

December 12, 2008

ULNRC-05572

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Stop P1-137
Washington, DC 20555-0001



10 CFR 50.73(a)(2)(i)(B)

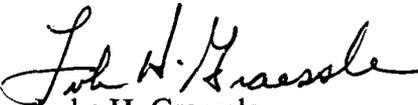
Ladies and Gentlemen:

**DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
FACILITY OPERATING LICENSE NPF-30
LICENSEE EVENT REPORT 2008-004-00
Failure to Maintain Containment Purge and Exhaust System In Service During
Core Alterations With Equipment Hatch Open**

The enclosed licensee event report is submitted in accordance with 10CFR50.73(a)(2)(i)(B) to report an event in which the Containment Purge and Exhaust System was removed from service and core alterations were inadvertently allowed to recommence with the equipment hatch open prior to returning the Containment Purge and Exhaust System to service.

This letter does not contain new commitments.

Sincerely,


Luke H. Graessle
Director, Operations Support

KRA/nls

Enclosure

IE22

ULNRC-05572
December 12, 2008
Page 2

cc: Mr. Elmo E. Collins, Jr.
Regional Administrator
U.S. Nuclear Regulatory Commission
Region IV
612 E. Lamar Blvd., Suite 400
Arlington, TX 76011-4125

Senior Resident Inspector
Callaway Resident Office
U.S. Nuclear Regulatory Commission
8201 NRC Road
Steedman, MO 65077

Mr. Mohan C. Thadani (2 copies)
Licensing Project Manager, Callaway Plant
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Mail Stop O-8G14
Washington, DC 20555-2738

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)

Electronic distribution for the following can be made via LER ULNRC Distribution:

A. C. Heflin
F. M. Diya
D. W. Neterer
T. E. Herrmann
L. S. Sandbothe
S. A. Maglio
S. L. Gallagher
L. M. Belsky (NSRB)
T. B. Elwood
D. E. Dumbacher (NRC)
B. A. Brook (WCNOC)
Ms. Diane M. Hooper (WCNOC)
Mr. Dennis Buschbaum (TXU)
Mr. Scott Bauer (Palo Verde)
Mr. Stan Ketelsen (PG&E)
Mr. Wayne Harrison (STPNOC)
Mr. John O'Neill (Pillsbury Winthrop Shaw Pittman LLP)
Missouri Public Service Commission
Records Center (INPO)

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: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), 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.

1. FACILITY NAME Callaway Plant Unit 1	2. DOCKET NUMBER 05000 483	3. PAGE 1 OF 5
--	--------------------------------------	--------------------------

4. TITLE
Failure to Maintain Containment Purge & Exhaust System In Service During Core Alts w/ Equipment Hatch Open

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
10	17	2008	2008	- 004 -	00	12	12	2008	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE 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) (573) 676-6479
--	--

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)

At 2331 on October 17, 2008, while the Refuel 16 refueling outage was ongoing, core off-load recommenced with the equipment hatch open and the containment purge and exhaust system not in service. The mini-purge exhaust fan was then started at 0212 on October 18, 2008. Core alterations continued from 2331 on October 17, 2008 to 0212 October 18, 2008 (2 hours, 41 minutes) with the equipment hatch open and the containment purge and exhaust system not in service. On October 19, 2008 Operations, when planning restoration of the load center associated with the containment shutdown purge exhaust fan, determined that this was in violation of Callaway operating procedure OSP-SF-00003 (Rev. 018) step 6.3.4 and Technical Specification (T/S) 3.9.4.

A root cause investigation was performed to determine causes and corrective actions for the resulting condition prohibited by T/S. The investigation found that the root cause of the failure to have the containment purge and exhaust system in service during core alterations with the equipment hatch open was a failure to adequately or completely implement Callaway Operating License Amendment 152 in procedures. The corrective action to prevent recurrence (CATPR) was to update Operations procedures to address administrative controls for having the equipment hatch open. This CATPR is complete.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2) NUMBER (2)	LER NUMBER (6)			PAGE (3)
Callaway Plant Unit 1	05000483	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 5
		2008	- 004	- 00	

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

I. DESCRIPTION OF THE REPORTABLE EVENT

A. REPORTABLE EVENT CLASSIFICATION

10CFR50.73(a)(2)(i)(B) - Operation or Condition Prohibited by Technical Specifications

B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT

The plant was in MODE 6, Refueling, with CORE ALTERATIONS suspended to investigate possible fuel assembly grid strap damage. The containment shutdown purge exhaust fan was secured in preparation for a bus outage to clean and inspect its associated 480V AC load center (PG20).

C. STATUS OF STRUCTURES, SYSTEMS OR COMPONENTS THAT WERE INOPERABLE AT THE START OF THE EVENT AND THAT CONTRIBUTED TO THE EVENT

No structures, systems, or components were inoperable at the start of the event which contributed to the event.

D. NARRATIVE SUMMARY OF THE EVENT, INCLUDING DATES AND APPROXIMATE TIMES

At 1812 on October 16, 2008 the containment equipment hatch was opened with the required administrative controls in place, and at 1720 on October 17, 2008 core offload commenced. Core alterations were subsequently suspended at 2111 on October 17, 2008 to investigate possible fuel assembly grid strap damage. Meanwhile, the containment shutdown purge exhaust fan [Energy Industry Identification System (EIS) system: VA; component: FAN] was running. It was recognized, however, that it would be necessary to secure this fan in order to clean and inspect its associated 480V AC load center (PG20) [EIS system: EC]. At 2209 on October 17, 2008, containment shutdown purge exhaust was secured so that the containment vent permit could be closed out and a new permit opened to support operation of the containment mini-purge exhaust fan.

At 2331 on October 17, 2008, core off-load recommenced with the equipment hatch open. However, the containment purge and exhaust system was not in service. The mini-purge exhaust fan was then started at 0212 on October 18, 2008. Core alterations continued from 2331 on October 17, 2008 to 0212 October 18, 2008 (2 hours, 41 minutes) with the equipment hatch open and the containment purge and exhaust system not in service. On October 19, 2008 Operations, when planning restoration of the load center associated with the containment shutdown purge exhaust fan, determined that this condition was in violation of Callaway operating procedure OSP-SF-00003 (Rev. 018) step 6.3.4 and Technical Specification (T/S) 3.9.4.

Per Callaway T/S 3.9.4, "Containment Penetrations," the equipment hatch is allowed to be open during core alterations provided administrative controls are in effect. Per T/S Bases 3.9.4, one of the required administrative controls for this condition is for the containment purge and exhaust system to be in service. The purpose for requiring the containment purge and exhaust system to be in service while the equipment hatch is open with core alterations in progress is to ensure that, in the event of a fuel handling accident (FHA) inside containment, all post-accident releases are monitored.

As noted above, core alterations continued for two hours and forty-one minutes with the equipment hatch open and the containment purge and exhaust system secured. Thus, all administrative controls were not in place as required per T/S 3.9.4. Had a fuel handling accident (FHA) occurred, post-accident releases would not have been monitored via containment purge and exhaust system.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2) NUMBER (2)	LER NUMBER (6)			PAGE (3)
Callaway Plant Unit 1	05000483	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 5
		2008	- 004	- 00	

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

monitors. However the release would have been monitored by both Auxiliary Building exhaust (through the unit vent) and portable air sampling equipment on the outside of the Reactor Building equipment hatch, as described in Section II.C below.

A root cause investigation was performed to determine causes and corrective actions for the resulting condition prohibited by T/S. The investigation found that the event occurred due to several causal factors associated with one root cause, as described in Section III below.

E. METHOD OF DISCOVERY OF EACH COMPONENT, SYSTEM FAILURE, OR PROCEDURAL ERROR

Failure to implement all administrative controls per T/S 3.9.4, i.e. failure to have the containment purge and exhaust system in service during core alterations with the equipment hatch open, was determined by Operations when planning restoration of the load center associated with the containment shutdown purge exhaust fan.

II. EVENT DRIVEN INFORMATION

A. SAFETY SYSTEMS THAT RESPONDED

No automatic actuations occurred and no safety systems were required to respond to this event.

B. DURATION OF SAFETY SYSTEM INOPERABILITY

No safety systems were inoperable which contributed to this event; however, the containment purge and exhaust system was secured for 2 hours and 41 minutes during core alterations with the equipment hatch open.

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT.

This event had no impact on the Reactor Building Fuel Handling Accident (RBFHA) Licensing Bases radiological consequence analysis.

The RBFHA radiological consequence analysis assumes that a direct path exists between containment and the outside atmosphere for the entire duration of post-accident release. No credit is taken for the integrity of containment or filtration of exhausted air. Therefore, the assumed release of radioactivity and calculated offsite dose consequences are not affected by the containment purge and exhaust system being secured.

The conditions described in this LER, although not in verbatim compliance with the administrative controls described in Callaway's T/S Bases for T/S 3.9.4, were entirely consistent with the Licensing Bases RBFHA radiological consequences analysis. At no time did an unanalyzed condition exist.

Operation of the containment purge system serves no credited accident mitigation purpose. The purge system would serve to provide a means of monitoring post-RBFHA releases of radioactivity to the environment. Although the containment purge system is the preferred method of monitoring post-RBFHA releases, other means were available during this event. These alternate means included:

- 1) Airflow from the Reactor Building to the Auxiliary Building through the personnel hatch was maintained by the alignment of the Auxiliary Building ventilation. Auxiliary Building exhaust is routed through the unit vent and would be monitored.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2) NUMBER (2)	LER NUMBER (6)			PAGE (3)
Callaway Plant Unit 1	05000483	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 5
		2008	- 004	- 00	

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

- 2) During Refuel Outages, the Radiation Protection department establishes portable air sampling equipment on the platform outside of the Reactor Building equipment hatch. This air sampling equipment would have provided a means to quantify releases to the environment from a postulated RBFHA.
- 3) Callaway's Radiological Emergency Response Plan (RERP) provides instructions to establish field monitoring teams following a Fuel Handling Accident. These teams would collect air samples that could be used to quantify releases from a postulated RBFHA.

In conclusion, the events described in this LER had no impact on the Licensing Bases radiological consequence analysis for the RBFHA. Therefore, there was no safety significance to this event.

III. CAUSE(S) OF THE EVENT AND CORRECTIVE ACTION(S)

The root cause investigation determined that a failure to adequately or completely implement Callaway Operating License Amendment 152 in procedures was the root cause of the failure to have the containment purge and exhaust system in service during core alterations with the equipment hatch open. Amendment 152 was issued September 9, 2002 and implemented prior to entry into MODE 6 during Refueling Outage 12, in the Fall of 2002. Since the implementation of Amendment 152, the procedure revision process itself has been revised at Callaway and enhanced such that a similar failure to completely implement future license amendments is unlikely.

When this T/S non-compliance occurred, there were multiple evolutions, all related to Refuel 16, in-progress. The Shift Manager reviewed T/S 3.9.4 and assumed that the administrative controls required by T/S 3.9.4 were limited to closure of the equipment hatch and that site procedures contained all the necessary actions to ensure compliance with T/S 3.9.4. Additionally, he did not review the bases for T/S 3.9.4 as the Callaway licensed operators had a mindset of not consulting the T/S Bases unless they had difficulty understanding the T/S itself.

This issue has been entered into Callaway's corrective action program and the corrective actions which have been performed or are in progress are as follows:

1. Corrective Action To Prevent Recurrence (CATPR) - Updated Operations procedures OTN-GT-00001 and OSP-SF-00003 to address administrative controls for having the equipment hatch open;
2. Corrective Action (CA) - Discussed the administrative controls for the equipment hatch with all shift managers and their crews;
3. CA - Added this issue to the impact notes for scheduling PG20 Bus outages as follows: "If Core Alts are in progress ENSURE the Equipment hatch is shut or Secure Core Alts. (T/S 3.9.4 review Admin Controls in T/S Basis)";
4. CA - Initiated a training request for licensed operators to get further training on administrative controls;
5. CA - Clarified the actions/permissions for going from mini-purge to shutdown purge and vice versa per site procedure.

IV. PREVIOUS SIMILAR EVENTS

No previous similar events have been identified.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2) NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Callaway Plant Unit 1	05000483	2008	- 004	- 00	5 OF 5

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

V. ADDITIONAL INFORMATION

The system and component codes listed below are from the IEEE Standard 805-1984 and IEEE Standard 803A-1983, respectively.

System: VA, Reactor Building Environmental Control System
EC, Low Voltage Power System

Component: FAN, Fan