

CP&L

Carolina Power & Light Company

Brunswick Nuclear Project
P. O. Box 10429
Southport, N.C. 28461-0429

APR 9 1992

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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

BRUNSWICK STEAM ELECTRIC PLANT UNIT 1
DOCKET NO. 50-325
LICENSE NO. DRP-71
LICENSEE EVENT REPORT 1-92-006

Gentlemen:

In accordance with Title 10 of the Code of Federal Regulations, the enclosed licensee Event Report is submitted. This report fulfills the requirement for a written report within thirty (30) days of a reportable occurrence and is submitted in accordance with the format set forth in NUREG-1022, September 1983.

Very truly yours,

Carlton Dutton for JACK SPENCER

J. W. Spencer, General Manager
Brunswick Nuclear Project

GT/

Enclosure

cc: Mr. S. D. Ebnetter
Mr. N. B. Le
BSEP NRC Resident Office

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORD ANALYSIS REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Brunswick Steam Electric Plant
Unit 1

DOCKET NUMBER (2)
05000325

PAGE (3)

1

TITLE (4) OUTSIDE TECHNICAL SPECIFICATIONS - INSTRUMENT RACK SEISMICALLY INOPERABLE DUE TO CORRODED MOUNTING BOLTS.

EVENT DATE (5)			LER NUMBER (6)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)			
MONTH	DAY	YEAR	YEAR	SEQ. NO.	REV. NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER			
03	12	92	92	- 006	- 00	04	09	92					
OPERATING MODE (9)		1		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)	
POWER LEVEL (10)		100		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)			
				20.405(a)(1)(ii)		50.35(c)(2)		50.73(a)(2)(vi)		OTHER (Specify in Abstract and Text)			
				20.405(a)(1)(iii)		X 50.73(a)(2)(i)		50.73(a)(2)(vii)(A)					
				20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(vii)(B)					
				20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(k)					

LICENSEE CONTACT FOR THIS LER (12)

NAME Theresa M. Jones, Regulatory Compliance Specialist

TELEPHONE NUMBER

(919) 457-2039

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

SUPPLEMENTAL REPORT EXPECTED (14)

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

YES () NO (X) (complete EXPECTED SUBMISSION DATE)

X

NO

DATE (15)

ABSTRACT (Lit. 400 spaces, i.e. approximately fifteen single space typewritten lines) (16)

On March 12, 1992, the Unit 1 reactor was at 100 % power and the Emergency Core Cooling Systems were in standby readiness. While observing the performance of Special Procedure (SP) 91-92 in the Service Water building, the Component Engineering Supervisor took the opportunity to inspect some ASCO solenoid pressure switches in the area of, but unrelated to, the SP. At 0100, he noted a slight separation between the instrument mounting rack base and the grout surface and notified the Operations Shift Supervisor (SS). Upon examination the SS determined that the bolts which secure the instrument rack to the floor were corroded through. The instrument rack supports two pressure switches, 1-SW-PS-3213 and 1-SW-PS-3214. On low Conventional Service Water (CSW) header pressure, 1-SW-PS-3213 supplies the automatic start signal to the 1A and 1C CSW pumps (when aligned to the CSW header) and signals the Turbine Building Closed Cooling Water heat exchanger supply valve (1-SW-V3) to throttle closed. On low Nuclear Service Water (NSW) header pressure, 1-SW-PS-3214 supplies the automatic start signal to the 1B NSW pump and the 1A and 1C CSW pumps (when aligned to the NSW header). An evaluation concluded that during a seismic event the instrument rack could not perform its intended function and 1-SW-PS-3213 and 1-SW-PS-3214 were inoperable.

The SW system engineer visually inspected equivalent equipment for the other Unit and performed a general initial inspection in the building for similar problems. While this inspection identified no other operability issues, evaluation of Service Water corrosion issues is still in progress. The design of the instrument rack's mounting bolts was modified to replace the carbon steel bolts with stainless steel.

This event is of minimal safety significance.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Brunswick Steam Electric Plant Unit 1	DOCKET NUMBER (2) 05000325	LER NUMBER (5)				PAGE (3) 2
		YEAR	SEQ NO.	REV NO.		
		92	06	00		

TEXT (If more space is required, use additional NRC Form 365A's) (17)

TITLE OUTSIDE TECHNICAL SPECIFICATIONS - INSTRUMENT RACK SEISMICALLY INOPERABLE DUE TO CORRODED MOUNTING BOLTS.

INITIAL CONDITIONS

On March 12, 1992, the Unit 1 reactor was at 100% power and the Emergency Core Cooling Systems were in standby readiness. Special Procedure (SP) 91-092, OM-6 Note 1 Quantifying Service Water (SW) Pumps, was in progress in the SW building. The SW system is subdivided into two major headers and provides water from the Cape Fear River for lubrication and cooling of equipment. The "Nuclear Service Water" (NSW) header consists of two pumps (1A & 1B) and is utilized for vital equipment in the Reactor Building and the diesel generators. The "Conventional Service Water" (CSW) header consists of three pumps (1A, 1B & 1C) and normally supplies equipment in the Turbine Building. The three CSW pumps may be aligned to the NSW header to provide an alternate heat sink for the Reactor Building equipment. In the event of a loss-of-coolant-accident, automatic controls ensure that adequate cooling is provided to the vital equipment in the Reactor Building and to the diesel generators. On low CSW header pressure two normally open motor-operated valves which supply a common suction header to the Turbine Building Closed Cooling Water heat exchangers 1-SW-V3 and 1-SW-V4 throttle closed to prevent CSW pump run out.

EVENT NARRATIVE

While observing the performance of OSP-91-92 the Component Engineering Supervisor took the opportunity to inspect some ASCO solenoid pressure switches in the area of, but unrelated to, the SP. At 0100, he noted a slight separation between the instrument mounting rack base and the grout surface and notified the Operations Shift Supervisor (SS). Upon examination the SS determined that the bolts which secure the instrument rack to the floor were corroded through. The instrument rack supports two pressure switches, 1-SW-PS-3213 and 1-SW-PS-3214. On low CSW header pressure, 1-SW-PS-3213 supplies the automatic start signal to the 1A and 1C CSW pumps (when aligned to the CSW header) and signals 1-SW-V3 to throttle closed. On low NSW header pressure, 1-SW-PS-3214 supplies the automatic start signal to the 1B NSW pump and the 1A and 1C CSW pumps (when aligned to the NSW header). The SS notified Technical Support that a seismic operability evaluation was required and directed the reactor operator (RO) to place 1B NSW, 1A and 1C CSW pumps in service to alleviate the need for the switches in the event of a design basis earthquake. After notification, the Technical Support representative reported to the plant at approximately 0130 along with three additional engineering personnel (one from Technical Support and two from the on-site Nuclear Engineering Department) to assist in the seismic evaluation/operability determination. The evaluation concluded that during a seismic event the instrument rack could not perform its intended function and 1-SW-PS-3213 and 1-SW-PS-3214 were inoperable.

At approximately 1200 a Technical Support Memorandum was provided to Operations personnel which documented this conclusion and the actions required to maintain operability of the SW system until completion of repairs. The exact duration of the equipment inoperability is indeterminate. It is reasonable that the condition existed greater than the maximum allowable seven day Limiting Condition for Operation. This event is therefore reportable under 50.73(a)(2)(i)(b), operation prohibited by the plants Technical Specifications.

During the subsequent work day, two additional Technical Support representatives supported Outage Management and Modification personnel in the development of an Emergency Structural Modification to enact repairs (reference Plant Modification 91-011, field revisions 11 and 12). The modification was developed and approved by 3/13/92 and implemented by 3/14/92. The modification installed stainless bolting in lieu of carbon steel which had been installed.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)
Brunswick Steam Electric Plant Unit 1	05000325	YEAR	SEQ NO.	REV NO.	3	
		92	06	00		

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

CAUSE OF EVENT

The Service Water (SW) Building is located at the intake canal of the plant site which diverts water from the Cape Fear River for cooling and lubrication of plant equipment. The water is brackish and results in a high humidity, salt air environment. This environment resulted in corrosion of the instrument rack's carbon steel mounting bolts. The area is monitored by Operations personnel daily by Technical Support, Maintenance, and Outage Management & Modification personnel periodically. In this event, the corrosion was not readily apparent. The Component Engineering Supervisor who identified the problem has eight years of experience related specifically to supports.

CORRECTIVE ACTIONS

The SW system engineer usually inspected equivalent equipment for the other Unit and performed a general initial inspection in the building for similar problems. While this inspection identified no other operability issues, evaluation of Service Water corrosion issues is still in progress.

Corrosion related problems were recognized prior to this event and efforts were in progress to expedite identification and repairs as well as prevent future problems. As a result of these efforts, support and conduit problems will be identified to the System Engineers who will generate a work request to track repairs and will perform an initial assessment as to whether repairs or a design change is warranted. The engineer will integrate the work required on this system and facilitate incorporation of the work into the work schedule. The focus will be on identifying areas needing repairs and evaluating the current installation and materials to determine if a design change is warranted to prevent future corrosion related problems.

The instrument rack's mounting bolts were repaired using a design change that replaced the carbon steel bolts with stainless steel.

SAFETY ASSESSMENT

This event is of minimal safety significance. In the absence of a seismic event the involved pressure switches would have performed their function. Additionally, the plant is designed to withstand a seismic event therefore it is not credible that the switches would be required during a seismic event.

PREVIOUS SIMILAR EVENTS

None

EIIS COMPONENT IDENTIFICATION

<u>System/Component</u>	<u>EIIS Code</u>
Service Water	BI
Instrument Rack/Bolt	RK