

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8712020460 DOC. DATE: 87/11/24 NOTARIZED: NO DOCKET #
 FACIL: 50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410
 AUTH. NAME AUTHOR AFFILIATION
 RANDALL, R. G. Niagara Mohawk Power Corp.
 LEMPGES, T. E. Niagara Mohawk Power Corp.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-062-00: on 871027, limiting condition for operation as defined by Tech Specs violated. Caused by personnel error. LPCS pump declared inoperable & surveillance test reperformed. W/871124 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 7
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: 21

05000410

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL		RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	
	PD1-1 LA	1	1	PD1-1 PD	1	1
	HAUGHEY, M	1	1	BENEDICT, B	1	1
INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	2	2
	AEOD/DOA	1	1	AEOD/DSP/NAS	1	1
	AEOD/DSP/ROAB	2	2	AEOD/DSP/TPAB	1	1
	ARM/DCTS/DAB	1	1	DEDRO	1	1
	NRR/DEST/ADS	1	0	NRR/DEST/CEB	1	1
	NRR/DEST/ELB	1	1	NRR/DEST/ICSB	1	1
	NRR/DEST/MEB	1	1	NRR/DEST/MTB	1	1
	NRR/DEST/PSB	1	1	NRR/DEST/RSB	1	1
	NRR/DEST/SGB	1	1	NRR/DLPQ/HFB	1	1
	NRR/DLPQ/QAB	1	1	NRR/DOEA/EAB	1	1
	NRR/DREP/RAB	1	1	NRR/DREP/RPB	2	2
	NRR/DREP/SIB	1	1	NRR/PMAS/ILRB	1	1
	REG FILE 02	1	1	RES DEPY GI	1	1
	RES TELFORD, J	1	1	RES/DE/EIB	1	1
	RGN1 FILE 01	1	1			
EXTERNAL:	EG&G GROH, M	5	5	H ST LOBBY WARD	1	1
	LPDR	1	1	NRC PDR	1	1
	NSIC HARRIS, J	1	1	NSIC MAYS, G	1	1



LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Nine Mile Point Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 410	PAGE (3) 1 OF 06
--	---	----------------------------

TITLE (4) **Failure of Plant Personnel to Recognize that a Surveillance Test did not Satisfy its Acceptance Criteria Results in a Technical Specification Violation**

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)
10	08	87	87	062	00	11	24	87	N/A		0 5 0 0 0
									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) 000	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(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(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(xi)							

LICENSEE CONTACT FOR THIS LER (12)

NAME Robert G. Randall, Supervisor Technical Support	TELEPHONE NUMBER
	AREA CODE 315 NUMBER 349-2445

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

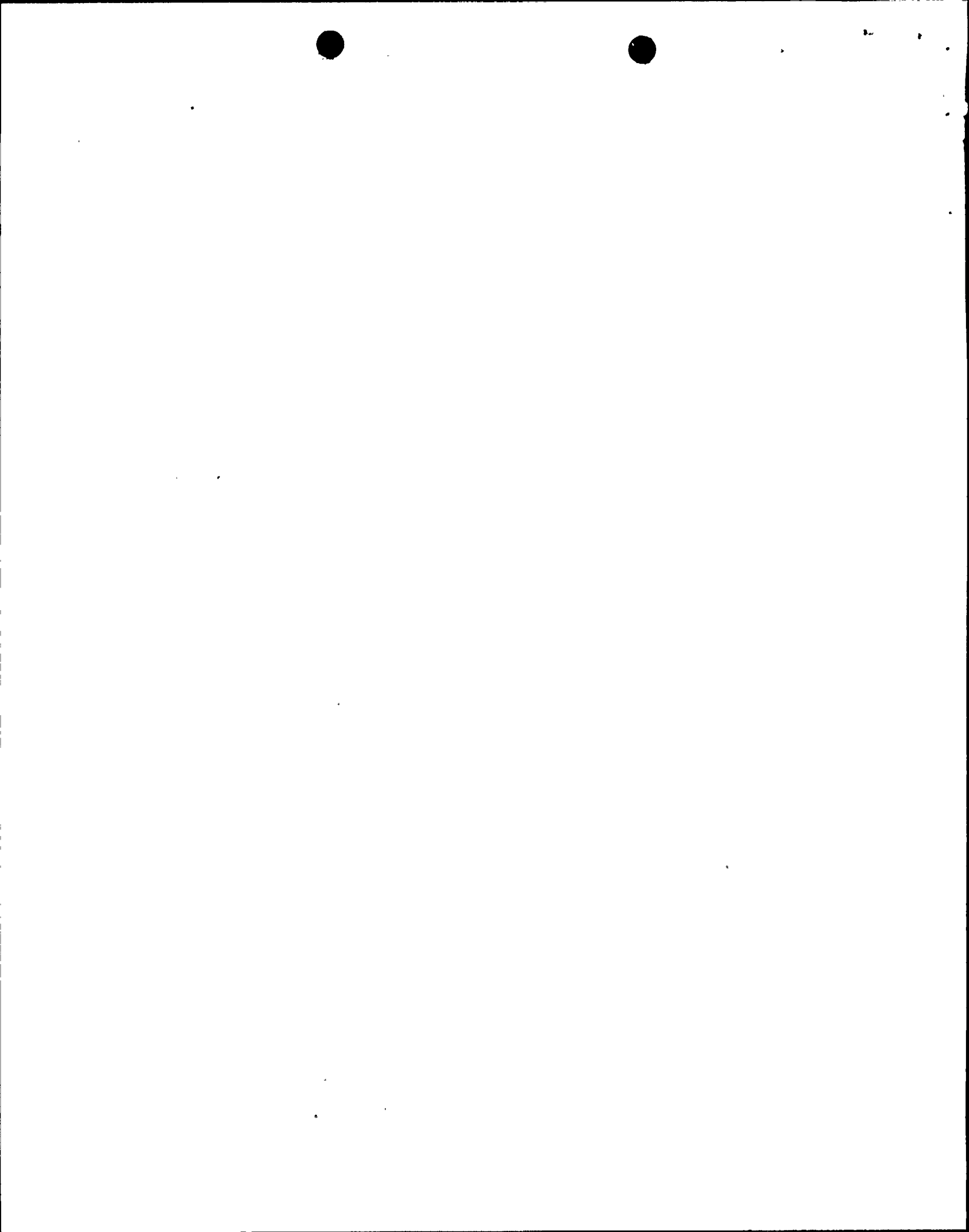
On October 27, 1987 at 1545 hours a Limiting Condition for Operation as defined by Technical Specifications (TS) was found to have been violated at Nine Mile Point Unit 2. The TS which was violated states: "Entry into an Operational Condition or other specified condition shall not be made unless the conditions for the Limiting Conditions for Operation are met without reliance on provisions contained within the Action requirements." At the time of discovery of the event the plant was in the cold shutdown condition with the mode switch in the "SHUTDOWN" position. Reactor pressure and temperature were at approximately 0 pounds per square inch gauge and 124 degrees Fahrenheit, respectively.

The cause of the event was cognitive personnel error when several Niagara Mohawk personnel signed a completed Low Pressure Core Spray (LPCS) surveillance procedure as satisfactory when the data recorded within the procedure did not meet its TS "Acceptance Criteria". Contributing to the event were several procedural deficiencies and personnel error.

Immediate corrective action was to declare the LPCS pump inoperable and reperform the surveillance test. Additional corrective actions have been implemented to correct the minor procedural deficiencies contained within the LPCS procedure and written notification has been issued to all Operations personnel stressing the importance of performing surveillance procedures with proper care. This written notification also adds several new Operations policies which will help prevent future events of this nature.

8712020460 871124
PDR ADOCK 05000410
S PDR

Handwritten initials/signature



FACILITY NAME (1) Nine Mile Point Unit 2	DOCKET NUMBER (2) 0.5 0 0 0 410	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		87	062	00	02	OF	06

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

I. DESCRIPTION OF EVENTS

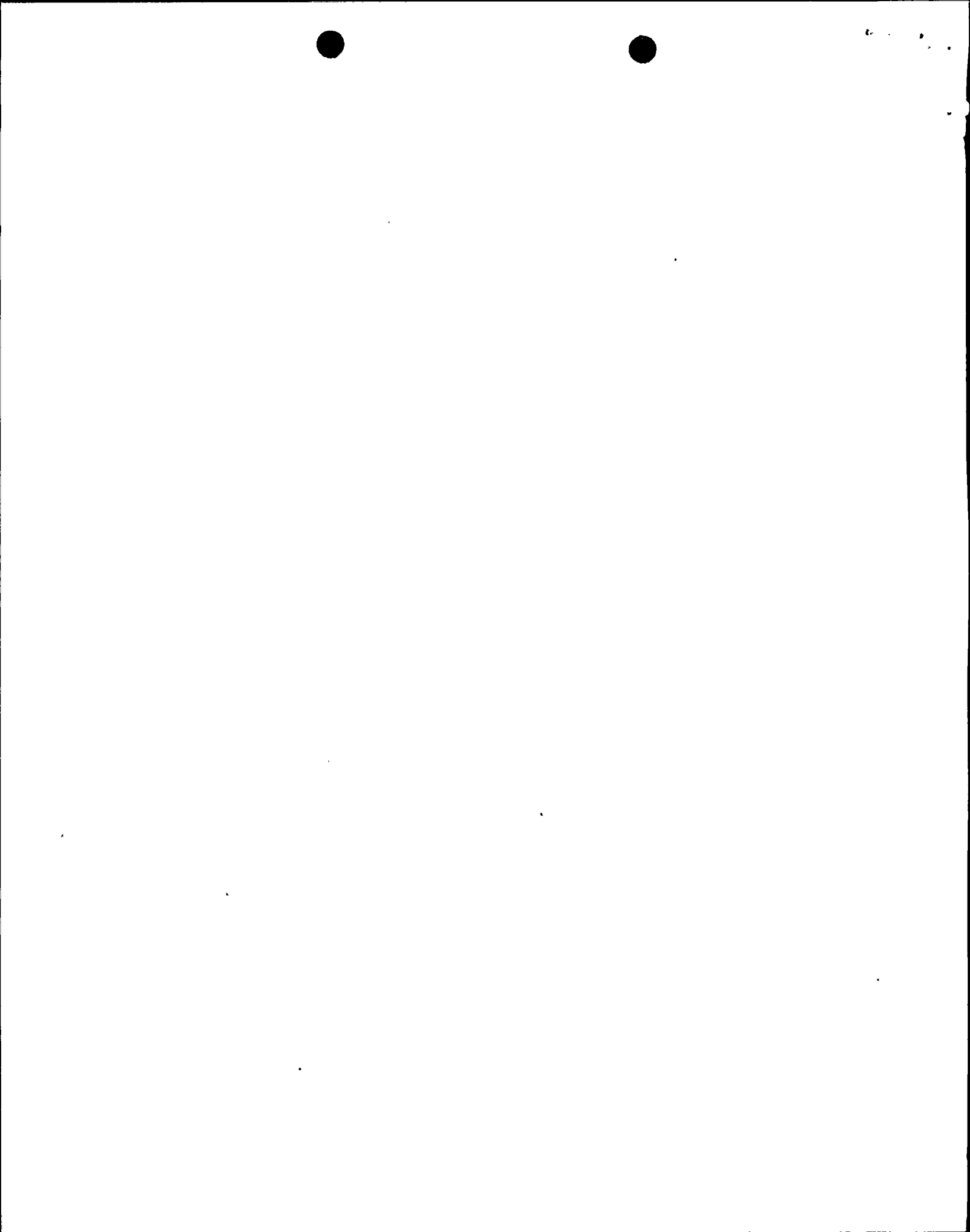
On October 27, 1987 at 1545 hours, a Limiting Condition for Operation (LCO) as defined by Technical Specifications (TS) was found to have been violated at Nine Mile Point Unit 2 (NMP2). The LCO which was violated (TS 3.0.4) is a general applicability statement which states:

"Entry into an OPERATIONAL CONDITION or other specified condition shall not be made unless the conditions for the Limiting Condition for Operation are met without reliance on provisions contained in the ACTION requirements. This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with ACTION requirements. Exceptions to these requirements are stated in the individual specifications."

The TS violation was a result of entering Operational Conditions which require the Low Pressure Core Spray (LPCS) system to be operable under conditions where LPCS should have been declared inoperable, but was not. At the time of the discovery of the event, the plant was in the cold shutdown condition with reactor pressure and temperature at approximately 0 pounds per square inch gauge (psig) and 124 degrees Fahrenheit (°F).

On October 8, 1987 Operations Surveillance Procedure N2-OSP-CSL-Q002, "LPCS Pump and Valve Operability and System Integrity Test", was being performed. This test was written to satisfy several Technical Specification Surveillance Requirements, among them TS 4.5.1.b.1. This TS states that the Emergency Core Cooling Systems (ECCS) shall be demonstrated operable by verifying that, when tested pursuant to TS 4.0.5, the LPCS pump develops a flow of at least 6350 gpm (gallons per minute) against a test line pressure greater than or equal to 290 psig. TS 4.0.5 states that the test shall be performed in accordance with methods and frequencies described in Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code and applicable addenda. Per Section XI of the ASME code, the LPCS pump test is performed once per 92 days (quarterly). The test was completed and signed as meeting the acceptance criteria of N2-OSP-CSL-Q002.

During a Niagara Mohawk Quality Assurance (QA) Department review of the signed-off procedure (N2-OSP-CSL-Q002) completed on October 8, 1987, it was found that the data recorded in the procedure did not support the conclusion that the acceptance criteria had been met. The data sheet for the LPCS pump showed measured values of 6350 gpm at 285 psig, which was not acceptable. The QA review was conducted on October 27, 1987, thus for a period of 19 days (October 8 through October 27) the LPCS pump was not shown to be able to satisfy operability requirements per TS 4.5.1.b.1 and was considered administratively inoperable.



LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Nine Mile Point Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 410	LER NUMBER (6)			PAGE (3)	
		YEAR 87	SEQUENTIAL NUMBER 062	REVISION NUMBER 00	03	OF 06

TEXT (If more space is required, use additional NRC Form 388A's) (17)

TS 3.5.1 Action a.1 requires that with the LPCS system inoperable, restore the inoperable LPCS system to an operable status within 7 days. Otherwise, be in at least Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours. TS 3.5.1 Action a.1 is applicable only in operational conditions 1 (Run), 2 (Startup) and 3 (Hot Shutdown). Although plant personnel were not aware that NMP2 was in an LCO Action Statement, the plant was placed in cold shutdown on October 13, 1987 during the performance of a scheduled Loss of Offsite Power (LOOP) test. Thus, by coincidence TS 3.5.1 Action a.1 had been satisfied because the plant had been placed in the cold shutdown condition within 7 days of the LPCS pump becoming inoperable on October 8, 1987.

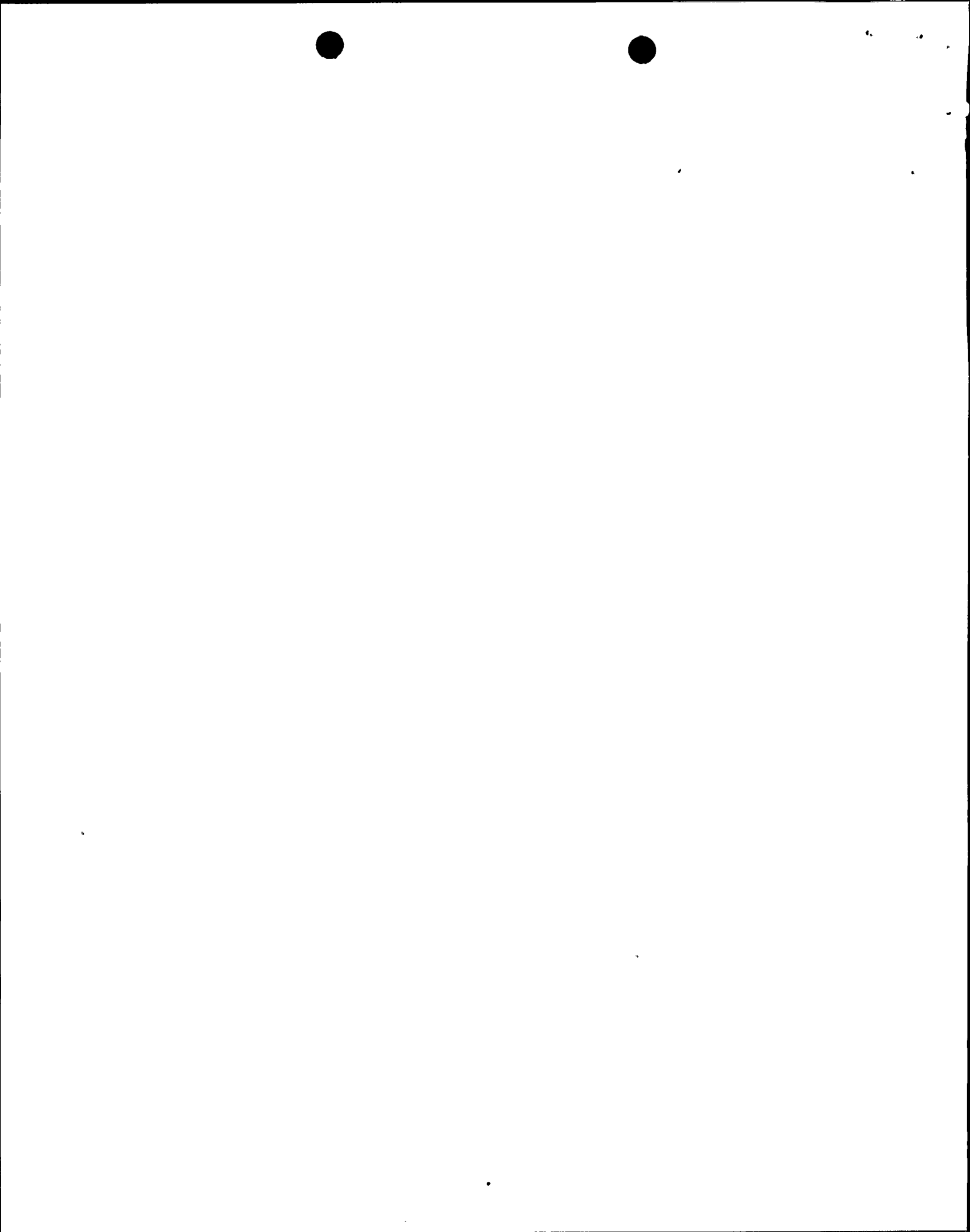
On October 19, NMP2 was restarted and ran for approximately three days resulting in a violation of TS 3.0.4. The plant scrambled on October 22, 1987 and remained in the shutdown condition until 1330 hours on October 28, 1987. At 1545 hours on October 27, 1987, the QA Department discovered that the results of the October 8 LPCS pump surveillance test were not acceptable and determined that the LPCS pump should have been declared inoperable at that time. Immediate operator action was taken to declare the LPCS pump inoperable and to reperform N2-OSP-CSL-Q002. The procedure was run and acceptable data was obtained (actual data was 6400 gpm at 300 psig). The LPCS pump was restored to an operable status at 0258 hours on October 28, 1987.

Statistical analysis of the historical data taken for the LPCS pump indicates, with a confidence level of greater than 99%, that the data taken on October 8, 1987 was in error. The acceptable data taken on October 27, 1987 tends to support this conclusion since no adjustments, maintenance, or other work was done on the LPCS pump during the time period between the two tests. Thus, for the period between October 8 and 27, 1987, the LPCS pump was technically operable and able to perform its intended function. However, during this same period the LPCS pump was not shown to be able to satisfy TS Surveillance Requirement 4.5.1.b.1 which automatically placed NMP2 in an Action Requirement (TS 3.5.1 Action a.1).

The total duration of the event was from October 8 through October 27, 1987, a total of 19 days. By coincidence there was no period of reactor operation in operational condition 1, 2, or 3 which exceeded the seven day limit specified in TS 3.5.1 Action a.1. There were no other components or systems which were inoperable and/or out of service which contributed to this event. No plant systems or other component failures resulted from this event.

II. CAUSE OF EVENTS

A root cause analysis for the event has been completed per Site Supervisory Procedure S-SUP-1, "Root Cause Analysis Program". The results of this analysis show that the root cause of this event is cognitive personnel error by the Niagara Mohawk personnel who signed the completed LPCS test procedure, N2-OSP-CSL-Q002, as satisfactory when it contained data which did not satisfy the acceptance criteria in the procedure. The individuals who incorrectly signed the procedure as satisfactory failed to pay proper attention to detail, specifically they failed to make the proper comparison between the recorded data and the TS acceptance criteria for N2-OSP-CSL-Q002.



FACILITY NAME (1) Nine Mile Point Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 410	LER NUMBER (8)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		87	062	00	04	OF 06

TEXT (If more space is required, use additional NRC Form 365A's) (17)

Contributing to the root cause of the event was personnel error and several procedural deficiencies. These deficiencies may be described as follows:

1. A Licensed Reactor Operator recorded erroneous data for the LPCS pump on October 8, 1987. This led to the data recorded in N2-OSP-CSL-Q002 being outside the TS acceptance criteria for the procedure.
2. The TS acceptance criteria for the LPCS pump flow rate and discharge pressure were listed as 6350 gpm and 290 psig respectively. They should have been listed as 6350 gpm and \geq 290 psig to avoid misinterpretation of unacceptable data as acceptable.
3. There are two sets of data in the surveillance procedure N2-OSP-CSL-Q002; one to satisfy TS requirements and the other to satisfy the Inservice Testing requirements (ASME, Section XI). The data sheets are deficient in making this distinction, which can lead to the misunderstanding by plant personnel of the significance of certain data values when compared to others in the same procedure.
4. The Inservice Testing data sheet contains an acceptable range for the LPCS pump flow rate (6350 to 6400 gpm) which will satisfy Inservice Testing requirements but contains no such acceptable range for LPCS pump discharge pressure which may lead to the misunderstanding that this parameter does not have an acceptance range and that any value is acceptable.

III. ANALYSIS OF EVENTS

The Low Pressure Core Spray (LPCS) system is part of the Emergency Core Cooling System (ECCS) at NMP2. The ECCS is designed to provide reactor core cooling for postulated loss-of-cooling accidents (LOCA) caused by ruptures in primary system piping. The ECCS network has sufficient redundancy so that adequate cooling can be provided even in the event of specified failures. The following equipment makes up the ECCS:

1. 1 High-Pressure Core Spray (HPCS) system
2. 1 Low-Pressure Core Spray (LPCS) system
3. 3 Low-Pressure Coolant Injection (LPCI) loops
4. 1 Automatic Depressurization System (ADS)

The ECCS is designed such that no single active component or system failure shall prevent the ECCS from performing its reactor core cooling requirements, if needed. Thus, the inoperability of the LPCS pump would not have prevented the ECCS from performing its design function properly.



FACILITY NAME (1) Nine Mile Point Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 410	LER NUMBER (8)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		87	— 062	— 00	05	OF 06

TEXT (If more space is required, use additional NRC Form 303A's) (17)

In this case, the LPCS pump was technically able to perform its design function throughout the duration of the event because test data taken on October 8, 1987 was later shown to have been in error. Thus, for the period of October 8 through 27, the LPCS pump was technically operable and able to perform its design function and it is concluded that no adverse safety consequences resulted from this event.

IV. CORRECTIVE ACTIONS

Upon being notified of the unsatisfactory LPCS pump data, operators in the Control Room immediately declared the LPCS pump inoperable and made provisions to reperform N2-OSP-CSL-Q002. The retest data met the Technical Specification acceptance criteria. Shortly thereafter the LPCS pump was declared operable.

To prevent similar events from recurring in the future the following corrective actions have been taken:

1. The procedural deficiencies cited as contributing to this event have been corrected by submittal of a Temporary Change Notice to N2-OSP-CSL-Q002 per Administrative Procedure AP-2.0, "Production and Control of Procedures".
2. Written notification has been issued to all Operations Department personnel (NMP29430) addressing the subject of personnel errors which directly resulted in scrams, occurrence reports, and TS violations. Included in the memo was a list of the most recent personnel errors at NMP2 including this particular event. To reduce the number of personnel errors, several new policies have been implemented with respect to surveillance tests. These new policies include:
 - a. It has been reemphasized that if any step in a surveillance procedure cannot be completed or an unsatisfactory reading is taken, the person performing the procedure is to immediately halt the test and notify the Station Shift Supervisor.
 - b. A Senior Reactor Operator (SRO) shall fill out the acceptance criteria section of all operations surveillance procedures.

Also, stressed in the memo was the importance of performing surveillance procedures (and other work) correctly and that the proper care and time should be taken to assure that they are done correctly.
3. Other Operations Surveillance Procedures (OSP's) are being revised to reflect the requirement that either the Station Shift Supervisor (SSS) or the Assistant Station Shift Supervisor (ASSS) initial in approval of acceptance criteria. Both the SSS and ASSS hold SRO licenses at NMP2. These procedures are also being reviewed for deficiencies similar to those which contributed to this event. Improvements to any deficient OSP's shall be made as needed.



FACILITY NAME (1) Nine Mile Point Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 410	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		87	062	00	06	OF	06

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

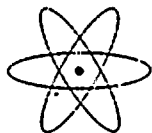
V. ADDITIONAL INFORMATION

There has been one previous similar event at NMP2 which involved Niagara Mohawk personnel approving and signing a surveillance procedure as satisfactory when, in fact, data contained within the procedure did not support the acceptance criteria. Details of this event may be found in LER 87-60.

Identification of Components Referred to in this LER

Component	IEEE 803 EIIS Funct	IEEE 805 System ID
LPCS System	N/A	BM
Pump	P	BM
HPCS System	N/A	BG
LPCI System	N/A	BO
ADS System	N/A	JE





NIAGARA MOHAWK POWER CORPORATION

NIAGARA  MOHAWK301 PLAINFIELD ROAD
SYRACUSE, NY 13212THOMAS E. LEMPGES
VICE PRESIDENT—NUCLEAR GENERATION

November 24, 1987

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555RE: Docket No. 50-410
LER 87-62

Gentlemen:

In accordance with 10 CFR 50.73, we hereby submit the following Licensee Event Report:

LER 87-62 Which is being submitted in accordance with 10 CFR 50.73 (a) (2) (i) (B), "Any operation or condition prohibited by the plant's Technical Specifications."

10 CFR 50.72 reports were made at 1625 hours on October 27, 1987 and 0330 hours on October 28, 1987.

This report was completed in the format designated in NUREG-1022, Supplement No. 2, dated September 1985.

Very truly yours,

Thomas E. Lempges
Vice President
Nuclear Generation

TEL/CDS/mjd

Attachments

cc: Regional Administrator, Region 1
Sr. Resident Inspector, W. A. CookIE22
11

