						LICENS	EE EVENT	REPOR	T (LER)					
								Docket Number (2)						
Table of	4) ROOM	VENTIL	ATION AC	TUATION DUE 1	O RADI	ATION MO	NITOR OF	R31J I	ODINE C	HANNEL SPIKE				
	Date			LER Number (ort Dat		W)		ies Involved (8)		
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						LICENSEE	CONTACT	FOR T	HIS LER	(12)				
Name AREA F. Hornbeak, Technical Staff Supervisor, Ext. 2243 8							CODE	2 3 6 - 5 4 4 1						
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On January 26, 1986 at 1403 with the plant in power operation (Mode 1), and on February 4, 1986 at 1245 with the plant in power operation (Mode 1), process radiation monitor OPR31J (Main Control Room Outside Air Intake 'A') [IL] went into the interlock mode due to a spike on the monitor's iodine channel. This automatically transferred the main control room ventilation system [VI] to its Engineered Safety Features configuration in both events. The monitor's iodine channel high voltage power supply was replaced after the first event and the monitor was returned to service on 1-29-86, however, the monitor spiked again on 2-4-86. The monitor's circuit boards were then replaced in order to try to correct this problem but the iodine channel continued to spike. The microprocessor motherboard was then replaced and the iodine channel has not spiked since this was done. The problem is believed to have been caused by a bad component or edge connector on the motherboard. A similar event has occurred in the past (LER 85-099-00).

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A. PLANT CONDITIONS PRIOR TO EVENT:

MODE 1 - Power Operation Rx Power 98% RCS [AB] Temperature/Pressure Normal Operating

B. DESCRIPTION OF EVENT:

On January 26, 1986 at 1403 with the plant in power operation (Mode 1) at 98% reactor power and on February 4. 1986 at 1245 with the plant in power operation (Mode 1) at 98% reactor power, process radiation monitor GPR31J (Main Control Room Outside Air Intake 'A') [IL] went into the interlock mode due to a spike on the monitor's iodine channel. The interlock signal caused a control room annunciation and automatically transferred the main control room ventilation system [VI] to its Engineered Safety Features (ESF) configuration in both events. Operators verified that there was not a radiation related event by observing the iodine channel on the redundant radiation monitor of that train (OPR32J) during each event. Operators also verified the proper ESF control room ventilation alignment in both events. As a result of the event on 1-26-86, the monitor was declared inoperable and the Technical Specification Limiting Condition for Operation Action Requirement (LCOAR) 3.3.3.1, which requires the control room ventilation system to be; placed in the makeup mode, was entered. The iodine detector high voltage power supply was replaced and the monitor was returned to service on 1-29-86, however, the monitor's iodine channel spiked again on 2-4-86. The applicable LCOAR was entered again at this time. Operator actions were correct in both instances and did not place the plant in an unsafe condition. There were no other systems or components that were inoperable at the beginning of these ever's that contributed to these events. There was also no effect on the operation of the plant from these events. These events are 30 day reportable per 10CFR50.73(a)(2)(iv).

C. CAUSE OF EVENT:

The characteristics of the iodine channel spikes indicated that the problem was not noise related. The iodine channel spiking is believed to have been caused by a bad component or edge connector on the microprocessor motherboard. The motherboard is the main printed circuit board into which all other microprocessor circuit boards are plugged. There were no personnel errors involved in either of these events.

D. SAFETY ANALYSIS:

There was no effect on plant and public safety. The transfer of the main control room ventilation system to the makeup mode of operation is an ESF actuation which established a safer plant condition. The redundant monitor (OPR32J) on the control room ventilation train was operable throughout these events. Train B main control room ventilation process radiation monitors were also operable throughout these events. A check of the OPR32J iodine channel also showed that there was not any iodine present during each event.

E. CORRECTIVE ACTIONS:

The iodine channel high voltage power supply was replaced on 1-28-86, but this did not solve the problem since the monitor spiked again on 2-4-86. The five circuit boards in the OPR31J monitor were then switched with five boards from a similar monitor that was operating correctly to see if the problem would shift to that monitor. The monitor that the original OPR31J boards were switched to has not spiked since but the OPR31J monitor continued to spike. The OPR31J motherboard was then replaced. The motherboard is the main printed circuit board in the monitor's microprocessor into which all of the printed circuit boards are plugged. The OPR31J iodine channel has not spiked since the microprocessor motherboard was replaced.

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F. PREVIOUS OCCURRENCES:

LER NUMBER

TITLE

85-099-00

Actuation of Main Control Room Ventilation System Due to Spiking of the

Iodine Channel of the OPR31J Rad Monitor.

G. COMPONENT FAILURE DATA:

MANUFACTURER

NOMENCLATURE

MODEL NUMBER

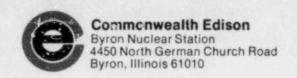
MEG PART NUMBER

General Atomic

Motherboard

3572000

.



April 7, 1986

LTR:

BYRON 86-0348

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

Dear Sir:

The enclosed Licensee Event Report from Byron Generating Station is being transmitted to you as a Supplemental Report to LER 86-002-00.

This report is number 86-002-01; Docket No. 50-454.

Very truly yours,

R. E. Querio Station Manager

Byron Nuclear Power Station

REQ/RP/bf

Enclosure: Licensee Event Report No. 86-002-01

cc:

J. G. Keppler, NRC Region III Administrator

J. Hinds, NRC Resident Inspector

INPO Record Center CECO Distribution List

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