

NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

General Offices • Selden Street, Berlin, Connecticut

P.O. BOX 270
HARTFORD, CONNECTICUT 06141-0270
(203) 665-5000

March 25, 1993

Docket No. 50-423
B14422

Re: ASME Section XI
GL 90-05
10CFR50.55a(g)(6)(i)

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Gentlemen:

Millstone Nuclear Power Station, Unit No. 3
Relief Request from ASME Code Section XI Requirements

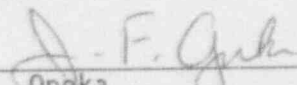
The purpose of this letter is to request, in response to NRC Generic Letter (GL) 90-05, relief from ASME Boiler and Pressure Vessel Code Section XI requirements pursuant to 10CFR50.55a(g)(6)(i). Attachment 1 provides a description of actions taken by Northeast Nuclear Energy Company (NNECO) to make interim repairs to the leak in service water piping line 3SWP-003-067-3 as an alternative to an IWA-7000 repair/replacement.

Consistent with the provisions of the GL, NNECO is submitting this relief request for an interim noncode repair. The Resident Inspector at Millstone Unit No. 3 has been informed of this planned interim repair and, as has been our practice, we will keep the Resident Inspector fully informed of all future repairs. Permanent code repair for this flaw is scheduled for the next refueling outage, expected to begin in August 1993.

Please contact us if you have any questions.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



J. F. Opeka
Executive Vice President

cc: T. T. Martin, Region I Administrator
V. L. Rooney, NRC Project Manager, Millstone Unit No. 3
P. D. Swetland, Senior Resident Inspector, Millstone Unit Nos. 1, 2,
and 3

A047

Docket No. 50-423
B14422

Attachment 1

Millstone Nuclear Power Station, Unit No. 3

Relief Request from ASME Code Section XI Requirements

March 1993

NORTHEAST UTILITIES

TRACKING FORM

FOR RELIEF REQUEST FROM ASME SECTION XI REQUIREMENTS

MUST BE COMPLETED AND FILED WITH NRC WITHIN 30 CALENDAR DAYSUNIT: MILLSTONE UNIT 3 NCR # 393-018 DATE: 2/23/93TIME: Eng. notified of leak at 0700 2/23/931.0 ORIGINATORProcessing Time: should not exceed 24 hours.1.1 COMPLETE SECTION 1 OF ENCLOSED FORM

Complete

1.2 NOTIFY RESIDENT NRC INSPECTORPerson Contacted: Russ Arrighi Date: 2/23/931.3 FORWARD THIS FORM, NCR, AND NDE MEASUREMENTS TO NUSCO SUPERVISOR,
STRESS ANALYSIS ENGINEERING UNITOriginator: Gary Swider Date: 2/23/93

*Section 1 of RR Form, NCR & UT Forwarded to S. V. Dumas

#####

2.0 STRESS ANALYSIS UNITDate Received 2/23/93Processing Time: 72 hours from flaw detection for preliminary
operability assessment.25 calendar days from flaw detection for final
operability assessment.2.1 PRELIMINARY FLAW EVALUATIONEvaluation Completed By: Ray DeConto Date: 2/25/93

NORTHEAST UTILITIES

TRACKING FORM

FOR RELIEF REQUEST FROM ASME SECTION XI REQUIREMENTS

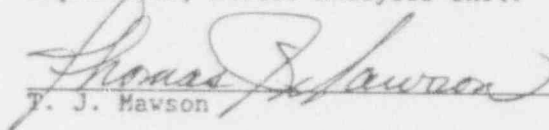
Notify PlantPerson Contacted: Gary Swider Date: 2/25/932.2 END OF CYCLE FLAW EVALUATIONEvaluation Completed By: Ray DeConto Date: 3/19/932.3 REVIEW RESULTS OF AUGMENTED INSPECTIONReviewed By: Ray DeConto Date: 3/15/93

If additional inspections are required, notify plant.

No additional inspections are required.

2.4 FORWARD COMPLETED FORM TO NUCLEAR LICENSING

Supervisor, Stress Analysis Unit:


T. J. MawsonDate: 3/19/93

#####

3.0 NUCLEAR LICENSING

Date Received: _____

Processing Time: should not exceed 30 calendar days from flaw detection.

3.1 RELIEF REQUEST SUBMITTEDBy: P. G. Patton Date: 3/19/93

Docket No. _____

NORTHEAST UTILITIES

FORM FOR RELIEF REQUEST FROM ASME SECTION XI REQUIREMENTS

UNIT: Millstone Unit 3 NCR # 393-018 DATE: 3/17/93
TIME: 1500

1.0 ORIGINATOR1.1 DESCRIPTION OF FLAW

Leak in 3SWP-003-67-3 downstream of FW-33.

Piping/Component Drawing No.: CI-SWP-067

P&ID No.: EM 133B

1.2 IMPRACTICALITY OF CODE REPAIR

Repair cannot be completed in 72 hour LCO.

1.3 DESCRIPTION OF PROPOSED TEMPORARY REPAIR

Installation of soft rubber patch.

1.4 SAFETY SIGNIFICANCE: System Interaction Evaluation

Flooding: Pinhole leak at this time. Floor drains adequate for drainage.

Jet Spray: Leak sprays down at wall, no safety-related power supplies will be affected.

Loss of Flow: Temporary patch will prevent loss of flow.

Other Interactions: None

Failure Consequences? Can be isolated.

Impact to Safe Shutdown Capability? Total failure would result in loss of one train (SIH, RHS, RSS, redundant train would supply safe shutdown capability).

1.5 ROOT CAUSE INVESTIGATION

Root Cause Description: Classic wall loss due to turbulent flow downstream of elbow causing locally high flow velocities.

Other Systems Affected: SIH, CCI, HVQ

NORTHEAST UTILITIES

FORM FOR RELIEF REQUEST FROM ASME SECTION XI REQUIREMENTS

1.6 AUGMENTED INSPECTION (must be completed within 15 days of flaw detection)

Assessment of overall degradation of the affected system: Leak is typical of erosion/corrosion in SWP piping. These leaks do not result from large areas of damage but from very localized wall loss. An inspection program has been initiated for small bore piping.

Additional examinations required (based on root cause) - specify number of inspection locations - also specify frequency of inspections: [ten most susceptible and accessible locations for high energy piping system and five for moderate energy piping system]

Five additional locations were chosen, as listed below:

- | | |
|-----------------------------|---------------------------|
| a) FW 17-1 "B" Train Supply | d) FW-29 "A" Train Supply |
| b) FW 65 "A" Train Supply | e) FW-39 "B" Train Supply |
| c) FW 31 "A" Train Supply | |

Description of areas selected for augmented inspection: Small bore piping.

2.0 STRESS ANALYSIS UNIT2.1 DESIGN DETAILS

System: Service Water

Component: Pipe (CI-SWP-67 near FW-33)

Piping Size & Schedule: 3"O/.219"

Nominal Wall Thickness: .219"

Safety Code Class: Class 3

Material: SB466 No. 706

Design Pressure: 100 psig

Design/Operating Temperature: 95/33-75

Code Minimum Wall Thickness: .020

2.2 FLAW CHARACTERIZATION

Flaw Description/Size: (i.e., flaw size, adjacent wall thickness, single/multiple flaw, total area examined, etc.) The flaw is highly localized. The through wall portion of the flaw is 3/32" in diameter the adjacent wall/nominal wall is .219".

NORTHEAST UTILITILS

FORM FOR RELIEF REQUEST FROM ASME SECTION XI REQUIREMENTS

Flaw Location: The flaw is located approximately 1" downstream of FW 33 at 6:00 facing southeast.

Examination Method: UT

Flaw Type: Pinhole due to erosion/corrosion (impingement attack).

Reference UT Measurement Report: Attached to NCR 393-018

2.3 PRELIMINARY FLAW EVALUATION SUMMARY

Preliminary Operability Assessment Details:

Method Used: Draft Code Case N513 (dated 8/13/92)

Limiting Flaw Size: Total flaw 3.5". Throughwall portion of flaw 1.75". Minimum wall outside throughwall portion of flaw must be at least 0.100 inches.

Period of Time to Reach Limiting Flaw Size: Expected to be greater than 1 year.

Evaluation Reference: Memo MCE-SA-93-064

2.4 END OF CYCLE FLAW EVALUATION SUMMARY

Final Operability Assessment Details:

Method Used: (i.e., LEFM, area reinforcement, wall thinning, ASME Code Case)

Draft Code Case N513 (dated 8/13/92)

Estimated Wall Erosion Rate: .0274 in/yr

Projected Flaw Size: Total flaw .94 in.; throughwall flaw .350"

Period of Time to Permanent Repair/Replacement: Permanent repair for this flaw is scheduled for the next refueling outage (7/31/93)

Provide a Discussion of Evaluation of Design Loading Conditions:

Loading conditions evaluated include: pressure, deadload, thermal and seismic. All Code stress equations were considered and were determined to be acceptable.

Evaluation Reference: Memos MCE-SA-93-064 & MCE-SA-93-078 and attached.

NORTHEAST UTILITIES

FORM FOR RELIEF REQUEST FROM ASME SECTION XI REQUIREMENTS

Discussion of Augmented Inspection Results:

Five additional inspections of susceptible components were performed. These five inspections resulted in the generation of three additional NCRs due to wall thinning. The NCRs (NCR 393-028, 030 and 031) were determined to be acceptable in Memo MCE-SA-93-078.

Expanded Augmented Inspection Requirements: None

2.5 FLAW MONITORING

Walkdown Frequency: (for leak monitoring)

At least once per shift.

Frequency of Follow-up NDE: (for erosion rate assessment)

At least once every three months.

2.6 ADDITIONAL COMMENTS (scope, limitations, and specific considerations)

None

2.7 EXCEPTIONS TO GL-90-05/DRAFT ASME CODE CASE

The evaluations were performed in accordance with GL 90-05 and the Draft ASME Code Case N513 (dated 8/13/92).

2.8 REFERENCES/INPUTS

NCRs 393 -018, 028, 030 & 031

Memos MP3-E-93-119 & 143

Memos MCE-SA-93-064, 078 and attached evaluations

cc: Originator; Supervisor, Stress Analysis Engineering Unit; Unit Director;
Nuclear Records

PART 1

Objective: The objective of this evaluation is to qualify a pin hole leak in service water line 3SWP 003-067-3 as described in NCR 393-018 for structural integrity. This evaluation qualifies the piping through the end of the next scheduled refueling outage.

Parameters: The following parameters will be applied in this evaluation (Reference 1):

Pipe Size Nominal	Outside Dia. (in)	Schedule	Wall thick (in)	Design Pressure (psi)	Temp (F)	Material	Allowable Sh (psi)
3	3.500	nonstd	0.219	100	95	SB466 706	8700

1.0 SCOPE

This evaluation is applicable to:

- Class 3 Section III Subsection ND piping
- Operating conditions <200F, < 275 psig
- Pipe, tube, fittings and flanges – NO WELDING
- Structural integrity only. This does not demonstrate system operability.
- t-adj is used throughout this calculation. t-adj is always the predicted t-adj.

3.0 FLAW EVALUATION

This evaluation is applicable to non-planar (through wall holes) and is performed in accordance with Generic Letter 90-05 and DRAFT Code Case N513 (8/13/92) (Reference 3).

3.1 t_{min} and t-adj Determination

- Determine t_m per construction code (Reference 2).

$$t_m = P * D_o / (2 * (SE + P_y) + A$$

P = pressure, psig

D_o = outside diameter, in

S = stress allowable, psi

E = joint efficiency = 1.00

y = a coefficient = 0.4

A = additional thickness (corrosion allowance, threading, etc...)

= 0 for copper nickle pipe

Outside Dia. (in)	t _m (in)	t _{meas} minimum (in)	Instrument + Calibrate Tolerance (in)	Years of Service (yrs)	Wear Rate (in/yr)	Remaining Life Required (yrs)	t _{adj} (1) (in)
3.500	0.0200	0.141	0.003	7.67	0.0286	0.608	0.1206

Note 1) The t-adj value is the predicted remaining wall at the end of the next scheduled refueling outage (07/31/93 to 10/09/93).

Note 2) This portion of the service water system has been operational since July 1985.

Note 3) The measured data is per Reference 5.

3.2 Branch reinforcement Evaluation Method (Reference 2)

a) t_{adj} must be greater than $2 \cdot t_m$

Pipe Size Nominal	t_{adj}	$2 \cdot t_m$	
3	0.1206	0.0400	acceptable

b) The postulated circular diameter, d , shall not exceed the pipe nominal outside diameter.

Pipe Size Nominal	d Outside Dia. (in)	Maximum Allow Flaw Length (in)	Predicted Total Flaw Circ Length (in)	
3	3.500	3.500	0.94	OK

The following branch connection reinforcement calculation is performed in accordance with ND 3643.3 (Reference 2).

Required reinforcement area = $1.07 \cdot t_m \cdot d_1$

A_1 = area provided by excess wall in the pipe = $d_2 \cdot (T_h - t_m)$

The mill tolerance on T_h is ignored since UT is available.

Note: d_2 has been set equal to the maximum allowable hole size.

Pipe Size Nominal	t_m (in)	d_1 (in)	d_2 (in)	t_{adj}	Required Reinforce Area, in ²	Excess Pipe Area A_1 , in ²	
3	0.0200	3.50	3.50	0.1206	0.075	0.352	OK

c) Determination of unreinforced branch connection stresses per ND 3650

Pipe Size Nominal	t_{adj}	R_{adj}	h	t_{-adj} SIF	SIF Per Figure NC3672.9	t_{nom} SLP (psi)	t_{adj} SLP (psi)
3	0.121	1.69	0.071	5.230	2.1	400	725

Pipe Size Nominal	t_{adj}	R_{adj}	t_{nom} Section Modulus (in ³)	t_{-adj} Section Modulus (in ³)
3	0.121	1.69	1.744	1.046

The following table presents both the t_{nom} & t -adj corrected Code stress equations.

Equation	Point Number	t_{nom} Stress (psi)	t -adj Stress (psi)	Allowable Stress (psi)	t -adj Factor of Safety	
8 Sustained	87	642	1732	8700	5.02	OK
9 Occasional	87	1747	6318	10440	1.65	OK
10 Thermal	85	2882	11963	13050	1.09	OK
11 Sus + Th	85	3434	13694	21750	1.59	OK

- d) An additional limitation is placed on the through wall portion of the maximum hole size. The through wall portion of the crack may not exceed $d/2$ or 5 inches.

t_m	0.020 in
Additional Predicted Wall Thinning	0.017 in
Minimum Wall Required To Prevent Expansion of the Through Wall Flaw	0.037 in

Measured Thorough Wall Portion of Flaw	3/32 in	
Maximum Allowed Through Wall Portion of Flaw (lesser of $d/2$ or 5 inches)	1.750 in	
Predicted Thorough Wall Portion of Flaw (1)	0.350 in	OK

Note: 1) This value includes a .25 inch tolerance for the transducer size.

- References: 1) Stress Calculation 12179-NP(B)-X1914, Revision 2
 2) ASME Section III 1971 Edition through the 1973 Summer Addenda
 3) ASME Draft Code Case N513 (8/13/92) and GL 90-05
 4) NCR 393-018
 5) Attached UT data

Computer Storage: c:\123r3\90-05.rev\n393-18.wk3

PART 2

Objective: The objective of this evaluation is to determine the minimum wall which will still meet all Code equations. This is an iterative process where the final tadj selected results in just meeting the limiting Code equation. An estimate of remaining life is also determined here.

Parameters: The following parameters will be applied in this evaluation (Reference 1):

Pipe Size Nominal	Outside Dia. (in)	Schedule	Wall thick (in)	Design Pressure (psi)	Temp (F)	Material	Allowable Sh (psi)
3	3.500	nonstd	0.219	100	95	SB466 706	8700

1.0 SCOPE

This evaluation is applicable to:

- Class 3 Section III Subsection ND piping
- Operating conditions <200F, < 275 psig
- Pipe, tube, fittings and flanges – NO WELDING
- Structural integrity only. This does not demonstrate system operability.
- t-adj is used throughout this calculation. t-adj is always the predicted t-adj.

3.0 FLAW EVALUATION

This evaluation is applicable to non-planar (through wall holes) and is performed in accordance with Generic Letter 90-05 and DRAFT Code Case N513 (8/13/92) (Reference 3).

3.1 tmin and t-adj Determination

- Determine tm per construction code (Reference 2).

$$t_m = P * D_o / (2 * (SE + P_y) + A$$

P = pressure, psig

D_o = outside diameter, in

S = stress allowable, psi

E = joint efficiency = 1.00

y = a coefficient = 0.4

A = additional thickness (corrosion allowance, threading, etc...)

= 0 for copper nickle pipe

Outside Dia. (in)	t _m (in)	t _{meas} minimum (in)	Instrument + Calibrate Tolerance (in)	Years of Service (yrs)	Wear Rate (in/yr)	Remaining Life Required (yrs)	t _{adj} (1) (in)
3.500	0.0200	0.141	0.003	7.67	0.0286	0.608	0.0906
Instrument + Calibration Tolerance (in)							0.003
Estimated minimum wall required (in)							0.0936
USE							0.1
Remaining Life (yrs)							1.33
USE							1.00

Note 1) The t-adj value is selected.

Note 2) This portion of the service water system has been operational since July 1985.

Note 3) The measured data is per Reference 5.

3.2 Branch reinforcement Evaluation Method (Reference 2)

a) t_{adj} must be greater than $2 \cdot t_m$

Pipe Size Nominal	t_{adj}	$2 \cdot t_m$	
3	0.0906	0.0400	acceptable

b) The postulated circular diameter, d , shall not exceed the pipe nominal outside diameter.

Pipe Size Nominal	d Outside Dia. (in)	Maximum Allow Flaw Length (in)	Predicted Total Flaw Circ Length (in)	
3	3.500	3.500	0.94	OK

The following branch connection reinforcement calculation is performed in accordance with ND 3643.3 (Reference 2).

Required reinforcement area = $1.07 \cdot t_{mh} \cdot d_1$

A_1 = area provided by excess wall in the pipe = $d_2 \cdot (T_h - t_{mh})$

The mill tolerance on T_h is ignored since UT is available.

Note: d_2 has been set equal to the maximum allowable hole size.

Pipe Size Nominal	t_{mh} (in)	d_1 (in)	d_2 (in)	t_{adj}	Required Reinforce Area, in ²	Excess Pipe Area A_1 , in ²	
3	0.0200	3.50	3.50	0.0906	0.075	0.247	OK

c) Determination of unreinforced branch connection stresses per ND 3650

Pipe Size Nominal	t_{adj}	R_{maj}	h	$t - adj$ SIF	SIF Per Figure NC3672.9	t_{nom} SLP (psi)	t_{adj} SLP (psi)
3	0.091	1.70	0.053	6.367	2.1	400	966

Pipe Size Nominal	t_{adj}	R_{maj}	t_{nom} Section Modulus (in ³)	$t - adj$ Section Modulus (in ³)
3	0.091	1.70	1.744	0.806

The following table presents both the t_{nom} & t_{adj} corrected Code stress equations:

Equation	Point Number	t_{nom} Stress (psi)	t_{adj} Stress (psi)	Allowable Stress (psi)	t_{adj} Factor of Safety	
8 Sustained	87	642	2555	8700	3.40	OK
9 Occasional	87	1747	9799	10440	1.07	OK
10 Thermal	85	2882	18894	13050	0.69	NO GOOD
11 Sus + Th	85	3434	21449	21750	1.01	OK

Failure of Eq 10 is acceptable if Eq 11 is met

- d) An additional limitation is placed on the through wall portion of the maximum hole size. The through wall portion of the crack may not exceed $d/2$ or 5 inches.

t_m	0.020 in
Additional Predicted Wall Thinning	0.038 in
Minimum Wall Required To Prevent Expansion of the Through Wall Flaw	0.058 in

Measured Thorough Wall Portion of Flaw	3/32 in
Maximum Allowed Through Wall Portion of Flaw (lesser of $d/2$ or 5 inches)	1.750 in
Predicted Thorough Wall Portion of Flaw (1)	0.350 in

OK

Note: 1) This value includes a .25 inch tolerance for the transducer size.

- References: 1) Stress Calculation 12179-NP(B)-X1914, Revision 2
 2) ASME Section III 1971 Edition through the 1973 Summer Addenda
 3) ASME Draft Code Case N513 (8/13/92) and GL 90-05
 4) NCR 393-018
 5) Attached UT data

Computer Storage: c:\123r3\90-05.bem\393e-18.wk3

Prepared By: A.E. DeLTA 3/19/93

Reviewed By: Prem C. Godhe 3/19/93

FRR-17-1993 12:35

FROM 645578663 B3 36446337464

TO

8585431

P.02

EROSION/CORROSION ULTRASONIC CALIBRATION DATA SHEET

(2) Plant Millstone (3) Unit III (5) Component Designation PW33
 (4) System Service Water (6) Iso. No. WA (331) Line No. 3-SW-003-67-3
 (337) Diameter 3" (338) Grid Size 1" (339) T_{min} .29" (340) T_{max} .191"
 (241) Component Description Horizontal Straight ** (51) Temp. N/A
 (344) Surface Unpainted Note: Substance on Surface between Rows 3+4 Restricted Scanning
 Instrument:
 (16) Model No. T-Scope (17) S/N 5230C (124) Freq. Fixed
 Transducer:
 (332) Mfg. Stacstel (333) S/N A2046 (331) Size .250" (334) Freq. 5 MHz
 Cal. Block:
 (332) S/N 93-5308 (333) Type 90-10 CUMI

(335) Block Thickness	(336) Instrument Reading	(336) Calibration Checks	
.100" - .300"	.100" - .300"	Initial Cal.	1609
.100" - .300"	.098" - .299"	Intermediate	1703
<u>WA</u>	<u>WA</u>	Intermediate	<u>WA</u>
<u>1</u>	<u>1</u>	Intermediate	<u>1</u>
		Intermediate	
.100" - .300"	.098" - .300"	Final Cal.	1712

(342) Instrument Tolerance $\pm 0.001"$ Intersects, Scan + Map(345) Calibration Tolerance $\pm 0.002"$ (343) Grid Verified as correct J.J.

(49) Examiner:

(Print) John Jacobson (Sign) [Signature] Level III Date 2-23-93

(50) Reviewer:

(Print) D.R. MacNeill (Sign) [Signature] Level III Date 2-25-93

* (Refer to Appendix B of NU NDE Procedure Manual to fill in each block)
 ** For extreme temperatures only.

FIGURE 4

MAR-17-1993 11:39

FROM 645578663 83 36446337464

TO

8585431

P.03

Main Section (0)

Rows : 7 Cols : 11 Direction : Clockwise Offset : 0

	A	B	C	D	E	F	G	H	I	J	K	Ro
1	0.226	0.229	0.223	0.221	0.222	0.141	0.189	0.217	0.219	0.223	0.222	0.
2	0.225	0.225	0.222	0.222	0.224	0.153	0.169	0.221	0.221	0.221	0.223	0.
3	0.226	0.227	0.226	0.221	0.224	0.207	0.210	0.211	0.221	0.224	0.225	0.
4	0.226	0.228	0.224	0.222	0.228	0.220	0.208	0.218	0.221	0.225	0.224	0.
5	0.225	0.225	0.224	0.223	0.225	0.204	0.216	0.225	0.220	0.224	0.223	0.
6	0.225	0.228	0.224	0.223	0.224	0.216	0.222	0.223	0.221	0.223	0.225	0.
7	0.230	0.227	0.222	0.221	0.225	0.219	0.219	0.222	0.221	0.224	0.225	0.
ColMx	0.230	0.229	0.226	0.223	0.228	0.220	0.222	0.225	0.221	0.225	0.225	
ColMn	0.225	0.225	0.222	0.221	0.222	0.141	0.169	0.211	0.219	0.221	0.222	
Delta	0.005	0.004	0.004	0.002	0.006	0.079	0.053	0.014	0.002	0.004	0.003	
Ave	0.226	0.227	0.224	0.222	0.225	0.194	0.205	0.220	0.221	0.223	0.224	

Section Summary

Maximum Reading = 0.230 (7, A) Average = 0.219
 Minimum Reading = 0.141 (1, F) Standard Deviation = 0.015
 Total Readings = 77

MMR-17-1993 11:39

FROM 645578663 83 36446337464

TO

8585431

P.02

Notes

FILE NAME: SH.2 FW33
DOS FILE NAME: SW2FW33.DAT
FILE TYPE: GRID
DATE & TIME CREATED: 02/23/93 16:04
DATE & TIME LAST MODIFIED: 02/23/93 17:06
FILE DESCRIPTION: 1217.CP.SWP.67
ALLOW MANUAL READINGS: Y
UPPER LEFT LOCATION: A1
LOWER RIGHT LOCATION: K7
OPERATOR ID: J.JACOBSON
INSTRUMENT ID: 5230C
PROBE ID: A2046
MATERIAL VELOCITY:
INCHES OR MM: I

READINGS

FEB-24-1993 13:12

FROM 645578663 83 35446337464

TO

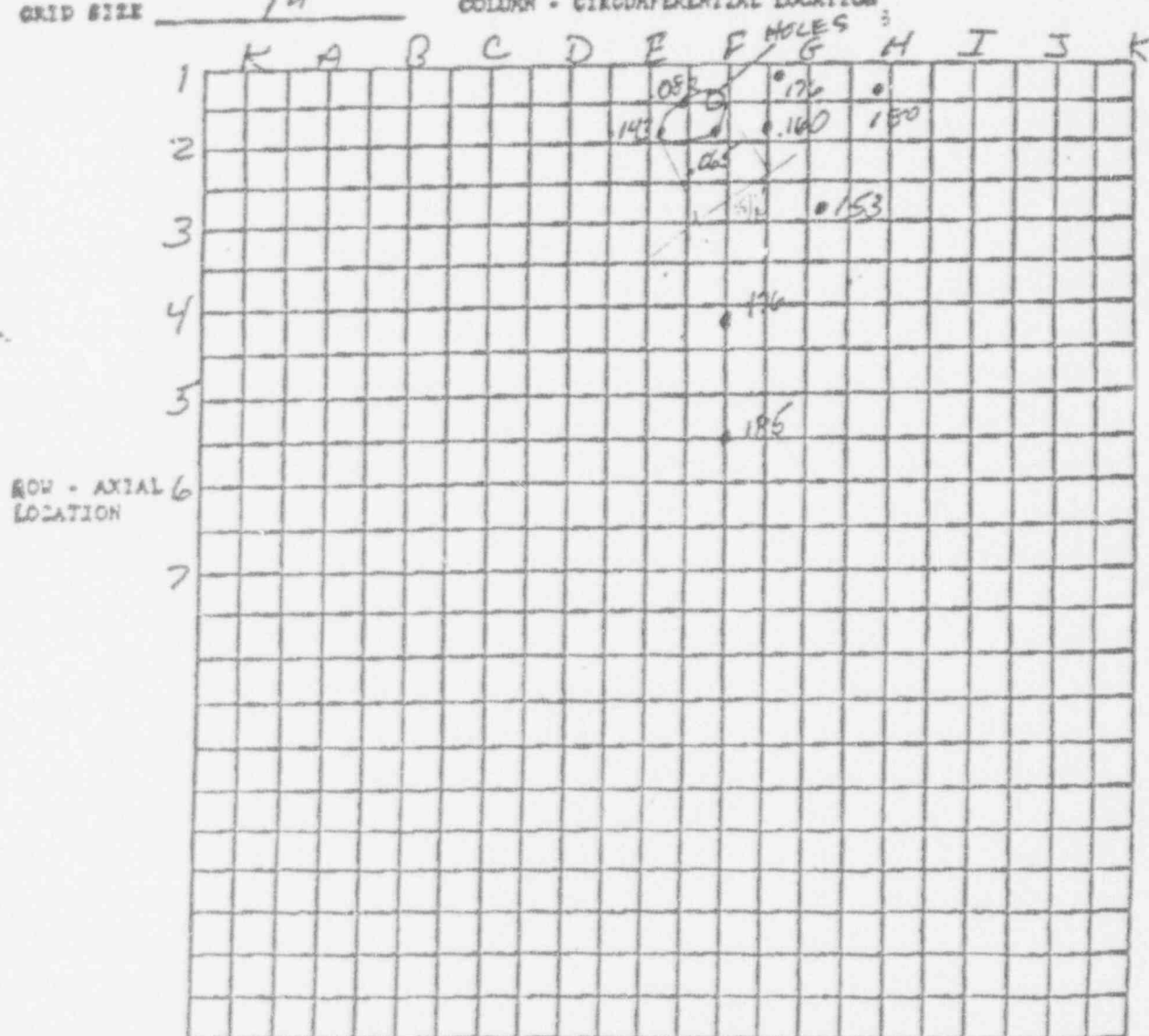
8505431

P.02

FIGURE 3

35WP-603-67-3
 COMPONENT ID FW 33
 PLANT/UNIT M.1/stmc III
 GRID SIZE 14

EXAMINER John Jacobate 2-23-93
 SYSTEM Secure Water
 COLLUM - CIRCUMFERENTIAL LOCATION



SKETCH OF COMPONENT SHOWING GRID LOCATIONS FOR THE
 EXTENT OF THE REDUCED THICKNESS AREAS

100-210X-878

Procedure NU-VI-30

Rev: 7
 Page: 11 of 12

TOTAL P.02

DATA SHEET

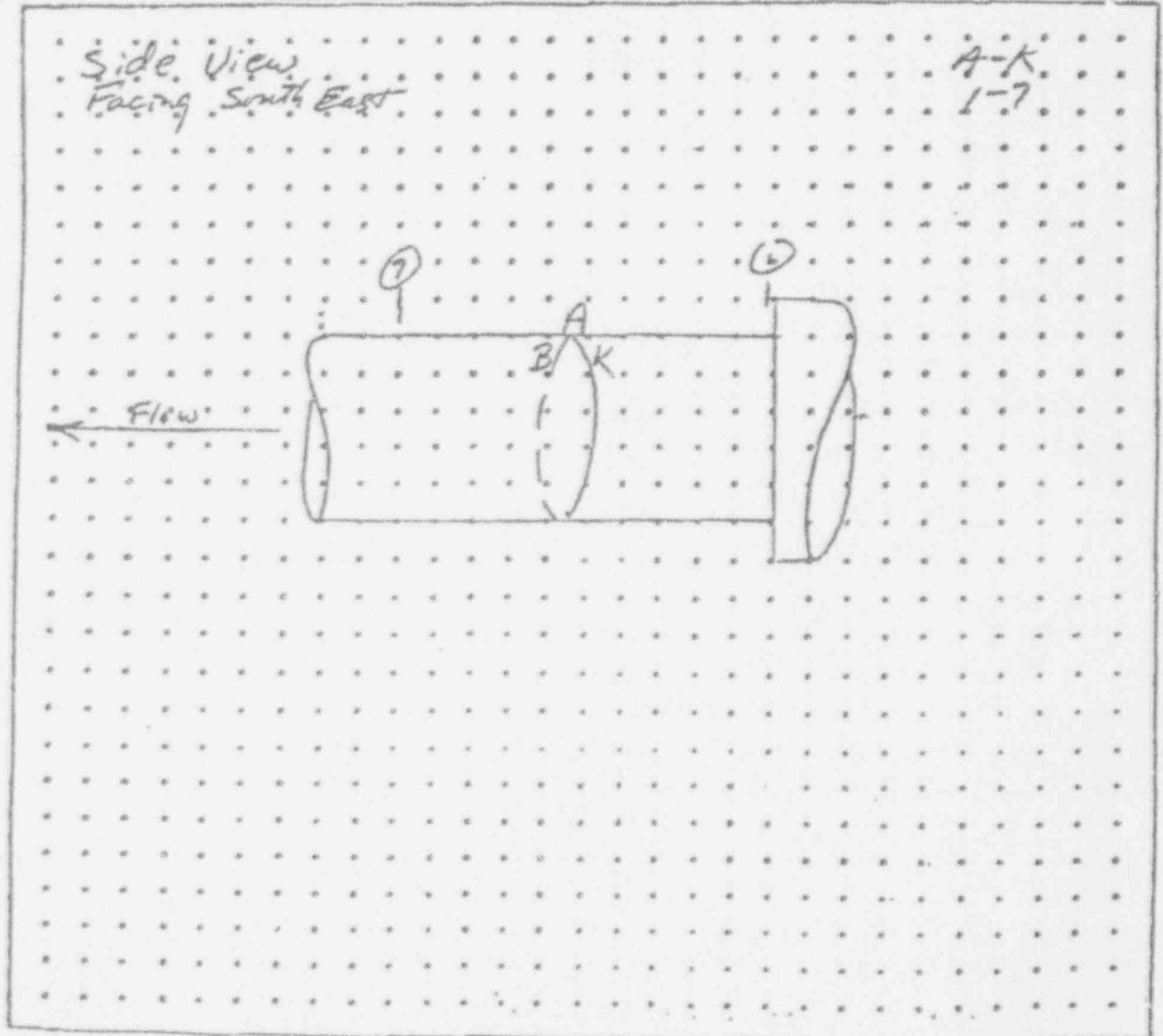
DRAWING NUMBER: 12179-CF SWP-67 SH2d5

LINE NUMBER: 3-SWP-003-67-3

COMPONENT TYPE: Horizontal Straight COMPONENT NUMBER: FW33

SIZE: 3" SCHEDULE:

NOMINAL WALL: .219"



INSPECTOR: John Jones

DATE: 2-23-93