



Commonwealth Edison
Byron Nuclear Station
4450 North German Church Road
Byron, Illinois 61010

April 26, 1990

Ltr: BYRON 90-0400

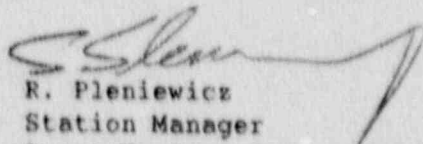
U. S. Nuclear Regulatory Commission
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Dear Sir:

The enclosed Licensee Event Report from Byron Generating Station is being transmitted to you in accordance with the requirements of 10CFR50.73(a)(2)(iv).

This report is number 90-005; Docket No. 50-454.

Sincerely,



R. Pleniewicz
Station Manager
Byron Nuclear Power Station

RP/dm

Enclosure: Licensee Event Report No. 90-005

cc: A. Bert Davis, NRC Region III Administrator
W. Kropp, NRC Senior Resident Inspector
INPC Record Center
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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Byron, Unit 1										Docket Number (2) 0 5 0 0 0 4 5 4					Page (3) 1 of 0 3		
Title (4) AUTOMATIC START OF THE OA FUEL HANDLING BUILDING CHARCOAL BOOSTER FAN DURING CALIBRATION DUE TO PROCEDURAL DEFICIENCY AND PERSONNEL ERROR																	
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 3	2 7	9 0	9 0	0 0 5	0 0	0 4	2 6	9 0	BYRON UNIT 2		0 5 0 0 0 4 5 5						
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)														
POWER LEVEL (10)			20.402(b)		20.405(c)		X		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)(vi)		Other (Specify						
			20.405(a)(1)(iii)		50.73(a)(2)(i)				50.73(a)(2)(viii)(A)		in Abstract						
			20.405(a)(1)(iv)		50.73(a)(2)(ii)				50.73(a)(2)(viii)(B)		below and in						
			20.405(a)(1)(v)		50.73(a)(2)(iii)				50.73(a)(2)(x)		Text)						
LICENSEE CONTACT FOR THIS LER (12)																	
Name										TELEPHONE NUMBER							
G. Stauffer, Assistant Technical Staff Supervisor										AREA CODE		0 1 5 2 3 4 - 5 4 4 1					
Ext. 2274																	
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																	
CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NPRDS							
SUPPLEMENTAL REPORT EXPECTED (14)												Expected Submission Date (15)					
Yes (If yes, complete EXPECTED SUBMISSION DATE)												X NO					
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																	

On March 27, 1990, at 0918, during a calibration of the Fuel Handling Building Incident Radiation Monitor ORT-AR055, a high radiation signal caused the OA Fuel Handling Building Charcoal Booster Fan to automatically start and transferred the associated dampers to their Engineered Safety Feature (ESF) positions.

The root cause of the high radiation signal was a procedural deficiency combined with personnel error. The calibration procedure addressed the fact that leads may need to be lifted in a note and referred the Instrument Maintenance technician to the test report package for specific leads. Neither document required a sign-off. In addition, the technician had experienced a delay after entering the procedure, and did not reread the note prior to resuming surveillance activities due to cognitive personnel error.

Corrective actions include revising Instrument Maintenance procedures with ESF potential to include a procedural step to lift necessary leads. A special test report package cover sheet will be developed to identify procedures which have an ESF associated with them. Tailgate sessions will also be held with working departments to remind them of the importance of reviewing all steps and notes after resuming activities.

This event is reportable pursuant to 10CFR 50.73 (a)(2)(iv) for an event that resulted in an automatic actuation of an Engineered Safety Feature.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			Page (3)
		Year	Sequential Number	Revision Number	
Byron, Unit 1	0151010101454	910	- 01015	- 010	012 OF 013

TEXT Energy Industry Identification System (EIS) codes are identified in the text as [XX]

A. PLANT CONDITIONS PRIOR TO EVENT:

Event Date/Time 03/27/90 / 0918

Unit 1 MODE 1 - Power Operation Rx Power 99% RCS [AB] Temperature/Pressure Normal Operating

Unit 2 MODE 1 - Power Operation Rx Power 98% RCS [AB] Temperature/Pressure Normal Operating

B. DESCRIPTION OF EVENT:

On March 27, 1990, at 09:18, the Fuel Handling Building Incident Radiation Monitor (ORT-AR055) received a high radiation signal which automatically started the OA Fuel Handling Building Charcoal Booster Fan (VA) [VG] and transferred the associated dampers to their Engineered Safety Feature (ESF) positions. The following describes the events leading up to the ESF actuation.

On March 27, 1990, at 0735, Limiting Condition of Operation Action Requirement (LCOAR) OBOS 3.3.1-1a was entered to accommodate performance of BIS 3.3.1-200, "Surveillance Calibration of a General Atomics RD-10b Geiger-Mueller Detector." The Instrument Maintenance (IM) Control System Technician (CST, non-licensed) discussed the scope of the calibration with the Shift Control Room Engineer (SCRE, licensed) and pursued obtaining the required support from Radiation Protection. At approximately 0900, with the surveillance underway, the CST performed the first step of the surveillance by placing the communication online/bypass switch to the bypass position which resulted in a LOSS OF COMMUNICATION indication on the Main Control Room radiation monitoring display console. This step is performed to avoid nuisance alarms during the calibration that may distract the Nuclear Station Operators. The CST then instructed the Radiation Technician to install the source on the calibration mounting bracket. At 0918, during installation of the source, the OA Fuel Handling Building Charcoal Booster Fan automatically started and transferred the associated dampers to their ESF positions.

The CST immediately reviewed the calibration package and determined that a note had been missed that addressed leads that needed to be lifted to defeat the interlock function. When the cause for the interlock signal was determined, the Unit 0 Nuclear Station Operator (NSO, licensed) shut down the booster fan.

The Fuel Handling Building Charcoal Booster Fan and associated dampers functioned as designed. No plant systems or components were previously inoperable that contributed to this event. All Operator actions were correct. Stable plant conditions were not affected by this event.

This event is reportable pursuant to 10CFR50.73 (a)(2)(iv) for an event that resulted in an automatic actuation of an Engineered Safety Feature.

C. CAUSE OF EVENT:

The root cause of this event is two-fold. The surveillance format was deficient because the surveillance addressed the fact that leads may have to be lifted in a note as opposed to a sign-off step, which then directed the technician to the test report package for specific leads. The test report package contained details on the leads to be lifted in the precautions and notes. This format had been used because the calibration was generic and was used for several detectors of the same type; some of which had ESF interlocks and some that did not. BAP 400-19, "Maintenance Procedure Writer's Guide," does specify that notes are not to contain action. However, the writer's guide was established after the last revision to BIS 3.3.1-200. Instrument Maintenance performed a sample check of surveillances to determine how well they conformed to the writer's guide. Based on these results, the remaining reviews were to be completed during the normal two year surveillance review process. Secondly, due to cognitive personnel error, the CST did not reread the note when the surveillance was resumed after support was obtained.

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D. SAFETY ANALYSIS:

There were no safety consequences for this event. The automatic start of the OA Fuel Handling Building Charcoal Booster Fan and realignment of dampers is an ESF actuation. This lineup establishes a safer plant condition because the ESF lineup filters radioactive contaminants from the fuel handling building atmosphere. The filtering capability was not required since no airborne activity existed during this event. The redundant monitor (ORE-AR056) was operable during this event and showed no increased activity during this event. Under more severe initial conditions, there would still be no safety consequences since the interlock is a conservative position and places the plant in a safer configuration.

E. CORRECTIVE ACTIONS:

An Event Evaluation Review was conducted on Thursday, April 12, 1990, to discuss this event. The following corrective actions were identified:

1. Revise Instrument Maintenance procedures with ESF or interlock actuation potential by including a procedural step, instead of a note, to lift the necessary leads. In addition, revise the applicable test report packages to have sign-off steps for lifting these leads. This item will be tracked by Action Item Record (AIR) 90-100.
2. Develop a special test report package cover sheet for all Instrument Maintenance procedures which have ESF/interlock functions associated with them to alert the technician that particular caution should be paid during performance of the surveillance. AIR 90-100 will also track this item.
3. This event and the importance of reviewing each step and all notes from the beginning of a procedure after resuming surveillance activities will be discussed with all Maintenance Departments, Operating and Technical Staff. This action will be tracked by AIRs 90-101, 90-102, and 90-103 respectively.

In addition, the individual involved in this event is aware of its significance. The individual was specifically counseled on appropriate actions that would have prevented this event.

F. PREVIOUS OCCURRENCES:

There have been previous automatic starts of the Fuel Handling Building Charcoal Booster Fans although the root causes are unrelated to this event. LER 89-01, "Technical Specification Hot Channel Factor Surveillance Performed Late Due to Personnel Error," documents a similar root cause. The root cause of the late surveillance was an improper procedure format in that the surveillance interval specifications were in the procedure in a note as opposed to an action step, which resulted in personnel error.

G. COMPONENT FAILURE DATA:

This event did not involve component failure.