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ULNRC-05837

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

10 CFR 50.73

Ladies and Gentlemen:

**DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
FACILITY OPERATING LICENSE NPF-30
LICENSEE EVENT REPORT 2011-007-00
INADVERTENT NON-COMPLIANCE WITH TS 3.9.2,
UNBORATED WATER SOURCE ISOLATION VALVES**

The enclosed licensee event report (LER) is submitted in accordance with 10 CFR 50.73(a)(2)(i)(B). LER 2011-007-00 is submitted to report the discovery of a condition prohibited by Technical Specifications in that one unborated water source isolation valve was found to be closed but not secured when the plant was in Mode 6.

This letter does not contain new commitments.

Sincerely,

Fadi M. Diya
Vice President Nuclear Operations

CSP/nls

Enclosed: LER 2011-007-00

cc: Mr. Elmo E. Collins, Jr.
Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV
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Arlington, TX 76011-4511

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Index and send hardcopy to QA File A160.0761

Hardcopy:

Certrec Corporation
4200 South Hulen, Suite 422
Fort Worth, TX 76109

(Certrec receives ALL attachments as long as they are non-safeguards and may be publicly disclosed.)

LEREvents@inpo.org (must send the **WORD** version of the LER to this address)

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NRC FORM 366 (10-2010)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB: NO. 3150-0104	EXPIRES: 10/31/2013
LICENSEE EVENT REPORT (LER) (See reverse for required number of digits/characters for each block)		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@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.	

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4. TITLE
Inadvertent Non-Compliance With TS 3.9.2, Unborated Water Source Isolation Valves

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	DOCKET NUMBER
11	13	2011	2011 - 007 - 00			01	10	2012	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE 6	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)			
10. POWER LEVEL 0 %	<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 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 checked="" 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	

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME T.B. Elwood, Supervising Engineer, Regulatory Affairs and Licensing	TELEPHONE NUMBER (Include Area Code) 314-225-1905
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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)

Per Technical Specification (TS) 3.9.2, all unborated water source isolation valves that are connected to the Reactor Coolant System must be secured in the closed position to prevent unplanned boron dilution of the reactor coolant during Mode 6.

While the plant was in Mode 6 on 11/13/2011, one of the valves used to isolate an unborated water source was found to be closed but was not secured in that position. The valve was in this condition when the plant entered Mode 6 from "No Mode," but this was not identified until after subsequent completion of loading fuel into the reactor vessel. The plant entered Mode 6 on 11/07/2011. No core alterations were in progress when the valve was found to be unsecured. Having the valve closed but not secured during Mode 6 (and without meeting the Required Actions of Condition A under LCO 3.9.2) is a condition prohibited by the TS.

After the valve was found to be unsecured, the valve was secured in the closed position. Additionally the reactor coolant system boron concentration was verified to be within TS limits.

Procedure OSP-BL-00001 did not include adequate instructions to control the status of valve BGV0601 in "No Mode." Plant procedures will be revised to clarify the administrative guidance. Additionally, operations personnel were coached on requirements for procedure compliance.

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NARRATIVE

1. BACKGROUND:

During refueling operations (Mode 6), the required reactor coolant system (RCS) boron concentration and requirements for unborated water source isolation valves are governed by Technical Specification (TS) 3.9.1 and TS 3.9.2, respectively.

Per Limiting Condition for Operation (LCO) 3.9.1, the limit on the boron concentration of filled portions of the Reactor Coolant System (RCS) and the refueling pool that have direct access to the reactor vessel during refueling ensures that the reactor remains subcritical during Mode 6 (refueling). The refueling boron concentration is sufficient to maintain Shutdown Margin (SDM) with the more restrictive of $k_{eff} \leq 0.95$ or boron concentration of ≥ 2000 ppm.

In accordance with LCO 3.9.2, all unborated water source isolation valves that are connected to the Reactor Coolant System (RCS) must be closed to prevent unplanned boron dilution of the reactor coolant, during Mode 6. The isolation valves must also be secured in the closed position. LCO 3.9.2 is modified by a NOTE to allow unborated water sources to be unisolated under administrative controls for planned boron dilution evolutions. Surveillance Requirement (SR) 3.9.2.1 states "Verify each valve that isolates unborated water sources is secured in the closed position."

Plant surveillance procedure OSP-BL-00001, UNBORATED WATER SOURCE ISOLATION VALVES/MODE 6, is used to meet the requirements of SR 3.9.2.1. This surveillance ensures that nine manual valves that isolate potential dilution water sources are closed, and it requires installation of a placard with cables that are secured with a red seal on the valve operator. These controls are normally put in place prior to securing the last reactor coolant pump when the plant is still in Mode 5, descending.

Valve BGV0601, Reactor Makeup Water To The Boric Acid Blending Tee Upstream Isolation Valve, is one of the potential dilution water sources closed and secured by surveillance procedure OSP-BL-00001.

2. INITIAL PLANT CONDITIONS:

At the beginning of the event, the plant was in "No Mode," i.e., with all of the fuel removed from the reactor vessel. The plant was then taken to Mode 6 in order to reload fuel into the reactor vessel. The RCS boron concentration was > 2400 ppm. The plant entered Mode 6 on November 7, 2011 at 0433.

3. EVENT DESCRIPTION:

The event addressed by this LER is the inadvertent entry into Mode 6 with an unborated water

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source isolation valve, BGV0601, closed but not secured. The sequence of events leading to this condition is as follows:

October 16, 2011: Surveillance procedure OSP-BL-00001 was performed.

October 24, 2011: Fuel offload was completed and all fuel assemblies were located in the spent fuel pool. The plant had thus entered "No Mode" i.e., the condition of having no fuel in the reactor vessel.

November 4, 2011: The Chemical and Volume Control System (CVCS) was restored from clearance tagging that had been placed on the system (for maintenance). The restoration included filling and venting the Volume Control Tank and charging pump suction piping. To support this restoration it was necessary to open valve BGV0601 to provide makeup water. NOTE: Valve BGV0601 was opened and closed twice while in "No Mode" conditions.

November 4, 2011 between midnight and 0630: Valve BGV0601 was opened for the first time. The supervisor directed that it must be restored closed and sealed (i.e., secured) with the placard installed to return to the surveillance lineup. Since the surveillance requirement was not in effect in "No Mode," Attachment 2 of procedure OSP-BL-00001 was not required to be used. The crew did ensure the valve was restored closed and secured.

November 4, 2011 day shift: Valve BGV0601 was opened a second time to complete CVCS system restoration. The operator in the field called a Control Room reactor operator to get permission to open BGV0601 consistent with the instructions on the placard. The operator was instructed that the placard controls were not in effect due to the plant being in "No Mode" and to follow the instructions of the clearance tagging. The clearance tagging restoration instructions directed valve BGV0601 to be closed after filling and venting was complete, but they did not require the valve to be secured. The placard was placed on the valve, but a red seal was not installed.

November 4, 2011 night shift: Valve BGV0601 was verified closed as part of restoring the system from clearance tagging. The restoration did not require the valve to be closed and secured.

November 7, 2011 at 0433: The plant entered Mode 6 from "No Mode." Reloading of fuel into the reactor vessel had begun.

November 9, 2011: The reloading of fuel into the reactor vessel was completed.

November 13, 2011 at 0125: The Primary Watchstation Operations Technician noted that valve BGV0601 was closed; however, there was no seal on the placard cables attached to the valve. The Control Room was contacted. The Field Supervisor was dispatched to verify the valve status and install a red seal on the placard cables. Additionally, TS LCO 3.9.2 Action

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3.9.2.A was entered because valve BGV0601 was not in a secured position.

November 13, 2011 at 0210: RCS boron concentration verified as 2446 ppm by sample.

November 13, 2011 at 0215: The Control Room was notified that valve BGV0601 was closed and secured. TS LCO 3.9.2 Action 3.9.2.A was exited because valve BGV0601 was in a secured position.

November 13, 2011 at 1413: Surveillance OSP-BL-00001 was performed as a remedial action to ensure all nine valves were properly closed and secured.

4. ASSESSMENT OF SAFETY CONSEQUENCES:

Although plant operation during this event was not in verbatim compliance with Technical Specification requirements, this event represents a minor impact on safety significance. Although valve BGV0601 was not secured, it was closed and identified as a controlled valve with a placard installed during the applicable modes of operation, thereby isolating unborated water from the RCS. There was no inadvertent dilution, and the unsecured status of BGV0601 did not create a pathway that could have resulted in an inadvertent dilution. Therefore, it is concluded that this event was of minor safety significance.

5. REPORTING REQUIREMENTS:

This LER is submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) to report a condition prohibited by the Technical Specifications.

TS LCO 3.9.2 requires that each valve used to isolate unborated water sources shall be secured in the closed position, during Mode 6. A note contained within the LCO section of TS 3.9.2 states that unborated water sources may be unisolated under administrative controls for planned boron dilution evolutions. SR 3.9.2.1 states, "Verify each valve that isolates unborated water sources is secured in the closed position."

While the plant was in Mode 6, one of the valves used to isolate an unborated water source, i.e., BGV0601, was found to be in a closed but not secured position. The valve was in this condition when the plant entered Mode 6, but this was not identified and confirmed until after subsequent completion of loading fuel into the reactor vessel. Having valve BGV0601 closed but not secured during Mode 6 (and without meeting the Required Actions of Condition A under LCO 3.9.2) is an operation or condition prohibited by the TS.

The event started on November 7, 2011, when the plant entered Mode 6. The discovery date was November 13, 2011.

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6. CAUSE OF THE EVENT:

In light of the need to transition the plant from "No Mode" to Mode 6 during a refueling outage, a cause evaluation determined that procedure OSP-BL-00001 did not include adequate instructions to control the status of valve BGV0601 in "No Mode." The placard wording directed the operator to obtain Control Room Supervisor/Shift Manager approval but did not provide instructions to ensure that the administrative controls of OSP-BL-00001 were maintained.

7. CORRECTIVE ACTIONS:

The operations personnel involved with this error were coached on procedure compliance requirements due to the human performance issue involved in the event.

Plant procedure OSP-BL-00001 will be revised. This revision will include clear guidance on how to maintain the TS 3.9.2 required valve positions while the plant is in "No Mode" conditions. The placards will be revised to state that the valves can only be repositioned using the OSP-BL-00001 checklist or attachment to ensure proper administrative controls are used.

8. PREVIOUS SIMILAR EVENTS:

The following LERs document events where administrative controls were not followed:

LER 2010-007-00 - Violation of Technical Specification 3.6.3, "Containment Isolation Valves"

LER 2008-004-00 - Failure to Maintain Containment Purge and Exhaust System In Service During Core Alterations With Equipment Hatch Open

LER 2006-008-00 - COMS Inoperability, RHR Suction Relief Valve Failure. While it was not the subject of the LER, this LER describes a short timeframe where administrative controls for COMS were not followed.

9. OTHER INFORMATION

The Energy Industry Identification System (EIIS) identifiers for the components and systems mentioned in this report are as follows:

Chemical Volume and Control System (CVCS), plant system BG
EIIS System: CB, Chemical Volume Control/Makeup and Purification System

Valve BGV0601
EIIS Component: V, Valve