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

February 19, 1991

Ltr: BYRON 91-0061

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

Dear Sir:

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

This report is number 90-007; Docket No. 50-454.

Sincerely,

D K Schwartz for

R. Pleniewicz
Station Manager
Byron Nuclear Power Station

RP/DK/mw

Enclosure: Licensee Event Report No. 90-007

cc: A. Bert Davis, NRC Region III Administrator
W. Kropp, NRC Senior Resident Inspector
INPO Record Center
CECo Distribution List

(0705R/0081R)

IE22 1/1

SUPPLEMENT TO DVR

DVR NO.

D- 06 - 01 - 90 - 086

STA UNIT YEAR NO.

PART 1 TITLE OF EVENT

Main Steamline Isolation System Inoperable Due to Failure to Test Manual Initiation Handswitch

OCCURRED

06/12/90	1100
DATE	TIME

REASON FOR SUPPLEMENTAL REPORT

Update corrective actions.

PART 2

ACCEPTANCE BY STATION REVIEW _____ [signature] 2/19/91

DATE _____ [signature] 2-20-91

SUPPLEMENTAL REPORT APPROVED AND AUTHORIZED FOR DISTRIBUTION [signature] STATION MANAGER 2/20/91 DATE

(0705R/0081R-1)

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 4

Title (4)

Main Steamline Isolation System Inoperable Due to Failure to Test Manual Initiation Handswitch

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
0 6	1 2	9 0	9 0	0 0 7	0 1	0 7	2 0	9 1		0 5 0 0 0

OPERATING MODE (9): 1

POWER LEVEL (10): 0 9 3

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

	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)		Other (Specify in Abstract below and in Text)
	20.405(a)(1)(iii)	X	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
Joe Langan, Regulatory Assurance Ext. 2825	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	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	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 06/12/90, during a review of the Byron Unit 1 Main Steam Isolation Valve (MSIV) Full Stroke Test surveillances, it was found that the Steam Line Isolation handswitch on Main Control Board Panel 1PM06J had not been tested during the past refueling outages for both units. Technical Specification 3.3.2, Table 4.3-2 Item 4.a.2, requires testing of the Steam Line Isolation handswitch on a refueling outage interval and requires that two trains be operable in Modes 1, 2 and 3. At 1100 on 6-12-90, the MSIV manual isolation system was declared inoperable for both units.

Due to an unrelated problem, Unit 1 was shutdown (Mode 4) on 06/13/90. Therefore, it was decided to perform the test on Unit 1 first. The handswitches were tested and the system was declared operable at 1545. On 06/13/90, at 2345, with Unit 2 operating in Mode 1, the unit entered Technical Specification 3.0.3 because both trains of manual isolation were inoperable during the test. On 06/14/90 at 0001, the test was completed and Technical Specification 3.0.3 was exited. The system was declared operable at 0730.

As preventative action, Byron plans to have a review performed on all similar equipment to ensure that proper testing is being done. In addition, the Station will review related procedures and the procedure review process.

There were no systems or components inoperable prior to the event which contributed to the event. No manual or automatic safety system actuations occurred. There have been no previous similar occurrences. This report is being submitted pursuant to 10 CFR 50.73 (a)(2)(i)B.

A. PLANT CONDITIONS PRIOR TO EVENT:

Event Date/Time 06/12/90 /1100

Unit 1 MODE 1 - Power Operation Rx Power 93% RCS [AB] Temperature/Pressure Normal Operating

Unit 2 MODE 1 - Power Operation Rx Power 86.8% RCS [AB] Temperature/Pressure Normal Operating

B. DESCRIPTION OF EVENT:

In preparation for an upcoming review which was to be completed by a consultant, the Byron Technical Staff was screening procedures that could potentially be deficient in testing parallel contacts. On 06-12-90, during a review of the Byron Unit 1 Main Steam Isolation Valve (MSIV) [SB] [ISV] Full Stroke Test surveillance, 1BVS 7.1.5-1, it was found that the Steam Line Isolation handswitch [HS] on Main Control Board Panel 1PM06J had not been tested during the past refueling outage. The switch on 1PM05J had been tested as required. Technical Specification 3.3.2, Table 4.3-2 Item 4.a.2, requires testing of both Steam Line Isolation handswitches on a refueling outage interval. Subsequent review revealed that the corresponding handswitch (2PM06J) on Unit 2 had also not been tested during its previous refueling outage.

Technical Specification 3.3.2, Table 3.3-3 Item 4.a.2, requires both Manual Initiation Systems for the Steam Line Isolation function to be operable in Modes 1 through 3. The Technical Specifications require that an inoperable Manual Initiation System be restored to operable status within 48 hours or the unit must be in Hot Standby within the following 6 hours and in Hot Shutdown within the following 6 hours. At 1100 on 6-12-90, Unit 1 and Unit 2 Limiting Condition for Operation Action Requirement (LCOAR) procedures 1BOS 3.2-1a and 2BOS 3.2-1a were entered as required by the Technical Specifications.

A review of applicable system electrical drawings indicated that the handswitches could be tested with the units on line. By placing the two local/remote switches for the MSIV's at the Remote Shutdown Panel to the local position, the Steam Line Isolation switches could be actuated without causing the MSIV's to close. However, with the system in local control, both trains of the system manual isolation are inoperable at the main control board. Having both trains of the system manual isolation is not permitted by the LCOAR of Specification 3.3.2, Table 3.3-3 Item 4.a.2. In addition, with both Local/Remote switches in the local position, the ability to isolate individual steam lines using the control switch on the Main Control Board was lost. Individual Steam Line isolation is required by Technical Specification 3.3.2, Table 3.3-3 Item 4.a.1. As a result, testing of the Steam Line Isolation handswitch with the plant in Modes 1, 2, or 3 would not be permitted within the Technical Specification LCOARs. It was realized prior to the test that with both handswitches removed from service, the plant would be operating outside the limitations of the Technical Specifications and would have to enter Specification 3.0.3. This situation was discussed with the Senior Resident Inspector prior to performing the test.

Prior to testing the switches on either unit, the procedure was executed on the Byron/Braidwood simulator to ensure no problems associated with the test would develop. Due to an unrelated problem, Unit 1 was shutdown (Mode 4) on 06/13/90. Therefore, it was decided to perform the test on Unit 1 first. Using Special Procedure SPP 90-038 the operation of both Manual Initiation handswitches was tested by verifying contact continuity. Unit 1 was in Mode 4 during the test which precluded the need to enter Technical Specification 3.0.3. Performance of the procedure took approximately fifteen minutes. Following a Station review of the completed procedure, the handswitch was declared operable and the LCOAR for Specification 3.3.2 was exited at 1545.

On 06/13/90, at 2345, with Unit 2 operating in Mode 1, both Manual Initiation handswitches were tested using Special Procedure SPP 90-039. During the test, the unit entered Technical Specification 3.0.3 as Control of the MSIV's was placed in the Local Position at the Remote Shutdown Panel. On 06/14/90 at 0001 Technical Specification 3.0.3 was exited as control of the MSIV's was returned to the Remote (Control Room) position. Following a review of the procedure by Station personnel, the handswitch was declared operable and at 0730 the LCOAR for Specification 3.3.2 was exited.

There were no systems or components inoperable prior to the event which contributed to the event. No manual or automatic safety system actuations occurred. All operator actions taken were correct.

This report is being submitted pursuant to 10 CFR 50.73 (a)(2)(i)B for operation in a condition outside of Technical Specifications.

C. CAUSE OF EVENT:

The root cause of the event was a deficiency in the procedure used to test the Steam Line Isolation handswitches. This deficiency was introduced during the revision process. The procedure required only that the MSIV's be actuated by switch PM05J. This left the ability of switch PM06J to close the MSIV's unverified. In previous procedure revisions, both handswitches (PM06J and PM05J) were actuated to initiate a close signal to test the response time of the valves. When the procedures were revised (10-18-88 for Unit 1, 2-13-89 for Unit 2), the steps to verify the operation of PM06J were omitted. Because of the omission, the PM06J train of the MSIV Manual Initiation System was inoperable since their last surveillances expired in April 1990 for both units (the PM06J switch was last tested on 6-10-88 for Unit 1 and 6-2-88 for Unit 2). The April 1990 date was calculated based on an eighteen month surveillance frequency plus the 3.25 interval extension allowed by Specification 4.0.2.

D. SAFETY ANALYSIS:

Manual isolation of the MSIV's is not assumed in the accident analysis. The automatic actuation of the Steam Line Isolation remained operable throughout the event. Therefore, this event had no impact on the ability of the plant to respond to an accident and did not endanger the health and safety of the public. In addition, both Main Steam Line Isolation manual handswitches operated as expected when tested and would have, if they had been needed to operate. If the improperly tested Steam Line Isolation handswitch (PM06J) had not operated, the remaining properly tested handswitch on the Main Control Board (PM05J) could have been used to close the MSIV's if required. In addition, manual isolation capability is also provided at the Remote Shutdown Panel (two switches each actuating two valves), and at the Main Control Board via individual valve control switches, (four switches each actuating one valve). In the worst case, a failure of PM06J would have resulted in a delay in manual isolation of the MSIV's of only a few seconds.

E. CORRECTIVE ACTIONS:

All contacts used on both switches were tested to verify operability using the special procedures SPP 90-038 and SPP 90-039.

The Unit 1 and 2 procedures used to full stroke test the MSIV's, 1BVS 7.1.5-1 and 2BVS 7.1.5-1, have been revised to include testing of both Steam Line Isolation Switches. AIR 45-225-90-15600 tracked completion of the procedure revisions and is now closed.

Currently, the Station is having an independent review performed by an outside vendor to ensure all contacts on control switches and relays as required by Technical Specifications are being tested. This action was initiated following a similar event at another Commonwealth Edison nuclear station and is being tracked by AIR 454-225-90-15400. In addition, the Station Technical Staff has implemented a program to provide a peer review to enhance procedure technical quality. This action was tracked by AIR 454-225-90-15500 and is now closed.

The procedure review process continues to be investigated to determine if improvements can be made to ensure that errors made in the revision process are eliminated before procedures are approved. This action is being tracked by AIR 454-225-90-15300.

F. RECURRING EVENTS SEARCH AND ANALYSIS:

There have been a number of occurrences where inadequate procedures led to violations of the Technical Specifications. However, none of these deficiencies were introduced by errors in the revision process.

LER 454-88-003: Essential Service Water Makeup Pump Inoperable Greater than 72 Hours Due to Erroneous Electrical Distribution Data.

LER 454-89-008: Auxiliary Feedwater System Inoperable Due to Inadequate Calibration of the Suction Pressure Switches.

LER 454-90-003: Late Technical Specification Entry Due to Improper Acceptance Criteria Format and Inadequate Surveillance Review.

LER 455-88-011: Both Trains of Manual Phase A Containment Isolation Inoperable Due to Inadequate Surveillance.

G. COMPONENT FAILURE DATA:

Not Applicable.