LICENSEE EVENT REPORT (LER)

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

Title (4): O_2 Concentration Exceeding 2%

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 7	1 1	8 5	8 5	0 6 7	0 0	0 8	0 9	8 5		0 5 0 0 0 / 0 5 0 0 0

OPERATING MODE (9): 1

POWER LEVEL (10): 9 8

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: Daryl Prisby, System Test Engineer X2603 | TELEPHONE NUMBER: AREA CODE 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
A	/ / /	/ / /	/ / / /	N					
B	W E	T K	/ / / / /	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 fifteen single-space typewritten lines) (16)

On 7/11/85 the OD waste gas decay tank contained 4% O_2 and 11% H_2. This was in violation of Tech Specs which limit O_2 to <2% whenever H_2 is >4%. The Tech Spec Action statement was entered and Abnormal Operating Procedure OBOA PRI-8, O_2/H_2 Explosive Mixture, was initiated. The action statement of the OBOA PRI-8 is to reduce the explosive mixture by purging the tank with nitrogen. This action was not taken due to a lack of communication between the main control room and the radwaste control room. An attempt was made to release the OD waste gas decay tank on 7-12-85 at 2100 but this was aborted due to a valve leaking by on the OA gas decay tank. The valve was later repaired and the OD waste gas decay tank was released on 7/14/85 at 1500. This was in violation of the Tech-Spec. Action Statement that requires the reduction of the O_2 concentration within 48 hours.

This LER will become part of the required reading for Licensed Operators to stress the importance of proper communications.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT

On 6/28/85, the OD waste gas decay tank was placed in service and remained the in-service tank until 7/6/85. Prior to releasing a waste gas decay tank, the Rad Chem department is required to sample it for H_2, O_2 and activity. At this time, samples were obtained and found to contain 4% O_2 and 11% H_2.

The Abnormal Operating Procedure, OBOA PRI-8, was entered due to the high oxygen concentration existing in the Waste Gas System. The action taken per this procedure is to reduce the explosive mixture by purging with nitrogen. An alternate means of reducing the O_2 concentration would be to release the tank if the activity of the samples obtained are within discharge limits. Since the radwaste control room was not notified of the OBOA PRI-8 condition, the latter means of reducing the O_2 concentration was chosen.

The radiation monitor OPR02J controls the waste gas decay tank discharge valve. The monitor was inoperable on 7/12/85 due to an insufficient amount of vacuum above the low limit alarm setpoint. A temporary alteration was implemented on 7/12/85 to allow the operation of the waste gas decay tank discharge valve with the rad monitor OPR02J bypassed. The only requirement prior to a release is to obtain two independent samples of the tank to be discharged. At 1627 on 7/12/85, with the plant in Mode 1 and at 98% power, the OD waste gas decay tank release was started and at 2100 it was noticed that the OA gas decay tank was also showing a decrease in pressure. The release of the OD tank was secured and Rad Chem was notified to sample the OA gas decay tank. The subsequent samples were well within the allowable discharge limits. The OD gas decay tank release was completed on 7-14-85 @ 1500 which was in excess of the 48 hour limit required by Tech Specs.

Plant and public safety were not affected since the samples obtained from the OA & OD gas decay tank proved to be well within the allowable release limits. Also, the Auxiliary Building Exhaust System is designed to handle contaminated air from the Aux Building following an accident such as a rupture of a waste gas decay tank.

The origin of the high O_2 concentration can be attributed to a 2" loop seal/overflow on the vent line from the spent resin storage tank. This overflow goes directly to the regen waste drain tank which continuously vents to the filtered vent system, a source of O_2. A modification has been initiated through NWR #B20567 to provide an isolation valve on the loop seal which will isolate the O_2 source. In the interim, valve OWX254 will be maintained out of service closed to isolate the possible O_2 source.

The root cause of the inadvertent release of the OA gas decay tank can be summarized in the following manner. The normal system line-up is to have the manual valve to the plant vent in the CLOSED position. When it is desired to release a tank the respective manual valve is OPENED along with the waste gas discharge control valve. During the release of the OD waste gas decay tank, the OD tank manual release valve was OPEN with all other tank manual release valves CLOSED. The OA gas decay tank manual release valve (3/4" Grinnel Diaphram Model SD-C-101295) was verified CLOSED, therefore it was suspected that the valve was leaking into the common plant vent header. The Mechanical Maintenance department investigated and found a puncture hole in the valve diaphragm and a small fin broken off the valve compressor device. A Nuclear Work Request, B20396, was written to repair the valve and has since been closed out. Upon completion of the work on the OA waste gas decay tank release valve, the OD gas decay tank was released. The violation of the 48 hour time limit might have been avoided if the action statement of OBOA PRI-8 had been entered. By purging the waste gas decay tank with nitrogen it is possible to reduce the O_2 concentration to within the explosive limits. This Licensee Event Report will become part of the required reading for Licensed Operators to stress the importance of proper communications. A memorandum will be attached to stress the personnel error aspect of this event.

This has been the first reportable occurrence of a violation of the Tech Spec Action Statement that requires the reduction of the O_2 concentration to be performed within 48 hours.

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

August 9, 1985

LTR: BYRON 85-1117

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) which requires a 30 day written report.

This report is number 85-067-00; Docket No. 50-454.

Very truly yours,

R. E. Querio
Station Superintendent
Byron Nuclear Power Station

REQ/gt

Enclosure: Licensee Event Report No. 85-067-00

cc: J. G. Keppler, NRC Region III Administrator
J. Hinds, NRC Resident Inspector
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#3/017

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