

Commonwealth Edison Company
Byron Generating Station
4450 North German Church Road
Byron, IL 61010-9794
Tel 815-234-5441

ComEd

DATE March 28, 1996

LTR: BYRON 96-0082
FILE: 3.03.0800 (1.10.0101)

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

Dear Sir:

The Enclosed Licensee Event Report from Byron Generating Station is a Supplement to report number 95-008.

This report is number 95-008 Supplement 1; Docket No. 50-454.

Sincerely,



K. L. Kofron
Station Manager
Byron Nuclear Power Station

KLK/PW/ba

Enclosure: Licensee Event Report No. 95-008S1

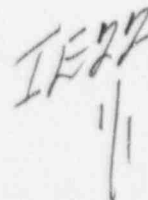
cc: H. J. Miller, NRC Region III Administrator
NRC Senior Resident Inspector
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NRC FORM 366 (4-95)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB NO. 3150-0104 EXPIRES 04/30/98						
LICENSEE EVENT REPORT (LER)											
(See reverse for required number of digits/characters for each block)											
FACILITY NAME (1) BYRON NUCLEAR POWER STATION					DOCKET NUMBER (2) 05000454			PAGE (3) 1 OF 4			
TITLE (4) INADEQUATE TRACKING OF BRASS PLUGS FOR THE FUEL TRANSFER TUBE FLANGE PREVENTS PROPER LOCAL LEAK RATE TEST											
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 NAME	DOCKET NUMBER	
11	09	95	95	008	01	03	28	96	NONE	05000	
OPERATING MODE (9)		5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
POWER LEVEL (10)		0	20.2201(b)	20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)			
			20.2203(a)(1)	20.2203(a)(3)(i)		x 50.73(a)(2)(ii)		50.73(a)(2)(x)			
			20.2203(a)(2)(i)	20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71			
			20.2203(a)(2)(ii)	20.2203(a)(4)		50.73(a)(2)(iv)		OTHER			
			20.2203(a)(2)(iii)	50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A			
			20.2203(a)(2)(iv)	50.36(c)(2)		50.73(a)(2)(vii)					
LICENSEE CONTACT FOR THIS LER (12)											
NAME WILLIAM J. DEAN						TELEPHONE NUMBER (include Area Code) 815-234-5441					
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				N							
E				N							
SUPPLEMENTAL REPORT EXPECTED (14)											
YES (If yes, complete EXPECTED SUBMISSION DATE).					X NO		EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On November 9, 1995, mechanics (non-licensed) discovered a containment barrier in a condition which prevented an adequate test for compliance with the Local Leak Rate Test required by Technical Specification 3/4 3.6.1.2.

The flange for the Unit 1 fuel transfer canal had two small plugs still installed. These plugs prevented the Local Leak Rate Test from successfully demonstrating leak tightness of the two concentric O-rings on the flange.

The failure occurred when the mechanics did not remove the plugs in accordance with the maintenance procedures. The cause of the event was a procedure that did not adequately identify on the sign off sheet that the plugs were to be removed. Because the procedure inadequately tracked the task status, the mechanic did not carry out the committed actions. The root cause are Managerial Methods which do not inventory the plugs when the task is complete, nor specifically identify what the task is when the sign off occurs.

To prevent recurrence, the plugs will be physically inventoried after installation of the flange and the procedure sign off sheet changed to specifically reference the task being performed.

This event is reportable in accordance with 10CFR50.73 (a) (2) (ii) (A) because of a containment barrier (fuel transfer canal flange) being in an unanalyzed condition, as a result of an improper local leak rate test.

NRC FORM 366A (4-95)		U.S. NUCLEAR REGULATORY COMMISSION			
LICENSEE EVENT REPORT (LER) TEXT CONTINUATION					
FACILITY NAME (1)		DOCKET	LER NUMBER (6)		PAGE (3)
BYRON NUCLEAR POWER STATION		05000454	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
			95	-- 008	-- 01

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

A. PLANT CONDITIONS PRIOR TO EVENT:

Event Date/Time 11-09-95 / 0743

Unit 1 Mode 5 - Cold Shutdown Rx Power 0 % RCS [AB] Temperature/Pressure 100 deg. F/25 psig

Unit 2 Mode 1 - Power Ops Rx Power 100% RCS [AB] Temperature/Pressure NOT/NOP

B. DESCRIPTION OF EVENT:

Background:

At Byron Station, fuel is moved between the Containment Building and the Fuel Handling Building via the Fuel Transfer Tubes. During normal operation, containment integrity is ensured on this penetration by the installation of a blank flange inside containment.

Prior to fuel moves, the flange is removed. Procedure BMP 3118-1 controls the removal of the flange and the installation of two brass plugs in the pressurization ports for the flange. Because the flange will be submerged during fuel moves, the two plugs are installed to prevent borated water from entering the flange cavity. The plugs are tiny and measure 1/16 of an inch in diameter (0.063 NPT). The plugs are to be removed in accordance with BMP 3118-7 when the flange is reinstalled. After the flange is installed, a Local Leak Rate Test is performed to verify integrity of the O-ring seals.

Event:

On November 9, 1995, during the reinstallation of the Fuel Transfer Tube Flange, the mechanics (non-licensed) discovered two brass plugs installed in the stationary flange face. These plugs were inserted into the pressurization ports between the double O-ring seal on the flange face.

Unit 1 at this time was in a mid-cycle maintenance outage (B1PO2). The outage did not include fuel moves. The outage schedule did contain preventive maintenance work which required the Fuel Transfer Tube Flange to be removed. Since the refueling cavity was not going to be flooded, work instructions did not include the installation of the brass plugs. Since the plugs were found to be installed, it was concluded that the plugs had remained installed during the cycle and that the leak rate test performed at the end of the last refuel outage did not adequately test the O-rings. Even though the historical leak rate data for this passive (O-ring) seal is very good, the inadequate test is a violation of the containment integrity Technical Specification.

A search of the work history for the Unit 1 flange indicated the flange was installed on October 19, 1994, during the Unit 1 Refuel Outage 6 (B1RO6). At that time, the procedure sign off sheet for BMP 3118-7T1 was initialed as complete for Step 4.a, removal of the brass plugs.

Realizing the Local Leak Rate Test results were in question, the System Engineering Department engineers (non-licensed) inspected the O-rings removed from the flange and found them to be in good condition. A subsequent test on the flange has been successful. Historical data shows only one LLRT (out of eleven) of the flange has failed its acceptance criteria. This failure was the result of the O-rings not seating properly in their respective grooves during installation and this resulted in damaged O-rings.

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

B. DESCRIPTION OF EVENT: (cont.)Investigation:

The mechanic (non-licensed) and the foreman (non-licensed) who had responsibility for the installation of the flange during the time the plugs were left in the flange were interviewed. Because the event was over a year old and both had done this task more than once, neither could explicitly remember the specific details of this event. The foreman was familiar with this task and knew the plugs needed to be removed. For this task the communication to the mechanics would be the torque settings for the bolts and the requirement to remove the plugs. The area is highly smearable, so to reduce dry active waste (DAW), procedures or sign off sheets are not taken by the mechanics into the flange area.

During the previous refuel outage on Unit 1 (B1R06), a modification was completed on the flange (M6-1-92-844). The flange had twenty bolts and was now being reduced to only requiring four bolts for the closure process. A contributing cause may have been distraction introduced by the modification to the flange.

A mechanic who had performed the work before and another foreman were interviewed to determine the working conditions when installing the flange. The flange area was described by the mechanic as: small, highly smearable, and having poor lighting. Because the area is highly smearable, no written instructions are taken into the cavity by the mechanics. Flashlights are used in the cavity when the flange is installed. The radiological requirements at that time had the mechanics in full face masks.

The procedure, BMP 3118-7, "Reactor Vessel Closure Head Installation," does explicitly call for the removal of the plugs in Step 4.a. A checkoff list is included as part of the procedure as BMP 3118-7T1. Step 4 of the checkoff list is entitled, "Fuel Transfer Canal Flange Installation" with four subparts to initial and date. Step 4.a is a separate sign off. There is no indication in the four subparts that the sign off is to remove the two plugs. The foreman initialed the sign off sheet for the completion of the installation of the flange on October 19, 1994.

Once the plugs have served their purpose, they become foreign material. The procedure does not identify the two plugs as foreign material, nor did this awareness surface during the interviews.

This event is reportable in accordance with 10CFR50.73 (a) (2) (ii) (A) because of a containment barrier (fuel transfer canal flange) being in an unanalyzed condition, as a result of an improper local leak rate test. No ENS phone call was made, as a phone call is contingent on safety significance, which was deemed low for this event.

C. CAUSE OF EVENT:

The cause of the event was a procedure (BMP 3118-7T1) that did not adequately identify on the sign off sheet that the plugs were to be removed. Because the procedure inadequately tracked the task status, the mechanic did not carry out the committed actions. The root cause are Managerial Methods which do not inventory the plugs when the task is complete, nor specifically identify what the task is when the sign off occurs.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

D. SAFETY ANALYSIS:

There were no safety consequences to the public or to the plant as a result of the flange not being properly tested. During the time the flange was in an untested condition, no events occurred which challenged the containment barrier. If an event had occurred and the flange failed, radiological effluents would have been contained in the Fuel Handling Building (FHB). This building has charcoal filters which would have prevented gaseous release to the public in excess of analyzed amounts. Water leaking by the flange would have been contained in the fuel transfer canal. However, Byron Station engineers have a high confidence in the sealing capabilities of the flange. Historical data indicates consistent acceptable performance if the O-rings are seated properly. Inspection of the O-rings shows that they were seated properly.

E. CORRECTIVE ACTIONS:

A procedure revision has been initiated to BMP 3118-7 and BMP 3118-7T1 to 1) to make the steps specific to remove the plugs from the flange and verify removal from the cavity and 2) a second step for a maintenance verification will be added to have a second individual to verify removal of the plugs from the refueling cavity. NTS Item 454-180-95-0008-01 will track this to completion.

The maintenance foreman has been counseled to ask more self-verification questions before signing off steps when tasks are completed.

F. RECURRING EVENTS SEARCH AND ANALYSIS:

None.

NTS Item 454-180-95-0008-02 will track inspection of the Unit 2 fuel transfer canal flange for plugs.

G. COMPONENT FAILURE DATA:

None.