

NP-33-99-005-00

Docket No. 50-346

License No. NPF-3

November 22, 1999

United States Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555

Ladies and Gentlemen:

LER 1999-005  
Davis-Besse Nuclear Power Station, Unit No. 1  
Date of Occurrence – October 27, 1999

Enclosed please find Licensee Event Report 1999-005, which is being submitted to provide 30 days written notification of the subject occurrence. This LER is being submitted in accordance with 10CFR50.73(a)(2)(i)(B).

Very truly yours,



James H. Lash  
Plant Manager  
Davis-Besse Nuclear Power Station

GMW/s

Enclosure

cc: Mr. J. E. Dyer, Regional Administrator, USNRC Region III  
Mr. K. S. Zellers, DB-1 NRC Senior Resident Inspector  
Utility Radiological Safety Board

IE22

PDR AD0001 05000346

**COMMITMENT LIST**

The following list identifies those actions committed to by the Davis-Besse Nuclear Power Station in this document. Any other actions discussed in the submittal represent intended or planned actions by Davis-Besse. They are described only as information and are not regulatory commitments. Please notify the Manager - Regulatory Affairs (419-321-8466) at Davis-Besse of any questions regarding this document or associated regulatory commitments.

<b><u>COMMITMENTS</u></b>	<b><u>DUE DATE</u></b>
1. The management expectations for authorizing maintenance activities will be reinforced for all DBNPS Shift Managers.	December 15, 1999
2. The management expectations for altering plant configuration and for maintaining plant oversight will be reinforced for all DBNPS Senior Reactor Operators.	December 15, 1999

# LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50.0 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If 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>FACILITY NAME (1)</b> Davis-Besse Unit Number 1	<b>DOCKET NUMBER (2)</b> 05000346	<b>PAGE (3)</b> 1 OF 7
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**TITLE (4)**  
Failure to Perform Technical Specification Required Action After Opening Breaker

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 NAME	DOCKET NUMBER
10	27	1999	1999	-- 005 --	00	11	22	1999	FACILITY NAME	DOCKET NUMBER 05000
									FACILITY NAME	DOCKET NUMBER 05000

<b>OPERATING MODE (9)</b> 1	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 8: (Check one or more) (11)</b>										
<b>POWER LEVEL (10)</b> 100	20.2201(b)			20.2203(a)(2)(v)			X 50.73(a)(2)(i)			50.73(a)(2)(viii)	
	20.2203(a)(1)			20.2203(a)(3)(i)			50.73(a)(2)(ii)			50.73(a)(2)(x)	
	20.2203(a)(2)(i)			20.2203(a)(3)(ii)			50.73(a)(2)(iii)			73.71	
	20.2203(a)(2)(ii)			20.2203(a)(4)			50.73(a)(2)(iv)			OTHER	
	20.2203(a)(2)(iii)			50.36(c)(1)			50.73(a)(2)(v)			Specify in Abstract below or in NRC Form 366A	
20.2203(a)(2)(iv)			50.36(c)(2)			50.73(a)(2)(vii)					

**LICENSEE CONTACT FOR THIS LER (12)**

<b>NAME</b> Gerald M. Wolf, Engineer - Licensing	<b>TELEPHONE NUMBER (Include Area Code)</b> (419) 321-8114
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**COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

<b>SUPPLEMENTAL REPORT EXPECTED (14)</b>				<b>EXPECTED SUBMISSION DATE (15)</b>		
<input type="checkbox"/> YES (if yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/> NO	MONTH	DAY	YEAR		

**ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)**

On October 27, 1999, with the unit in Mode 1 at approximately 100 percent power, the source breaker for Bus Tie Transformer BD was opened at approximately 1600 hours to perform preventative maintenance on the breaker. The opening of this breaker renders one of the two qualified offsite AC electrical power circuits inoperable per Technical Specification (TS) 3.8.1.1. The breaker was opened without referring to the Work Order for the maintenance and without utilizing station procedures. As a result of these errors, TS 3.8.1.1 action "a" was not initially entered when the breaker was opened, and the demonstration that the remaining AC sources remained operable was not initiated. When the need to perform the TS required actions within one hour of the breaker being opened was realized, there was insufficient time to perform the actions. While attempting to restore the breaker, a lockout of the transformer occurred, preventing restoration of the breaker to exit the TS within one hour. Since the TS required action to demonstrate the remaining AC sources remained operable was not completed within one hour, this event constitutes operation prohibited by the TS, which is reportable in accordance with 10CFR50.73(a)(2)(i)(B). Management expectations for the operators when authorizing maintenance activities and altering plant configuration will be reinforced.

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		1999	-- 005 --	00	

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

DESCRIPTION OF OCCURRENCE:

On October 27, 1999, with the unit in Mode 1 at approximately 100 percent power, preventative maintenance was planned for breaker HBBD [EA-BKR], the source breaker for Bus Tie Transformer BD [EA-XFMR]. Transformer BD steps down voltage from the 13,800 Volt bus B [EA-BU] to supply the essential and non-essential 4160 volt buses D1 [EB-BU] and D2 [EA-BU]. A simplified schematic of the electrical distribution system for the Davis-Besse Nuclear Power Station (DBNPS) is included as Figure 1.

DBNPS Technical Specification Limiting Condition for Operation 3.8.1.1.a requires two qualified AC electrical circuits between the offsite transmission network and the onsite Class 1E AC electrical power distribution system to be operable while in Modes 1, 2, 3 and 4. Action "a" of this Technical Specification requires that with one circuit inoperable, the remaining AC sources shall be demonstrated operable by performing Surveillance Requirement 4.8.1.1.1.a to verify correct breaker alignments and indicated power availability within one hour. The two qualified circuits are to be restored to operable status within 72 hours or a plant shutdown is to be commenced.

To permit preventative maintenance to be performed on breaker HBBD, the following steps are conducted in the order listed. This permits the actual breaker maintenance to be performed with no impact on station equipment:

1. Transfer buses D1 and D2 to the alternate supply.
2. Open breaker HBBD.
3. Remove breaker HBBD from its cubicle.
4. Install a qualified spare breaker into breaker HBBD cubicle, and close this spare breaker to re-energize transformer BD.
5. Transfer buses D1 and D2 back to the normal supply.
6. Perform the preventative maintenance activities on breaker HBBD.
7. Transfer buses D1 and D2 to the alternate supply.
8. Open and remove the spare breaker from breaker HBBD cubicle.
9. Re-install the normal breaker into the HBBD cubicle.
10. Close breaker HBBD to re-energize transformer BD.
11. Transfer buses D1 and D2 back to the normal supply.

Operation of equipment associated with the 4160 Volt electrical distribution system is controlled by procedure DB-OP-06315, 4160 Volt Switching Procedure. Section 3.2 of DB-OP-06315, Revision 02, discusses isolation of 4160 Volt Bus Tie Transformer BD, and includes a discussion on the applicability of Technical Specification 3.8.1.1. For the preventative maintenance of breaker HBBD, all actions of Section 3.2 of DB-OP-06315 were not necessary to be performed. Therefore, in preparation for this activity, operators on the day shift modified section 3.2 of DB-OP-06315 and had it approved for a one-time use in accordance with site procedures to allow opening and removal of breaker HBBD and installation of a spare breaker. The modified procedure section specified that Technical Specification 3.8.1.1 action "a" was to be entered when breaker HBBD was opened. The day shift Shift Supervisor did not expect to need to perform

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DESCRIPTION OF OCCURRENCE: (Continued)

any Technical Specification 3.8.1.1 actions because the removal of breaker HBBD and installation of a spare breaker into the cubicle was expected to take less than an hour. The removal of breaker HBBD and installation of a spare breaker in the HBBD cubicle was then delayed until the afternoon shift due to personnel availability. Turnover from the day shift to afternoon shift Control Room SRO discussed the need to transfer buses D1 and D2 to alternate supply to allow removal of breaker HBBD and installation of a spare breaker, but did not specifically discuss opening breaker HBBD or the Technical Specification applicability.

Breaker HBBD was being opened in preparation for performing preventative maintenance in accordance with Work Order 99-002562-00. This Work Order directed removal of the breaker and replacement with a spare qualified breaker to allow re-energization of the transformer. The removal and replacement of this type of breaker is a common evolution, and is usually performed in less than an hour. The Work Order included a Technical Specification Operability Checklist, which indicated entry into Technical Specification 3.8.1.1 action "a" would be required while breaker HBBD was open and removed from the breaker cubicle. The Shift Manager, who at the DNBPS is an individual with a Senior Reactor Operator (SRO) License, conducted a cursory review of the Work Order prior to directing initiation of the activity. A thorough review of the Work Order was not conducted and approval to begin work was not formally documented prior to directing initiation of the work activities as required by DNBPS procedures. The information contained in the Technical Specification Operability Checklist was not conveyed to the Control Room operators performing the equipment manipulation.

At approximately 1545 hours on October 27, 1999, the afternoon shift Control Room operators obtained concurrence from the Shift Manager to transfer buses D1 and D2 to the alternate supply, have breaker HBBD removed, and a spare breaker installed in the cubicle. No entry into Technical Specification 3.8.1.1 is required when transferring a bus to its alternate power supply due to the automatic fast transfer capability of the 4160 Volt bus source breakers. Section 3.29 of DB-OP-06315 was utilized to transfer buses D1 and D2 to the alternate supply, but this section does not direct operation of breaker HBBD. Upon completion of transferring the buses to the alternate supply, the Control Room SRO and the Reactor Operators discussed that breaker HBBD needed to be opened so the breaker could be removed from its cubicle for maintenance. Breaker HBBD was then opened from the Control Room at approximately 1600 hours without consulting procedure DB-OP-06315 or utilizing the one-time use Section 3.2 of DB-OP-06315 that had been prepared on the previous shift.

Electricians removed breaker HBBD from its cubicle at approximately 1610 hours in accordance with procedure DB-OP-01000, Operation of Station Breakers. As the spare breaker was being installed into the cubicle for breaker HBBD at approximately 1619 hours, required checks indicated the spare breaker tripper

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DESCRIPTION OF OCCURRENCE: (Continued)

finger clearance was inadequate. Due to the inadequate clearance, it was decided to reinstall the normal HBBD breaker into its cubicle. The normal HBBD breaker was re-installed into its cubicle at approximately 1635 hours with no problems noted.

At approximately 1615 hours, after breaker HBBD had been opened, the Control Room SRO began to question if entry into Technical Specification Limiting Condition for Operation 3.8.1.1 was necessary due to the breaker being open. The Control Room SRO then discussed with the Shift Supervisor the applicability of Technical Specification 3.8.1.1 with breaker HBBD open. At approximately 1645 hours, it was determined that Technical Specification 3.8.1.1 action "a" should have been entered when the breaker was opened at approximately 1600 hours and Surveillance Requirement 4.8.1.1.1.a needed to be completed within one hour. The Shift Supervisor, realizing there was insufficient time to complete the specified action of performing Surveillance Requirement 4.8.1.1.1.a within the one hour specified, directed the Control Room SRO to perform a visual check that the remaining AC source was available. The Shift Supervisor also directed breaker HBBD be closed to allow exiting of Technical Specification 3.8.1.1 action "a." The Shift Supervisor then directed initiation of procedure DB-SC-03023, Off-Site Sources Lined-Up and Available, Revision 02, to fulfill Surveillance Requirement 4.8.1.1.1.a. The Control Room SRO then performed a visual check that confirmed the remaining AC Bus Source was available.

When breaker HBBD was reclosed at approximately 1658 hours, a lockout of the transformer occurred due to actuation of a differential relay. This lockout prevented restoration of the breaker to exit Technical Specification 3.8.1.1 action "a" within one hour. Procedure DB-SC-03023, Off-Site Sources Lined-Up and Available, Revision 02, which is used to fulfill Surveillance Requirement 4.8.1.1.1.a, was not satisfactorily completed until approximately one hour and 17 minutes after the initial opening of breaker HBBD. Since the conditions of the Limiting Condition for Operation were not met, this event constitutes operation prohibited by the Technical Specifications, which is reportable in accordance with 10CFR50.73(a)(2)(i)(B). All other action requirements of Technical Specification 3.8.1.1 were met, and the BD transformer was re-energized at 2057 hours on October 28, 1999. No structures, systems, or components were inoperable prior to the opening of breaker HBBD.

APPARENT CAUSE OF OCCURRENCE:

The apparent causes of occurrence for this event are the following:

- Less than adequate performance by the Shift Manager in authorizing maintenance activities to commence without review and approval of the Work Order. This is contrary to DBNPS procedure DB-DP-00007, Control of Work, Revision 02.

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APPARENT CAUSE OF OCCURRENCE: (Continued)

- Less than adequate performance by the Control Room SRO when altering plant configuration. The Control Room SRO failed to use a work document (procedure, work order) when opening breaker HBBD, which is contrary to DBNPS procedure DB-OP-00000, Conduct of Operations, Revision 03.
- Less than adequate performance of the Shift Supervisor in providing necessary oversight of shift activities. The initiation of work activities for breaker HBBD occurred without the recognition or acknowledgement of the Shift Supervisor.

ANALYSIS OF OCCURRENCE:

Upon realization that verification of correct breaker alignments and indicated power availability was required to be performed in accordance with the Technical Specifications, the remaining AC source was checked and verified to be available by visual observation within one hour of opening breaker HBBD. Surveillance Test DB-SC-03023 was satisfactorily completed and approved at 1717 hours, approximately one hour and 17 minutes from the time of entry into Technical Specification 3.8.1.1, confirming the remaining AC source remained operable. The two Emergency Diesel Generators as well as the Station Blackout Diesel Generator were available during the time breaker HBBD was opened. Therefore, this event had no safety significance.

CORRECTIVE ACTIONS:

Surveillance Test DB-SC-03023 was satisfactorily completed and approved at 1717 hours, approximately one hour and 17 minutes from the time of entry into Technical Specification 3.8.1.1.

Troubleshooting, maintenance, and testing activities following the transformer lockout were completed, and the BD transformer was re-energized at 2057 hours on October 28, 1999, with Technical Specification 3.8.1.1 action "a" exited at 2146 hours.

The Operations personnel involved have been counseled regarding their less than adequate performance in meeting station expectations.

The management expectations for authorizing maintenance activities will be reinforced for all DBNPS Shift Managers, and the management expectations for altering plant configuration and for maintaining plant oversight will be reinforced for all DBNPS Senior Reactor Operators. These actions will be completed by December 15, 1999.

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FAILURE DATA:

There have been four LERs in the previous three years involving a failure to comply with Technical Specification Action Statements that resulted in the plant operating in a condition that was prohibited by the Technical Specifications:

- LER 99-001 - Failure to Comply with Technical Specification Action Statements
- LER 97-001 - Nuclear Instrumentation Inoperable in Excess of Technical Specification Action Statement Requirements
- LER 96-010 - Control Room Emergency Ventilation System Not Realized as Inoperable When Radiation Monitors Were Inoperable
- LER 96-008 - Switchyard Circuit Inoperable Due To Switchyard Breaker Alignment

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

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CR 1999-1836



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FIGURE 1

4160 VAC SIMPLIFIED DIAGRAM

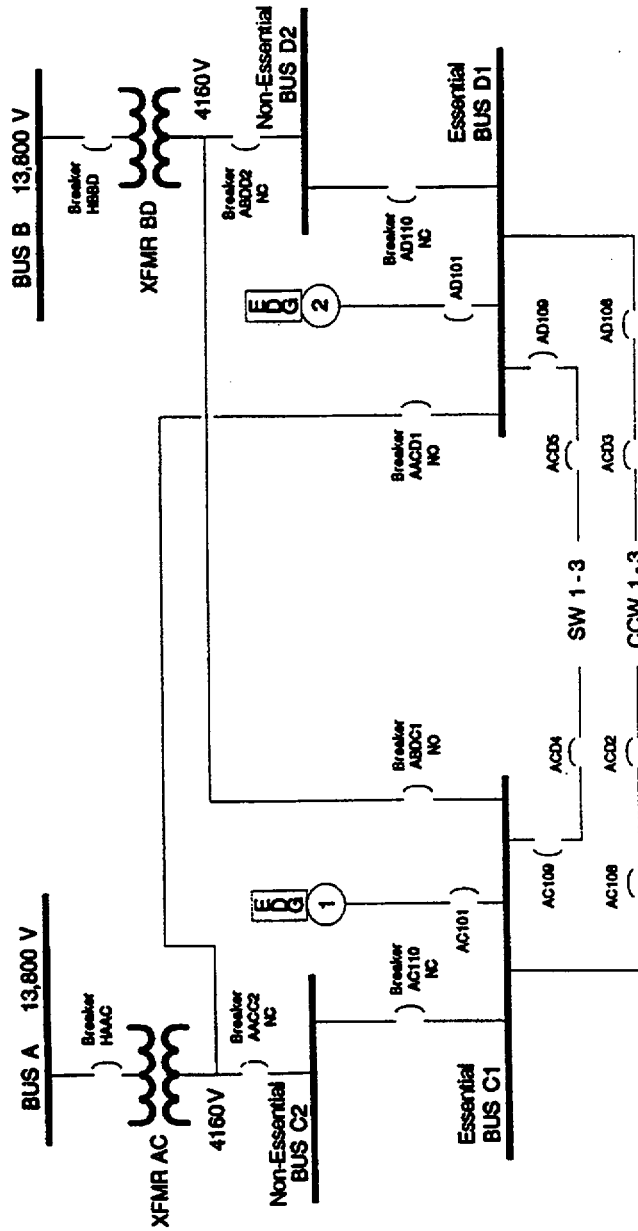


Figure 1

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FIGURE 1

4160 VAC SIMPLIFIED DIAGRAM

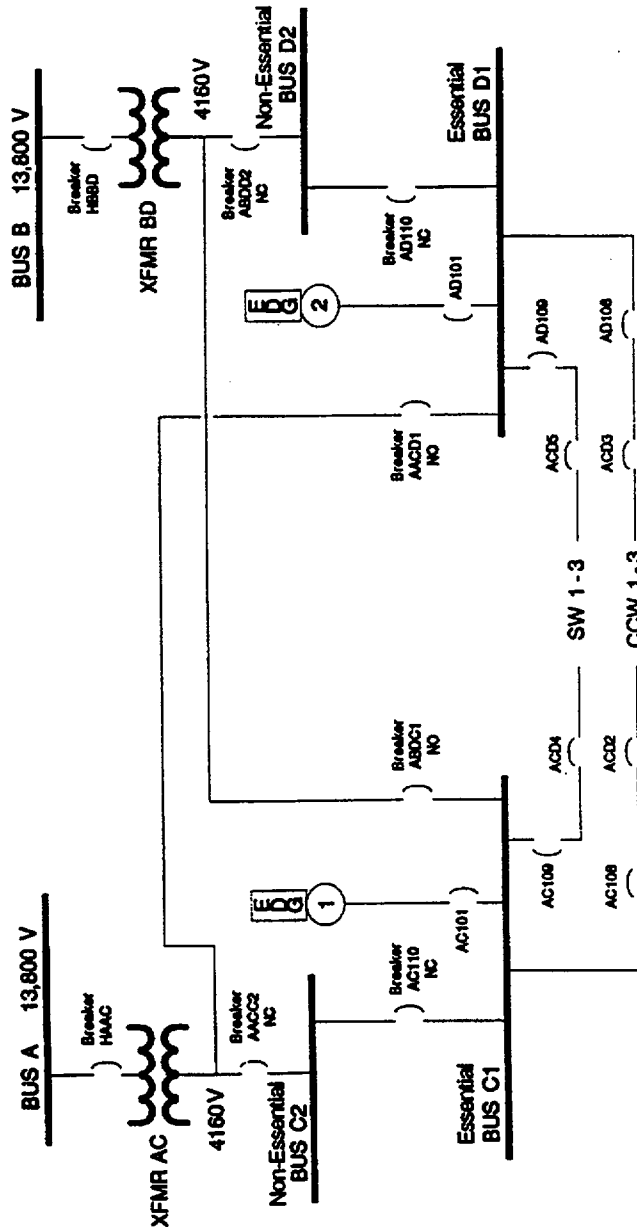


Figure 1