North Atlantic

North Atlantic Energy Service Corporation
P.O. Box 300
Seabrook, NH 03874
(603) 474-9521

The Northeast Utilities System

June 27, 1997

Docket No. 50-443
NYN-97068

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Seabrook Station
Emergency Diesel Generator Exhaust Inspection

North Atlantic Energy Service Corporation (North Atlantic) has enclosed the inspection data and conclusions for the Emergency Diesel Generator (EDG) Exhaust Inspection conducted during first ten year inspection interval at Seabrook Station. This inspection was conducted on June 24, 1996, followed by Engineering review of the inspection results.

North Atlantic committed, as documented in the Seabrook Station Safety Evaluation Report (SER)[1] Section 9.5.8 to an inspection program for the EDG exhaust system piping and to submit the results of the first inspection to the NRC. The inspections are to ensure that unacceptable wall thinning will not occur during the 40-year design lifetime of the system. The inspection program includes one EDG exhaust system and is initially limited to the area of highest potential corrosion and erosion, the exhaust silencer outlet elbow. Enclosed are the results of the first inspection conducted on the "A" EDG. North Atlantic has concluded that the EDG exhaust elbow is acceptable for continued operation. North Atlantic will perform a second inspection on the EDG by the end of the sixth refueling outage. That outage is scheduled to begin in the first quarter of 1999.

A001

[1] NUREG-0896, "Safety Evaluation Report Related to the Operation of Seabrook Station, Units 1 and 2," March 1983.

Should you have any questions regarding this response, please contact Mr. Terry L. Harpster, Director of Licensing Services, at (603) 773-7765.

Very truly yours,

NORTH ATLANTIC ENERGY SERVICE CORP.

Ted C. Feigenbaum
Executive Vice President
and Chief Nuclear Officer

cc: H. J. Miller, Region I Administrator
A. W. De Agazio, Sr. Project Manager
W. T. Olsen, NRC Senior Resident Inspector

ENCLOSURE TO NYN-97068

ULTRASONIC THICKNESS EXAMINATION REPORT

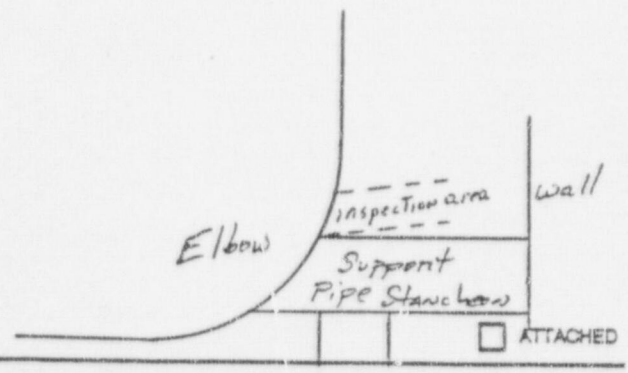
LOCATION DE-4355 Elbow SYSTEM DE WORK REQUEST 96W 000966

EXAMINATION AREA/RESULTS

DESCRIPTION OF EXAMINATION AREA AND RESULTS

UT exam of outside of elbow from support upper weld to 3 (2") grids above.

SKETCH (Include obstructions, components, extensions, etc.)



☐ ATTACHED

EXAMINED [signature] LEVEL III DATE 6/24/96

EXAMINED _____ LEVEL ___ DATE _____

EXAMINATION RESULTS

☐ ACCEPTABLE ☒ EVALUATION REQ'D

REVIEWED _____ LEVEL ___ DATE _____

REVIEWED [signature] DATE 6/24/96

Responsible Engineer

INSTRUMENT DATA

INSTRUMENT: MFG/MODEL KB DM2 GTE/SN 2531

☐ CRT ☑ CRT/DIGITAL ☐ DIGITAL ☐ HORIZONTAL LINEARITY PERFORMED

COMP SURFACE TEMP >125° ☑ NO ☐ YES FLS No. _____ CAL DUE DATE _____

CAL BLOCK MATL ___	THICKNESS	.300	.500	.800	1.0006	TIME CHECKED
	FLS NO.	6330	6330	6330	6330	
	Cal. Due Date	9/20/98	9/20/98	9/20/98	9/20/98	
CALIBRATION CHECK	INITIAL	.298	.500	.804	1.008	14:08
	INTERIM	.298	.500	.805	1.008	14:30
	INTERIM					
	INTERIM					
	FINAL					

TRANSDUCER

☐ PITCH / CATCH

☑ PULSE / ECHO

MFG. KB

SER# KBA560/GTE2531

SIZE .5 FREQ. 5 MHz

COUPLANT

MFG. Ultragel II

BATCH # 092121

ENGINEERING EVALUATION ☐ N/A ☐ ATTACHED ☐ SEE BELOW

EVALUATION/COMMENTS

☐ ACCEPT ☐ REPAIR/REPLACE Responsible Engineer _____ Date _____

ULTRASONIC THICKNESS EXAMINATION SKETCH

LOCATION DG-4355 Elbow SYSTEM DG WORK REQUEST 96W000966

N	M	L	K	J	I	H	G	F	
590	603	599	588	799	615	614	623	628	1
588	590	588	590	752	614	609	615	610	2
607	588	600	X	X	X	622	615	612	3
580							604	607	4

Support

N	M	L	K	J	I	H	G	F	
X	40	43	57	42	35	40	23	21	1
X	51	53	55	93	41	46	30	36	2
34	51	41	X	X	X	27	33	33	3
60							42	40	4

In N4 at the support weld, the reading was .565 which is a difference of 75 mils from the baseline.

Remainder of inspection (rows 5-21) unable to be performed due to welded support interference. Original exam performed on the ID of elbow.

CONCLUSION:

The "A" Train DG exhaust elbow is acceptable for continued operation. This conclusion is based on the following rationale:

- The maximum wall loss at location J2 is 0.093" (0.845" to 0.752"). The existing pipe stress anslysis, which is documented in Calculation MCD 600.10 considers the elbow at 0.375" thick. Maximum stress levels in the elbow based on 0.375" thickness are 713 psi (Deadweight), 712 psi (OBE) and 1080 psi (SSE). The allowable stress for the elbow material is 17500 psi. Minimum safety factor for ASME Equation (9) based on the elbow being 0.375" is (1.2*17500)/(713+712) = 14.7.

  To monitor any further wall loss, a second inspection shall be performed by the end of ORO 6 for evaluation.