

Duke Power Company
Catawba Nuclear Generation Department
4800 Concord Road
York, SC 29745

WILLIAM R. MCCOLLUM, JR.
Vice President
(803) 831-3200 Office
(803) 831-3426 Fax



DUKE POWER

February 11, 1997

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Subject: Catawba Nuclear Station
Docket No. 50-414
LER 414/97-002

Gentlemen:

Attached is Licensee Event Report 414/97-002 concerning **Failure to perform conditional surveillance on incore detector prior to installation.**

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

Cordially,

W.R. McCollum, Jr.

Attachment

cc: Mr. L. A. Reyes
Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta St., NW, Suite 2900
Atlanta, GA 30323

INPO Records Center
700 Galleria Place
Atlanta, GA 30339-5957

Mr. T. S. Tam
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Marsh & McLennan Nuclear
John Hoffman
301 Tresser Blvd.
Stamford, CT 06904

Mr. R. J. Freudenberger
NRC Resident Inspector
Catawba Nuclear Station

190109

9702200161 970214
PDR ADOCK 05000414
S PDR

IF 22/1

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)

Catawba Nuclear Station

DOCKET NUMBER (2)

0500414

PAGE (3)

1 of 4

TITLE (4)

Failure to Perform Conditional Surveillance on Incore Detector Prior to Installation

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(S)
01	07	97	97	002	00	02	14	97	N/A	
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (Check one or more of the following) (11)								
POWER LEVEL (10)		20.402(b) 20.405(a)(1)(i) 20.405(a)(1)(ii) 20.405(a)(1)(iii) 20.405(a)(1)(iv) 20.405(a)(1)(v) 20.405(c) 50.36(c)(1) 50.36(c)(2) 50.73(a)(2)(i) 50.73(a)(2)(ii) 50.73(a)(2)(iii) 50.73(a)(2)(iv) 50.73(a)(2)(v) 50.73(a)(2)(vii) 50.73(a)(2)(viii)(A) 50.73(a)(2)(viii)(B) 50.73(a)(2)(x) 73.71(b) 73.71(c) OTHER (Specify in Abstract below and in Text, NRC Form 366A)								

LICENSEE CONTACT FOR THIS LER (12)

NAME

D.P. Kimball, Safety Review Group Manager

TELEPHONE NUMBER

AREA CODE

(803)

831-3743

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)				
YES (if yes, complete EXPECTED SUBMISSION DATE)					MONTH DAY YEAR				
X NO									

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

Unit Status: Unit 2 - mode 1, power operation, 100% power.

Event Description: On January 07, 1997, a new incore fission detector was installed in the unit 2 reactor. This installation completed a job which had initiated on 11/11/96. Technical specifications (TS) require detectors to be surveyed for leakage and contamination within 31 days prior to installation. The survey was performed for the replacement when the job started on 11/11/96, and was performed again on 11/26/96 as part of routine, semi-annual surveillance. When the detector was installed on 01/07/97, forty-three days had elapsed since the most recent survey.

Root Cause: The failure to complete the contamination survey within the 31 day requirement is attributable to inadequate procedural guidance. While the detector replacement procedure contained guidance to perform the survey prior to installation, the guidance did not reference a specific time requirement.

Corrective Action: The affected procedure will be revised to reference the 31 day technical specification surveillance requirement immediately prior to installation of a new detector. Similar procedures for the excore detectors will be reviewed in conjunction with the affected technical specification to ensure required surveillances are appropriately referenced.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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) Catawba Nuclear Station, Unit 2	DOCKET NUMBER (2) 05000414	LER NUMBER (6)			PAGE (3) 2 of 4
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
		97	002	00	

BACKGROUND:

The Incore Detector System [IG] (ENA) consists of five movable, miniature, neutron detectors [DET] which can be positioned in selected fuel assemblies via several transfer paths to provide flux mapping of the core.

Surveillance requirement 4.7.9.2.c for the Sealed Source Contamination technical specification (TS) requires fission detectors to be tested for leakage and/or contamination within 31 days prior to being subjected to core flux or installed in the core.

Catawba radiation protection procedure HP/0/B/1004/03, Semi-annual Source Leak Check and Inventory, is used to perform the leakage and contamination surveillance required by T.S. 4.7.9.2.

Catawba instrument procedure IP/0/B/3230/17, Removal and Installation of ENA Detectors, is used to direct the replacement of incore detectors.

EVENT DESCRIPTION:

- 11/11/96 Unit 2 incore detector "B" was scheduled to be replaced per work order 96052495-01. IP/0/B/3230/17 directed the instrument (IAE) technicians to notify Radiation Protection (RP) personnel to survey the new detector in the warehouse using HP/0/B/1004/03. The survey was completed that day.
- 11/13/96 Installation of the new detector was postponed due to a shortage of parts required to extract the old detector from the ENA system.
- 11/26/96 The new detector was surveyed again using HP/0/B/1004/03 as part of routine, semi-annual technical specification surveillance.
- 01/07/97 The new detector was installed in the core following removal of the old detector. Forty-three days had elapsed since the source was last surveyed.
- 01/16/97 RP personnel who had performed the survey on 11/26/96 checked the status of the new detector, and determined it had been installed without meeting the 31 day surveillance criteria.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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) Catawba Nuclear Station, Unit 2	DOCKET NUMBER (2) 05000414	LER NUMBER (6)			PAGE (3) 3 of 4
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
		97	002	00	

CONCLUSIONS:

The root cause of the missed conditional surveillance was inadequate procedural guidance regarding the performance of the detector contamination survey. IP/O/B/3230/17 required IAE to notify RP to perform the surveillance and required IAE to obtain a copy of the surveillance data sheet, but that IP did not indicate the surveillance must be completed within 31 days of detector installation. When the detector replacement was postponed on 11/13/96, the IAE technicians placed work order task 96052495-01 on hold. When the detector replacement job was rescheduled for 01/07/97, the IAE technicians reviewed IP/O/B/3230/17 and saw the detector survey had been completed on 11/11/96, so they felt the step was appropriately completed.

A review of the Operating Experience Data Base (OEDB) for the past 24 months revealed no reportable events involving the incore detector system. The OEDB review revealed 4 reportable events in the past 24 months involving failure to perform technical specification surveillances. Those 4 events had dissimilar causes, and the corrective actions for those events would not have prevented this event, therefore this event is considered to be non-recurring.

CORRECTIVE ACTIONS:**IMMEDIATE:**

1. Review of the two most recent surveys provided reasonable assurance the detector was not leaking when installed. Review of TS revealed the surveillance is not required for detectors after they have been exposed to core flux.

PLANNED:

1. IP/O/B/3230/17 will be revised to ensure the incore detectors receive a contamination survey within 31 days prior to installation.
2. IAE will review the excore detector maintenance procedures to ensure the contamination survey surveillance is appropriately referenced.
3. Radiation Protection will review the sealed source contamination technical specification to ensure any other conditional surveillances are appropriately referenced in procedures.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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)

Catawba Nuclear Station, Unit 2

DOCKET NUMBER (2)

05000414

LER NUMBER (6)

PAGE (3)

YEAR

SEQUENTIAL
NUMBERREVISION
NUMBER

97

002

00

4 of 4

SAFETY ANALYSIS:

The basis for the requirement to perform a contamination survey on fission detectors prior to use is to ensure that leakage from that source will not exceed allowable intake levels. The contamination survey is not intended to determine operability of the detector, therefore operability of the detector is not affected by absence of this surveillance.

Results of the two most recent contamination surveys, 11/11/96 and 11/26/96, determined there was no leakage from the detector. This provides a high degree of confidence there was no leakage at the time of installation on 01/07/97.

The health and safety of the public were not affected by this incident.