ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9109120138 DOC.DATE: 91/09/03 NOTARIZED: NO DOCKET #
FACIL:50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410
AUTH.NAME AUTHOR AFFILIATION
COLOMB,M.J. Niagara Mohawk Power Corp.
FIRLIT,J.F. Niagara Mohawk Power Corp.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 91-016-01:on 910702,tech spec violation occurred.Caused by mispositioned valve due to procedural inadequacy. Immediate corrective actions were for plant operators to correctly position cooling water valves.W/910903 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 9
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD1-1 LA	1	1	PD1-1 PD	1	1
	BRINKMAN,D.	1	1			
INTERNAL:	ACNW	2	2	ACRS	2	2
	AEOD/DOA	1	1	AEOD/DSP/TPAB	1	1
	AEOD/ROAB/DSP	2	2	NRR/DET/ECMB 9H	1	1
	NRR/DET/EMEB 7E	1	1	NRR/DLPQ/LHFB10	1	1
	NRR/DLPQ/LPEB10	1	1	NRR/DOEA/OEAB	1	1
	NRR/DREP/PRPB11	2	2	NRR/DST/SELB 8D	1	1
	NRR/DST/SICB8H3	1	1	NRR/DST/SPLB8D1	1	1
	NRR/DST/SRXB 8E	1	1	REG FILE 02	1	1
	RES/DSIR/EIB	1	1	RGN1 FILE 01	1	1
EXTERNAL:	EG&G BRYCE,J.H	3	3	L ST LOBBY WARD	1	1
	NRC PDR	1	1	NSIC MURPHY,G.A	1	1
	NSIC POORE,W.	1	1	NUDOCS FULL TXT	1	1

RIDS/ADDS

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

FULL TEXT CONVERSION REQUIRED
TOTAL NUMBER OF COPIES REQUIRED: LTTR 33 ENCL 33

NIAGARA MOHAWK

NINE MILE POINT NUCLEAR STATION / P.O. BOX 32 LYCOMING, NEW YORK 13093 / TELEPHONE (315) 343-2110

Joseph F. Firlit
Vice President
Nuclear Generation

NMP83114

September 3 , 1991

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

RE: Docket No. 50-410
LER 91-16, Supplement 1

Gentlemen:

In accordance with 10CFR50.73, we hereby submit the following Licensee Event Report:

LER 91-16 Supplement 1	Is being submitted in accordance with 10CFR50.73 (a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications".

This supplement is being issued to: 1) Provide a root cause; 2) Provide results from the investigation into the causal mark-up; and 3) Provide an additional corrective action.

This report was completed in the format designated in NUREG-1022, Supplement 2, dated September 1985.

Very truly yours,

Joseph F. Firlit

Joseph F. Firlit
Vice President - Nuclear Generation

JFF/RM/lmc

ATTACHMENT

xc: Thomas T. Martin, Regional Administrator Region I
Wayne L. Schmidt, Sr. Resident Inspector

Cert No R-733A-39006
IE22
1/1

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Nine Mile Point Unit 2	0 5 0 0 0 4 1 0	1 OF 0 8

TITLE (4) Technical Specification Violation Caused by a Mispositioned Valve due to Procedural Inadequacy

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)
									N/A	0 5 0 0 0
0 7	0 2	9 1	9 1	- 0 1 6	- 0 1	0 9	0 3	9 1	N/A	0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	1 0 0	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, NRC Form 366A)
		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
Michael J. Colomb, Manager Operations NMP2	3 1 5 3 4 9 - 7 9 5 2

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	

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 July 2, 1991, at 0545 hours, during the performance of procedure N2-OSP-SWP-M001, "Service Water Valve Position Verification", Operations personnel discovered that the cooling water inlet and outlet valves for Reactor Building unit cooler 2HVR*UC404D were not in their normal operating positions. These conditions resulted in the unit cooler being inoperable and Nine Mile Point Unit 2 (NMP2) being in violation of Technical Specifications (T.S.). At the time the conditions were discovered, the reactor mode switch was in the "RUN" position (Mode 1) with the reactor operating at 100 percent rated thermal power.

The root cause of this event has been determined to be a procedural inadequacy. 1

The immediate corrective actions were for plant operators to correctly position the cooling water valves for unit cooler 2HVR*UC404D, and to declare the unit cooler operable. Additional corrective actions include: 1) issuing an interim instruction for plant operators to alleviate the procedural inadequacy; 2) revising the appropriate procedure; 3) issuing a Lessons Learned Transmittal; 4) holding departmental meetings with site personnel to emphasize expected work practices; 5) reviewing other standby safety systems to ensure similar conditions do not exist; and 6) modifying the mark-up computer program. 1

I. DESCRIPTION OF EVENT

On July 2, 1991, at 0545 hours, during the performance of monthly Operations Surveillance Procedure N2-OSP-SWP-M001, "Service Water Valve Position Verification," the cooling water inlet and outlet valves to Reactor Building general area unit cooler 2HVR*UC404D were found out of their normal positions. Specifically, the Service Water System (SWP) supply to the unit cooler inlet valve (2SWP*V136D) was found shut when it should have been open; and the SWP supply to the unit cooler outlet valve (2SWP*V553D) was found 40 degrees open when it should have been 55 degrees open. Without SWP cooling water to the unit cooler, 2HVR*UC404D was not operable. This unit cooler is safety related and is required to be operable in order to support Standby Gas Treatment System (GTS) operability. If any Reactor Building unit cooler is not operable, the associated GTS train is considered inoperable. At the time the conditions were identified, Nine Mile Point Unit 2 (NMP2) was operating at 100 percent rated thermal power.

Following the discovery of the mispositioned valves, it was determined that NMP2 was in violation of Technical Specifications (T.S.) due to failure to comply with Standby Gas Treatment System's Limiting Conditions for Operation (LCO) 3.6.5.3, action statements (a.1) and (b.1) and LCO 3.8.1.1 action statement (e).

A subsequent investigation revealed the following sequence of events prior to the discovery (see Attachment 1). On June 17, 1991, at 0004 hours, the Control Room operators entered a seven day LCO for an inoperable GTS train. Unit coolers 2HVR*UC404C and 2HVR*UC404D were to be marked-up for maintenance which causes GTS train "B" to become inoperable.

During the evolution of marking-up the unit coolers, the plant operator could not shut the cooling water outlet valve (2SWP*V553D) for 2HVR*UC404D. At this time, the mark-up was complete for 2HVR*UC404C, the cooling water inlet valve (2SWP*V136D) for unit cooler HVR*UC404D was shut, and the mark-up tag hung. The plant operator who had hung the mark-up informed the Station Shift Supervisor (SSS) of his inability to shut valve 2SWP*V553D, but did not inform him of the marked-up shut cooling water inlet valve for unit cooler 2HVR*UC404D. The SSS halted further action to mark-up unit cooler 2HVR*UC404D, and the plant operator involved generated a Work Request (WR) to have maintenance shut 2SWP*V553D. 1

Another unsuccessful attempt to shut 2SWP*V553D was made during the following shift by Operations and Maintenance personnel. The mark-up for 2HVR*UC404D was not processed any further. The planned maintenance

I. DESCRIPTION OF EVENT (cont.)

for 2HVR*UC404D was canceled due to the stuck cooling water valve, and the partially applied mark-up for the unit cooler was voided. The investigation into the mark-up voiding for HVR*UC404D and the tag removal from the closed inlet valve SWP*V136D did not produce explanatory results. Detailed interviews were conducted with operations and maintenance personnel that were or could have been involved in the event. Security Department personnel instructed the investigation team leader in interview process and techniques. It could not be determined when the mark-up was voided, or when the mark-up tag was removed. The time lapse between occurrence, discovery, initial questioning and final questioning, played a major role in people's ability to remember details. The team leader concluded that there was no indication that personnel interviewed were not being truthful. 1

On June 21, 1991, at 2143 hours, GTS train "B" was declared operable by the on-duty SSS who was unaware of the status of the cooling water isolation valves for unit cooler 2HVR*UC404D. The planned maintenance had been canceled for 2HVR*UC404D and had been completed on 2HVR*UC404C, which prompted the SSS to declare GTS train "B" operable.

On June 23, 1991, at 2305 hours, GTS train "A" was declared administratively inoperable for preplanned maintenance on unit coolers 2HVR*UC404A and 2HVR*UC404B. This declaration of inoperability did not prevent the GTS train from operating. With one Division II unit cooler and two Division I unit coolers inoperable on the same Reactor Building elevation, Operations personnel should have declared both trains of GTS inoperable. Technical Specification LCO 3.6.5.3 action statement (b.1) requires suspension of all operations involving venting, purging, or pressure control in the drywell or suppression chamber, and requires initiation of action within one hour to be in Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours. NMP2 personnel did not comply with the one hour, the 12 hour, or the 24 hour Technical Specification requirements because they were not aware of the isolated Reactor Building unit cooler (2HVR*UC404D). At 0355 hours on June 25, 1991, GTS train "A" was taken out of service for corrective maintenance. At this time the plant was relying on a single train of GTS. GTS train "A" was returned to service on June 26, 1991 at 0014 hours. Unit coolers 2HVR*UC404A and 2HVR*UC404B were returned to service and GTS train "A" was restored to operable on June 27, 1991, at 1159 hours.

On June 24, 1991, at 0004 hours, the original 7 day LCO that was entered on June 17, 1991, expired. LCO 3.6.5.3 action statement (a.1) now required the plant to be in Hot Shutdown within the next 12 hours and Cold Shutdown within the following 24 hours. Again, NMP2 personnel did not comply with the 12 hour and the 24 hour requirements.

I. DESCRIPTION OF EVENT (cont.)

Upon further investigation, it was determined that at no time between 0004 hours on June 17, 1991, and 0545 hours on July 2, 1991, did any venting, purging, or pressure control evolutions on the drywell or suppression chamber occur.

On June 26, 1991, at 0400 hours, the Division I Emergency Diesel Generator was declared inoperable for pre-planned maintenance. Technical Specification LCO 3.8.1.1 action (e) requires that a verification be made within two hours that all required systems, subsystems, trains, components and devices that depend on the remaining (Division II) operable Emergency Diesel Generator as a source of power are also operable; otherwise be in at least Hot Shutdown within 12 hours and in Cold Shutdown within the following 24 hours. NMP2 did not comply with the two hour, 12 hour, or 24 hour requirements. On June 27, 1991, at 1820 hours, the Division I Emergency Diesel Generator was returned to an operable status.

On July 1, 1991, at 0230 hours, Reactor Building general area unit cooler 2HVR*UC410C was taken out of service for pre-planned maintenance. GTS train "B" was declared administratively inoperable and a seven day LCO for an inoperable GTS train was entered. This did not change the availability of GTS train "B" but is a second unit cooler out of service in Division II.

II. CAUSE OF EVENT

The immediate cause of this event was valves 2SWP*V136D and 2SWP*V553D being out of their normal positions (shut and 40 degrees open respectively) for a period of just over 2 weeks. Operations Department personnel were unaware of the "out of position" valves, and therefore, did not perform the required Technical Specification LCO actions.

A root cause analysis for this event has been completed in accordance with the Nuclear Division Procedure NDP-16.01, "Root Cause Evaluation".

The root cause of this event has been determined to be procedure inadequacy. Specifically, Administrative Procedure AP-4.2, "Control of Equipment Mark-ups", fails to provide guidance on a process to void equipment mark-ups.

1

While voiding the red mark-up for unit cooler 2HVR*UC404D, no restoration sheets were issued. The mark-up record sheet and associated tags were destroyed when the mark-up was voided. AP-4.2 gives guidance to issue and restore mark-ups, however, there is an

II. CAUSE OF EVENT (cont.)

omission of relevant information in the procedure in that no procedural guidance is given for the voiding of mark-ups that are not used or not completed.

Although it could not be determined when the mark-up was voided or the tag was removed, it is believed the preliminary root cause of "procedure inadequacy" is still valid. Barriers are being implemented to provide for positive direction in the control of equipment configuration during mark-up voiding and to provide traceability of the voiding process. 1

III. ANALYSIS OF EVENT

This event is considered reportable under 10CFR50.73 (a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications". GTS train "B" was inoperable for greater than seven days and the plant shutdown and cooldown were not performed as required by Technical Specification LCO 3.6.5.3 action (a.1). While GTS train "B" was inoperable, GTS train "A" was declared administratively inoperable for greater than one hour and the plant shutdown and cooldown were not performed as required by Technical Specification LCO 3.6.5.3 action (b.1). Finally, while GTS train "B" was inoperable, the Division I Emergency Diesel Generator was declared inoperable for maintenance and the plant shutdown and cooldown were not performed as required by Technical Specification LCO 3.8.1.1 action (e).

The current Secondary Containment drawdown analysis assumes that all of the safety related unit coolers associated with an operable GTS train are also operable. The basis for the requirement is the ability of a single GTS train and associated Reactor Building unit coolers to re-establish a one quarter inch water gauge negative pressure in the Secondary Containment within 360 seconds following the Design Basis Accident. The 360 second time limit ensures that the design basis radiological effects would be within the limits of the NMP2 Updated Safety Analysis Report (USAR), section 15.

The results of a Design Basis Accident during the time unit cooler 2HVR*UC404D was inoperable have not been specifically analyzed in detail. Based on other analyses that have been performed previously, however, a qualitative assessment of the impact of unit cooler 2HVR*UC404D inoperability has been performed. This assessment concluded that the Service Water to Reactor Building differential temperature maintained throughout this event was sufficiently greater than the minimum required so as to offset the negative impact of

III. ANALYSIS OF EVENT (cont.)

the inoperability of unit coolers 2HVR*UC404D and 2HVR*UC410C on Secondary Containment performance. This is due to the improved performance of operable unit coolers (due to the larger differential temperature), which offsets the lost performance of the inoperable unit coolers. Additionally, the actual reactor coolant specific activity was a factor of 5000 less than the Technical Specification limit during this event.

From the above information it can be concluded that, had the Design Basis Accident occurred during this event, the Secondary Containment would have performed within its analyzed limits, and the maximum USAR calculated dose for the general public and Control Room operators would not have been exceeded.

The duration of this event was 14 days, 5 hours and 41 minutes.

IV. CORRECTIVE ACTIONS

The immediate corrective actions were for plant operators to inform the Station Shift Supervisor of the mispositioned valve, correctly position 2SWP*V136D open and 2SWP*V553D throttled to 55° open, and to declare unit cooler 2HVR*UC404D operable.

Additional corrective actions include:

1. An immediate, interim instruction was issued to Operations Department personnel, which alleviated the procedural deficiency.

2. A change is in progress to the mark-up procedure which corrects the procedural inadequacy. 1

3. A Lessons Learned Transmittal (LLT) has been written and issued to all groups to heighten site personnel awareness of the requirement for procedures to be complete.

4. A meeting was held by the Plant Manager with all Unit 2 supervisors. Following the meeting, an administrative stop work was issued and Unit 2 personnel on site were counseled by their supervisors concerning expected work practices and procedural adherence. 1

5. A review of standby safe shutdown and Engineered Safety Features systems was completed to ensure the systems are not affected by a voided mark-up that could present an operability question.

IV. CORRECTIVE ACTIONS (cont.)

6. The mark-up computer program has been modified to better track the initiation and disposition of voided mark-ups. | 1

V. ADDITIONAL INFORMATION

A. Failed components: none.

B. Previous similar events:

LER 87-02, "Automatic Initiation of Standby Gas Treatment System"; LER 88-01, "Reactor Scram due to a Loss of Feedwater Flow Caused by Personnel Error"; LER 88-67, "Secondary Containment Isolation and Standby Gas Treatment System Initiation when a Breaker was Opened due to Personnel Error"; LER 89-35, "Engineered Safety Feature Initiation due to Personnel Error"; and LER 90-17, "Engineered Safety Function Actuation due to Personnel Error"; all describe events involving the hanging or removing of mark-ups. None of these previous events addressed the lack of procedural coverage for voided mark-ups, therefore, the corrective actions for the above events would not have prevented this event from occurring.

C. Identification of components referred to in this LER:

COMPONENT	IEEE 803 EIIS FUNCTION	IEEE 805 SYSTEM ID
Reactor Building Ventilation System	N/A	VA
Service Water System	N/A	BI
Standby Gas Treatment System	N/A	BH
Secondary Containment (Reactor Building)	N/A	NG
Emergency AC Distribution System	N/A	EK
Isolation Valve	ISV	BI
Unit Cooler	CLR	VA
Diesel Generator	DG	EK

NRC FORM 366A (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92
ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Nine Mile Point Unit 2	0 5 0 0 0 4 1 0	9 1	0 1 6	0 1	0 8 OF 0 8

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