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DOCKET #  
05000287

SUBJECT: LER 86-003-00: on 860928, turbine bldg sump radiation monitor found in bypass.

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## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Oconee Nuclear Station, Unit 3												DOCKET NUMBER (2) 0 5 0 0 0 2 8 7				PAGE (3) 1 OF 0 5						
TITLE (4) Turbine Building Sump Radiation Monitor Found in Bypass																						
EVENT DATE (6)			LER NUMBER (8)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)												
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES				DOCKET NUMBER(S)									
1	0	2	8	8	6	8	6	0	0	3	0	0	1	2	0	1	8	6	0 5 0 0 0			
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																						
OPERATING MODE (9)		N		20.402(b)				20.405(e)				50.73(a)(2)(iv)				73.71(b)						
POWER LEVEL (10)		0		20.405(a)(1)(i)				50.38(c)(1)				50.73(a)(2)(v)				73.71(c)						
				20.405(a)(1)(ii)				50.38(c)(2)				50.73(a)(2)(vii)				OTHER (Specify in Abstract below and in Text, NRC Form 365A)						
				20.405(a)(1)(iii)				XX 50.73(a)(2)(i)				50.73(a)(2)(viii)(A)										
				20.405(a)(1)(iv)				50.73(a)(2)(iii)				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 Philip J. North, Licensing												TELEPHONE NUMBER										
												AREA CODE 7 0 4 3 7 3 - 7 4 5 6										
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												
D	I L			NO																		
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR						
YES (If yes, complete EXPECTED SUBMISSION DATE)												XX NO										
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																						
<p>On September 28, 1986, at 1240 hours with Unit 3 at cold shutdown for steam generator tube leak repair, 3 Radiation Indication Alarm (RIA)-54 Turbine Building Sump Monitor was found in "bypass".</p> <p>With the monitor in bypass it would not automatically trip the turbine building sump pumps as required by Technical Specification 3.5.5.1.a.1. However, the monitor would sound a statalarm in the Control Room if its setpoint was exceeded.</p> <p>The immediate corrective action was to return the normal/bypass selector switch to "normal", verifying the RIA's setpoint, and functionally testing the interlock statalarm.</p> <p>The root cause of this event was determined to be a defective procedure, because in certain cases the procedure required RIA-54 to be placed in bypass but did not require it to be returned to normal.</p> <p>The health and safety of the public were not affected by this incident.</p>																						
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Oconee Nuclear Station	05000287	86	003	00	02	OF	05

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

### BACKGROUND

The objective of the Radioactive Effluent Technical Specifications, (RETS) with regard to effluent instrumentation, is to ensure that all significant liquid and gaseous effluent releases are monitored. The RETS specify that all effluent monitors be operable and that alarm/trip setpoints be determined in order to ensure that radioactive levels do not exceed the maximum permissible concentration set by 10CFR 20.106.

To further ensure that the instrumentation functions properly, surveillance requirements are also defined in the specifications.

Oconee provides radiation monitors for potentially radioactive liquid or gaseous effluent lines. Automatic isolation is provided for major effluent lines such as the liquid radwaste effluent, the Turbine Building Sump effluent, and the gaseous waste decay tank effluent. 3RIA-54 is the Turbine Building Sump monitor required to be operable with the sump in continuous release mode. In the event of a loss of power, or high activity, Turbine Building sump pumps are stopped.

### DESCRIPTION OF OCCURRENCE

On August 19, 1986, at 0940 hours, the procedure for Control of Secondary Contamination, was initiated due to a steam generator tube leak. The Turbine Building Sump batch release method was started at this time. 3RIA-54 was selected to bypass and the RIA Key Operated switch was positioned and repositioned as needed. For some of these iterations, procedure do not require documentation of switch position. The batch release method continued until September 6, 1986, when the sump pumps were placed in continuous discharge.

Continuous discharge was continued until September 28, 1986, when 3RIA-54 selector switch was found in the bypass position by personnel performing the Process Radiation Monitoring Monthly Functional Check. Control room personnel were immediately notified of the switch position. The normal/bypass switch is key operated and the key was in the switch.

3RIA-54 "normal/bypass" selector switch was last documented being selected to normal on September 3, 1986, at 0330 hours. The selector switch is key operated. When the selector switch is selected to bypass, the key cannot be removed from the switch. It is common practice for the control room personnel to leave the key in the switch during batch releases because of the need to select the bypass mode of operation at various times, as was the case between September 3, 1986, and September 6, 1986. All conditions and requirements were being met for an inoperable 3RIA-54 during these dates.

It cannot be determined when the normal/bypass selector switch was last selected to "bypass". However, it is concluded that:

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APPROVED OMB NO. 3150-0104

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1. The individuals who completed batch releases on September 6, 1986 left the switch in the improper position.

or

2. Other unknown personnel repositioned the switch between September 6 and 28, 1986, while performing other specific operations tasks.

This represents inadequate control of a Technical Specification required function which was defeated for approximately 22 days.

If it is assumed that the selector switch remained in "bypass" until September 28, 1986 when the incident was discovered, 3RIA-54 monitored the sump and was capable of giving an alarm to the control room if the setpoint was reached. Daily samples of the sump were taken until September 26, 1986. These samples could serve as a backup to 3RIA-54. However, the monitor would not have automatically shutdown the pumps as required by Technical Specification 3.5.5.1, while the monitor was selected to "bypass". The Alarm Response Manual directs the Operator to manually open the pump breakers upon receiving 3RIA-54 high limit alarm, which would shutdown the Turbine Building Sump pumps.

After a brief evaluation, the Control Room Operator placed the selector switch to the normal position and returned the key to the key locker. A functional check of the high limit statalarm along with a setpoint check of 3RIA-54 was made. The setpoint was correct and the high limit statalarm functioned properly.

#### CAUSE OF OCCURRENCE

The root cause of this occurrence is a defective procedure. The procedure for Turbine Building Sump Operation, gives instruction for all modes of operation of the Turbine Building sumps. Each mode of operation is covered by enclosures to the procedure. The enclosures are normally used independently of each other, except when instructions are given in an enclosure to go to a certain mode of operation covered by another enclosure.

The enclosure for batch release of Unit 3 Turbine Building Sump allows 3RIA-54 "normal/bypass" switch to be selected to "bypass" as required, but no instructions appear in the enclosure for continuous release of Unit 3 Turbine Building Sump to select the "normal/bypass" switch to "normal" operation. In this event both of these enclosures were used at different times by different individuals.

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CORRECTIVE ACTION

Immediate corrective action was to place the 3RIA-54 "normal/bypass" selector switch to "normal". The monitor was then verified to be at the proper setpoint, and the high limit statalarm was functionally tested.

Supplemental corrective action included revising procedures to require the "normal/bypass" selector switch to be verified in the "normal" position before the sump pump is placed in continuous discharge.

The immediate corrective action assured that 3RIA-54 performed its intended function as described in Technical Specification 3.5.5.1. The procedure changes should eliminate any further misunderstanding as to where the selector switch should be selected for any mode of operation. The procedure will now specifically state the correct position for the selector switch.

ANALYSIS OF OCCURRENCE

3RIA-54 alarm setpoint is set to provide an early warning of increased activity. The alarm setpoint limit is one half the limit of Technical Specification 3.9.1 based upon an unknown mixture, according to 10CFR-20, Appendix B.

3RIA-54 is operated as a continuous sampler and is utilized to monitor a possible effluent path of radioactivity to the environment. During the period of time in question, 3RIA-54 maintained its monitoring capabilities of the Turbine Building Sump and was capable of sending an alarm to the control room upon reaching its setpoint. However, with 3RIA-54 selector switch in bypass, the monitor would not have performed one of its intended functions, automatic shutdown of the sump pumps.

When the high limit alarm is received in the control room, the alarm response is to manually shut down the sump pumps which will stop sump discharge as does the automatic function of the monitor. If 3RIA-54 high limit alarm was received in the control room and the Turbine Building Sump pumps did not shut down two actions would be initiated:

1. 3RIA-54 controls and indication would be checked. If the selector switch was found in bypass it would be selected to "normal" at which time the pumps would shut down automatically.
2. An operator would be dispatched to open the pumps' breakers, which would stop the sump discharge.

It is estimated that the maximum time to manually open the pump breakers and stop the sump discharge is five minutes. Assuming that the pump ran 5 minutes after 3RIA-54 alarmed, with 3RIA-54 setpoint set at 1200 CPM, (as found on

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11-14-86), approximately 6.74 Micro/ml would be released, resulting in 4.58E-5 mrem estimated whole body dose to the public. This amount of release is well below Technical Specifications limits. As such, the health and safety of the public was not affected by this incident.

**DUKE POWER COMPANY**

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CHARLOTTE, N.C. 28242

HAL B. TUCKER

VICE PRESIDENT  
NUCLEAR PRODUCTION

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(704) 373-4531

December 1, 1986

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Washington, D.C. 20555

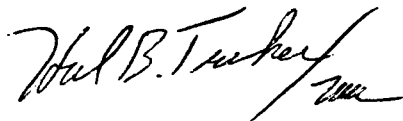
Subject: Oconee Nuclear Station, Unit 3  
Docket No. 50-287  
LER 287/86-03

Dear Sir:

Pursuant to 10CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report 287/86-03 concerning the discovery of the Turbine Building Sump Radiation Monitor in "bypass", thus resulting in a violation of Oconee Nuclear Station Technical Specifications.

This report is submitted in accordance with Part 50.73 (a)(2)(i)(B). This event is considered to be of no significance with respect to the health and safety of the public.

Very truly yours,



Hal B. Tucker

PJN/97/jgm

Attachments

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December 1, 1986

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