



May 30, 2012

L-2012-234  
10 CFR 50.73

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

Re: St. Lucie Unit 1  
Docket No. 50-335  
Reportable Event: 2012-003  
Date of Event: March 31, 2012

Manual Trip during Steam Bypass Control System Post-Modification Testing

The attached Licensee Event Report 2012-003 is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Very truly yours,

Richard L. Anderson  
Site Vice President  
St. Lucie Plant

RLA/rcs  
Attachment

JE22  
NRH

<b>NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION</b> (10-2010)					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.																																									
<b>LICENSEE EVENT REPORT (LER)</b>																																														
<b>1. FACILITY NAME</b> St. Lucie Unit 1					<b>2. DOCKET NUMBER</b> 05000335		<b>3. PAGE</b> 1 OF 3																																							
<b>4. TITLE</b> Manual Trip during Steam Bypass Control System Post-Modification Testing																																														
<b>5. EVENT DATE</b>			<b>6. LER NUMBER</b>			<b>7. REPORT DATE</b>			<b>8. OTHER FACILITIES INVOLVED</b>																																					
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<b>9. OPERATING MODE</b>  <div style="text-align: center;">1</div>			<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§:</b> <i>(Check all that apply)</i>																																											
<b>10. POWER LEVEL</b>  <div style="text-align: center;">10%</div>			<table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> 20.2201(b)</td> <td><input type="checkbox"/> 20.2203(a)(3)(i)</td> <td><input type="checkbox"/> 50.73(a)(2)(i)(C)</td> <td><input type="checkbox"/> 50.73(a)(2)(vii)</td> </tr> <tr> <td><input type="checkbox"/> 20.2201(d)</td> <td><input type="checkbox"/> 20.2203(a)(3)(ii)</td> <td><input type="checkbox"/> 50.73(a)(2)(ii)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(viii)(A)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(1)</td> <td><input type="checkbox"/> 20.2203(a)(4)</td> <td><input type="checkbox"/> 50.73(a)(2)(ii)(B)</td> <td><input type="checkbox"/> 50.73(a)(2)(viii)(B)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(i)</td> <td><input type="checkbox"/> 50.36(c)(1)(i)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(iii)</td> <td><input type="checkbox"/> 50.73(a)(2)(ix)(A)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(ii)</td> <td><input type="checkbox"/> 50.36(c)(1)(ii)(A)</td> <td><input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(x)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(iii)</td> <td><input type="checkbox"/> 50.36(c)(2)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(A)</td> <td><input type="checkbox"/> 73.71(a)(4)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(iv)</td> <td><input type="checkbox"/> 50.46(a)(3)(ii)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(B)</td> <td><input type="checkbox"/> 73.71(a)(5)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(v)</td> <td><input type="checkbox"/> 50.73(a)(2)(i)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(C)</td> <td><input type="checkbox"/> OTHER</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(vi)</td> <td><input type="checkbox"/> 50.73(a)(2)(i)(B)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(D)</td> <td style="text-align: right; vertical-align: bottom;">Specify in Abstract below or in NRC Form 366A</td> </tr> </table>								<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A
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<b>12. LICENSEE CONTACT FOR THIS LER</b>																																														
<b>NAME</b> Richard Sciscente - Principal Engineer, Licensing								<b>TELEPHONE NUMBER (Include Area Code)</b> 772-467-7156																																						
<b>13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT</b>																																														
CAUSE	SYSTEM	COMPONENT	MANU- FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU- FACTURE	REPORTABLE TO EPIX																																					
X	JI	PCV	C635	YES																																										
<b>14. SUPPLEMENTAL REPORT EXPECTED</b>						<b>15. EXPECTED SUBMISSION DATE</b>		MONTH	DAY	YEAR																																				
<input checked="" type="checkbox"/> YES <i>(If yes, complete 15. EXPECTED SUBMISSION DATE)</i>						<input type="checkbox"/> NO		08	30	2012																																				
<b>ABSTRACT</b> <i>(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)</i> <p>On March 31, 2012 at 0022 EDT, St. Lucie Unit 1 was in mode 1 at 10% reactor power and performing preoperational testing of the steam bypass control system (SBCS) when the reactor was manually scrambled after a steam bypass control valve opened unexpectedly at 0019 EDT. Immediately following the reactor scram the steam bypass control valve closed, terminating the cooldown. Additionally, Operators closed the main steam isolation valves in accordance with Emergency Operating Procedure (EOP-01), "Standard Post Trip Actions" due to steam generator pressure decreasing to less than 750 psia. All control element assemblies (CEAs) fully inserted. No automatic safety system actuations were required and none occurred. RCS heat removal was maintained with auxiliary feedwater and atmospheric dump valves. The offsite power grid was available and stable.</p> <p>A root cause evaluation and corrective actions to prevent recurrence are in progress and will be provided as a supplement to this report.</p>																																														

LICENSEE EVENT REPORT (LER)  
CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
St. Lucie Unit 1	05000335	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	Page 2 of 3
		2012	- 003	- 00	

## NARRATIVE

**Description of the Event**

On March 31, 2012 at 0022 EDT, St. Lucie Unit 1 was in mode 1 at 10% reactor power and performing preoperational testing of the SBCS when the reactor was manually scrammed after a steam bypass control valve [PCV] opened unexpectedly at 0019 EDT. Immediately following the reactor scram the steam bypass control valve closed, terminating the cooldown. Additionally, Operators closed the main steam isolation valves in accordance with EOP-01 due to steam generator pressure decreasing to less than 750 psia. All CEAs fully inserted. No automatic safety system actuations were required and none occurred. RCS heat removal was maintained with auxiliary feedwater and atmospheric dump valves. The offsite power grid was available and stable.

**Cause**

A root cause evaluation and corrective actions to prevent recurrence are in progress and will be provided as a supplement to this report.

**Analysis of the Event**

A complete analysis of the event will be provided as a supplement to this report.

**Analysis of Safety Significance**

The failed steam bypass control valve closed when steam pressure was reduced during the cooldown terminating the event immediately following the reactor scram. Upon closure of the failed steam bypass control valve, RCS temperature stabilized at 505 degrees and began to recover. The failed steam bypass control valve was subsequently isolated by a manual valve.

During post trip recovery actions the Shift Manager determined that EOP-05, "Excess Steam Demand" was required to be entered as a result of not meeting the Reactor Trip Safety Function (Reactor Coolant System (RCS) average temperature between 525 and 535 degrees). The procedure was exited with no actions taken when temperature increased into the required band. With the exception of not meeting the Reactor Trip Safety Function Status Check for RCS Heat Removal in EOP-02, "Reactor Trip Recovery" as a result of low reactor coolant system temperature, there were no equipment complications identified post reactor trip, and all CEAs fully inserted. No automatic safety system actuations were required and none occurred. RCS heat removal was maintained with auxiliary feedwater and atmospheric dump valves. The offsite power grid was available and stable.

The Conditional Core Damage Probability (CCDP) and Conditional Large Early Release Probability (CLERP) values were evaluated for the stated event and were found to be significantly below the thresholds required by RG-1.174 for the risk to be "Small", where CCDP is below 1.0E-06 and CLERP is below 1.0E-07. Given the response of the plant and small CCDP and CLERP values, the health and safety of the public was not affected by this event.

This licensee event report is being reported in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event or condition that resulted in manual or automatic actuation of the Reactor Protection System including reactor scram or reactor trip.

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

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St. Lucie Unit 1	05000335	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	Page 3 of 3
		2012	- 003	- 00	

**NARRATIVE**

**Corrective Actions**

The failed steam bypass control valve was manually isolated, and steam bypass capability is provided by the remaining four SBSC pressure control valves.

A root cause evaluation and corrective actions to prevent recurrence are in progress and will be provided as a supplement to this report.

**Similar Events**

A search of the St. Lucie corrective action database for three years was performed and identified no issues that were related to the faults identified with this report.

**Failed Component(s)**

Copes-Vulcan 10", 600 # Class, Generation II Tandem (Balanced) control valve with a SD-ATI L165SRR68.6 dual acting piston actuator

**Manufacture**

Copes-Vulcan, SPX Valves & Controls