



**North
Atlantic**

North Atlantic Energy Service Corporation
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The Northeast Utilities System

NYN- 96019

March 8, 1996

United States Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

Reference: Facility Operating License No. NPF-86, Docket No. 50-443

Subject: Licensee Event Report (LER) No. 96-002-00, "Inadequate Steam Generator
Wide Range Water Level Channel Calibrations"

Gentlemen:

Enclosed, please find Licensee Event Report (LER) No. 96-002-00 for Seabrook Station. This submittal documents an event which occurred on February 07, 1996. This event is being reported pursuant to 10CFR50.73(a)(2)(i).

Should you require further information regarding this matter, please contact Mr. Allen L. Legendre, Jr., Nuclear Licensing Supervisor, at (603) 474-9521, extension 2373.

Very truly yours,

William A. DiProfio
Station Director

WAD/EWM:jsl

Enclosures: NRC Forms 366/366A

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United States Nuclear Regulatory Commission
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cc: Mr. Thomas T. Martin
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United States Nuclear Regulatory Commission
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Mr. Albert W. De Agazio, Sr. Project Manager
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EXPIRES 04/30/98

LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Seabrook Station

DOCKET NUMBER (2)

05000443

PAGE (3)

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TITLE (4)

INADEQUATE STEAM GENERATOR WIDE RANGE WATER LEVEL CHANNEL CALIBRATIONS

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
02	07	96	96	002	00	03	08	96	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)							
POWER LEVEL (10)		40%	20.2203(a)(1)		20.2203(a)(2)(i)		<input checked="" type="checkbox"/>		50.73(a)(2)(i)	50.73(a)(2)(viii)
			20.2203(a)(2)(ii)		20.2203(a)(3)(i)		<input type="checkbox"/>		50.73(a)(2)(ii)	50.73(a)(2)(x)
			20.2203(a)(2)(iii)		20.2203(a)(3)(ii)		<input type="checkbox"/>		50.73(a)(2)(iii)	73.71
			20.2203(a)(2)(iv)		20.2203(a)(4)		<input type="checkbox"/>		50.73(a)(2)(iv)	OTHER
			20.2203(a)(2)(v)		50.36(c)(1)		<input type="checkbox"/>		50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(vi)		50.36(c)(2)		<input type="checkbox"/>		50.73(a)(2)(vi)	

LICENSEE CONTACT FOR THIS LER (12)

NAME

Allen L. Legendre, Jr., Nuclear Licensing Supervisor

TELEPHONE NUMBER (Include Area Code)

(603)474-9521 x2373

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

☐ YES
(If yes, complete EXPECTED SUBMISSION DATE).☒ NO

EXPECTED SUBMISSION

MONTH

DAY

YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On February 7, 1996, North Atlantic Energy Service Corporation (North Atlantic) identified certain passive components (i.e. wiring) were not being adequately tested during CHANNEL CALIBRATIONS in accordance with plant Technical Specifications. These instances were identified during a systematic review of surveillance procedures, as a part of Seabrook Station's Procedure Upgrade Project.

The surveillance requirements for the Steam Generator Wide Range Level accident monitoring channels are specified in Technical Specification Table 3.3-10, Functional Unit 8. Systematic reviews performed as a part of the Procedure Upgrade Project identified an instance where sections of interconnecting wiring were not verified during the CHANNEL CALIBRATIONS. North Atlantic is reporting this event as inadequate Technical Specification CHANNEL CALIBRATIONS of the Steam Generator Wide Range Level channels.

Corrective actions taken were to verify proper overlap by performing continuity checks of the above sections of wiring. The applicable channel calibration surveillance procedures will be revised to reflect proper overlap test methods. The Procedure Upgrade Project (PUP) will continue to review surveillance procedures to ensure commitments and specific criteria are appropriately addressed in the procedures. In conjunction with the PUP program, procedure background documents will be developed to aid in reviewing the technical adequacy of the existing procedures which will provide a mechanism for documenting commitments and design basis requirements.

The root cause of this event has been determined to be a lack of design engineering involvement in the initial surveillance procedure development.

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		96	--	002	-- 00	

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

I. Description of Event

On February 7, 1996, North Atlantic Energy Service Corporation (North Atlantic) identified certain passive components (i.e. wiring) were not being adequately tested during CHANNEL CALIBRATIONS in accordance with plant Technical Specifications. These instances were identified during a systematic review of surveillance procedures, as a part of Seabrook Station's Procedure Upgrade Project.

The surveillance requirements for the Steam Generator Wide Range Level Accident Monitoring Instrumentation are specified in Technical Specification Table 3.3-10, Functional Unit 8. Systematic reviews performed as a part of the Procedure Upgrade Project identified an instance where sections of interconnecting wiring were not verified during the CHANNEL CALIBRATIONS. Steam Generator Wide Range Level channels (L-501, L-502, L-503, L-504) include a density compensation signal from Steam Generator Pressure channels (P-514, P-525, P-536, P-546). The untested portion of the Steam Generator Wide Range Water Level circuits were the density compensation signal from the Steam Generator Pressure Channels. This density compensation eliminates the need to perform additional calibrations for hot and cold conditions. This density compensation is considered part of the Steam Generator Wide Range Level channel.

OX1456.19, Post Accident Monitoring Monthly Channel Checks, provides a method for monthly channel checks on post-accident monitoring instrumentation. This procedure requires that the steam generator wide range level channels are within $\pm 5\%$ of each other and that the steam generator pressure channels are within ± 75 psig of each other. The lack of density compensation signal to one of the circuit boards would result in a shift of the steam generator wide range level reading by approximately 5 percent. Since the channel check requires the channel be within ± 5 percent, this shift may not be detectable due to normal channel to channel variations. North Atlantic is reporting this event as inadequate Technical Specification CHANNEL CALIBRATIONS of the Steam Generator Wide Range Level channels pursuant to 10CFR50.73(a)(2)(i).

II. Cause of Event

The root cause of this event was determined to be a lack of design engineering involvement in the original surveillance procedure development. This absence of a technical engineering review caused the section of interconnecting wiring, which provided the density compensation for the Steam Generator Wide Range Water Level, to be missed and not tested within the overlap program.

III. Analysis of Event

There are no adverse safety consequences as a result of this event. The interconnecting wiring for each of the four accident monitoring channels was satisfactorily verified. This testing verified that the Steam Generator Wide Range Level circuit would have been capable of performing its designated accident monitoring function if called upon to do so.

IV. Corrective Action

Corrective actions taken were to verify proper overlap by performing continuity checks of the above sections of wiring. The applicable channel calibration surveillance procedures will be revised to reflect

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

proper overlap test methods. The Procedure Upgrade Project (PUP) will continue to review surveillance procedures to ensure commitments and specific criteria are satisfied. In conjunction with the PUP program, procedure background documents will be developed to aid in reviewing the technical adequacy of the existing procedures which will provide a mechanism for documenting commitments and design basis requirements.

V. Additional Information

Based upon a similar event at Seabrook Station in June of 1995 a task team was formed to provide clear definition to the Procedure Upgrade Project regarding the scope of overlap testing required to satisfy Technical Specification requirements and Updated Final Safety Analysis Report commitments. During the task team evaluation process the untested portions of the circuit were tested as a conservative measure. The task team concluded that Channel Calibrations are required to include active components such as switch/relay contacts and passive components such as interconnecting cabling.

Overlap testing will serve as an alternate test method should it not be practicable to test the entire channel at once. The Seabrook Station Technical Specifications define CHANNEL CALIBRATION as follows: "A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel such that it responds within the required range and accuracy to known values of input. The CHANNEL CALIBRATION shall encompass the entire channel including the sensors and alarm, interlock and/or trip functions and may be performed by any series of sequential, overlapping, or total channel steps such that the entire channel is calibrated."

Since this reporting of the 1995 event described in LER 95-01-01, the NRC issued Generic Letter 96-01: "Testing of Safety-Related Logic Circuits" which notified licensees about problems with testing safety-related logic circuits. The NRC requested that licensees compare electrical schematic drawings and logic diagrams against plant surveillance test procedures to ensure that all portions of the logic circuitry are adequately covered to fulfill the Technical Specification requirements. Furthermore, procedures are to be modified as necessary for complete testing to comply with the technical specifications.

North Atlantic is presently in the process of reviewing surveillance procedures to ensure commitments and specific criteria are satisfied. Additionally, procedure background documents will be developed to aid in reviewing the technical adequacy of the existing procedures, and will provide a mechanism for documenting the commitments and design basis requirements. Design Engineering is presently involved in developing the applicable procedure background documents reviewing surveillance procedures to ensure adequate testing.

Similar Events

North Atlantic has identified and reported several events involving general surveillance procedure inadequacies to the NRC in LERs. The event being reported in this LER relates to four of these previous events by having the similar root causes (e.g. inadequate preparation and review of surveillance procedures). Those instances are described in LERs 93-013-01, 93-015-00, 94-002-01 and 95-001-01.

Manufacturer Data

None