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DUKE POWER

March 21, 1991

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U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

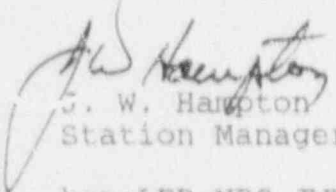
Subject: Catawba Nuclear Station
Docket No. 50-413
LER 413/89-09, Rev. 1

Gentlemen:

Attached is Licensee Event Report 413/89-09, Revision 1,
concerning INCOMPLETE TECHNICAL SPECIFICATIONS ASSOCIATED
WITH INCORE INSTRUMENTATION ROOM PURGE SUBSYSTEM.

This event was considered to be of no significance with
respect to the health and safety of the public.

Very truly yours,


J. W. Hampton
Station Manager

ken:LER-IRC.JWH

cc: Mr. S. D. Ebner
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NRC Resident Inspector
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Catawba Nuclear Station, Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 4 1 1 3										PAGE (3) 1 OF 0 4	
TITLE (4) Incomplete Technical Specifications Associated With Incore Instrumentation Room Purge Subsystem																					
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 NAMES					DOCKET NUMBER(S)							
0	5	15	89	89	009	0	1	03	CNS, Unit 2					0 5 0 0 0 4 1 4							
OPERATING MODE (9) 1												THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5 (Check one or more of the following) (11)									
POWER LEVEL (10)		1		0		0		20.402(a)		20.406(a)		50.73(a)(2)(i)		73.71(a)							
								20.406(a)(1)(i)		50.36(a)(1)		50.73(a)(2)(v)		73.71(a)							
								20.406(a)(1)(ii)		50.36(a)(2)		50.73(a)(2)(v)		<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text NRC Form 366A)							
								20.406(a)(1)(iii)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(A)									
								20.406(a)(1)(iv)		50.73(a)(2)(iii)		50.73(a)(2)(viii)(B)									
								20.406(a)(1)(v)		50.73(a)(2)(iv)		50.73(a)(2)(ix)		-Courtesy Report							
LICENSEE CONTACT FOR THIS LER (12)																					
NAME C. L. Hartzell, Compliance Manager												TELEPHONE NUMBER AREA CODE 803 831-3665									
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																					
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs											
SUPPLEMENTAL REPORT EXPECTED (14)																					
YES (If yes, complete EXPECTED SUBMISSION DATE)												X NO									
EXPECTED SUBMISSION DATE (15)												MONTH DAY YEAR									

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

On May 15, 1989, Problem Investigation Report (PIR) 0-C89-0198 was initiated by Operations personnel identifying a potential violation of the intent of Technical Specification 4.9.4.1, due to operating the Incore Instrumentation Room (IIR) Purge subsystem during core alterations or movement of irradiated fuel in Containment without the capacity to automatically isolate the system upon high humidity. The main portion of the Containment Purge System is equipped with heaters and interlocks which automatically isolate the system upon a high relative humidity of 70 percent, or upon a failure. The IIR Purge subsystem does not include these features. Technical Specification 4.9.4.1 implies the IIR Purge subsystem should include these features. Design Engineering has concluded that heaters are not required for the IIR Purge subsystem, and Technical Specification Surveillance Requirements 4.9.4.1 and 4.9.4.2 do not apply to the IIR Purge subsystem. Technical Specification Limiting Condition for Operation 3.9.4 applies to the IIR Purge subsystem. However, there are no surveillance requirements which will verify operability of the IIR Purge filters. This courtesy LER is being provided due to incomplete Technical Specifications. The Ventilation Task Force will review the VP system operation against the Design Basis and make recommendations to enhance system operation.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 6/31/86

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

BACKGROUND

The Containment Purge [EIS:VA] (VP) System provides a means of ventilating upper and lower Containment [EIS:NH] as well as the Incore Instrumentation Room (IIR) through cleanup filters [EIS:FLT] prior to discharge to atmosphere through the unit vent. The VP System is designed to sufficiently reduce airborne radioactive materials inside Containment to levels suitable for personnel access.

The supply portion of the VP System consists of two 50 percent capacity fans [EIS:BLO] for Containment and one 100 capacity fan for the IIR. The exhaust portion also consists of two 50 percent capacity fans for Containment and one 100 percent capacity fan for the IIR. As each exhaust fan is started, the corresponding supply fan starts automatically. During Containment purge operation, purge exhaust heaters [EIS:EHTR] are automatically staged on as necessary to maintain the relative humidity of the air through the Containment purge exhaust filters below approximately 70 percent. The IIR Purge subsystem design does not include filter heaters.

Technical Specification (Tech Spec) 3.9.4a requires during core alterations or movement of irradiated fuel within Containment that penetrations [EIS:PEN] providing direct access from the Containment atmosphere to the outside atmosphere shall be either: closed by an isolation valve [EIS:V], blind flange, manual valve, or exhausting through operable Reactor Building Containment Purge System High Efficiency Particulate Air (HEPA) filters and activated carbon absorbers. Surveillance Requirements for this Tech Spec require that these penetrations shall be determined to be either in the closed/isolated condition or exhausting through an operable Reactor Building Containment Purge System with the capability of being automatically isolated upon heater failure within 72 hours prior to the start of, and at least once per 7 days, during core alterations or movement of irradiated fuel in the Containment building by verifying the upper and lower Containment purge supply and exhaust valves close upon a high relative humidity test signal.

EVENT DESCRIPTION

On May 15, 1989, while Unit 1 was in Mode 1, Power Operation, and Unit 2 was in Mode 5, Cold Shutdown, Operations personnel were reviewing PT/1/A/4450/01, Containment Purge Periodic Test. They discovered that if this procedure was performed during core alterations or movement of irradiated fuel in Containment, a possible violation of the intent of Tech Spec Surveillance Requirement 4.9.4.1 could occur due to operating the IIR Purge subsystem without the capacity to automatically isolate the system upon high humidity. At this time, Operations personnel initiated Problem Investigation Report 0-C89-0198. On June 5, 1989, Design Engineering evaluated the Tech Spec and determined that heaters are not required for the IIR Purge subsystem and Tech Spec Surveillance Requirements 4.9.4.1 and 4.9.4.2 do not apply to the IIR Purge subsystem.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 6/31/88

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TEXT (If more space is required, use additional NRC Form 365A's) (17)

CONCLUSION

This condition has been attributed to incomplete Tech Specs. PT/1,2/A/4450/01 is performed to satisfy Tech Spec Surveillance Requirement 4.9.4.2a which requires operating the Containment Purge System for at least 10 continuous hours with the heaters energized. This procedure is normally performed while core alterations or movement of irradiated fuel in Containment is in progress. Tech Spec Surveillance Requirement 4.9.4.1 requires that during core alterations or movement of irradiated fuel in Containment that the Containment Purge System should have the capacity to isolate upon a heater failure. The possible violation would occur due to the fact that the IIR Purge subsystem does not have a heater, nor does it have an automatic isolation feature.

Based on an evaluation by Design Engineering, it has been concluded that heaters are not required for operability of the IIR Purge subsystem, and Tech Spec Surveillance Requirements 4.9.4.1 and 4.9.4.2 do not apply to that subsystem. These surveillance requirements apply to the Containment Purge subsystem serving upper and lower Containment and, more specifically, to the refueling transfer canal area of upper Containment. Heaters were intentionally omitted from the IIR Purge subsystem because this subsystem does not perform its function in the vicinity of the refueling activities.

Tech Spec 3.9.4 Limiting Condition for Operation applies to the IIR Purge subsystem. However, there are no associated Tech Spec Surveillance Requirements which verify operability of this subsystem. Although there are no written Tech Spec Surveillance Requirements, actual surveillances have been performed which have verified operability of the IIR Purge filter. PT/1,2/A/4450/01, Containment Purge Periodic Test, verifies that while core alterations or movement of irradiated fuel in Containment is in progress, flow, differential pressure across the filter, and a minimum run time of 10 hours is verified on the IIR Purge subsystem every 31 days. PT/1,2/A/4200/41C, Containment Purge And Exhaust Valve Auto Isolation Test, which is performed every Refueling outage, assures the associated VP isolation valves close upon a high radiation signal. PT/1,2/A/4450/01D, Containment Purge Filter Train Performance Test, is performed every 18 months, which verifies 1000 cubic feet per minute flow through the IIR Purge subsystem. PT/0/A/4450/17, Safety Related Filter System Run Time Monitoring, ensures that for every 720 hours of activated carbon absorber operation, a laboratory analysis is performed to ensure a methyl iodine penetration of less than 6% is present. A review of the above mentioned completed procedures has been performed within the time frame of fuel load until present and no discrepancies or failed surveillances were discovered.

As a result of this finding, the Ventilation Task Force will review the VP system operation against the Design Basis and make recommendations to enhance system operation. Technical Specifications for this system will be reviewed and proposed changes made to allow the use of IIR Purge System during fueling operation.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (If more space is required, use additional NRC Form 365A's) (17)

Review of the Duke Power Operating Experience Program Database indicates that over the past three years there have been no Tech Spec violations or significant problems involving the VP System resulting from inadequate Tech Specs. Therefore, this is not a recurring problem.

CORRECTIVE ACTIONSUBSEQUENT

- (1) Design Engineering evaluated Tech Spec Surveillance Requirements 4.9.4.1 and 4.9.4.2 for applicability to the IIR Purge subsystem and the need for heaters on this subsystem, and determined heaters are not necessary for this subsystem's operability.
- (2) A guideline has been provided to verify IIR Purge subsystem operability.

PLANNED

- (1) The Ventilation Task Force will review the VP system operation against the Design Basis and make recommendations to enhance system operation. Technical Specifications for this system will be reviewed and proposed changes made to allow the use of IIR Purge system during fueling operations.

SAFETY ANALYSIS

A fuel handling accident has been analyzed assuming the Containment Purge System is in operation during refueling operations. This analysis, described in Section 15.7.4 of the FSAR, accounts for heaters not being installed in the IIR Purge subsystem. A document review of completed procedures PT/1,2/A/4450/01, PT/1,2/A/4200/41C, PT/1,2/A/4450/01D, and PT/0/A/4450/17 has revealed no discrepancies or failed surveillances which would have indicated the IIR Purge subsystem was inoperable. Therefore, it is apparent the IIR Purge subsystem was operable at all times concerning the impact of moisture on the carbon filter.

The health and safety of the public were unaffected by this condition.