

NP-33-02-003-00

Docket No. 50-346

License No. NPF-3

May 9, 2002

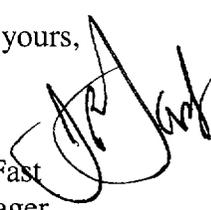
United States Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Ladies and Gentlemen:

LER 2002-003
Davis-Besse Nuclear Power Station, Unit No. 1
Date of Occurrence – March 11, 2002

Enclosed please find Licensee Event Report 2002-003, which is being submitted to provide written notification of the subject occurrence. This LER is being submitted in accordance with 10CFR50.73(a)(2)(i)(B).

Very truly yours,


Randel J. Fast
Plant Manager
Davis-Besse Nuclear Power Station

GMW/s

Enclosure

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

IE22

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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

Change procedure DB-OP-06904, "Shutdown Operations," to clearly address the requirements of Technical Specification 3.9.4 and 3.9.12 for establishing/releasing the designated individual when the containment equipment hatch and both personnel airlock doors are open.

Completed on April 17, 2002.

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 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.

FACILITY NAME (1) Davis-Besse Unit Number 1		DOCKET NUMBER (2) 05000346	PAGE (3) 1 OF 5
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TITLE (4)
Fuel Movement in Spent Fuel Pool Without Required Door Attendant

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
03	11	2002	2002	-- 003 --	00	05	09	2002	FACILITY NAME	DOCKET NUMBER
										05000
										05000

OPERATING MODE (9) 6	POWER LEVEL (10) 000	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50.73(a)(2)(i)-(vii): (Check all that apply) (11)								
		20.2201(b)	20.2203(a)(3)(i)	50.73(a)(2)(i)(C)	50.73(a)(2)(vii)					
		20.2201(d)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(A)					
		20.2203(a)(1)	20.2203(a)(4)	50.73(a)(2)(ii)(B)	50.73(a)(2)(viii)(B)					
		20.2203(a)(2)(i)	50.36(c)(1)(i)(A)	50.73(a)(2)(iii)	50.73(a)(2)(ix)(A)					
		20.2203(a)(2)(ii)	50.36(c)(1)(ii)(A)	50.73(a)(2)(iv)(A)	50.73(a)(2)(x)					
		20.2203(a)(2)(iii)	50.36(c)(2)	50.73(a)(2)(v)(A)	73.71(a)(4)					
		20.2203(a)(2)(iv)	50.46(a)(3)(ii)	50.73(a)(2)(v)(B)	73.71(a)(5)					
		20.2203(a)(2)(v)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(C)	OTHER					
		20.2203(a)(2)(vi)	X 50.73(a)(2)(i)(B)	50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A					

LICENSEE CONTACT FOR THIS LER (12)

NAME Gerald M. Wolf, Staff Engineer - Licensing	TELEPHONE NUMBER (Include Area Code) (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

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

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

On March 11, 2002, with the unit in Mode 6 it was identified that a designated individual was not available immediately outside the personnel air lock to close the door as required by the Technical Specifications. Upon discovery, a designated individual was immediately dispatched. Technical Specifications require two independent Emergency Ventilation Systems (EVS) servicing the spent fuel pool area to be operable; otherwise movement of fuel in the spent fuel pool area is prohibited. The EVS can be considered operable with the containment equipment hatch open and both doors of the containment personnel air lock open, provided that a designated individual is available immediately outside the personnel air lock to close the door. Closure of the airlock door ensures that the EVS can establish a negative pressure boundary in a timely manner following a fuel handling accident. The EVS remained capable of exhausting and filtering air from the fuel handling area during this event; therefore this event had low safety significance. This condition, which is a result of human error, is being reported in accordance with 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications.

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

DESCRIPTION OF OCCURRENCE:

On February 16, 2002, the Davis-Besse Nuclear Power Station (DBNPS) commenced the Thirteenth Refueling Outage. The plant entered Mode 6 on February 22, 2002, to perform refueling activities.

DBNPS Technical Specification (TS) 3.9.4, "Containment Penetrations" allows both doors of the containment personnel air lock to be open during core alterations provided that at least one personnel air lock door is capable of being closed and a designated individual is available immediately outside the personnel air lock to close the door. TS 3.9.4 also allows the containment equipment hatch to be open provided the requirements of TS 3.9.12 are satisfied. TS 3.9.12, "Storage Pool Ventilation" requires two independent Emergency Ventilation Systems (EVS) servicing the spent fuel pool area to be operable whenever irradiated fuel is in the spent fuel pool, or during core alterations or movement of irradiated fuel within the containment with the containment equipment hatch open. TS 3.9.12 permits the EVS to be considered operable with the equipment hatch and both doors of the personnel air lock open, provided that at least one personnel air lock door is capable of being closed and a designated individual is available immediately outside the personnel air lock to close the door. The EVS consists of two redundant, independent fan/filter trains, which can service the spent fuel pool area with the capability to maintain the spent fuel pool area at a negative pressure of greater than or equal to 1/8 inch water gauge relative to the outside atmosphere.

On March 11, 2002, at 0942 hours, with the equipment hatch and both doors of the personnel air lock open, core alterations within containment were suspended. At 1603 hours, the designated individual was released from their duties at the personnel air lock door so they could attend to other activities. At approximately 2100 hours, with the unit in Mode 6 at zero percent power, activities to repair a discharged fuel assembly in the spent fuel pool commenced. At approximately 2137 hours, the fuel repair activities were suspended when it was discovered that the fuel rod being removed from the fuel assembly was broken. When the broken fuel rod was reported to the licensed operators on shift, it was realized that a designated individual was not available immediately outside the containment personnel air lock to close the airlock door as required by TS 3.9.12. Upon discovery, a designated individual was immediately dispatched to re-establish compliance with TS 3.9.12.

With the doors open and no designated individual immediately available outside the personnel air lock, the Limiting Conditions for Operation for TS 3.9.4 and TS 3.9.12 were no longer satisfied. The Action Requirement for TS 3.9.4 was met because core alterations in Containment had been suspended. However, the Action Requirement for TS 3.9.12 was not met because fuel movement occurred in the spent fuel pool during the fuel repair activities with no operable EVS servicing the spent fuel pool area. Therefore, this event represents a condition that was prohibited by the plant's Technical Specifications, which is being reported in accordance with 10CFR50.73(a)(2)(i)(B).

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

APPARENT CAUSE OF OCCURRENCE:

Operations personnel approved release of the designated individual on March 11, 2002, based on a review of TS 3.9.4, which provides requirements applicable to containment penetrations during core alterations or movement of fuel within containment. Core alterations within containment had been suspended, and review of the Technical Specifications prior to releasing the designated individual considered only the requirements of TS 3.9.4. The review did not consider the requirements of TS 3.9.12, which required the designated individual for EVS operability during operations involving movement of fuel in the spent fuel pool. The Shift Engineer, who holds a Senior Reactor Operator's License, was interrupted multiple times during his review of Technical Specification requirements and did not focus on TS 3.9.4 intent and requirement.

Contributing to this event was that procedure DB-OP-06904, "Shutdown Operations," did not address the requirements of TS 3.9.4 or TS 3.9.12 for establishing/releasing the individual designated for airlock door closure when the containment equipment hatch and both personnel airlock doors are open.

ANALYSIS OF OCCURRENCE:

The EVS consists of two redundant, independent fan and filter trains of equipment. Each train contains prefilters, high efficiency particulate air (HEPA) filters, and charcoal adsorbers in series. The requirements for the EVS servicing the spent fuel pool area to be operable ensure that in the event of a fuel handling accident, radioactive material released from an irradiated fuel assembly will be filtered prior to discharge to the atmosphere. The operability of this system and the resulting iodine removal capacity are consistent with the assumptions of the safety analyses.

TS 3.9.12 permits an EVS train servicing the spent fuel pool area to be considered operable when the containment equipment hatch is open and both doors of the containment personnel air lock are open, provided at least one personnel air lock door is capable of being closed and a designated individual is available immediately outside the personnel air lock to close the door. When the containment equipment hatch is open and both doors of the containment personnel airlock are open, TS 3.9.12 Bases indicate that the EVS servicing the spent fuel pool area is incapable of maintaining a negative pressure of $\geq 1/8$ inches water gauge relative to the outside atmosphere during system operation, as required by Surveillance Requirement 4.9.12.1. The requirement that at least one personnel air lock door be capable of being closed and a designated individual be available immediately outside the personnel air lock to close the door ensures that the negative pressure boundary can be established in a timely manner following a fuel handling accident in the spent fuel pool area or containment. Once the negative pressure boundary is established, the EVS servicing the spent fuel pool area will be capable of establishing the required negative pressure relative to the outside atmosphere.

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

ANALYSIS OF OCCURRENCE: (Continued)

In the event of a fuel handling accident, radiation detectors provide signals to isolate the normally operating fuel handling area ventilation system and automatically start the EVS fans. Radiation detectors also provide for shutdown of Containment Purge System fans. Results of Surveillance Requirement 4.9.12.1 completed on February 18, 2002 indicate that with one EVS fan in operation, there is sufficient margin to ensure that air would be exhausted from the fuel handling area at a rate greater than supplied with the airlock door open. This would maintain the area under a negative pressure and thus ensure that leakage is into the fuel handling area. In addition, procedure DB-OP-02530 "Fuel Handling Accident," provides specific instructions for response to a fuel handling accident in containment or the fuel handling area with the equipment hatch off. The procedure directs evacuation of personnel from containment prior to closure of the personnel airlock door, and specifically requires verification that at least one containment personnel airlock door is closed. The time required to evacuate containment would provide sufficient time to dispatch an individual to close the containment airlock door. Since both EVS trains were available and the EVS remained capable of exhausting air from the fuel handling area during the time required to dispatch an individual to close the airlock door, the lack of a designated individual at the airlock door did not result in a loss of safety function to control the release of radioactive material or mitigate the consequences of an accident. Therefore, this event had low safety significance.

CORRECTIVE ACTIONS:

Upon discovery that a designated individual was not available immediately outside the personnel air lock to close the door per the requirements of TS 3.9.12, a designated individual was immediately dispatched to re-establish compliance with the Technical Specification.

Actions were taken to address personnel performance issues, with emphasis on expectations and standards. Additionally, an Operations Department stand-down was immediately conducted following the event with Senior Reactor Operators to review the requirements and applicability of TS 3.9.4, TS 3.9.12 and DB-OP-06904, and to ensure understanding of the associated requirements for an individual designated for airlock closure.

Procedure DB-OP-06904 was changed on April 17, 2002 to clearly address the requirements of TS 3.9.4 and TS 3.9.12 for establishing/releasing the designated individual when the containment equipment hatch and both personnel airlock doors are open.

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

FAILURE DATA:

The TS provision for EVS servicing the spent fuel area to be considered operable when the containment equipment hatch is open and both doors of the containment personnel air lock are open was recently approved by amendment dated February 14, 2002. There have been no LERs in the previous two years involving inoperability of the spent fuel pool ventilation system during refueling.

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

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