

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Nine Mile Point Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 4 1 0	PAGE (3) 1 OF 0 4
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TITLE (4)
Emergency Batteries DIV I/II Inoperable Due to Corrosion

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)															
1	2	3	1	8	6	8	6	-	d	2	4	-	0	1	0	7	0	7	8	7	N/A	0	5	0	0	0
1	2	3	1	8	6	8	6	-	d	2	4	-	0	1	0	7	0	7	8	7	N/A	0	5	0	0	0

OPERATING MODE (9) 4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) 0 0 0	<input type="checkbox"/>	20.402(b)	<input type="checkbox"/>	20.405(c)	<input type="checkbox"/>	50.73(e)(2)(iv)	<input type="checkbox"/>	73.71(b)		
	<input type="checkbox"/>	20.405(a)(1)(i)	<input type="checkbox"/>	50.38(c)(1)	<input type="checkbox"/>	50.73(e)(2)(v)	<input type="checkbox"/>	73.71(c)		
	<input type="checkbox"/>	20.405(a)(1)(ii)	<input type="checkbox"/>	50.38(c)(2)	<input checked="" type="checkbox"/>	50.73(e)(2)(vii)	<input type="checkbox"/>	OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
	<input type="checkbox"/>	20.405(a)(1)(iii)	<input type="checkbox"/>	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(e)(2)(viii)(A)	<input type="checkbox"/>			
	<input type="checkbox"/>	20.405(a)(1)(iv)	<input type="checkbox"/>	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(e)(2)(viii)(B)	<input type="checkbox"/>			
<input type="checkbox"/>	20.405(a)(1)(v)	<input type="checkbox"/>	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(e)(2)(ix)	<input type="checkbox"/>				

LICENSEE CONTACT FOR THIS LER (12)

NAME Robert G. Randall, Supervisor Technical Support	TELEPHONE NUMBER
	AREA CODE: 3 1 5 NUMBER: 3 4 9 1 - 2 4 4 5

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
X	EJ	BITIRIY	GI1185	N					

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On December 31, 1986 Nine Mile Point Unit 2 was at 0% power with the mode switch in shutdown. On the two previous days, N2-ESP-BYS-Q676, "Quarterly Battery Surveillance Test", had been performed to monitor emergency D. C. Battery system status. Visible corrosion was observed on Division I and II battery bus bars and terminals making the batteries inoperable per plant Technical Specifications. Core alterations, movement of irradiated fuel in the reactor building and operations with the potential to drain the vessel were suspended on December 31, 1986.

CORRECTIVE ACTION

The corrosion found on the bus bars and terminals of the emergency batteries was removed. Engineering will review the possibility of applying anti-corrosion NO-OX-ID grease on the battery bus bars as well as terminals.

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

I. DESCRIPTION OF EVENT

On December 31, 1986 Nine Mile Point Unit 2 was at 0% power with the mode switch in shutdown. An occurrence report (86-74) was issued at approximately 10:00 by the Electrical Maintenance department to report emergency batteries 2BYS*BAT2A/2B had failed their quarterly surveillance test and were considered inoperable.

On December 29, 1986 "Quarterly Battery Surveillance Test" N2-ESP-BYS-Q676 was performed on Emergency Battery 2BYS*BAT2B. N2-ESP-BYS-Q676 acceptance criteria stipulates that "visible corrosion" will not be located on battery terminals or connectors. Corrosion was observed by Electrical Maintenance personnel and appropriately documented on N2-ESP-BYS-Q676. On December 30, 1986 procedure N2-ESP-BYS-Q676 was performed on 2BYS*BAT2A and again corrosion was observed and documented. Later on that day work requests (WRs) 106948 and 106949 were issued by Electrical Maintenance to perform the work needed to clean the bus bars and terminals of 2BYS*BAT2A and 2B respectively. Operations, however, did not receive a copy of the WRs for approval until December 31, 1986 and until this time were unaware of the battery status. Core alterations, movement of irradiated fuel in the reactor building and operations with potential to drain the vessel were then suspended. Applicable sections of N2-ESP-BYS-Q676 were conducted to document adequate cleaning was performed and that no corrosion still existed on either 2BYS*BAT2A or 2B. N2-ESP-BYS-R677, "DIV I/II/III Battery Intercell Resistance Test" was then performed (1/1/87) on 2BYS*BAT2A and 2B to verify that corrosion had not affected battery performance. Data taken showed 2BYS*BAT2A to be acceptable.

Testing of 2BYS*BAT2B did produce an unacceptable resistance reading for the field wire to cell #1, right hand side connection. Corrective action was in the form of Work Request 118752. Per WR 118752, the connection surface was cleaned and the connection retorqued. Applicable sections of N2-ESP-BYS-R677 were performed as a post-maintenance test with initial results found to be acceptable. A review of the test data, by Electrical Maintenance revealed the data had been taken incorrectly.

Resistance readings of the field wire to cell #1 (right hand side) connection were again taken per N2-ESP-BYS-R677 and found to be unacceptable. Work Request 118774 was subsequently issued as a corrective action. Per WR 118774 the cell tie plates were removed and terminations cleaned, retorqued, and greased with NO-OX-ID. The work was documented on Electrical Maintenance procedure N2-EMP-73.5, "Station Batteries Cell and Intercell Connector Replacement". N2-ESP-BYS-R677 was conducted as a post-maintenance test on January 2, 1987 with cell #1 resistance measurements providing satisfactory results.

II. CAUSE OF EVENT

The cause of the event could not be positively identified. Natural occurring leakage from the battery seals is the most probable cause of the corrosion. Due to a capillary (or wick effect), seal leakage can make its way up the cell posts and on to the connectors. The amount of corrosion was minimal and in localized spots inferring the method of corrosion is not inherent to all the battery cells.



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TEXT (If more space is required, use additional NRC Form 368A's) (17)

III. ANALYSIS OF EVENT

No adverse safety consequences resulted as a result of this event. The quarterly battery surveillance test, as designed, identified a system deficiency in the form of corrosion. Through the surveillance test, maintenance work was initiated which led to the restoration of both DIV I and II emergency batteries.

Two problems were identified:

1. A two day span existed between identifying the corrosion on 2BYS*BAT2B and when the SSS was notified. Upon notification, the SSS imposed operating restrictions dictated in Technical Specifications on a loss of Div. I and II emergency batteries. The two day interval taken to inform the SSS was attributed to lack of training of Electrical Maintenance personnel in reporting deviations from test acceptance criteria. All electrical surveillance tests do contain a generic statement in their precaution/limitations section similar to the following:

"If any reportable problems are determined while performing this procedure, notify the SSS and determine if an Occurrence Report should be initiated."

2. The acceptance criteria used to determine if a battery is inoperable in N2-ESP-BYS-Q676 did not include visible corrosion at either terminals or connectors. This criteria is specified in plant Technical Specifications.

Technical Specifications require the batteries be declared inoperable when in fact minor surface corrosion did not prevent the batteries from performing their safety function.

IV. CORRECTIVE ACTION

Corrective action will include the following:

1. Training for Electrical Maintenance personnel has been completed to emphasize immediate notification of the SSS and assistant supervisor when an "unsatisfactory condition" is determined during a test. (Completed on January 15, 1987).
2. Procedural changes to N2-ESP-BYS-Q676 to include "no visible corrosion at either terminals or connectors" as battery "operable" status criteria. (To be completed by March 1, 1987 prior to the next use of the procedure).
3. The application of NO-OX-ID grease to battery bus bars as well as terminations is being reviewed by Engineering. (To be completed by March 1, 1987).
4. Licensing will review sections 4.8.2.1.b.2 and 4.8.2.1.c.2 for possible Technical Specification change where surface corrosion is visible but cell performance is satisfactory.
5. An inspection for seal leakage will be performed on a weekly basis. (To be completed by February 6, 1987)



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V. ADDITIONAL INFORMATION

Identification of Components Referred to in this LER

Component	IEEE 803 EIIS Funct	IEEE 805 System ID
Emergency Battery (BYS)	BTRY	EJ

No events similar to LER 86-24 had previously occurred.



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