



A Centenor Energy Company

EDISON PLAZA
300 MADISON AVENUE
TOLEDO, OHIO 43652-0001

NP-33-96-003
AB-96-0014

Docket No. 50-346

License No. NPF-3

April 29, 1996

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

Gentlemen:

LER 96-003
Davis-Besse Nuclear Power Station, Unit No. 1
Date of Occurrence - March 28, 1996

Enclosed please find Licensee Event Report 96-003, 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,

A handwritten signature in dark ink, appearing to read 'J K Wood HWR', written over the typed name.

John K. Wood
Plant Manager
Davis-Besse Nuclear Power Station

JKW/llh

Enclosure

cc: Mr. H. J. Miller
Regional Administrator
USNRC Region III

Mr. Stan Stasek
DB-1 NRC Sr. Resident Inspector

Utility Radiological Safety Board

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LICENSEE EVENT REPORT (LER)

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS
INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD
COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION
AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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

FACILITY NAME (1)

Davis-Besse Unit No. 1

DOCKET NUMBER (2)

05000 - 346

PAGE (3)

1 OF 5

TITLE (4)

Discrepancy in Surveillance Requirements for the Testing of Absorbent Material in the EVS

EVENT DATE (5)			LER NUMBER (6)			REPORT NUMBER (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
3	28	96	96	-- 003 --	00	4	29	96	FACILITY NAME	DOCKET NUMBER
										05000
										05000

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)						
POWER LEVEL (10)	87%	20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)
		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER
		20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in Abstract below and in text, NRC Form 365A)
		20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)		
		20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)

NAME

Peter W. Smith, Supervisor-Compliance

TELEPHONE NUMBER (Include Area Code)

(419) 321-7744

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

EXPECTED
SUBMISSION
DATE (15)

MONTH DAY YEAR

YES

(if yes, complete EXPECTED SUBMISSION DATE)

X

NO

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

On March 28, 1996, a review of past testing practices for charcoal adsorbers for the containment Hydrogen Purge System (HPS), the Emergency Ventilation System (EVS), and the Control Room Emergency Ventilation System (CREVS), revealed that the current testing methodology was not in strict compliance with Technical Specification (TS) Surveillance Requirements (SR). The SR refers to Regulatory Guide (RG) 1.52, Revision 2, which references ANSI Standard N509-1976. Since 1991, a more conservative testing temperature consistent with the newer industry standards has been used. Although more conservative, the current testing was not in strict compliance with the SR. The affected systems were declared inoperable since the SRs had not been met, and TS 3.0.3 was entered. The 24 hour delay in taking the required actions permitted by TS 4.0.3 for a missed SR was invoked. DBNPS promptly notified the NRC via the Emergency Notification System (ENS) in accordance with 10CFR50.72(b)(2)(iii)(D) and an emergency license amendment was requested pursuant to 10CFR50.91(a)(5) to resolve the SR discrepancy. On March 29, 1996 the NRC approved the amendment request based on the current test method being more conservative than the original method described by the TS thus terminating the event. This event is being reported in accordance with 10CFR50.73(a)(2)(i)(b) as a condition prohibited by the TS.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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Davis-Besse Unit No. 1	05000-346	96	- 003 -	00	2 OF 5

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

Description of Occurrence:

On March 28, 1996, it was determined that the current testing procedures associated with the testing of charcoal adsorbers located in the HPS, EVS, and CREVS was not in literal compliance with the SR for testing the charcoal. The SR refers to RG 1.52, Revision 2, "Design, Testing, and Maintenance Criteria For Post Accident Engineered-Safety-Feature Atmosphere Cleanup System Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants", dated March 1978. Regulatory Position C.6.a of RG 1.52, Revision 2, required representative samples of the carbon be tested per Test 5.b of Table 5-1 of ANSI Standard N509-1976, "Nuclear Power Plant Air Cleaning Units and Components," except the RG specified the test was to be performed at 70 percent relative humidity. ANSI N509-1976 references RDT Standard M16-1T, "Gas-Phase Adsorbents for Trapping Radioactive Iodine and Iodine Compounds", such that, in the final consolidation of requirements and references, the SR established the following criteria regarding charcoal filter laboratory testing:

- 1) Equilibrate carbon at 25 degrees C. and 70% relative humidity until the differential temperature is less than 1 degree C.
- 2) Challenge at 80 degrees C. and 70% relative humidity for 2 hours.
- 3) Elution at 25 degrees C. and 70% relative humidity for 2 hours.

ANSI N509 was updated in 1980, to refer to ASTM D3803, "Standard Test Methods for Radioiodine Testing of Nuclear-Grade Gas Phase Adsorbents" as the Test Method since that standard had replaced the standard, RDT M16-1T, in 1979. ASTM D3803-1980 (and the later version D3803-1989) revised the test temperature to 30 degrees C., vice the 25/80/25 degrees C. sequence of the earlier RDT standard, to be more representative of expected system accident temperatures. In 1991, DBNPS revised its charcoal testing requirements to combine the 30 degrees C. temperature requirements of RG 1.52 to yield the following conditions concerning the testing of the in-service charcoal adsorbers:

- 1) Equilibrate carbon at 30 degrees C. and 70% relative humidity for 16 hours.
- 2) Challenge at 30 degrees C. and 70% relative humidity for 2 hours.
- 3) Elution at 30 degrees C. and 70% relative humidity for 2 hours.

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

Description of Occurrence: (continued)

This testing is comparable to ASTM D3803 1979, with the noted conditions. After the inconsistency between the existing practice and the TS requirements was discovered, this condition was considered to represent a missed surveillance test. Containment Hydrogen Purge and both trains of the EVS and CREVS were declared inoperable. Technical Specification 3.0.3 was entered and the TS 4.0.3 24 hour delay in taking the required actions was invoked. The DBNPS promptly notified the NRC via the ENS in accordance with 10CFR50.72(b)(2)(iii)(D). TS 4.0.3 allows 24 hours to satisfy a missed surveillance test by performing the test or seeking approval of an amendment request to obviate the need to perform the test.

The DBNPS submitted an emergency amendment request pursuant to 10 CFR 50.91(a)(5). The amendment request revised the SR to conform to the current test methodology. Amendment 209 was approved March 29, 1996 within the 24 hour period permitted by TS 4.0.3 thereby avoiding an unnecessary plant shutdown. Train 2 of the EVS and train 2 of the CREVS were then declared operable, exiting the TS 3.0.3. EVS train 1 and CREVS train 1 were additionally inoperable due to additional charcoal samples taken in an attempt to verify, within 24 hours of TS 4.0.3, the charcoal met the literal requirements of RG 1.52, as required by SR. EVS train 1 and CREVS train 1 were satisfactorily tested for post-sampling bypass leakage as required by the SR, and declared operable within the seven day actions associated with the exiting of TS 3.6.5.1, and TS 3.7.6.1. The HPS charcoal was satisfactorily retested in accordance with the new SR and declared operable within the TS 3.6.4.4 thirty day action for the HPS.

The March 28, 1996, 4 hour non-emergency ENS notification made in accordance with 10CFR50.72(b)(2)(iii)(D) was retracted on April 26, 1996. The current test method, now sanctioned by the TS, was determined to provide more conservative results than the test method originally prescribed by the TS. Consequently, the affected systems were always capable of fulfilling their safety function to mitigate the consequences of an accident and no reportable condition existed when the ENS notification was made. This report is being submitted in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by the TS because the original SR for the affected systems were not literally complied with.

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

Apparent Cause of Occurrence:

NRC Information Notice (IN) 87-32, "Deficiencies in the testing of Nuclear-Grade Activated Charcoal," dated July 10, 1987, identified problems with the testing capabilities of many of the testing companies and the testing standards for charcoal adsorbers. All areas covered were vendor specific. The IN suggested that licensees contact the individual testing companies to improve test accuracy. A report prepared by Idaho National Engineering Labs, EGG-CS-7653, referenced in IN 87-32, recognized NUCON International, the vendor used by DBNPS, as one of the few vendors whose laboratory performance meets NRC criteria. They were also determined to fully satisfy the DBNPS Vendor Quality Assurance Program. The IN further identified shortcomings with the RG 1.52, Revision 2 which had not been revised since 1978. Based on the information provided in IN 87-32, Toledo Edison took action to verify the test methodology and accuracy. The IN did not cause the licensees to review the TS for any needed changes.

By letter dated, 8/1/91, Toledo Edison requested NUCON International to change the testing procedure to conform to RG 1.52, Revision 2, March 1978, except with the test conditions of 30 degrees C. and 70% relative humidity. This test is equivalent to ASTM D3803-1979 with the previously stated conditions. NUCON International revised their testing specifications. The ramification of the changes on TS compliance was not adequately considered. In response to a TE vendor audit on August 5, 1993, NUCON International suggested that TE consider revising the TS to clarify requirements. Toledo Edison did not recognize the implications of this information at that time.

Analysis of Occurrence:

This occurrence did not affect the ability of the charcoal adsorbers to perform their safety function. The current test method tests the charcoal at a lower temperature than that originally specified by TS. Since the quantity of water retained by charcoal is generally dependent on temperature, with higher test temperatures resulting in less water being retained. Increasing the fraction of water retained by the carbon decreases the efficiency of the carbon to absorb contaminants. The current test method was instituted because it uses a lower test medium temperature thereby yielding more conservative test results. Since the current test method yields more conservative results, there was no question of the ability of charcoal adsorbers to perform their safety function.

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Corrective Actions:

On March 29, 1996, Toledo Edison submitted an emergency amendment request to revise SRs to conform to the current test method. The NRC issued License Amendment No. 209 dated March 29, 1996 which revised SR 4.6.4.4.b.2, HPS; SR 4.6.5.1.b.2, EVS; and SR 4.7.6.1.c.2 CREVS, to reflect the currently utilized acceptable test methodology in accordance with industry standards. Revision of the SR brought the plant into compliance. In addition, Toledo Edison will evaluate ASTM 3803-1989 "Standard Test Methods for Radioiodine Testing of Nuclear-Grade Gas-Phase Adsorbents," for possible future incorporation into the DBNPS TS.

Failure Data:

Since 1993 there have been two instances involving an entry into TS 3.0.3. LER 96-001 documents a TS 3.0.3 entry related to the Emergency Core Cooling System being taken out of service. LER 93-009 involved declaring both trains of the Control Room Emergency Ventilation System inoperable. The root cause and corrective actions discussed in both LERs are not applicable to this event.

In the past three years, there has been one incident involving an entry into TS 4.0.3. LER 93-006 documents a missed surveillance on the Containment Air Cooler Service Water Valves. The root cause was a procedural inadequacy due to an incorrect interpretation of the SR and is unrelated to this event.

NP-33-96-003

PCAQR Number: 96-0355