

**North
Atlantic**

North Atlantic Energy Service Corporation
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The Northeast Utilities System

JUL 24 1996

Docket No. 50-443
NYN-96049

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

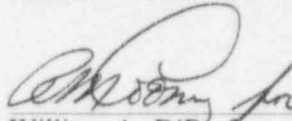
Seabrook Station
Licensee Event Report (LER) 96-04-00
Emergency Feedwater System Valve Closure

Enclosed, please find Licensee Event Report (LER) No. 96-004-00 for Seabrook Station. This submittal documents an event which occurred on June 27, 1996. This event is being reported pursuant to 10CFR50.73(a)(2)(ii).

Should you require further information regarding this matter, please contact Mr. Anthony M. Callendrello, Licensing Manager, at (603) 474-9521, extension 2751.

Very truly yours,

NORTH ATLANTIC ENERGY SERVICE CORP.



William A. DiProffio
Station Director

cc: T. T. Martin, Regional Administrator
A. W. De Agazio, NRC Project Manager, Seabrook Station
J. B. Macdonald, Senior Resident Inspector, Seabrook Station

INPO
Records Center
700 Galleria Parkway
Atlanta, GA 30339

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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 (IT-
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)

Emergency Feedwater System Valve Closure

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
06	27	96	96	004	00	07	26	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)		100	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)	
			20.2203(a)(1)		20.2203(a)(3)(i)		<input checked="" type="checkbox"/> 50.73(a)(2)(ii)		50.73(a)(2)(x)	
			20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71	
			20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)		OTHER	
			20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A	
			20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)			

LICENSEE CONTACT FOR THIS LER (12)

NAME

Anthony M. Callendrello, Licensing Manager

TELEPHONE NUMBER (Include Area Code)

(603)474-9521 x 2751

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		NO		EXPECTED SUBMISSION		MONTH	DAY	YEAR
<input checked="" type="checkbox"/>	(If yes, complete EXPECTED SUBMISSION DATE).	<input type="checkbox"/>				09	30	96

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

On June, 27, 1996, North Atlantic Energy Services Corporation determined that the alignment of the Startup Feedwater Pump (SUFP) to the Steam Generators (SG) via the Emergency Feedwater (EFW) flow control valves was an unanalyzed condition that significantly compromised safety. A one hour non-emergency report was made pursuant to 10CFR 50.72(b)(1)(ii).

The Seabrook Station Auxiliary Feedwater System is comprised of 2 - 100% capacity Emergency Feedwater (EFW) pumps and one 100% capacity Startup Feedwater Pump (SUFP). The SUFP is normally used to supply feedwater to the SG's during startup and shutdown evolutions. However, the SUFP has the capability of being aligned to the EFW System and functioning as a third EFW pump in the unlikely event that the normal EFW pumps are unavailable.

Station Operating Procedures were developed to align the SUFP to supply feedwater to the SGs through the EFW flow control valves. This procedure section was intended to be used when the normal feedpath was unavailable due to maintenance. This alignment was not adequately analyzed and the consequences of a postulated loss of all AC power may have been worsened by the alignment.

The root cause of this event was determined to be an inadequate 10CFR50.59 safety evaluation and Technical Clarification in that the evaluations were performed in a qualitative manner whereas a rigorous safety evaluation was warranted.

LICENSEE EVENT REPORT (LER)

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		YEAR	SEQUENTIAL NUMBER		REVISION NUMBER	
		96	--	004	--	00

Seabrook Station

05000443

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

I. Description of Event

On June, 27, 1996, North Atlantic Energy Services Corporation determined that the alignment of the Startup Feedwater Pump (SUFP) to the Steam Generators (SG) via the Emergency Feedwater (EFW) flow control valves was an unanalyzed condition that significantly compromised safety. A one hour non-emergency report was made pursuant to 10CFR 50.72(b)(1)(ii).

The EFW System is comprised of two full-sized pumps (one motor and one turbine driven), whose water source is the Condensate Storage Tank. Both pumps feed a common discharge header, which in turn supplies the four emergency feed lines. Each emergency feed line has two normally open motor operated valves in series. Additional pumping capacity is provided by the SUFP in the feedwater system. The SUFP connects to the EFW system through two normally closed motor operated valves in series.

Seabrook Station developed operating procedures which aligned the SUFP to the EFW discharge header. These procedures were intended to be used during infrequent maintenance activities which required isolation of the normal feed path. The procedure changes were initially implemented without a safety evaluation. A subsequent safety evaluation supported the changes and determined that an unreviewed safety question did not exist. The 10CFR50.59 safety evaluation relied on qualitative assumptions regarding operator response if a valid EFW actuation were to occur while operating in the configuration in question. The evaluation did not identify statements in the UFSAR that appear to prohibit operation in this configuration. These same qualitative assumptions were relied on in a Technical Clarification which also supported the configuration in question. The qualitative assumption that operators would restore EFW flow control valves and EFW pump recirculation valves to their required positions in a timely manner upon receiving a valid EFW actuation appears to be a reasonable assumption yet a rigorous evaluation of these assumptions has not been performed to fully ensure that the design/licensing basis of the EFW System has not been undermined.

Under the assumption that a station blackout occurs during the time that the EFW flow control valves are throttled/closed, there is adequate procedural guidance available to reasonably assure that an adequate secondary heat sink is maintained provided the valves are initially throttled to a position corresponding to the required EFW flow. The procedure for aligning the SUFP to the EFW header initially closes the EFW flow control valves. If a loss of all AC power was postulated to occur while the flow control valves were closed, it is possible that operators would not be able to locally open the valves and reestablish flow before the consequences of the accident were significantly worsened.

In 1991, North Atlantic evaluated the alignment of the Condensate Pumps to the EFW header and inappropriately determined that the event was not reportable. This configuration also throttles the EFW flow control valves. The plant was placed in this configuration to allow maintenance to be performed on the check valves in the normal feedwater path to each steam generator while the plant remained in Mode 3. The plant was in this alignment from April 2, 1991 to April 5, 1991.

II. Cause of Event

The root cause of this event was determined to be an inadequate 10CFR50.59 safety evaluation and Technical Clarification in that the evaluations were performed in a qualitative manner whereas a rigorous quantitative safety evaluation was warranted.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		96	-- 004	-- 00		

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

III. Analysis of Event

Under the conditions described above, the alignment of the SUFP pump to the to the EFW flow control valves constitutes an unanalyzed condition that significantly compromised safety. It is important to note that this conclusion is predicated on the highly improbable assumption that the EFW flow control valves will be closed concurrent with a loss of all AC power event.

IV. Corrective Action

North Atlantic has deleted the procedure section which aligned the SUFP to the EFW pump discharge header. Other procedures which could potentially place the plant into a similar configuration will be reviewed and revised or cancelled as appropriate.

North Atlantic is in the process reviewing recently identified inconsistencies within the UFSAR and other Current Licensing Basis Documents. Corrective actions under evaluation include enhanced 10CFR50.59 safety evaluation training and guidance regarding when a safety evaluation should be performed. North Atlantic will specify the corrective action in a follow up report to be submitted by September 30, 1996.

V. Additional InformationSimilar Events

None

Manufacturer Data

Not applicable

Plant Conditions

At the time of this event, the plant was operating in Mode 1 at 100% power with the Reactor Coolant System temperature of 587.5 degrees Fahrenheit and pressure of 2235 psig.