



October 19, 2000

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Operating Licenses DPR-58 and DPR-74
Docket Nos. 50-315 and 50-316

Document Control Manager:

In accordance with the criteria established by 10 CFR 50.73 entitled Licensee Event Report System, the following report is being submitted:

LER 315/2000-007-00: "ESF Ventilation System Inoperable due to Technical Specification Surveillance Test Methodology"

The following commitment is identified in this submittal:

- The root cause investigation for this condition is in progress. Information regarding the root cause, safety significance, and additional corrective and preventive actions will be provided in a supplement to this LER.

Should you have any questions regarding this correspondence, please contact Mr. Wayne J. Kropp, Director Regulatory Affairs, at 616/697-5056.

Sincerely,

A handwritten signature in black ink, appearing to read 'A. Christopher Bakken, III'.

A. Christopher Bakken, III
Site Vice President

/bwo
Attachment

c: J. E. Dyer, Region III
D. Hahn
B. A. McIntyre
T. P. Noonan
J. E. Pollock
R. P. Powers
R. Whale
NRC Resident Inspector
Records Center, INPO

IF22

NRC Form 366 (6-1998)		U.S. NUCLEAR REGULATORY COMMISSION					APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001							
LICENSEE EVENT REPORT (LER)										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 INFORMATION AND 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				
FACILITY NAME (1) <p style="text-align:center;">Donald C. Cook Nuclear Plant Unit 1</p>										DOCKET NUMBER (2) <p style="text-align:center;">05000-315</p>		PAGE (3) <p style="text-align:center;">1 of 4</p>		
TITLE (4) <p style="text-align:center;">ESF Ventilation System Inoperable due to Technical Specification Surveillance Test Methodology</p>														
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 D.C. Cook, Unit 2		DOCKET NUMBER 05000-316			
09	19	2000	2000	-- 007 --	00	10	19	2000	FACILITY NAME		DOCKET NUMBER			
OPERATING MODE (9)		N/A		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)										
POWER LEVEL (10)		00		20.2201 (b)		20.2203(a)(2)(v)		<input checked="" type="checkbox"/> 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)														
NAME <p style="text-align:center;">Brenda W. O'Rourke, Compliance Engineer</p>						TELEPHONE NUMBER (Include Area Code) <p style="text-align:center;">(616) 465-5901, x2604</p>								
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)			MONTH	DAY	YEAR			
<input checked="" type="checkbox"/>	YES (If Yes, complete EXPECTED SUBMISSION DATE).				<input type="checkbox"/>	NO			12	10	2000			
Abstract (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)														
<p>On September 19, 2000, Donald C. Cook (CNP) Nuclear Plant completed an Operating Experience (OE) evaluation regarding INPO OE11256, "Control Room Emergency Filtration Inoperable due to Testing Method." The OE identified an event at Shearon Harris Nuclear Power Plant where both control room emergency filtration system units were inoperable due to the system's test configuration during performance of Technical Specification (TS) surveillance testing. CNP evaluated OE11256 to determine applicability to CNP plant ventilation systems. During the performance of ESF ventilation system surveillance testing at CNP, the system is aligned such that the fan for the filter unit being tested is not running, and the fan in other train is running. The evaluation determined that opening the access door to the train being tested made the tested unit inoperable because it would be unable to meet the TS 4.7.6.1 surveillance requirement of 25,000 cubic feet per minute (cfm), plus or minus 10 percent if auto-started by an accident signal. Additionally, opening the filter unit access door allowed air to flow backward through the filter unit inlet damper to the common inlet suction to the operating train. This backflow could potentially reduce the amount of airflow drawn from the Emergency Core Cooling System pump room cubicles. As such, on September 19, 2000, this condition was determined to be reportable in accordance with 10 CFR 50.73 (a)(2)(i)(B) for a condition prohibited by TS, since both ESF ventilation trains were rendered inoperable during operating modes which require the system to be operable.</p> <p>As an interim measure, the Unit 1 and 2 ESF ventilation surveillance procedures were placed on administrative hold. These procedures will remain on administrative hold until revised to state that prior to opening the filter unit access doors for visual inspection, the inlet damper to the train being tested must be closed and the train declared inoperable. This will ensure that the filter train not being tested will remain operable during surveillance testing as required by TS. The root cause investigation is currently in progress. Based on the completed investigation, information regarding the root cause, safety significance and additional corrective/preventive actions will be provided in a supplement to this LER.</p>														

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

Conditions Prior to Event

Unit 1, Defueled
Unit 2, Mode 1, Power Operation, at 100 percent Rated Thermal Power

Description of Event

On September 19, 2000, Donald C. Cook (CNP) Nuclear Plant completed an Operating Experience (OE) evaluation regarding INPO OE11256, "Control Room Emergency Filtration Inoperable due to Testing Method." The OE identified an event at Shearon Harris Nuclear Power Plant where both control room emergency filtration system units were inoperable due to the systems test configuration during performance of Technical Specification (TS) surveillance testing. During testing, a duct access panel, which is located at the common suction line to both control room emergency filtration system units, was required to be removed to allow the installation of test equipment. The OE identified that during the time the access panel was removed, the filtration system's ductwork was breached such that the system could not achieve and maintain positive pressure as required by TS surveillance requirements. As such, both filtration units were inoperable. Because the test was performed when the plant was in an operating mode which required both filtration units to be operable, an unrecognized entry into TS 3.0.3 was made.

Results of the OE evaluation concluded that during performance of Engineered Safety Feature (ESF) ventilation system TS surveillance testing, both trains are made inoperable when the filter unit housing doors are opened on the train being tested. During the surveillance test, the system is aligned such that the fan for the filter unit being tested is not running, and the fan in the other train is running. Visual inspection of the non-running train requires one or more of the filter unit access doors to be opened. The evaluation determined that opening the access door to the train being tested made the tested unit inoperable because it would be unable to meet the TS 4.7.6.1 surveillance requirement of 25,000 cubic feet per minute (cfm), plus or minus 10 percent if auto-started by an accident signal. Additionally, opening the filter unit access door of the tested train allowed air to be drawn into the open access door and backward through the filter unit inlet damper to the common inlet suction of the operating train. This backflow could potentially reduce the amount of airflow drawn from the Emergency Core Cooling System (ECCS) pump room cubicles by the running filter train to below the TS 4.7.6.1 surveillance flow rate requirement. Both trains would thus be rendered inoperable. Because the surveillance test has been performed in Modes 1 through 4 when the TS requires both ESF ventilation filter trains to be operable, this condition was determined to be reportable on September 19, 2000, in accordance with 10 CFR 50.73 (a)(2)(i)(B) for a condition prohibited by TS. Accordingly, with both ESF ventilation trains inoperable, TS 3.0.3 should have been entered.

The issue of backflow through an open ESF ventilation filter unit access door was previously identified by CNP on November 11, 1999, during preparations for replacement of an internal damper in one of the two Unit 2 ESF ventilation filter trains. At that time, it was discovered that air was flowing through the open access door of the out of service filter unit and backward through its open inlet damper to the operating train. This condition was evaluated in accordance with CNP's corrective action process. However, the investigation did not evaluate the impact the backflow had on the operating train's TS required flowrate of 25,000 cfm, plus or minus 10 percent. A condition report has been written to document the inadequate investigation.

Cause of Event

The root cause of this condition is presently under investigation and will be provided in a supplement to this LER.

Analysis of Event

Each unit's ESF ventilation system consists of two fan/filter trains (one in standby) which draw air from the auxiliary building through the equipment cubicles from a common vent shaft shared by the suction of both ESF trains. Each train consists of a filter inlet damper, roughing filter, high efficiency particulate air (HEPA) filters, a charcoal adsorber and a backdraft damper. Both trains exhaust to the unit vent stack.

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The ESF ventilation system's safety and accident mitigation function is to provide sufficient cooling to the auxiliary building general areas, and the enclosures which contain ECCS equipment required to operate during accident conditions. The areas served by this system include the containment spray pump enclosures, residual heat removal pump enclosures, centrifugal charging pump enclosures, safety injection pump enclosures, residual heat exchanger enclosures, and the containment spray heat exchanger enclosures. The ESF ventilation system also maintains the auxiliary building at a negative pressure relative to the outside environment to ensure radioactive contamination released during an accident is contained within the auxiliary building, and is subsequently filtered and exhausted to the environment via a monitored release path. During normal operation, one filter unit operates continuously, directing the exhaust air through the roughing and HEPA filters, bypassing the charcoal adsorbers, and discharging to the unit vent stack. In the event of a Phase B Isolation signal, the standby train is energized, the bypass dampers automatically close and the face dampers open to exhaust air directly through the charcoal adsorbers.

The significance of potential air backflow through an open filter housing unit access door open on one ESF train, with the other train in operation, was not recognized during initial system design. With the filter unit inlet damper open on the train being tested, flow through the open filter unit access door would partially replace the airflow that would have otherwise come from the ECCS equipment enclosures. Although the amount of backflow resulting from this system configuration is not known, the safety and accident mitigation function of the ESF ventilation system could potentially be affected.

The root cause investigation for this condition is currently in progress. Until the effect the identified condition has on ESF ventilation system performance is evaluated, the overall safety impact cannot be determined.

Corrective Actions

Placards were placed on the filter unit access doors for the ESF ventilation system indicating that Unit Supervisor approval is required prior to opening the door. In addition, the placards state that holding or blocking open the filter access door will render the associated filter unit/train inoperable, and possibly the opposite filter train.

The existing clearances for activities which require opening any of the ESF ventilation system filter unit access doors were revised on October 11, 2000 to include the requirement to close and tag out the associated filter train's inlet damper.

An extent of condition evaluation was performed to determine the applicability of INPO OE11256 to the control room emergency ventilation system (CREVS) and the spent fuel pool (SFP) ventilation exhaust system. TS 3.7.5 requires CREVS to be operable in Modes 1 through 4. A review of the surveillance procedure identified that testing is performed during Modes 5 and 6 when CREVS is not required to be operable. Like the surveillance procedure for the ESF ventilation trains, the present surveillance procedure for the CREVS considers the filter train to be operable during the visual inspection when the filter unit access doors are open. TS 3.9.12 requires the SFP ventilation system to be operable whenever irradiated fuel is in the SFP. When the SFP ventilation exhaust system is inoperable, the TS action statement requires suspension of all fuel movement and crane loads from being carried over the SFP. Like the CREVS surveillance procedure, the filter unit access doors are opened during visual inspection. Prior to performing the visual inspection, the filter unit fans are secured. The surveillance procedure for the SFP ventilation exhaust system has either considered the train inoperable or pre-met the action statement during the visual inspection.

As an interim corrective measure, the Unit 1 and Unit 2 ESF ventilation and CREVS TS surveillance procedures were put on administrative hold. These procedures will remain on administrative hold until they are revised to state that prior to opening the filter unit access doors for visual inspection, the inlet damper to the train being tested must be closed and the train declared inoperable. This will ensure that the filter train not being tested will remain operable during surveillance testing as required by TS.

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Based on the results of the root cause investigation in progress, information regarding the root cause, safety significance, and additional corrective and preventive actions will be provided in a supplement to this LER.

Previous Similar Events

None