



APR 11 2013

10 CFR 50.73

Serial: BSEP 13-0040

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

Subject: Brunswick Steam Electric Plant, Unit Nos. 1 and 2
Docket Nos. 50-325, 50-324
Licensee Event Report 1-2012-007, Supplement 1

In accordance with the Code of Federal Regulations, Title 10, Part 50.73, Carolina Power & Light Company submits the enclosed supplement to Licensee Event Report (LER) 1-2012-007, dated February 12, 2013, (i.e., Accession Number ML13052A268). This supplement provides the results of the completed cause evaluation.

This document contains no regulatory commitments.

Please refer any questions regarding this submittal to Mr. Lee Grzeck, Manager – Regulatory Affairs, at (910) 457-2487.

Sincerely,

A handwritten signature in black ink, appearing to read 'John A. Krakuszeski'.

John A. Krakuszeski
Plant Manager
Brunswick Steam Electric Plant

MAT/mat

Enclosure: Licensee Event Report

TE22
NRR

U.S. Nuclear Regulatory Commission

Page 2 of 2

cc (with enclosure):

U. S. Nuclear Regulatory Commission, Region II
ATTN: Mr. Victor M. McCree, Regional Administrator
245 Peachtree Center Ave, NE, Suite 1200
Atlanta, GA 30303-1257

U. S. Nuclear Regulatory Commission
ATTN: Ms. Michelle P. Catts, NRC Senior Resident Inspector
8470 River Road
Southport, NC 28461-8869

U. S. Nuclear Regulatory Commission
ATTN: Mr. Christopher Gratton (Mail Stop OWFN 8G9A)
11555 Rockville Pike
Rockville, MD 20852-2738

Chair - North Carolina Utilities Commission
P.O. Box 29510
Raleigh, NC 27626-0510

NRC FORM 366 (10-2010)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2013 Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov , and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.					
LICENSEE EVENT REPORT (LER) (See reverse for required number of digits/characters for each block)										
1. FACILITY NAME Brunswick Steam Electric Plant (BSEP), Unit 1					2. DOCKET NUMBER 05000325		3. PAGE 1 of 4			
4. TITLE Loss of Control Room Emergency Ventilation										
5. EVENT DATE			6. LER NUMBER		7. REPORT DATE			8. OTHER FACILITIES INVOLVED		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	
12	14	2012		2012 - 007 - 01		04	11	2013	BSEP, Unit 2	
									DOCKET NUMBER	
									05000324	
									DOCKET NUMBER	
9. OPERATING MODE 1			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)							
10. POWER LEVEL 100			<input type="checkbox"/> 20.2201(b) <input type="checkbox"/> 20.2201(d) <input type="checkbox"/> 20.2203(a)(1) <input type="checkbox"/> 20.2203(a)(2)(i) <input type="checkbox"/> 20.2203(a)(2)(ii) <input type="checkbox"/> 20.2203(a)(2)(iii) <input type="checkbox"/> 20.2203(a)(2)(iv) <input type="checkbox"/> 20.2203(a)(2)(v) <input type="checkbox"/> 20.2203(a)(2)(vi)		<input type="checkbox"/> 20.2203(a)(3)(i) <input type="checkbox"/> 20.2203(a)(3)(ii) <input type="checkbox"/> 20.2203(a)(4) <input type="checkbox"/> 50.36(c)(1)(i)(A) <input type="checkbox"/> 50.36(c)(1)(ii)(A) <input type="checkbox"/> 50.36(c)(2) <input type="checkbox"/> 50.46(a)(3)(ii) <input type="checkbox"/> 50.73(a)(2)(i)(A) <input type="checkbox"/> 50.73(a)(2)(i)(B)		<input type="checkbox"/> 50.73(a)(2)(i)(C) <input type="checkbox"/> 50.73(a)(2)(ii)(A) <input type="checkbox"/> 50.73(a)(2)(ii)(B) <input type="checkbox"/> 50.73(a)(2)(iii) <input type="checkbox"/> 50.73(a)(2)(iv)(A) <input type="checkbox"/> 50.73(a)(2)(v)(A) <input type="checkbox"/> 50.73(a)(2)(v)(B) <input type="checkbox"/> 50.73(a)(2)(v)(C) <input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)		<input type="checkbox"/> 50.73(a)(2)(vii) <input type="checkbox"/> 50.73(a)(2)(viii)(A) <input type="checkbox"/> 50.73(a)(2)(viii)(B) <input type="checkbox"/> 50.73(a)(2)(ix)(A) <input type="checkbox"/> 50.73(a)(2)(x) <input type="checkbox"/> 73.71(a)(4) <input type="checkbox"/> 73.71(a)(5) <input type="checkbox"/> OTHER Specify in Abstract below or in NRC Form 366A	
12. LICENSEE CONTACT FOR THIS LER										
FACILITY NAME Mark Turkal, Lead Engineer - Licensing						TELEPHONE NUMBER (Include Area Code) (910) 457-3066				
13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	
14. SUPPLEMENTAL REPORT EXPECTED <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO					15. EXPECTED SUBMISSION DATE					
					MONTH DAY YEAR					
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) On December 14, 2012, at approximately 1306 hours Eastern Standard Time (EST), inoperability of both subsystems of the Control Room Emergency Ventilation (CREV) system occurred. Because Brunswick has a shared control room, this placed Unit 1 and Unit 2 in Technical Specification (TS) 3.7.3, Required Action C.1, for two CREV subsystems inoperable (i.e., be in Mode 3 within 12 hours). At the time of the event, a modification to upgrade the Control Building fire detection system was in progress. The 2A CREV subsystem was placed in the radiation/smoke protection mode in compliance with the Technical Requirements Manual. This action prevented an auto-start of the 2B CREV subsystem and, as such, TS 3.7.3 Condition A was entered to restore 2B CREV subsystem to operable status within 7 days. During work to electrically isolate one of the fire detectors associated with the 2A CREV subsystem, electrical continuity was lost resulting in a charcoal fire signal being sent to the 2A CREV subsystem circuitry and shutting it down. With the 2A CREV subsystem shut down due to the signal, TS 3.7.3 Required Action C.1 applied for both CREV subsystems being inoperable. Actions were taken to re-start the 2A CREV subsystem, and TS 3.7.3 Required Action C.1 was exited within approximately two minutes. The safety consequences of this event were minimal. The condition existed for approximately two minutes, and plant staff took immediate action to return the equipment to service. The apparent cause of the event was inadequate documentation and communication of the required system alignment to support the ongoing modification.										

LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Brunswick Steam Electric Plant (BSEP), Unit 1	05000325	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 of 4
		2012 -- 007 -- 01			

NARRATIVE

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

Introduction*Initial Conditions*

At the time of the event, Unit 1 was in Mode 1, at approximately 100 percent of rated thermal power (RTP) and Unit 2 was in Mode 1 at approximately 93 percent of RTP.

Reportability Criteria

This event is being reported in accordance with 10 CFR 50.73(a)(2)(v)(D), as an event or condition that could have prevented the fulfillment of the safety function that is needed to mitigate the consequences of an accident. The NRC was initially notified of this event on December 14, 2012 (i.e., Event Number 48596).

Event Description

On December 14, 2012, a modification to upgrade the Control Building [CB] fire detection system was in progress. This modification required smoke detectors to be inoperable and, in accordance with Technical Requirements Manual (TRM) Section 3.12, "CREV System Instrumentation," Condition F.1, the 2A subsystem of the Control Room Emergency Ventilation (CREV) system [VI] was placed in the radiation/smoke protection mode. This action prevented an auto-start of the 2B CREV subsystem and, as such, TS 3.7.3 Condition A was entered to restore the 2B CREV subsystem to operable status within 7 days.

At approximately 1306 hours Eastern Standard Time (EST), during jumper installation to isolate a fire detector, electrical continuity was lost. This resulted in an invalid charcoal fire signal being sent to the 2A CREV subsystem circuitry; shutting down the operating 2A CREV subsystem. With 2A CREV subsystem shut down due to the signal, both the 2A and 2B CREV subsystems were inoperable and TS 3.7.3 Required Action C.1 (i.e., be in Mode 3 within 12 hours) applied for both Unit 1 and Unit 2.

TS 3.7.3 Required Action C.1 was exited within approximately two minutes by restarting the 2A CREV subsystem.

Event Cause

The direct cause of the loss of the CREV function was an invalid charcoal fire signal caused by a loss of electrical continuity that occurred during jumper installation which shut down the operable 2A CREV subsystem. The apparent cause of the event was inadequate documentation and communication of the required system alignment.

As planned, implementation of the modification resulted in loss of Smoke Detection capability for a very short period of time. Per, Condition F of TRM 3.12, this would require the CREV system to be placed in the radiation/smoke protection mode of operation with a Completion Time of 1 hour. It was assumed that the duration of this condition would be less than 1 hour and that the Required Compensatory Measure would not be implemented. This assumption was not clearly documented or communicated. Ultimately, this

LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Brunswick Steam Electric Plant (BSEP), Unit 1	05000325	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 of 4
		2012 -- 007 -- 01			

NARRATIVE

Event Cause (continued)

led to parallel versus sequential scheduling of the tasks in Progress Reporter (i.e., the scheduling tool used at BSEP) and the decision to place the 2A CREV subsystem in the radiation/smoke protection mode of operation in support of the modification without recognizing the inconsistency or properly risk assessing the potential impact of the inconsistency on 2A CREV subsystem operability.

Safety Assessment

The safety significance of this condition is considered minimal. The CREV function was only inoperable for approximately two minutes. Although considered inoperable, the 2B CREV subsystem remained available and could have been placed in service at any time by alternating the A and B subsystem control switches.

Corrective Actions

Any changes to the corrective actions or schedules noted below will be handled in accordance with the site's Corrective Action Program.

The following corrective action has been completed.

- The Major Projects planning template, controlled by WO Planner Guide for Projects, Revision 4, dated April 10, 2013, has been revised to require a brief summary of the (1) equipment impact, (2) plant impact, and (3) potential plant impact resulting from the work. The summary of each topic shall include a discussion of any assumption used to support the conclusion.

Previous Similar Events

A review of LERs and corrective action program condition reports for the past three years identified the following previous similar occurrences.

- LER 1-2011-003, dated January 30, 2012, reported a loss of CREV and Control Room Air Conditioning due to a Control Building instrument air dryer failure. The failure of the Control Building instrument air dryer was due to low refrigerant pressure leading to ice blockage of the instrument air supply line. Corrective actions included replacing the instrument air dryer and a procedure revision to bypass the dryer when low refrigerant pressure conditions exist. The actions from LER 1-2011-003 could not have reasonably been expected to prevent the condition reported in LER 1-2012-007.
- LER 1-2011-001, dated June 2, 2011, reported a loss of CREV following a trip of the 480 VAC Emergency Bus E-7 main feeder breaker. The cause was determined to be a spurious actuation of the solid state trip unit on the E-7 breaker. The corrective action was to replace the E-7 breaker. The actions from LER 1-2011-001 could not have reasonably been expected to prevent the condition reported in LER 1-2012-007.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Brunswick Steam Electric Plant (BSEP), Unit 1	05000325	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 of 4
		2012 -- 007 -- 01			

NARRATIVE

Previous Similar Events (continued)

- LER 1-2009-001, dated March 22, 2009, reported a loss of CREV and Control Room Air Conditioning due to blockage of air flow through the Control Building instrument air dryer due to freezing of condensate within the cooling coil. The corrective actions to prevent recurrence included procedure revisions to ensure proper operation of the Control Building Heating Ventilation and Air Conditioning system during cold weather operation. The actions from LER 1-2009-001 could not have reasonably been expected to prevent the condition reported in LER 1-2012-007.

Commitments

No regulatory commitments are contained in this report.