FENOC
FirstEnergy Nuclear Operating Company

5501 North State Route 2
Oak Harbor, Ohio 43449

Mark B. Bezilla
Vice President - Nuclear

419-321-7676
Fax: 419-321-7582

NP-33-04-001-00

Docket No. 50-346

License No. NPF-3

March 3, 2004

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

Ladies and Gentlemen:

LER 2004-001
Davis-Besse Nuclear Power Station, Unit No. 1
Date of Occurrence – January 6, 2004

Enclosed please find Licensee Event Report (LER) 2004-001, which is being submitted to provide written notification in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by the Technical Specifications. On January 6, 2004, it was identified that a Technical Specification Action was missed which required the trip of a Steam and Feedwater Rupture Control System channel within one hour. Commitments associated with this LER are listed in the Attachment.

Very truly yours,

AWB/s

Attachment
Enclosure

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

IE22

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 (419-321-8450) at Davis-Besse of any questions regarding this document or associated regulatory commitments.

COMMITMENTS	DUE DATE
Standing Order 004-02 was issued by Operations on January 13, 2004, which documented that the pre-job brief for the missed TS Action Statement did not meet expectations.	Complete
Communication was provided to Davis-Besse Personnel which documented Operations role as station leadership due to their licensed responsibilities, and the senior management expectation for station personnel providing timely support to Operations for effective fulfillment of that critical role. Also included in this communication was a depiction of the operations shift organization, an explanation of the roles and responsibilities for each shift member, and a memorandum describing the Shift Manager's command responsibilities.	Complete
A lesson plan designed for Just-in-Time Training for licensed operators was developed to ensure a consistent understanding of the root cause findings and corrective actions. The Operations Manager presented the lessons learned to the target population of licensed shift personnel in an interactive training session.	Complete
Operations Directive, "Conduct of Pre-Job Briefs and Post-Job Reviews," has been revised to include provisions to allow the use of other checklists developed for specialized activities in addition to the existing Pre-Job Checklist form.	Complete

COMMITMENTS	DUE DATE
Procedure DB-OP-00100, "Shift Turnover," Attachment 1 – General Turnover Guidelines, was revised to provide guidance for review of any license requirements currently in effect to include TS, Fire Hazard Analysis Report, Off-Site Dose Calculation Manual, and Technical Requirements Manual. Also, shift turnover sheets were revised for the Shift Manager, Shift Engineer, Unit/Field Supervisor, and Reactor Operator to include review of license requirements in effect and sign-offs for the Shift Manager, Unit/Field Supervisor, and Reactor Operator indicating that responsibility for license requirements has been transferred.	Complete
The Director of Plant Operations has assessed the effectiveness of the Operations Leadership in place during the event. In accordance with the FENOC personnel policies, a new Operations Manager and Operations Superintendent, both with prior operations experience, have been appointed to strengthen Plant Operations.	Complete
A "crew update" concept towards normal plant operations will be applied as a means to keep the crew informed of changes in plant status. A consistent format will be applied to improve the formality of this communication tool.	April 2, 2004
DB-OP-00000, "Conduct of Operations," will be revised to align with FENOC wide Operations.	July 30, 2004

NRC FORM 366 (7-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to bjs1@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 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.

LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Davis-Besse Unit Number 1	05000346	1 OF 7

4. TITLE

Violation of Steam and Feedwater Rupture Control System Technical Specification

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
										05000
01	06	04	2004	-- 001 --	00	03	03	2004	FACILITY NAME	DOCKET NUMBER 05000

9. OPERATING MODE	3
10. POWER LEVEL	000

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

20.2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
20.2201(d)	20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)
20.2203(a)(1)	50.36(c)(1)(i)(A)	50.73(a)(2)(iv)(A)	73.71(a)(4)
20.2203(a)(2)(i)	50.36(c)(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)
20.2203(a)(2)(ii)	50.36(c)(2)	50.73(a)(2)(v)(B)	OTHER Specify in Abstract below or in NRC Form 366A
20.2203(a)(2)(iii)	50.46(a)(3)(ii)	50.73(a)(2)(v)(C)	
20.2203(a)(2)(iv)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(D)	
20.2203(a)(2)(v) X	50.73(a)(2)(i)(B)	50.73(a)(2)(vii)	
20.2203(a)(2)(vi)	50.73(a)(2)(i)(C)	50.73(a)(2)(viii)(A)	
20.2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(B)	

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
Aaron W. Bless, Associate Engineer - Licensing	(419) 321-8543

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED			15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	No				

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

On January 6, 2004, with the plant in Mode 3, at approximately 1850 hours the Operations shift became aware that a Technical Specification (TS) Action was missed. Feedwater/Steam Generator 2 Differential Pressure High Instrument Actuation Channel 2, PDS-2685B, was removed from service for a channel functional test and calibration. TS 3.3.2.2 Action 16 was entered at 1621, January 6, 2004, which required that PDS-2685B be returned to operable status, or the channel be placed in a tripped condition within one hour. Due to less than adequate work practices and managerial methods, it was not identified until the channel was returned to service approximately two-and-a-half hours later that actions to place the required channel in the tripped position did not occur within the one hour action statement. Actions are being addressed through continual involvement of Station management's monitoring, coaching, feedback, and correction. This event is being reported as an operation or condition prohibited by the Technical Specifications in accordance with 10 CFR 50.73(a)(2)(i)(B).

DESCRIPTION OF OCCURRENCE:

At approximately 1850 hours on January 6, 2004, with the plant in Mode 3, FirstEnergy Nuclear Operating Company's (FENOC) Davis-Besse Nuclear Power Station (DBNPS) Operators realized that a Technical Specification (TS) Action was missed. Approximately two-and-a-half hours earlier (1621 hours, from unit log entry), during performance of surveillance test procedure DB-MI-03204, "Channel Functional Test and Calibration of Steam and Feedwater Rupture Control System (SFRCS) Actuation Channel 2, Steam Generator Differential Pressure Inputs PDS-2685A, PDS-2685B, PDS-2686C, and PDS-2686D," Feedwater/Steam Generator 2 Differential Pressure High Instrument Actuation Channel 2 (PDS-2685B) was removed from service and TS 3.3.2.2 Action 16 was entered. TS 3.3.2.2, SFRCS Instrumentation, limiting condition for operation states in part for modes 1 through 3 that the SFRCS Instrumentation channels shown in Table 3.3-11 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-12..." With a SFRCS instrumentation channel inoperable, actions are to be taken as shown in Table 3.3-11 (Action 16) of the Technical Specifications. With PDS-2685B Inoperable Action 16 was applicable on January 6, 2004:

> With the number of OPERABLE Channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable section of the channel is placed in the tripped condition within 1 hour.
>
> Note: NRC approved License Amendment Number 259 on September 29, 2003, which was implemented on January 14, 2004. This amendment allows an 8-hour delay in entering an action statement when an SFRCS instrumentation channel is undergoing channel functional testing.

At approximately 1630 hours the Master Nuclear Instrument & Controls (I&C) Technician informed the Unit Supervisor and the I&C Supervisor about the inability to isolate the process flow from the 5-valve manifold on PDS-2685B. The Unit Supervisor did not inform the Control Room Operators of the problem, and no one was assigned to monitor the TS Action time. Approximately 15 minutes later (approximately 1645 hours) the Master Nuclear I&C Technician and the I&C Supervisor arrived at the Operations Support Center (OSC) to discuss the problem. The Shift Engineer, Shift Manager, OSC Senior Reactor Operator (SRO), and Work Week Manager were present for the discussion. The Operations Shift Manager directed the I&C Supervisor to restore PDS 2685B to service. The briefing ended without further discussion between Operations and I&C of the time remaining in the action statement or the time required to restore the channel to an operable condition. I&C proceeded with the following order and priority: 1) process and approve a procedure deficiency form then return PDS-2685B to service, 2) initiate a discrepancy notification to document the deficiency with the 5-valve manifold, and 3) initiate a Condition Report (2004-00163).

The I&C Supervisor then proceeded to the Control Room to inform the Unit Supervisor of the course of action. The Unit Supervisor assumed that I&C was going out into the field and directly restoring the instrument. Following this update, the Unit Supervisor and the Shift Manager became focused on other immediate activities occurring in the plant.

DESCRIPTION OF OCCURRENCE (continued):

From approximately 1715 until 1830 shift turnover activities took place. The Unit Log entry for removing PDS2685D from service was reviewed by the on-coming shift. Restoration status was not challenged by the crew during turnover. The Reactor Operator turnover sheet identified the testing as being complete. However, the SRO turnover sheet did not identify the testing as complete and did not describe TS Action requirements.

At 1804 the Unit Log was updated by the Shift Engineer to document the isolation concerns identified with PDS-2685B as was discussed during the 1645 OSC meeting. Another Log Entry occurred at 1846, where the dayshift Shift Manager documented that appropriate management notifications per the procedure were made in regard to emergent issues that were encountered during the previous hour.

Following the initiation of the PDS-2685B discrepancy notification and the approval of the procedure deficiency form for DB-MI-03204, I&C restored the instrument to service at approximately 1845 and notified the nightshift Unit Supervisor that PDS-2685B had been returned to service. The failure to comply with the action statement of TS 3.3.2.2 was then recognized by the Shift Manager, and appropriate management notifications for this event were made.

Because the missed action to place the inoperable section of the channel in the tripped condition did not occur within one hour (nor was the channel returned to operable status within one hour) this event represents an operation or condition prohibited by the Technical Specifications and is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B).

APPARENT CAUSE OF OCCURRENCE:

An immediate investigation response team was assembled to provide analysis on this and other issues that had recently occurred at Davis-Besse. Previously written Condition Report corrective actions that were either implemented or proposed were reviewed as part of the extent of condition. Based on the team's evaluation, the Root Causes identified were: less than adequate (implementation) work practices, and less than adequate (implementation) managerial methods.

Operations shift personnel did not consistently exhibit accountability and ownership in performing the requirements of the Work Control process, Conduct of Operations, and the Surveillance Test Program. The licensed operators assigned shift responsibilities did not have a clear owner of the 1-hour action statement associated with the inoperability of PDS-2685B.

Less than adequate managerial methods were exhibited by the Shift Manager, Shift Engineer, and Unit Supervisor. They did not consistently reinforce roles and responsibilities of shift personnel and did not hold personnel accountable to meet standards and requirements of the conduct of Operations procedure and directives on conduct of pre-job and post-job briefs. Operations management failed to address known performance deficiencies and

APPARENT CAUSE OF OCCURRENCE (continued):

did not effectively implement adequate corrective actions in a timely manner. Also, Operations management failed to enforce the consequences of these actions in accordance with FENOC standards.

Contributing causes include less than adequate verbal communication and less than adequate supervisory methods.

No one in Operations supervision communicated to the I&C Supervisor/ Technician the necessity of restoring the instrument to service within one hour. The pre-job brief was found to be inadequate in that the I&C brief did not include any discussion of Technical Specification Impact times as required by the briefing checklist and the Maintenance Handbook. Also, the pre-job brief conducted in the control room by Operations did not use the briefing checklist, did not actively involve the Reactor Operators, did not include I&C personnel, had no discussion of Action time requirements, had no discussion of who was responsible for ensuring the Action time requirements were met, and had no contingency plan in place if something went wrong.

In addition, the Shift Management became distracted by other emergent TS-related activities which deterred them from ensuring that the instrument was being returned to service in a timely manner.

ANALYSIS OF OCCURRENCE:

There were no adverse consequences to any system, structure, or component important to safety; however, this occurrence did result in a violation of the DBNPS Technical Specifications.

Prior to this occurrence FENOC had initiated License Amendment Request (LAR) 99-0004 by letter date April 1, 2001 (later revised on April 30, 2003, supplemental information provided on May 6, 2003, and approved by the NRC on September 29, 2003), to revise TS Table 3.3-11, Action 16. The amendment eliminated the requirement to immediately enter Action 16 (added an 8-hour allowance) of TS Table 3.3-11 for SFRCS channels during channel functional testing and subsequently entering TS 3.0.6 even if the test exceeds 1 hour, provided at least both logic-channels of the redundant actuation channel (which is not being tested) are operable for the SFRCS. During the process of obtaining approval of the LAR, the NRC staff requested a quantitative assessment of risk assuming the entire 8-hour allowance was used for each SFRCS channel functional test. FENOC Serial Letter Number 2838, dated May 6, 2003, provided the results of the quantitative risk using the assumption that each time an SFRCS channel undergoes a channel functional test, the channel is unavailable for nine hours (8-hour allowance plus one hour Action completion time). The testing frequency assumed was monthly plus an annual channel calibration. The results of this evaluation show an increase in the baseline average maintenance Core Damage Frequency (CDF) of less than 1E-7/year. Based on the guidance of Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," this increase in risk is considered very small.

ANALYSIS OF OCCURRENCE (continued):

While the Surveillance Test DB-MI-03204 is written for the Channel Functional Test and Calibration, the total time the channel was out of service was approximately 2.5 hours, which is less that the 9 hours (each channel monthly plus an annual channel calibration) used to determine the risk for LAR 99-0004.

CORRECTIVE ACTIONS:

The team concluded that the causes and contributing factors for inconsistent crew performance could not be addressed through one-time corrective actions, but need to be addressed through continual involvement of Station management's monitoring, coaching, feedback and correction. The corrective actions listed below are activities that are a part of a series of initiatives developed by Operations management.

Actions taken or pending that address the root causes include (but are not limited to):

Develop, issue, and complete required reading to the Operations Department to enforce the current standards and expectations. Standing Order 004-02 was issued by Operations on January 13, 2004, which documented that the pre-job brief for the missed TS Action Statement did not meet expectations. Specifically, during the Control Room pre-job brief, the Pre-Job Brief Checklist found in the Operations Directive, Conduct of Pre-Job Briefs and Post Job Reviews, was not utilized and the I&C technicians were not present. The Standing Order contained compensatory actions to re-enforce the current standards and expectations for job briefings.

The Director of Plant Operations has assessed the effectiveness of the Operations Leadership in place during the event. In accordance with the FENOC personnel policies, a new Operations Manager and Operations Superintendent, both with prior operations experience, have been appointed to strengthen Plant Operations.

A lesson plan designed for Just-in-Time Training for licensed operators was developed to ensure a consistent understanding of the root cause findings and corrective actions. The Operations Manager presented the lessons learned to the target population of licensed shift personnel in an interactive training session. The Operations Manager stressed the adverse consequences that accompanied the less than adequate performances.

Communication was provided to Davis-Besse Personnel which documented Operations role as station leadership due to their licensed responsibilities, and the senior management expectation of station personnel providing timely support to Operations for effective fulfillment of that critical role. Also included in this communication was a depiction of the operations shift organization, an explanation of the roles and responsibilities for each shift member, and a memorandum describing the Shift Manager's command responsibilities. This information was provided to station personnel to

CORRECTIVE ACTIONS (continued):

ensure there is a clear understanding of the roles, responsibilities, and authority of licensed personnel.

Other actions taken or to be taken to address the contributing causes documented above include (but are not limited to):

Procedure DB-OP-00100, "Shift Turnover," Attachment 1 - General Turnover Guidelines, was revised to provide guidance for review of any license requirements currently in effect to include TS, Fire Hazard Analysis Report, Off-Site Dose Calculation Manual, and Technical Requirements Manual. Also, shift turnover sheets were revised for the Shift Manager, Shift Engineer, Unit/Field Supervisor, and Reactor Operator to include review of license requirements in effect and sign-offs for the Shift Manager, Unit/Field Supervisor, and Reactor Operator indicating that responsibility for license requirements has been transferred. These actions were taken to improve consistency of tracking technical specification activities.

Operations Directive, "Conduct of Pre-Job Briefs and Post-Job Reviews," has been revised to include provisions to allow the use of other checklists developed for specialized activities in addition to the existing Pre-Job Checklist form.

A "crew update" concept towards normal plant operations will be applied as a means to keep the crew informed of changes in plant status. The current standard only applies crew updates to transient conditions. A consistent format will be applied to improve the formality of this communication tool.

DB-OP-00000, "Conduct of Operations," will be revised to align with FENOC wide Operations.

FAILURE DATA:

There have been no Licensee Event Reports in the past three years submitted from DBNPS which reported an event due to missed TS Action Statements. In addition to LERs, a reasonable search was conducted of previous DBNPS condition reports written in the past two years for items directly related to this event. Three relevant items were found directly related to this event:

- In early 2002 a Condition Report was written that documented a control room surveillance which was completed 2 hours and 14 minutes late while the staff was waiting for the plant computer to return to full service.
- In late 2003, a SFAS isolation valve was deenergized in the open position which resulted in a missed TS entry.
- During the NRC Restart Readiness Assessment Team Inspection conducted in mid-December 2003, a condition report was initiated to document shortfalls noted during the inspection. That Condition Report identified causal factors and recommended corrective actions that closely mirror the ones identified in the evaluation performed on the event identified in this License Event Report.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Davis-Besse Unit Number 1	05000346	2004	-- 001 --	00	7 OF 7

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

FAILURE DATA (continued):

From each of these events, human performance tools were not used or were used improperly. Additionally, reinforcement of desired behaviors and correction of behaviors that deviate from station standards and procedure requirements were not always corrected. Corrective Actions listed above include actions taken to ensure a consistent understanding of the root cause findings and corrective action for licensed operators. This was presented in an interactive training session where the adverse consequences that accompanied the failures was stressed.

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

NP-33-04-001-00 CR 2004-00181