

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Brunswick Steam Electric Plant Unit 2 DOCKET NUMBER (2) 05000324 PAGE (3) 1 OF 03

TITLE (4) Manually Initiated Reactor Scram Following Inadvertent Isolation of Control Rod Scram Instrument Air Header

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 NAMES		DOCKET NUMBER(S)																																																
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<p>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11)</p> <table border="1"> <tr> <td>20.402(b)</td> <td><input type="checkbox"/></td> <td>20.406(a)</td> <td><input checked="" type="checkbox"/></td> <td>90.73(a)(2)(iv)</td> <td><input type="checkbox"/></td> <td>73.71(b)</td> <td><input type="checkbox"/></td> </tr> <tr> <td>20.406(a)(1)(i)</td> <td><input type="checkbox"/></td> <td>90.38(a)(1)</td> <td><input type="checkbox"/></td> <td>90.73(a)(2)(v)</td> <td><input type="checkbox"/></td> <td>73.71(a)</td> <td><input type="checkbox"/></td> </tr> <tr> <td>20.406(a)(1)(ii)</td> <td><input type="checkbox"/></td> <td>90.38(a)(2)</td> <td><input type="checkbox"/></td> <td>90.73(a)(2)(vii)</td> <td><input type="checkbox"/></td> <td colspan="2">OTHER (Specify in Abstract below and in Text, NRC Form 306A)</td> </tr> <tr> <td>20.406(a)(1)(iii)</td> <td><input type="checkbox"/></td> <td>90.73(a)(2)(i)</td> <td><input type="checkbox"/></td> <td>90.73(a)(2)(viii)(A)</td> <td><input type="checkbox"/></td> <td colspan="2"></td> </tr> <tr> <td>20.406(a)(1)(iv)</td> <td><input type="checkbox"/></td> <td>90.73(a)(2)(ii)</td> <td><input type="checkbox"/></td> <td>90.73(a)(2)(viii)(B)</td> <td><input type="checkbox"/></td> <td colspan="2"></td> </tr> <tr> <td>20.406(a)(1)(v)</td> <td><input type="checkbox"/></td> <td>90.73(a)(2)(iii)</td> <td><input type="checkbox"/></td> <td>90.73(a)(2)(ix)</td> <td><input type="checkbox"/></td> <td colspan="2"></td> </tr> </table>												20.402(b)	<input type="checkbox"/>	20.406(a)	<input checked="" type="checkbox"/>	90.73(a)(2)(iv)	<input type="checkbox"/>	73.71(b)	<input type="checkbox"/>	20.406(a)(1)(i)	<input type="checkbox"/>	90.38(a)(1)	<input type="checkbox"/>	90.73(a)(2)(v)	<input type="checkbox"/>	73.71(a)	<input type="checkbox"/>	20.406(a)(1)(ii)	<input type="checkbox"/>	90.38(a)(2)	<input type="checkbox"/>	90.73(a)(2)(vii)	<input type="checkbox"/>	OTHER (Specify in Abstract below and in Text, NRC Form 306A)		20.406(a)(1)(iii)	<input type="checkbox"/>	90.73(a)(2)(i)	<input type="checkbox"/>	90.73(a)(2)(viii)(A)	<input type="checkbox"/>			20.406(a)(1)(iv)	<input type="checkbox"/>	90.73(a)(2)(ii)	<input type="checkbox"/>	90.73(a)(2)(viii)(B)	<input type="checkbox"/>			20.406(a)(1)(v)	<input type="checkbox"/>	90.73(a)(2)(iii)	<input type="checkbox"/>	90.73(a)(2)(ix)	<input type="checkbox"/>		
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OPERATING MODE (8) 1

POWER LEVEL (10) 110.0

LICENSEE CONTACT FOR THIS LER (12)

NAME: M. J. Pastva, Jr., Regulatory Technician

TELEPHONE NUMBER: 919 457-2315

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS

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., approximately fifteen single-space typewritten lines) (16)

On 09/04/85, at 0426, a Unit 2 reactor scram was manually initiated due to multiple control rod drift indications resulting from inadvertent isolation of the Reactor Building noninterruptible instrument air (RNA) supply to the control rod scram air header. At the time, Unit 2 was at 100%.

A scram recovery was carried out. Reactor level decreased to where a low level No. 2 initiation signal was generated. Primary containment Groups II, VI, and VII isolations occurred. The High Pressure Coolant Injection (HPCI) System and Reactor Core Isolation Cooling (RCIC) System automatically started. Neither the HPCI nor the RCIC System received an injection signal as the low level No. 2 signal was not sealed in for a sufficient time. Reactor pressure peaked at 1005 psig. Respective minimum and maximum recorded reactor levels of 141 and 205 inches were encountered.

While hanging an equipment clearance to isolate a portion of the service air header (SAH) in the Reactor Building, isolation valves of the RNA to the control rod scram air header were misidentified by the involved operator as the desired SAH valves and were closed, thereby resulting in the event. A contributory factor to this event was an incorrect location reference for the subject RNA valves in the applicable operating procedure valve lineup sheet. Shortly after the reactor scram, the subject RNA isolation valves were reopened. Involved personnel have been appropriately disciplined. The applicable operating procedure will be appropriately revised to reflect the correct location reference for the subject RNA isolation valves.

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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 366A's) (17)

On September 4, 1985, at approximately 0415, two plant Auxiliary Operators (AOs) were dispatched to the Unit 2 Reactor Building to close and red tag the building Service Air (SA) System valves, 2-SA-V301 and V302, as part of an equipment clearance. The clearance tag sheet of the equipment clearance specified the location of the valves as in the overhead vicinity of the Reactor Building electrical motor control center 2XM. One of the AOs climbed to the described location and, following a visual check, closed what he believed were the subject SA isolation valves.

At approximately 0425, on September 4, 1985, the Unit 2 Scram Pilot Air Header Pressure Hi/Low annunciation was received in the Control Room. Shortly thereafter, a number of control rod drift alarm annunciations were received and two control rod scram indicating lights were observed on the core display matrix. Based on an evaluation of the observed indications, the reactor was manually scrammed at 0426 on September 4, 1985, in accordance with plant procedure.

It was observed that the control rods inserted and a reactor scram recovery was carried out. Reactor level decreased to where a low level No. 2 initiation signal was generated. Primary containment Groups II, VI, and VII isolations occurred due to low reactor level. The High Pressure Coolant Injection (HPCI) System and the Reactor Core Isolation Cooling (RCIC) System automatically started. However, neither system injected as the incurred low level No. 2 initiation was not sealed in a sufficient time for the injection logic to pick up. An observed maximum reactor level of 205 inches was observed. The reactor steam-driven condensate feed pumps tripped on high reactor level and the HPCI System was utilized to control reactor level until the feed pumps were restarted. The Reactor Building Standby Gas Treatment (SBGT) System trains automatically started. Following a trip on high reactor level, the RCIC System was manually started after the level transient; however, it tripped due to turbine exhaust high backpressure.

This event resulted from inadvertent isolation of the Reactor Building noninterruptible instrument air (RNA) supply to the control rod scram air header. When the involved AO closed what he believed were 2-SA-V301 and V302, in actuality he had closed RNA isolation valves V202 and V203. This isolated the control rod scram air header and a bleed down of RNA pressure to the scram outlet valves of control rods began. The control rod scram outlet valves then began to open and the affected control rods randomly started slowly inserting. It was at this time the decision was made to immediately manually scram the reactor. Shortly after the reactor scram, the involved AO suspected he had made a mistake in closing the valves and he reopened them, thereby reestablishing the RNA to the control rod scram air header.

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An assessment of the circumstances leading to this event revealed a contributory factor in closing of the RNA isolation valves was an error in the SA System operating procedure (OP) valve lineup sheet. The OP valve lineup sheet incorrectly referenced the location of the SA valves which were to be closed as part of the equipment clearance. The involved equipment clearance was written utilizing the subject valve lineup sheet along with appropriate plant drawings to describe on the clearance tag sheet the location of components to be tagged. The valves were correctly tagged; however, due to the inconvenient location and the similarity of valve numbers, the wrong valves were closed.

An investigation was conducted to determine the cause of the RCIC System turbine exhaust high back pressure trip. No problems relating to the encountered RCIC System trip were revealed. Before and during the subsequent startup of the unit, the RCIC System was satisfactorily started and was returned to service.

Following this event, the involved AO was appropriately disciplined. In addition, the subject OP valve lineup sheet will be revised to reflect the actual location of SA valves 2-SA-V301 and V302.



Carolina Power & Light Company

Brunswick Steam Electric Plant
P. O. Box 10429
Southport, NC 28461-0429

October 4, 1985

FILE: B09-13510C
SERIAL: BSEP/85-1742

NRC Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
DOCKET NO. 50-324
LICENSE NO. DPR-62
LICENSEE EVENT REPORT 2-85-005

Gentlemen:

In accordance with Title 10 to 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 in accordance with the format set forth in NUREG-1022, September 1983.

Very truly yours,

C. R. Dietz, General Manager
Brunswick Steam Electric Plant

MJP/ag

Enclosure

cc: Dr. J. N. Grace

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