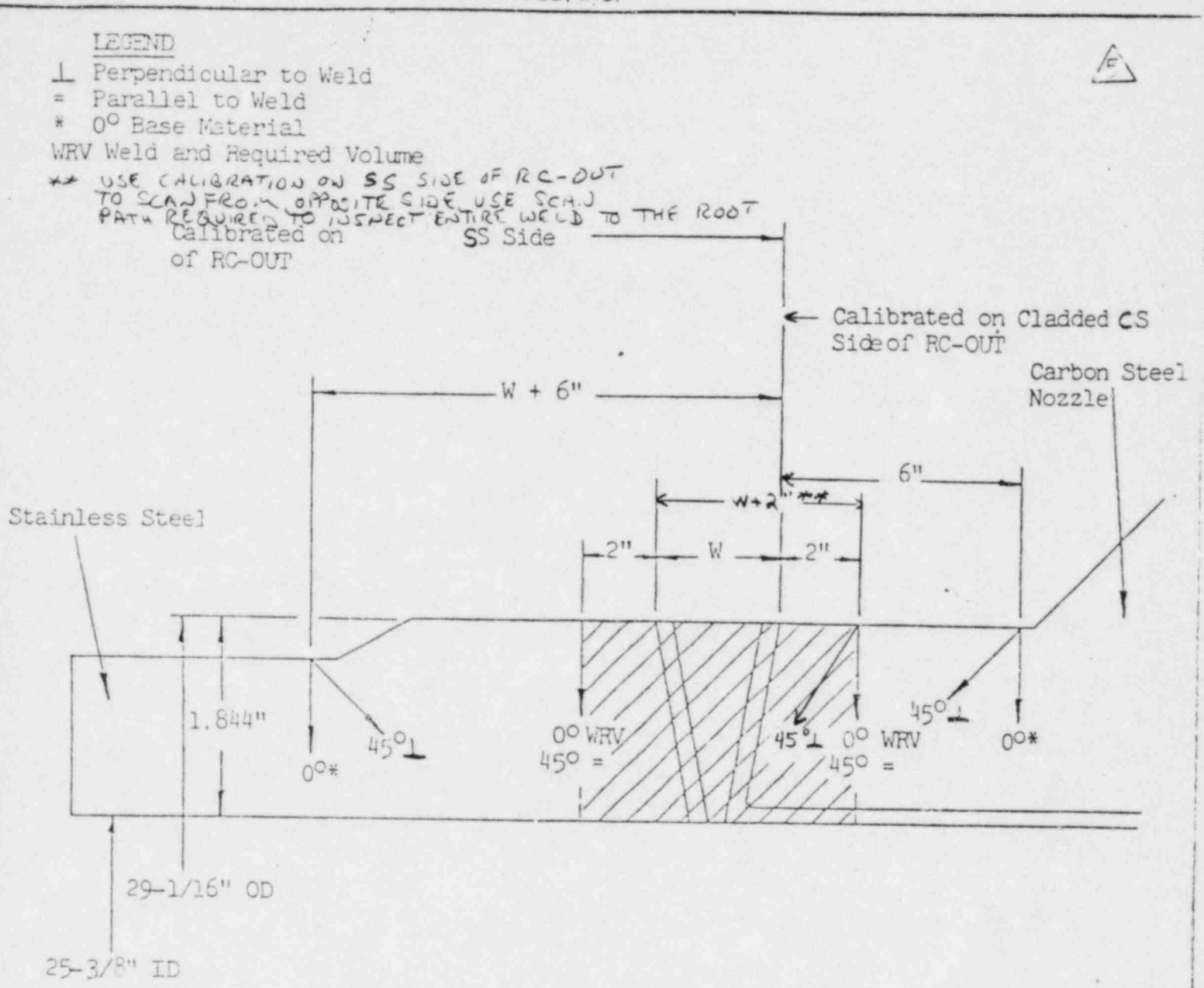


Figure 9 Ultrasonic Examination Procedures for Recirculation Outlet Nozzle Safeend Welds (Cal. Block RC-OUT)

DOCUMENT/ PAGE PULLED

ANO. 8209270545

NO. OF PAGES 14

REASON

☐ PAGE ILLEGIBLE

☐ HARD COPY FILED AT. PDR CF

OTHER _____

☐ BETTER COPY REQUESTED ON ___/___/___

☒ PAGE TOO LARGE TO FILM

☒ HARD COPY FILED AT. PDR (CF)

OTHER _____

☒ FILMED ON APERTURE CARD NO 8209270545-01 thru 8209270545-14