

LICENSEE EVENT REPORT (LER)

Facility Name (1) Byron, Unit 1 Docket Number (2) 015121010141514 Page (3) 1 of 0 2

Title (4) Rx Trip on Load Rejection

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)						
01	7	12	8	5	---	0	6	16	---	0	5	0	0	0	1	1

OPERATING MODE (9) 1

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

POWER LEVEL (10) 0 9 8	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)(vii)	Other (Specify in Abstract below and in Text)
	20.405(a)(1)(iii)	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)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

Name Leo Wehner Ext. 2384

TELEPHONE NUMBER AREA CODE 81152341-5441

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs
B	S	B	/ / / / V	W	2	5	5	Y	

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 fifteen single-space typewritten lines) (16)

During a 50% Load Rejection Test at 100% power, the plant exceeded the OT Δ trip setpoint resulting in a reactor trip turbine trip. The cause was directly related to the response times of the steam dumps. The Control Room Ventilation makeup fan auto-started during the event because of the voltage transient in the electrical supply induced by the reactor/turbine trip.

A modification of the air supply to the steam dumps has been initiated. The voltage relay which caused the ESF actuation of the Control Room Ventilation system is also in the process of being modified.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT									

While performing a 50% Load Rejection test at 100% power on 7/12/85, a Reactor Trip occurred at 1122. The trip signal was initiated by exceeding the OT Δ T setpoint during the load rejection transient. In conjunction with the reactor trip, the OB VC makeup fan auto started.

The root cause for exceeding the trip setpoint has been determined to be the stroke time of the steam dump valves. Westinghouse's functional requirement for steam dumps states that the valves should stroke open within three seconds. Followup testing on the steam dumps discovered stroke times between six and thirteen seconds. The root cause for the Control Room Ventilation System auto-makeup initiation is a voltage interlock in a radiation monitor. The voltage transient induced in the station electrical system by the reactor/turbine trip produced an interlock condition on the process radiation monitor, which in turn actuated the ESF mode in the B train of the Control Room Ventilation System.

The steam dumps are normally modulated to create an alternate steam load for the plant at times when the turbine is not available. However, when a greater than 9.5 degree Fahrenheit error is sensed between Tavg and Tref, six steam dump valves receive a full open signal. This signal bypasses the modulating control to open the valves as quickly as possible. The remaining six steam dump valves receive a full open signal if the error signal reaches 15.0 degrees Fahrenheit.

During the 50% load rejection test at 100% power, the Tavg-Tref error signal rapidly exceeded the 15 degree Fahrenheit setpoint, initiating the full open signal to the twelve steam dump valves. The valves did not stroke open fast enough to maintain the plant below the OT Δ T setpoint.

The steam dump valves are manufactured by W-K-M Valve Division for ACF Industries. The model number is 70-19-9, 254550.

There were no safety consequences or implications associated with this event. The actual plant parameters dictated a reactor trip on OT Δ T conditions. A normal shutdown of the plant following the reactor trip was accomplished. The steam generator power operated relief valves and safety valves were available throughout the transient.

Following the transient, an investigation was initiated to determine the root cause for exceeding the trip setpoint. Followup testing was also performed on the steam dumps. The testing verified that the stroke times of the steam dump valves were not adequate. A larger instrument air line was temporarily routed to one valve to verify that the air supply was limiting the valve stroke time. The temporary air supply testing resulted in a permanent modification of the air supply to each steam dump valve. The modified system will be tested prior to performing another 50% load rejection at 100% power.

With respect to the ESF actuation of the OB VC makeup fan, a modification is in progress to desensitize the radiation monitors to supply voltage perturbations.

The reactor trip caused by a combination of the 50% load rejection and steam dump stroke time has not occurred before. The ESF actuation of control room ventilation has occurred before and is addressed in LERs 85-007-01, 85-030-00, and 85-052-00.



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

August 12, 1985

LTR: BYRON 85-1121

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)(iv) which requires a 30 day written report.

This report is number 85-066-00; Docket No. 50-454.

Very truly yours,

R. E. Querio
Station Superintendent
Byron Nuclear Power Station

REQ/gt

Enclosure: Licensee Event Report No. 85-066-00

cc: J. G. Keppler, NRC Region III Administrator
J. Hinds, NRC Resident Inspector
INPO Record Center
CECO Distribution List

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