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

November 27, 1990

Ltr: BYRON 90-1114

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 in accordance with the requirements of 10CFR50.73(a)(2)(i).

This report is number 90-013; Docket No. 50-454.

Sincerely,

R. Pleniewicz
Station Manager
Byron Nuclear Power Station

RP/DK/mlm

Enclosure: Licensee Event Report No. 90-013

cc: A. Bert Davis, NRC Region III Administrator
W. Kropp, NRC Senior Resident Inspector
INPO Record Center
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(0675R/0081R-6)

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1)	Docket Number (2)	Page (3)
Byron, Unit 1	0 5 0 0 0 4 5 4	1 of 0 3

Title (4)

Loss of OA and OB SX Make Up Pumps due to 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)
									Byron Unit 2	0 5 0 0 0 4 5 5
1 0	3 1	9 0	9 0	0 1 3	0 0	1 1	3 0	9 0		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)			
1	___ 20.402(b)	___ 20.405(c)	___ 50.73(a)(2)(iv)	___ 73.71(b)
POWER LEVEL (10)	___ 20.405(a)(1)(i)	___ 50.36(c)(1)	___ 50.73(a)(2)(v)	___ 73.71(c)
7 7	___ 20.405(a)(1)(ii)	___ 50.36(c)(2)	___ 50.73(a)(2)(vii)	___ Other (Specify
	___ 20.405(a)(1)(iii)	X 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	Ext.	TELEPHONE NUMBER AREA CODE
S. Ann, Technical Staff	Ext. 2383	
J. Schrock, Unit 1 Operating Engineer	Ext. 2216	8 1 5 2 3 4 - 5 4 4 1

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)

On October 31, 1990, at 0131, both Essential Service Water (SX) Make Up Pumps were inoperable for 7 minutes. This event occurred while taking the OA SX Make Up Pump Out-of-Service for maintenance work when a Nuclear Station operator (NSO, licensed) removed fuse FU-05 (Control Power for the OB SX Make Up Pump) in Remote Shutdown Panel 1PL05J instead of FU-05 (Control Power for the OA SX Makeup Pump) in Remote Shutdown Panel 1PL04J as specified in the Out-of-Service paper work. The Nuclear Station Operator (NSO, licensed) in the control room immediately noticed the loss of control power for the OB SX Make Up Pump. After the remote shutdown panel operator was notified, the fuse was reinstalled, and FU-05 in 1PL04J was removed as intended. Investigation revealed that inadequate/poor labels on the Remote Shutdown Panel contributed directly to the personnel error. Throughout this event, normal make up from Circulating Water Make Up pumps was available and both Deep Well pumps were operable as backup.

Corrective actions will include improving labeling on the Remote Shutdown Panels and installing unique locks at each Remote Shutdown Panel. Other areas of the plant will be reviewed for possible improvements.

This event is reportable persuant to 10CFR50.73(a)(2)(i)(B); any operation or condition prohibited by Technical Specifications.

A. PLANT CONDITIONS PRIOR TO EVENT:

Event Date/Time 10-31-90 / 0131

Unit 1 MODE 1 - Power Operation Rx Power 77% RCS [AB] Temperature/Pressure Normal Operating

Unit 2 MODE 6 - Refueling Rx Power 0% RCS [AB] Temperature/Pressure Ambient/Atmospheric

B. DESCRIPTION OF EVENT:

On October 31, 1990 at 0131, both Essential Service Water (SX) [BI] Diesel Driven Make Up Pumps were inoperable for seven minutes. Limiting Condition for Operating Action Requirement (LCOAR) 1BOS 0.3-2a was initiated.

In order to reinstall the suction strainer of the OA SX Make Up Pump and to clean silt accumulation in the pump sump at the River Screen House, Out-of-Service (OOS) 90-0-4112 for the OA SX Make Up Pump was requested to ensure the safety of the diver. The control switch for the OA SX Make Up Pump in the Main Control Room was placed in Pull-to-Lock (PTL) position at 0023 to take the pump out of service, and 0BOS LCOAR 7.5-1a was initiated as required. The control switch for the OA SX Makeup Pump was in PTL throughout this event.

A Nuclear Station operator (NSO, licensed) was sent to the Remote Shutdown Panel to take the OA SX Makeup Pump out of service electrically by removing control power fuse FU-05 in 1PL04J. However, fuse FU-05 in 1PL05J was removed instead of FU-05 in 1PL04J as specified in the OOS. Fuse FU-05 in 1PL05J supplies control power for the 0B SX Make Up pump. The Nuclear Station Operator (NSO, licensed) in the Control Room immediately noticed the loss of control power for the 0B SX Make Up pump, and attempted to contact the operator at the Remote Shutdown Panel. However, the operator had already left the panel, and was enroute to the Main Control Room. Upon notification, the operator returned to the Remote Shutdown Panel and reinstalled the fuse for the 0B SX Make Up pump, and removed the proper fuse FU-05 for the 0A SX Make Up pump in 1PL04J. The 0B SX Make Up Pump was returned to normal standby mode at 0138. The 0B SX Make Up pump was inoperable for approximately 7 minutes.

This event did not cause any manual or automatic safety system actuations. Plant conditions were not affected by this event. This event is reportable pursuant to 10CFR50.73(a)(2)(i)(B); any operation or condition prohibited by Technical Specifications.

C. CAUSE OF EVENT:

The root cause for this event was a cognitive personnel error. Inadequate/poor labels on the Remote Shutdown Panel contributed directly to the personnel error. The Remote Shutdown Panel consists of three panels, 1PL04J, 1PL05J and 1PL06J. Each panel was properly labeled; however, there is no clear separation among these panels on the front side of the Remote Shutdown Panel, and labels are not easily seen due to lighting fixtures, structural supports, and electrical conduits. The back side of the Remote Shutdown Panel has three separate double doors for the three panels. Each panel was labeled with a removable magnetic plaque. However, these labels were installed at a relatively high level such that they were not easily seen.

The control switches for the OA and OB SX Make Up Pumps are located at the extreme right of their respective Remote Shutdown Panels (1PL04J and 1PL05J) while their FU-05 fuses are located at the extreme left. Therefore, the control switch for the OA SX Make up Pump at the Remote Shutdown Panel (1PL04J) is located almost directly in front of the fuse for the OB SX Make Up Pump in 1PL05J. During this event the licensed operator made an assumption that the fuse for the OA SX Make Up Pump was located behind the control switch.

D. SAFETY ANALYSIS:

Safety of the plant and public was not affected by this event. During this event, both the SX tower basins were maintained at a normal basin level of 80%. Normally the SX tower basins receive make up water from the Circulating Water (CW) [KE] Make up pumps. Throughout this event, plant conditions did not require the use of either SX make up pump. Both Deep Well (WW) [KH] pumps were also available to provide makeup in the event that River Screen House was unavailable.

E. CORRECTIVE ACTIONS:

Upon noticing the loss of control power for the OB SX Make Up Pump, the NSO in the Main Control Room immediately notified the operator at the Remote Shutdown Panel. The fuse for the OB SX Make Up Pump was reinstalled, and the proper fuse for the OA SX Make Up pump was removed. No other immediate corrective actions were required. An Event Evaluation Review Board meeting was held to determine actions required to prevent any reoccurrence. The following recommendations were made:

1) The Remote Shutdown Panels (1/2PL04J, 1/2PL05J and 1/2PL06J) have been relabeled.
2) The Remote Shutdown Panels will be fitted with unique locks. AIR# 90-288 tracks this item.
3) This event will be discussed in the Station Commitment to Excellence committee. Discussion will center around communications and other areas of the plant where unique locks and/or labeling may be beneficial. AIR# 90-290 tracks this item.
4) The backside of the Main Control Room panels will be reviewed for appropriate labeling. These panels will be labeled as deemed appropriate based upon the outcome of this review. AIR# 90-289 tracks this item.

Fuse labeling enhancements may result from an existing task force whose objective is to review safety-related fuse control throughout Byron Station.

F. PREVIOUS OCCURRENCES:

None.

G. COMPONENT FAILURE DATA:

No components failed or were caused to fail during this event.