NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Catawba Nuclear Station, Unit 1	0 5 0 0 0 4 1 3	1 OF 0 3

TITLE (4)

Improper Boron Sampling as Required by the Operating License

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 8	0 6	8 4	8 4	—	0 0 6	— 0 0	0 9	0 5	8 4		0 5 0 0 0
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OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 0	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)	X OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		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	TELEPHONE NUMBER
	AREA CODE
Roger W. Ouellette, Assistant Engineer - Licensing	7 0 4 3 7 3 - 7 5 3 0

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 fifteen single-space typewritten lines) (16)

To satisfy license condition eleven (11) specified in the Catawba Facility Operating License NPF-24, boron concentration of the Reactor Coolant (NC) System is required to be monitored hourly while in Modes 3, 4, and 5. On August 6, 1984, boron samples were taken and analyzed from the non-operational Train B of the Residual Heat Removal (ND) System. Sampling from the non-operational train of ND did not provide a representative sample of boron concentration of the reactor coolant. The Primary Sampling System was being used to obtain samples from the ND System.

The cause of the incident is classified as a Personnel Error. The Technician performing the sampling did not inform Operations prior to changing the primary sampling valve lineup, as required by Operating Procedures OP/0/A/6200/11, Operating Procedure for the Primary Sampling System. Unit 1 was in Mode 5 following initial fuel load at the time of the incident.

Immediate corrective action was realignment of the sampling valves by the Technician in order to obtain a sample of ND Train A. This report is being filed pursuant to paragraph 2.F of Facility Operating License NPF-24.

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

The Catawba Facility Operating License NPF-24, paragraph 2.C.11 requires that the boron concentration of the Reactor Coolant (NC) System be maintained at 2000 ppm or greater so that criticality may not be achieved even with all control rods fully withdrawn. This concentration is required while in Modes 3, 4, and 5.

Operations procedure PT/1/A/4150/25, Boron Concentration Verification, states that boron concentration will be sampled and recorded hourly. The concentration is normally monitored from the Control Room by a computer analog point, a chart recorder, or the digital readout on the Boronmeter, which provides input for all of these monitoring devices. Calibration of the Boronmeter had not been verified at the time of this incident and therefore was not operable for the hourly samples. Because of this, Chemistry was required per procedure PT/1/A/4850/25 to manually pull and analyze samples.

Chemistry Procedure OP/0/A/6200/11 describes operation of the Primary Sampling (NM) System. The NM System provides the capability to manually draw samples from locations both inside and outside containment. This procedure states that sample valves located outside of the NM lab require Operations notification prior to use. Sampling lineup for the Residual Heat Removal (ND) System requires that one valve outside of the NM lab be operated. Thus Operations must be notified prior to a lineup change for ND sampling.

The operational train of the ND System was being sampled because NC system pressure was not great enough to allow for proper operation of the NM equipment associated with the NC System. With the ND System recirculating through the reactor vessel, a representative sample of NC could be obtained through ND sample taps with adequate system pressure provided by the ND pump.

The Operations Procedure was being followed while manual sampling of reactor coolant was in progress. During the 1600-2400 shift of August 5, 1984, ND Train A was operational as required for Mode 5 and being sampled hourly by Chemistry Technician A. Analysis data was satisfactory. Technician B took shift turnover at 2400 hours on August 6, 1984. During this shift turnover, Technician B was told that ND Train A was operational but that he might want to check with Operations to determine if ND Train B was being placed in service. Prior to the 2400 hour sampling, Technician B informed Operations that he was going to open the Train A sample valves. While performing the 2400 hour sampling of ND Train A, sample flow was lost after approximately 30 seconds. Technician B therefore assumed that ND Train B must have been placed in service previously and closed the ND Train A sample valves. He then aligned and opened the ND Train B sample valves but did not inform Operations prior to doing so. He was able to obtain adequate sample flow and continued sampling non-operating ND Train B throughout his shift (2400-0800). Analysis data was telephoned to Operations hourly and recorded by Operations as ND Train A, while in reality being Train B samples.

Chemistry shift turnover took place at 0800 on August 6, 1984. Sampling of ND Train B continued hourly throughout this shift (0800-1600) by several Technicians. Analysis data was telephoned to Operations during this shift and recorded by Operations as ND Train A samples.

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

Technician A took shift turnover at 1600 on August 6, 1984, and sampled ND Train B during the first hour of shift. Shortly thereafter, Operations called Technician A and requested that a sample be taken from ND Train B prior to it being placed in service. Technician A checked the entire valve lineup for sampling and discovered that ND Train B had been sampled for the previous 14 hours although it was not in service. Valves were realigned to sample ND Train A. This sample analysis of ND Train A was satisfactory. ND Train B was then placed in service and Train A removed from service by Operations. The samples taken from the non-operational train of ND did not present a representative sample of reactor coolant.

This incident did not cause any release of radioactive material, radioactive exposure, or personnel injury. It is considered to be an isolated case. This incident is reportable pursuant to Facility Operating License NPF-24, Paragraph 2.F.

CORRECTIVE ACTION

A sample was taken of the operational Train A of ND upon realization that the non-operational Train had been sampled for 2 shifts.

Chemistry Technicians received instructions to check with operations at the start of each shift to determine sampling requirements.

Appropriate disciplinary action has been taken with the person directly responsible.

Obtaining a satisfactory sample of boron concentration verified that the immediate corrective action was appropriate.

The adequacy of the instructions given to Chemistry Technicians will be verified by the absence of similar future occurances.

SAFETY ANALYSIS

Prior to the change of trains in sampling, sample data of the operational train had been within required tolerances. The sample collected from the operational train as the immediate corrective action was also within the required tolerances. During this period no boration or dilution activities were in progress. Therefore, it is apparent that no significant deviation in boron concentration of reactor coolant occurred during the improperly sampled period.

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

DUKE POWER COMPANY
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HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

September 5, 1984

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

Subject: Catawba Nuclear Station, Unit 1
Docket Nos. 50-413

Gentlemen:

Pursuant to Operating License NPF-24, paragraph 2.F and 10 CFR 50.73 Sections (a) (1) and (d), attached is Licensee Event Report 413/84-06 concerning improper boron sampling as required by the Operating License. This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

Hal B. Tucker by WAH

Hal B. Tucker

RWO:slb

Attachment

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NRC Resident Inspector
Catawba Nuclear Station

American Nuclear Insurers
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