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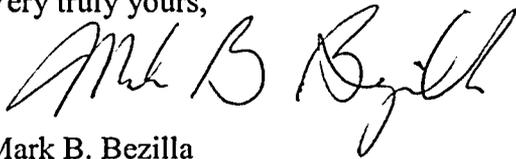
Subject: Special Report of an Inoperable Transfer Switch Related to a Control Room Ammeter Circuit for the Davis-Besse Nuclear Power Station

Ladies and Gentlemen,

The attached Special Report is submitted in accordance with Davis-Besse Nuclear Power Station Technical Specification (TS) Limiting Condition for Operation (LCO) 3.3.3.5.2, "Remote Shutdown Instrumentation," and TS 6.9.2, "Special Reports." The report is required due to the discovery that control circuit 1CABDC1L (C1 electrical bus ammeter circuit) does not have switches in the circuit to provide isolation from the control room and the cable spreading areas in the event of a serious control room or cable spreading room fire. Commitments associated with this Special Report are listed in Attachment 2.

If you have any questions or require further information, please contact Mr. Robert W. Schrauder, Director - Performance Improvement, at (419) 321-7181.

Very truly yours,



Mark B. Bezilla

JCS  
Attachments

cc: Regional Administrator, USNRC Region III  
DB-1 Project Manager, USNRC  
DB-1 NRC Senior Resident Inspector  
Utility Radiological Safety Board

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## REMOTE SHUTDOWN INSTRUMENTATION CONTROL CIRCUIT SPECIAL REPORT

### Reporting Requirement

This report is submitted in accordance with Davis-Besse Nuclear Power Station (DBNPS) Technical Specification (TS) Limiting Condition for Operation (LCO) 3.3.3.5.2 and TS 6.9.2.g.

DBNPS TS LCO 3.3.3.5.2 states the control circuits and transfer switches required for a serious control room or cable spreading room fire shall be operable in Modes 1, 2 and 3. TS Action Statement 3.3.3.5.2.b requires with one or more control circuits or transfer switches required for a serious control room or cable spreading room fire inoperable, restore the inoperable circuit(s) or switch(es) to operable status within 30 days, or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the circuit(s) or switch(es) to operable status.

DBNPS TS 6.9.2 requires that special reports be submitted to the U.S. Nuclear Regulatory Commission (NRC) in accordance with 10 CFR 50.4 within the time period specified for each report. TS 6.9.2.g references TS LCO 3.3.3.5.2 for specific reporting requirements for inoperable Remote Shutdown System control circuit(s) or transfer switch(es) required for a serious control room or cable spreading room fire.

### Description of Condition

On February 22, 2005, it was documented that the control circuit 1CABDC1L (Essential C1 bus ammeter circuit) did not have switches in the circuit to provide isolation from the control room and cable spreading areas in the event of a serious control room or cable spreading room fire. The fire analysis for the control room and cable spreading area identifies that circuit 1CABDC1L is required to be transferred locally in support of 4.16 kV AC Switchgear bus C1. However, circuit 1CABDC1L does not have switches in the circuit to provide the required isolation. This circuit feeds an ammeter in the Control Room for C1 bus. The circuit leaving the switchgear should be shorted so that any fire induced opens, grounds, or shorts do not cause a malfunction of the protective relaying in the circuit. It would require a very specific hot short to have the potential to cause a relay malfunction. This would cause a C1 bus lockout and trip the source breakers and Emergency Diesel Generator output breaker. The C1 bus would not have a source of power until the hot short could be isolated and the lockout relay reset.

On February 22, 2005, circuit 1CABDC1L was declared inoperable due to not meeting 10CFR50 Appendix R requirements. An hourly fire watch was established on the Cable Spread Room.

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On June 26, 2006, it was identified that the above described condition identified on February 22, 2005, the 10CFR50 Appendix R inoperability of circuit 1CABDC1L, was not recognized as also requiring entry into TS Action Statement 3.3.3.5.2.b. This TS Action requires restoration of the circuit to operable status within 30 days or preparation and submittal of a special report to the NRC within 30 days pursuant to TS 6.9.2. However, in that this circuit was not restored within 30 days of the initial February 22, 2005, discovery and a special report was not submitted, the requirements of the TS Action Statement were not met.

The associated Bases states that Surveillance Requirement (SR) 4.3.3.5.2 verifies that each Remote Shutdown System transfer switch and control circuit required for a serious control room or cable spreading room fire performs its intended function. Since the necessary switches were never installed to provide isolation for the circuit, it can not perform its intended function.

This Special Report was not submitted within the required time limit due to a failure to recognize the need for entry into TS LCO Action Statement 3.3.3.5.2.b on February 22, 2005.

#### **Action(s) Taken**

On February 22, 2005, circuit 1CABDC1L was declared inoperable due to not meeting 10CFR50 Appendix R requirements, and an hourly fire watch was established for the cable spreading room. As discussed in the Fire Protection Operating Specifications Bases of the DBNPS Fire Hazards Analysis Report (FHAR), the Control Room is constantly manned and therefore, no separate hourly watch is required in that location.

On June 26, 2006, a Unit Log entry was made indicating the switch was inoperable and entry into the TS LCO 3.3.3.5.2.

#### **Cause of Condition**

The FHAR indicates that this circuit needs to be isolated and (incorrectly) that it is isolated. This circuit was in the scope of a plant modification, Facility Change Request (FCR) 84-0186. However, this FCR was completed and closed without making the stated change. Review of the FCR 84-0186 modification package could not determine how the FCR had been completed without the installation of the required switch for this circuit. As previously described, upon discovery of this condition, it was not recognized that TS LCO 3.3.3.5.2 applied.

#### **Plans and Schedule for Restoring the System to Operable Status**

A plant modification, Engineering Change Request (ECR) 05-0105, will provide the required isolation to resolve the identified deficiency with control circuit 1CABDC1L. ECR 05-0105 implementation is being tracked in the DBNPS Corrective Action Program with a completion of April 2008.

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As described above, it would require a very specific hot short to have the potential to cause a protective relay malfunction. Additionally, this circuit is in its own two-conductor thermoset, IEEE-383 cable. Nuclear Energy Institute (NEI) 00-01 Rev. 1, "Guidance for Post-Fire Safe Shutdown Circuit Analysis," Section 3.5.2.3 indicates that "cable-to-cable hot shorts between thermoset cables are not postulated to occur pending additional research." NRC Regulatory Issue Summary (RIS) 2004-03 Rev. 1, "Risk-Informed Approach for Post-Fire Safe-Shutdown Circuit Inspection" has deferred any guidance, pending additional research on intercable shorting of thermoset cables. Based on the above and the existing compensatory measure, there is minimal plant risk in this implementation schedule.

Administrative controls are in place to provide for the hourly fire watch until this circuit is returned to an operable status.

#### **References**

1. DBNPS CR 05-01446
2. DBNPS CR 06-02649
3. NEI 00-01 Revision 1, "Guidance for Post-Fire Safe Shutdown Circuit Analysis"
4. NRC RIS 2004-03 Revision 1, "Risk-Informed Approach for Post-Fire Safe-Shutdown Circuit Inspection"

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### COMMITMENT LIST

The following list identifies those actions committed to by the Davis-Besse Nuclear Power Station (DBNPS) in this document. Any other actions discussed in the submittal represent intended or planned actions by the DBNPS. They are described only as information and are not regulatory commitments. Please notify the Director - Performance Improvement (419-321-7181) at Davis-Besse of any questions regarding this document or associated regulatory commitments.

#### COMMITMENTS

#### DUE DATE

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|---|--------------------|
| 1. Engineering Change Request (ECR) 05-0105 will provide the required isolation to resolve the identified deficiency with control circuit 1CABDC1L. | 1. April 30, 2008. |
|---|--------------------|