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Senior Vice President and
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NYN-92121

September 4, 1992

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

Attention: Document Control Desk

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

Subject: Facility Operating Report (LER) 92-11-00: Inoperable Cooling Tower Fans

Gentlemen:

Enclosed please find Licensee Event Report (LER) No. 92-11-00 for Seabrook Station. This submittal documents a condition that was identified on August 7, 1992 as a result of an event which occurred on May 12, 1989. This condition is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B), and 10 CFR 50.73(a)(2)(vii).

Very truly yours,

A handwritten signature in cursive script, appearing to read "Ted C. Feigenbaum", is written over a large, stylized flourish.

Ted C. Feigenbaum

TCF:JES

Enclosures: NRC Forms 366, 366A

cc: Mr. Thomas T. Martin
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U.S. Nuclear Regulatory Commission
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a member of the Northeast Utilities system

JES

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) SEABROOK STATION	DOCKET NUMBER (2) 0 5 0 0 0 4 4 3	PAGE (3) 1 OF 0 4
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TITLE (4)
INOPERABLE COOLING TOWER FANS

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)																																																																																																		
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LICENSEE CONTACT FOR THIS LER (12)
 NAME: Mr. Allen L. Legendre, Lead Engineer - Compliance, Ext. 2373
 TELEPHONE NUMBER: AREA CODE 610 33, NUMBER 477 41 - 952 11

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NFRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NFRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approxi-mately fifteen single-space typewritten lines) (16)

On August 7, 1992, at 1230 EDT, in response to an NRC concern, it was identified that operability of the Service Water Cooling Tower [BI] had not been adequately demonstrated in accordance with Technical Specification Surveillance Requirement 4.7.5.d.1). This surveillance requirement, which requires operability of the Cooling Tower to be demonstrated by testing automatic actuation of each Cooling Tower fan in response to a Tower Actuation test signal, was performed every 18 months. However, after this test, the Cooling Tower fans were returned to pull-to-lock in order to avoid potential damage to the fans due to ice build up and potential icing of the Cooling Tower tile fill during cold weather. Since the fans were not tested in their normal configuration (i.e., pull-to-lock) this aspect of the Technical Specifications was not satisfied, and the Cooling Tower should not have been declared operable. During the review of this event it was also identified that a design change that installed spray bypass valves was inconsistent with the intent of Surveillance Requirement 4.7.5.d.1).

There were no adverse safety consequences as a result of this event. Manual initiation of tower spray and fans is consistent with the design basis of the Cooling Tower.

The root cause for this occurrence has been determined to be an inadequate review by North Atlantic personnel in the development and certification of the Seabrook Station Technical Specifications.

North Atlantic is currently developing a License Amendment Request to modify the Technical Specifications to clarify seasonal operation of the Cooling Tower. Additionally, the Cooling Tower fans control switches have been placed in automatic and the spray bypass valves will remain closed until the aforementioned Technical Specification change is approved.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (if more space is required, see additional NRC Form 366A's) (17)

Description of Event

On August 7, 1992, at 1230 EDT, in response to an NRC concern, it was identified that an interpretation of a Technical Specification precluded demonstration of operability of the Cooling Tower [BI] in accordance with Technical Specification Surveillance Requirement 4.7.5.d.1). It was subsequently identified that a design change to the Cooling Tower was inconsistent with the intent of the same surveillance requirement. The following background information describes the circumstances pertaining to the identified condition.

The Service Water Cooling Tower [BI] is the ultimate heat sink when the Service Water System is rendered inoperable due to failure of the Service Water pumps or a seismically induced collapse of the Circulating Water tunnels to the Atlantic Ocean. The original Cooling Tower design allowed for automatic initiation of the spray and fans upon receipt of a Tower Actuation (TA) signal. In certain environmental conditions, however, this could result in almost instantaneous icing of the tower's tile fill. Ice buildup has the potential to reduce cooling by impeding optimum flow through the tower. In order to address this concern, a design change was implemented to install spray bypass valves 1-SW-V-139, and 1-SW-V-140, such that upon receipt of a TA signal, hot service water bypasses the spray header and is recirculated back to the tower basin. However, a Technical Specification change was not obtained to revise the surveillance requirement to be consistent with the plant design. Additionally, Technical Clarification TS-070, which was issued on May 12, 1989, was based upon the plant design basis and stated that it was acceptable for the fan control switches to remain in "pull-to-lock" since automatic operation with ice buildup on the fan blades is not recommended by the fan manufacturer. Automatic initiation of both the spray and fans was replaced by proceduralized manual initiation. Upon receipt of a TA signal, operations personnel would use abnormal procedure OS1216.01, "Degraded Ultimate Heat Sink," to manually initiate spray and fans to ensure adequate cooling of the service water and to ensure icing did not occur for the ambient conditions. Control of the bypass valves and fans is performed from Main Control Board. The aforementioned operation of the Cooling Tower was documented in a revision to the Final Safety Analysis Report.

On August 7, 1992, at 1230 EDT, in response to an NRC concern, it was identified that TS-070 precluded demonstration of operability of the Cooling Tower in accordance with Technical Specification Surveillance Requirement 4.7.5.d.1). This surveillance requirement, which requires that operability of the Cooling Tower be demonstrated by testing automatic actuation of each Cooling Tower fan in response to a TA test signal, was performed every 18 months. However, after this test, the Cooling Tower fans were returned to pull-to-lock in accordance with TS-070. Since the fans were not tested in their normal configuration allowed for by TS-070 (i.e., pull-to-lock), this aspect of the Technical Specifications was not satisfied, and the Cooling Tower should not have been declared operable.

During the review of this event it was identified that the design change that installed the spray bypass valves was also inconsistent with the intent of Surveillance Requirement 4.7.5.d.1). Specifically, this surveillance requirement was designed to test automatic actuation of the Cooling Tower in response to a TA signal. Since this design change prevents automatic actuation of the tower sprays, it also does not meet the intent of Technical Specification Surveillance Requirement 4.7.5.d.1).

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TEXT (if more space is required, use additional NRC Form 366A's) (17)

Safety Consequences

There were no adverse safety consequences as a result of this event. Manual initiation of Cooling Tower spray and fans in accordance with procedure OS1216.01 is consistent with the Cooling Tower design basis. Specifically, the Cooling Tower design basis allows for 36 minutes of operation relying solely on the cooling provided by recirculation of the tower basin water, before the spray or the fans are required to provide additional cooling. Recirculation to the Cooling Tower basin is automatically initiated upon receipt of a TA signal. The design basis assumes a maximum Cooling Tower basin water initial temperature of 67.3 degrees Fahrenheit. During cold weather when the basin water temperature is less than 67.3 degrees Fahrenheit, additional time is available to manually actuate spray and fans in the event of an accident. Based on the foregoing, operations personnel have 36 minutes, under the worst case scenario, to manually initiate Cooling Tower spray and fans to ensure adequate cooling is provided.

As described above, procedural guidance existed to ensure that the spray and fans were manually operated in a manner that was consistent with the design basis of the Cooling Tower and to ensure adequate cooling would be provided under accident conditions. As such, at no time was there any impact on the health and safety of plant employees or the public.

Root Cause

The root cause for this occurrence has been determined to be an inadequate review by North Atlantic personnel in the development and certification of the Seabrook Station Technical Specifications.

Corrective Actions

Immediate corrective actions for this occurrence included taking the Cooling Tower fan control switches out of pull-to-lock and cancelling Technical Clarification TS-070. Additionally, operations procedures were revised to reflect the fact that the fan control switches are no longer maintained in pull-to-lock but are kept in automatic. These actions satisfy the literal requirements of Technical Specification Surveillance Requirement 4.7.5.d.1), and are acceptable prior to the onset of winter conditions.

North Atlantic is currently reviewing all Technical Clarifications to ensure that they are consistent with the intent of the Technical Specifications. It is anticipated that this review will be completed by September 30, 1992.

North Atlantic is currently developing a License Amendment Request to modify the Technical Specifications to clarify seasonal operation of the Cooling Tower. It is anticipated that this License Amendment Request will be submitted by September 30, 1992. Additionally, the Cooling Tower spray bypass valves will remain closed until the aforementioned Technical Specification change is approved.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
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TEXT (if more space is required, use additional NRC Form 388A (1) (17))

Plant Conditions

At the time of discovery of this event, the plant was in MODE 1, Power Operation, with a Reactor Coolant System temperature of 587 degrees Fahrenheit and pressure of 2235 psig.

This is the first occurrence of this type at Seabrook Station.