



GE NUCLEAR ENERGY

PROCEDURE REVIEW AND APPROVAL

PROCEDURE NO. MIUB-W812

REVISION NO. 1

ADDENDA NO. N/A

TITLE

ULTRASONIC INSPECTION OF PRESSURE RETAINING
BOLTING TWO INCHES OR GREATER IN DIAMETER

PREPARED BY:

LEVEL III

M. A. Heath

DATE

1-19-88

TECHNICAL REVIEW BY:

LEVEL III

M. A. Heath

DATE

2-2-88

INSPECTION SERVICES
REVIEW AND APPROVAL BY:

R. A. Harper

DATE

2-3-88

QUALITY ASSURANCE
REVIEW AND APPROVAL BY:

E. W. Secher

DATE

2-3-88

INSTRUCTIONS:



GE NUCLEAR ENERGY

PROCEDURE REVIEW AND APPROVAL

PROCEDURE NO. MIUB-W812

REVISION NO. 1

ADDENDA NO. N/A

TITLE

ULTRASONIC INSPECTION OF PRESSURE RETAINING
BOLTING TWO INCHES OR GREATER IN DIAMETERPREPARED BY: *LEVEL III*
M. A. Heath DATE 1-19-88TECHNICAL REVIEW BY: *LEVEL III*
M. A. Heath DATE 2-2-88INSPECTION SERVICES
REVIEW AND APPROVAL BY: *R. A. Harper* DATE 2-3-88QUALITY ASSURANCE
REVIEW AND APPROVAL BY: *C. W. Secker* DATE 2-3-88

INSTRUCTIONS:



GE NUCLEAR ENERGY

Procedure No.: MIUB-W812
Revision No.: 1
Page: 1 of 16

This is to certify that this procedure meets the applicable requirements of the nondestructive examination methods specified in ASME Section XI, Division 1, 1980 Edition thru Winter 1981 Addendum.

M. A. Stahl
General Electric Level III

1-19-88

Date

J. L. L. L.
ANII

3-30-88

Date

1.0 SCOPE

- 1.1 The ultrasonic method of volumetric inspection herein describes is intended for use on pressure retaining bolting 2 inches or greater in diameter, ASME Section XI Category B-G-1 and C-D.
- 1.2 This procedure may be used with bolts, studs and nuts either in place or when removed.
- 1.3 This procedure covers straight beam longitudinal wave testing for bolts, studs and nuts.
- 1.4 The examination shall be performed from the end surfaces of the bolts, studs or nuts.

2.0 REFERENCES

- 2.1 American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code.
 - a) Section V, "Nondestructive Examination", 1980 Edition, thru Winter 1981 Addenda.
 - b) Section XI, "Inservice Inspection of Nuclear Power Plant Components", 1980 Edition, thru Winter 1981 Addenda.
- 2.2 American Society for Nondestructive Testing, Recommended Practice for SNT-TC-1A (1975 and 1980 Edition) including Supplement C, Ultrasonic Testing Method.



3.0 PERSONNEL REQUIREMENTS

- 3.1 All personnel performing, interpreting or evaluating ultrasonic examinations shall be qualified and certified in accordance with SNT-TC-1A 1975 or 1980 Edition.
- 3.2 Personnel performing ultrasonic examinations shall be certified to at least Level IT (Trainee). A Level IT classification is used by General Electric for personnel who have satisfied all the education, training and examination requirements for certification as a Level I, but have not yet completed all of the work experience requirements. A Level IT shall work only under the immediate technical direction and supervision of a Level II or III. Level IT shall not independently conduct any examination, interpret any results of an examination, or write a report of examination result. Level I's may also be used to perform ultrasonic examinations and shall work under the general technical direction of supervision of a Level II or III.
- 3.3 All personnel assigned to interpret and evaluate results with respect to applicable codes, standards, specifications and procedures shall be certified to at least Level II.

4.0 EQUIPMENT

4.1 Ultrasonic Instrument

- 4.1.1 A pulse echo ultrasonic flaw detection instrument (with an A-Scan presentation) capable of generating frequencies from 1.0 MHz to 5.0 MHz and be equipped with a stepped gain control calibrated in units of 2dB or less, shall be used.
- 4.1.2 The ultrasonic instrument shall have its internal alignment verified and certified to manufacturer's specifications within 12 months prior to use.
- 4.1.3 The ultrasonic instrument shall contain a calibrated attenuator for amplitude control accurate over its useful range to $\pm 20\%$ or $\pm 2\text{db}$ of the nominal amplitude ratio, to allow measurement of indications beyond the range of the vertical display on the screen.



GE NUCLEAR ENERGY

Procedure No.: MIUB-W812
Revision No.: 1
Page: 3 of 16

4.1.4 The ultrasonic instrument shall provide linear vertical presentation within 5% of the full screen range for at least 80% of the calibrated screen height (base line to maximum calibrated screen point).

4.2 Search Units

4.2.1 0° Longitudinal Wave

- a) The search unit transducer shall be of a ceramic single element type, generating longitudinal waves with a nominal frequency between 2.25 MHz and 5.0 MHz (± 0.25 MHz).
- b) The active individual element size shall not exceed 1-1/8" round or square and not less than 3/4" round or square.
- c) Other sizes may be used to effectively scan the examination area if approved by the customer.

4.3 Couplant

- 4.3.1 USP-grade glycerine or Ultragel II shall be used for calibration and examination.
- 4.3.2 Couplants shall be certified for total sulfur and halogen content in accordance with ASTM D-129-64 and D-808-63. The total residual halogens and sulfur shall not exceed 1% by weight.
- 4.3.3 Alternate couplants may be used provided they are approved by BWRSD Materials Engineering.
- 4.3.4 Couplants will be approved by the customer.

4.4 Cables

- 4.4.1 Cables used to connect the transducer to the Ultrasonic instrument will be co-axial cables of 6ft. nominal length. However, longer co-axial cables may be used provided they fall within the instrument manufacturer's recommendation.

4.5 Calibration Block



GE NUCLEAR ENERGY

Procedure No.: MIUB-W812
Revision No.: 1
Page: 4 of 16

- 4.5.1 The basic calibration block shall meet the requirements of ASME Section XI and conform to G.E. Drawing No. CNS-1 or equivalent (See Figure 1).

5.0 CALIBRATION

5.1 Instrument Linearity Checks

- 5.1.1 This calibration shall include the checks for screen height linearity and amplitude control linearity as described below. These checks shall be performed at the beginning of each day of examination and a final linearity check will also be performed at the completion of a period of examination (i.e. completion of an ISI).

- 5.1.2 Screen Height Linearity: To verify the ability of the ultrasonic instrument to meet the linearity requirement, position the search unit so that echoes can be observed from any two reflectors in a calibration block. Adjust the search unit position to give a 2 to 1 ratio of amplitudes between the two echoes, with the larger set at 80% of full screen height. Without moving the search unit, adjust sensitivity (gain) to successively set the larger echo from 100% to 20% of full screen height in 10% increments (or 2db steps if a fine control is not available), and read the amplitude of the smaller echo at each setting. The reading must be 50% of the larger amplitude within 5% of full screen height. The settings and readings must be estimated to the nearest 1% of full screen.

- 5.1.3 Amplitude Control Linearity: To verify the accuracy of the amplitude control in the ultrasonic instrument, position the search unit so that an echo from one reflector in a calibration block is peaked on the screen. With the increases and decreases in attenuation shown in the following table, the echo amplitude must fall within the specified limits. Any convenient reflector on a calibration block may be used with angle or straight beam search units. The settings and readings must be established to the nearest 1% of full screen.

Reflector set at <u>% of Full Screen</u>	dB Control <u>Change *</u>	Reflector Limits, <u>% of Full Screen</u>
---	-------------------------------	--



GE NUCLEAR ENERGY

Procedure No.: MIUB-W812

Revision No.: 1

Page: 5 of 16

80%	- 6dB	32 to 48%
80%	-12dB	16 to 24%
40%	+ 6dB	64 to 96%
20%	+12dB	64 to 96%

* Minus (-) denotes decrease in amplitude; plus (+) denotes increase.

5.1.4 Records: All instruments used for examination shall have screen height linearity and control linearity checks recorded on the Linearity Data Sheet (See Exhibit 1, Typical).

5.2 System Calibration

5.2.1 Calibration shall be performed with the complete ultrasonic examination system for each specified size, thickness range and material. Any change in search units, shoes, couplants, cables, ultrasonic instruments, recording devices or any other parts of the examination system shall be cause for calibration check. The original calibration shall be performed on the basic calibration block. Calibration checks may be performed on either a basic calibration block simulator or the basic calibration block, but must include a check of the entire examination system.

5.2.2 Calibration shall be performed from that surface of applicable calibration standard which corresponds to the surface from which examination is to be performed.

5.2.3 Calibration standard temperature shall be within 25° F of the temperature of the component to be examined.

5.2.4 Prior to calibration, couplant bond between wedge and transducer shall be checked (if applicable).

5.2.5 Calibration verification shall be performed at the start and finish of each examination and at least every four (4) hours during an examination. Any change in the ultrasonic instrument settings (except gain), search unit, couplant, cables, examination personnel, or any other part of the examination system shall be cause for a calibration check.

5.2.6 All Calibration and Calibration Checks data shall be recorded on the Calibration Data Sheet. (See Exhibit 2, Typical)



GE NUCLEAR ENERGY

Procedure No.: MIUB-W812
Revision No.: 1
Page: 6 of 16

5.2.7 Calibration Changes

- a) If any point of the distance amplitude correction (DAC) curve has decreased 20% or 2dB of its amplitude, all data sheets since the last calibration check shall be marked void. A new calibration shall be made and recorded and the voided examination areas shall be re-examined.
- b) If any point on the distance amplitude correction curve has increased more than 20% or 2dB of its amplitude, recorded indications taken since the last valid calibration or calibration check may be re-examined with the correct calibration and their values changed on the data sheets.
- c) If any point on the DAC curve has moved on the sweep line more than 10% of the sweep division reading, correct the sweep range calibration and note the correction in the examination record. If recordable reflectors are noted on the data sheets, those data sheets shall be voided, a new calibration shall be recorded, and the voided examination areas shall be re-examined.

5.3 Straight Beam (L-Wave) Calibration

5.3.1 Sweep Calibration for Studs, Bolts or Nuts: The sweep shall be calibrated from one of the studs, bolts or nuts being tested by setting the back reflection of the total length to 90% of screen width. Mark this location on the screen and transcribe the information on to the Calibration Data Sheet.

5.3.2 DAC for Examining Studs, Bolts or Nuts: Place the search unit on the plugged end of the calibration block and obtain a signal from the 3/8" hole bottom. Set this signal at 80% (+5%) Full Screen Height. Mark the location and amplitude on the CRT screen.

Place the search unit on the end opposite the plugged end of the calibration block, maximize the reflection from the 3/8" (Nom.) flat bottom hole on the CRT screen. Mark the location and amplitude on the screen.



Draw a straight line thru the two points obtained above and extend the line to cover the total area of inspection.

This line will represent the primary reference level. Also draw a secondary curve on the CRT equal to 50% of the primary reference level. Transcribe the information (obtained above on the Calibration Data Sheet).

5.3.3 If the procedure specified in 5.3.2 fails to produce suitable signals for drawing a DAC. Then the following procedure shall be followed:

- a) Place the search unit on the end farthest from the bottom of the 3/8" (Nom.) flat bottom hole. Obtain a signal from this hole and set it at 50% FSH. Draw a line thru this point parallel to the base line. This will be the primary reference level. Also draw a secondary curve on the CRT equal to 50% of the primary reference level. Transcribe the information obtained above on the Calibration Data Sheet.

5.3.4 The sweep shall be verified by comparing it with the length of all the studs, bolts and nuts of identical kind as testing proceeds.

6.0 EXAMINATIONS

6.1 Surface Conditions

The examination surface shall be free of irregularities, loose material or coatings which interfere with ultrasonic wave transmission.

6.2 Examination Volume

6.2.1 The examination volume shall (as a minimum) be the volume shown in Figure 2 or Figure 3 as applicable.

6.2.2 The scan shall be performed such that the required examination volume is completely scanned.

6.3 Temperature Limit Verification



GE NUCLEAR ENERGY

Procedure No.: MIUB-W812
Revision No.: 1
Page: 8 of 16

6.3.1 Prior to examination, the temperature limit of paragraph 5.2.3 shall be verified.

6.4 Scanning

6.4.1 Scanning shall be performed at a minimum gain set up of +6 dB greater than the primary reference level, higher scanning gains may be used but recording of the ultrasonic reflectors shall be at the reference level.

6.4.2 Indication measurements shall be to the nearest tenth (0.1") of an inch.

6.5 0° Longitudinal Wave Examination

6.5.1 Scanning sensitivity shall be at least two times primary reference calibration sensitivity.

6.5.2 The search unit shall be moved around and across the contact area so as to scan the entire surface.

6.5.3 Bolts and studs shall be examined by straight beam scanning from the top end. The complete end shall be scanned.

6.5.4 Nuts shall be examined from either end by straight beam scanning.

6.5.5 To assure complete coverage of the examination area each pass of the search unit shall overlap the previous pass by a minimum of 10 percent of the width of the active area of the search unit.

6.5.6 The scanning rate shall not exceed 6 inches per second.

6.5.7 Any indication that exceeds the 50% DAC line at scanning level shall be evaluated at the reference level.

6.5.8 Any discontinuity which cause an indication in excess of that produced by the calibration hole in the reference specimen as corrected by the distance amplitude curve shall be investigated to the extent that the operator can evaluate the shape, identity and location in terms of the reference standards of 8.0.



7.0 REPORTS

7.1 The Calibration Data Sheet (Exhibit 2) shall be completed before any examinations are performed.

7.1.1 Calibration Data Sheet: The calibration system and information shall be recorded on the Calibration Data Sheet and shall include as a minimum, the following items:
(See Exhibit 2).

- (a) Calibration Data Sheet Number
- (b) Date of Calibration
- (c) Ultrasonic Instrument Model Number
- (d) Ultrasonic Instrument Serial Number
- (e) Ultrasonic Instrument Settings
- (f) Transducer Size and Frequency
- (g) Transducer Serial Number
- (h) Search Unit Cable Type and Length to Nearest Foot
- (i) Examiners signature and NDE Level
- (j) Data Takers signature and NDE Level (if applicable)
- (k) Couplant
- (l) Calibration Standard Nominal Pipe Size, Thickness and Material
- (m) DAC amplitudes and Metal Paths
- (n) Times of initial Calibration and Subsequent Calibration Checks
- (o) For Calibration Checks
 - 1. Last examination data sheet (EDS) number used
 - 2. Last line number on the EDS used
 - 3. Component and calibration standard with 25 limit
- (p) Examination Procedure Number and Revision
- (q) All Examination Data Sheets for which the CDS is applicable. The Calibration Data Sheet shall be completed before any examinations are performed.

7.1.2 Examination Data Sheet (EDS): The following minimum information shall be recorded on an Examination Data Sheet:
(See Exhibit 3).

- (a) Examination Data Sheet Number (EDS)
- (b) Date of Examination
- (c) Calibration Standard Number
- (d) Applicable Calibration Data Sheet Number
- (e) Signatures of Examination Personnel and their NDE Level



GE NUCLEAR ENERGY

Procedure No.: MIUB-W812
Revision No.: 1
Page: 10 of 16

- (f) Couplant
- (g) Bolting Application
- (h) Stud, Bolt or Nut Length and Diameter
- (i) Stud, Bolt or Nut Identification Number

8.0 ACCEPTANCE STANDARDS

8.1 Indications which are determined to be other than geometric reflectors shall be characterized and evaluated in accordance with Article IWB-3515 of ASME Section XI.

8.2 Acceptance Standards: Components whose examination either confirms the absence of, or reveals flaw indications that do not exceed the criteria of paragraph IWB-3515 of ASME Code Section XI shall be acceptable for service provided:

8.2.1 that the verified flaw indications are recorded to identify the components with sufficient information such as name of component and descriptions, size, capacity, material, location and drawing to aid identification.

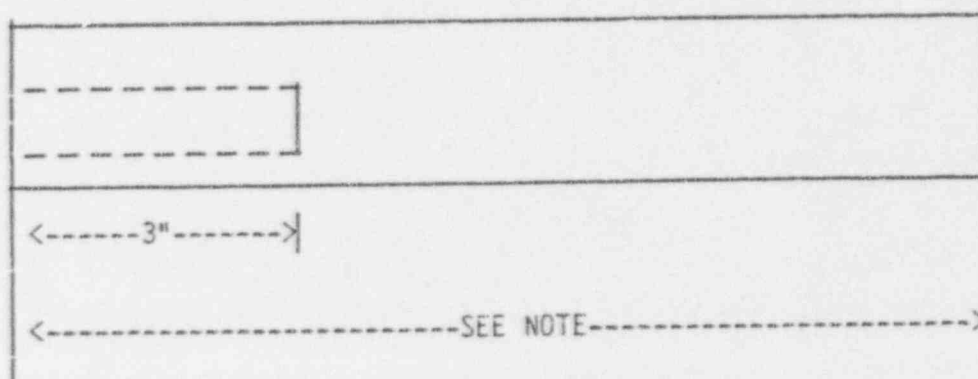
8.2.2 that the examination and test results that provide a basis for evaluation and facilitate comparison with the results of subsequent examinations are to be recorded.

8.3 Components whose examination reveals flaw indications that exceed the criteria of paragraph IWB-3515 shall be unacceptable for service unless such flaws are removed or repaired to the extent necessary to meet the allowable flaw indication standards prior to placement of the component in service.

— 8.4 Completed "evaluated" data sheets (Exhibits 1, 2, and 3) shall be submitted to the owner for final resolution/acceptance. All data requires review and signature of NPPD ISI Engineering prior to Q.A. and ANII review.

G.E. I&SE DRAWING # CNS-1

-----3/8" DIA. FLAT BOTTOM HOLE PLUGGED WITH SIMILAR MATERIAL TO FULL DEPTH



NOTE: Calibration Standard shall be of the same nominal composition, diameter, and length as the production part.

FIGURE 1

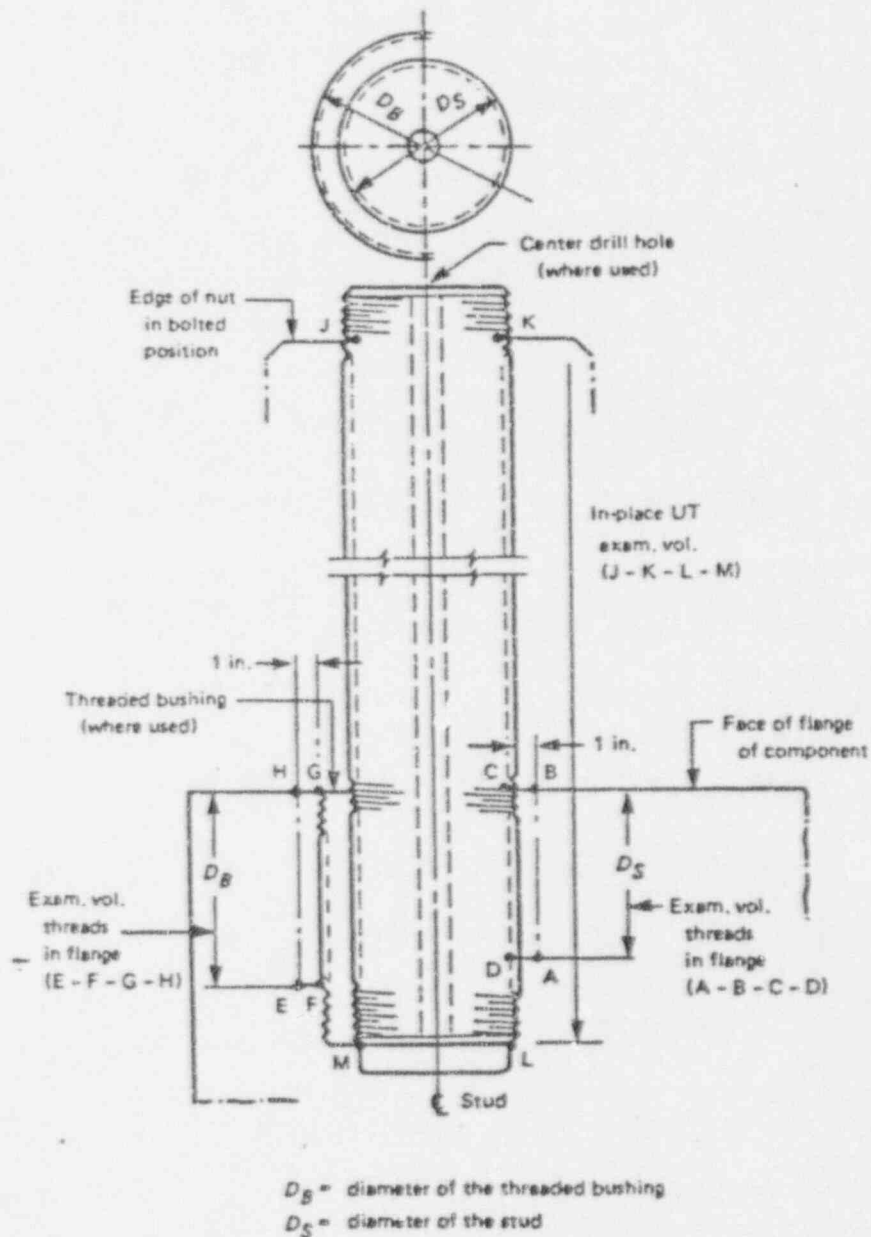


FIGURE 2
Category B-G-1
Exam Volume

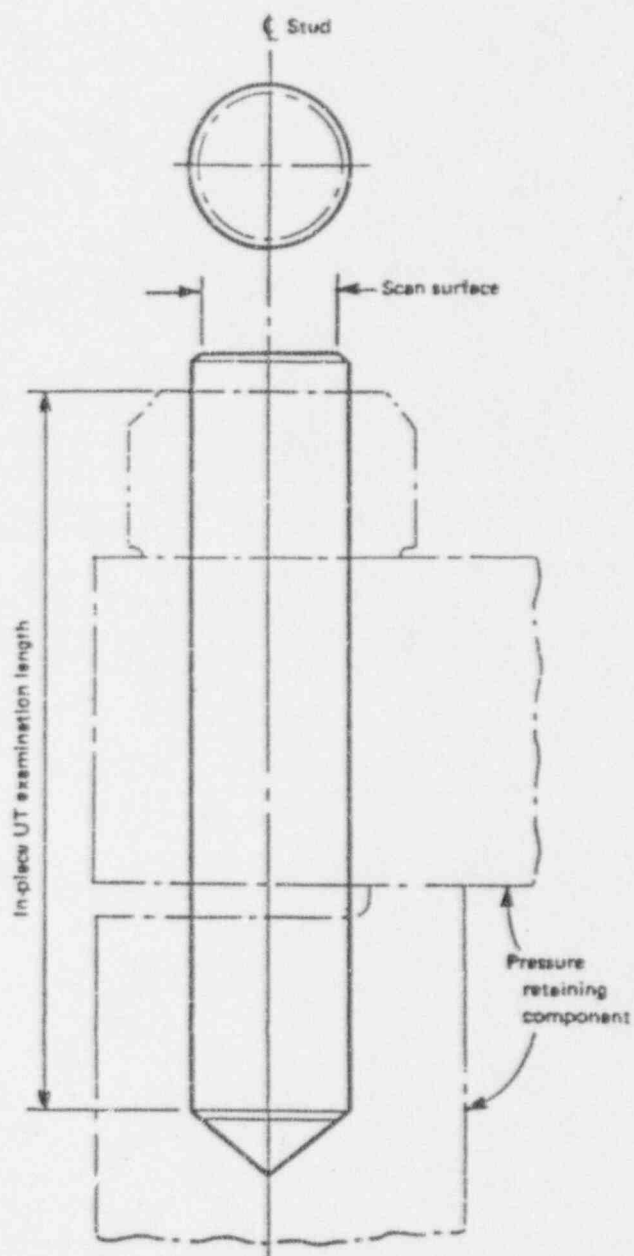


FIGURE 3
Category C-D
Exam Volume



GE Nuclear Energy

Procedure No. MIUB-W812

Revision No. 1

Page 14 of 16

EXHIBIT 1

U.T. CALIBRATION DATA SHEET

CDS. NO. _____

LDS. NO. _____

A. Procedure No. _____ Rev. _____
Examination Personnel: (1) NAME _____ LEVEL _____ (2) NAME _____ LEVEL _____
Instrument SERIAL NO. _____ MAKE/MODEL: ☐ BRANSON/302 ☐ BOMC/MK I ☐ KJ/USLS2 ☐ OTHER _____
☐ MORTEC 131D.

D. Search Unit:
BEAM ANGLE/MODE: ☐ STRAIGHT BEAM/LONG WAVE ☐ 45°/TRANS WAVE ☐ 80°/TRANS WAVE ☐ OTHER _____
TRANSDUCER SIZE: ☐ 0.25" DIA. ☐ 0.25" DIA. ☐ 0.5" DIA. ☐ 0.5" X 0.5" ☐ .75" DIA. ☐ 1.0" DIA. ☐ 1.0" DIA. ☐ OTHER _____
FREQUENCY: ☐ 1.0 MHz ☐ 2.25 MHz ☐ 3.5 MHz ☐ 5.0 MHz ☐ 10.0 MHz ☐ OTHER _____
TRANSDUCER TYPE: ☐ CERAMIC SINGLE ELEMENT ☐ CERAMIC DUAL ELEMENT ☐ OTHER _____
WEDGE TYPE: ☐ STANDARD WEDGE ☐ SPECIAL WEDGE/TYPE _____
CALCULATED BEAM ANGLE: $\pm 2^\circ$ _____

E. Cable: LENGTH: _____ FT. TYPE: ☐ RG-58 ☐ RG-59 ☐ RG-57 ☐ RG-174 ☐ OTHER _____
F. Pipe Calibration Orientation: CALIBRATION REFERENCE REFLECTOR: ☐ parallel ☐ transverse TO PIPE AXIS
FOR DUAL ELEMENT: SPLIT FOR MAXIMUM RESPONSE ☐ parallel ☐ transverse TO HOLE CENTERLINE
G. Calibration Standards: LSCS CAL STD. NO. _____ THICKNESS _____ DIAMETER _____
TYPE: ☐ PIPE ☐ BOLT ☐ NUT ☐ VESSEL ☐ OTHER _____
MATERIAL: ☐ CARBON ☐ STAINLESS ☐ INCONEL ☐ OTHER _____
K. Couplant: ☐ GLYCERINE ☐ ULTRAGEL R ☐ OTHER _____

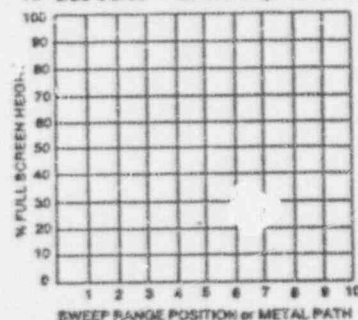
I. Comments: _____

J. Dac Curve — Data ☐ SRP; ☐ MP in inches

00 REFLECTOR	01 PEAK AMP	02 W _T	03 W _{TC}	04 W _T	05 SRP ₁ or MP ₁	06 SRP ₂ or MP ₂	07 SRP ₃ or MP ₃	08 HOLE DEPTH
1/4 T or 7/8 Vee								
1/2 T or 7/8 Vee								
3/4 T or 7/8 Vee								
B.R. or 7/8 Vee								

2 X SCAN SENSITIVITY = _____ dB CHANGE
VESSEL BLOCK CLAD INTERFERENCE = _____ dB CHANGE

K. Dac Curve — Screen Representation



L. Settings/Checks

00 CONTROLS	01 SET	02	03	04	05	06	07	08	09
GAIN									
SCAN GAIN									
SWEEP									
DELAY									
FILTER									
REP RATE									
DAMPENING									
REJECT									
OTHER									

M. Calibration Time — Records

DATE	01 ORGL CAL TIME	02 CAL CHECK TIME	03 LAST E.D.S. #	04 LAST E.D.S. LINE #	05 VERIFICATION OF 25" F LIMIT (YES/NO)

NDE LEVEL III REVIEW: _____ DATE _____

NPPD ISI ENGINEER REVIEW: _____ DATE _____

NPPD QA REVIEW: _____ DATE _____

ANII REVIEW: _____ DATE _____



GE Nuclear Energy

Procedure No. MIUB-W812

Revision No. 1

Page 15 of 16

EXHIBIT 2

U.T. LINEARITY DATA SHEET

LDS # _____

DATE: _____

PROCEDURE NO. _____ REV. _____

EXAMINER: _____ LEVEL: _____ DATA TAKER: _____ LEVEL: _____

INSTRUMENT:

SERIAL NO. _____ MODEL NO: ☐ KK/USL-32; ☐ DRANLON 300; ☐ SONIC MKI; ☐ OTHER _____
☐ NORTEC-131D ☐ NORTEC-131D

SEARCH UNIT:

BEAM ANGLE: ☐ 0° (LONG. WAVE); ☐ 45° (SHEAR WAVE); ☐ 60° (SHEAR WAVE); ☐ OTHER _____

TRANSDUCER SIZE: ☐ 0.25" DIA/2.25 MHZ; ☐ 0.25" X 0.25"/2.25 MHZ; ☐ 0.25" X 0.5"/2.25 MHZ;

SERIAL NO. _____ ☐ 0.5" X 0.5"/2.25 MHZ; ☐ 0.25" DIA/5.0 MHZ; ☐ 0.25" X 0.25"/5.0 MHZ;

☐ 0.25" X 0.5"/5.0 MHZ; ☐ 0.5" X 0.5"/5.0 MHZ; ☐ OTHER _____

☐ DUAL TRANSDUCERS; ☐ SINGLE TRANSDUCER; ☐ SPECIAL WEDGE _____

CABLE:

TYPE: ☐ RG-58; ☐ RG-59; ☐ RG-57; ☐ RG-174 (Microdot); ☐ OTHER _____ LENGTH: _____

TYPE OF BLOCK USED: ☐ 1HW-2; ☐ UT CAL. BLOCK NO. _____ ☐ OTHER _____

SCREEN HEIGHT LINEARITY CHECK:

1st REFLECTOR AMPLITUDE IN % FSH	2nd REFLECTOR AMPLITUDE IN %FSH	1st REFLECTOR AMPLITUDE IN %FSH	2nd REFLECTOR AMPLITUDE IN % FSH
100		50	
90		40	
80	40	30	
70		20	
60			

THE 2nd REFLECTOR SHALL BE 50% OF THE 1st REFLECTOR \pm 5% FSH TO MEET SCREEN HEIGHT LINEARITY.

AMPLITUDE CONTROL LINEARITY:

REFLECTOR AMP. SET IN % FSH	dB CONTROL CHANGE	REALING OFF SCREEN	REFLECTOR AMP. LIMITS IN % FSH
80%	-6dB		32 to 48%
80%	-12dB		16 to 24%
40%	+6dB		64 to 96%
20%	+12dB		64 to 96%

MINUS (-) DENOTES DECREASE IN AMPLITUDE; PLUS (+) DENOTES INCREASE.

NDE LEVEL III REVIEW: _____ DATE _____

NPPD CSI ENGINEER REVIEW: _____ DATE _____

NPPD QA REVIEW: _____ DATE _____

ANII REVIEW: _____ DATE _____



Procedure No MIUB-W812
Revision No 1
Page 16 of 16

ULTRASONIC EXAMINATION OF BOLTS OR CLOSURE STUDS OR RPV NUTS

Comments: _____

[illegible]

Reviewed by: OAD _____ AI _____

NDE LEVEL III REVIEW: _____ DATE _____

NPPD ISI ENGINEER REVIEW: _____ DATE _____

NPPD QA REVIEW: _____ DATE _____

ANII REVIEW: _____ DATE _____

ATTACHMENT A

SORC APPROVAL* OF

Title: Procedure for
UT Inspection of Pressure Retaining Bolting $\geq 2"$ Diameter. MIUB-W812, Rev. 1

Submitted By: Scott S. Freborg *Scott S. Freborg* Date: 2-8-88

Purpose/Description: ISI Procedure for Spring 1988 Refueling Outage

Operations Engineering Supervisor: *R. Bally* Date: 2/10/88

Instrument And Control Supervisor: *W. J. ...* Date: 2-16-88

Radiological Manager: *...* Date: 2-17-88

Plant Services Manager: *...* Date: 2-18-88

Maintenance Manager: *...* Date: 2/23/88

Operations Manager: *...* Date: 2/24/88

Engineering Manager: *...* Date: 2/25/88

Q.A. Manager: *...* Date: 3-3-88

Senior Manager Of Support Services: *...* Date: 3/4/88

Division Manager Of Nuclear Operations: *...* Date: 3/7/88

Station Operations Review Committee (SORC) review and approval of this proposed activity indicates that the individual members of SORC concur that this activity does not present a safety problem nor create an unreviewed safety question based on:

1. The proposed activity does not involve a change to the Technical Specifications.
2. The probability of occurrence or consequences of an accident or malfunction of safety related equipment previously evaluated in the USAR is not increased.
3. The possibility for an accident or malfunction of a different type than any evaluated previously in the USAR is not created.
4. The margin of safety as defined in the basis for any Technical Specification is not reduced.

Approvals further indicate that the responsible department heads acknowledge, accept, and will implement the associated activities within their areas of responsibility as delineated in approved procedures, policy statements, and position descriptions.

*A minimum of four members plus the Division Manager of Nuclear Operations required. The Q.A. Manager is a non-voting member of SORC and shall not be considered in meeting the quorum requirement.

1.0 DESCRIPTION

Page 1 Of

Document: GE-UT-307 Revision 0, with FRR Nos. NPPD-91-16 and NPPD-91-35
Procedure For Ultrasonic Examination OF RPV Closure Studs,

Purpose/Description (continue on next page or insert new page, if necessary):

FRR NPPD-91-35 provides requirements for an enhanced UT technique for examination of RPV studs from the top end.

10CFR50.59 Applicability Review Required? ☐ YES ☒ NO

If YES, complete Sections 3.0 and 4.0; if NO, discard Sections 3.0 and 4.0.

Submitted By: [Signature]Date: 11/15/91

2.0 SORC APPROVAL - Minimum of 6 voting members plus SORC Chairman required.

Operations Engineering Supervisor:	<u>[Signature]</u>	Date: <u>11/15/91</u>
Instrument And Control Supervisor:	<u>[Signature]</u>	Date: <u>11-15-91</u>
Radiological Manager:	<u>Tim Chard</u>	Date: <u>11-15-91</u>
Plant Services Manager:	<u>H.J. [Signature]</u>	Date: <u>11-15-91</u>
Maintenance Manager:	<u>M. [Signature]</u>	Date: <u>11/15/91</u>
Operations Manager:	<u>R. Bruns</u>	Date: <u>11-15-91</u>
Engineering Manager:	<u>[Signature]</u>	Date: <u>11/15/91</u>
QA Manager (non-voting member):	<u>[Signature]</u>	Date: <u>11-15-91</u>
Senior Manager of Technical Support Services:	<u>[Signature]</u>	Date: <u>11.15.91</u>
Senior Manager of Operations:	<u>[Signature]</u>	Date: <u>11/15/91</u>
Senior Manager of Staff Support:	<u>[Signature]</u>	Date: <u>11/15/91</u>
SORC Chairman:	<u>[Signature]</u>	Date: <u>11/15/91</u>

SORC Meeting Number: 591-088

Distribution: Originator (original)

SORC Minutes (as minimum, Procedure v.s. Attachments)

SRAB Administrator

Purpose/Description (Continuation): _____

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be from a notebook or a set of legal pads. There is no handwriting or other markings on the page.

3.1 Is a Technical Specification change required as a result of this activity? ☐ YES ☒ NO

3.2 Is this activity the result of a Technical Specification change? ☐ YES ☒ NO

4.1 Does the proposal change the facility or procedures from their description in the USAR? ☐ UNCERTAIN ☒ NO

4.2 Does the proposal involve a test or experiment not described in the USAR? ☐ UNCERTAIN ☒ NO

4.3 Could the proposal affect nuclear safety in a way not previously evaluated in the USAR? ☐ UNCERTAIN ☒ NO

PROCEDURE NUMBER 0.5 REVISION NUMBER 11 PAGE 11 OF 13