

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8710090148 DOC. DATE: 87/10/02 NOTARIZED: NO DOCKET #
 FACIL: 50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410
 AUTH. NAME AUTHOR AFFILIATION
 RONDALL, R. G. Niagara Mohawk Power Corp.
 LEMPGES, T. E. Niagara Mohawk Power Corp.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-052-00: on 870902, two related Tech Spec violations occurred at Util Unit 2. Caused by inadequate procedural control of status of cumulative operating hours of charcoal absorbers. Inadequate procedural revised. W/871002 ltr.

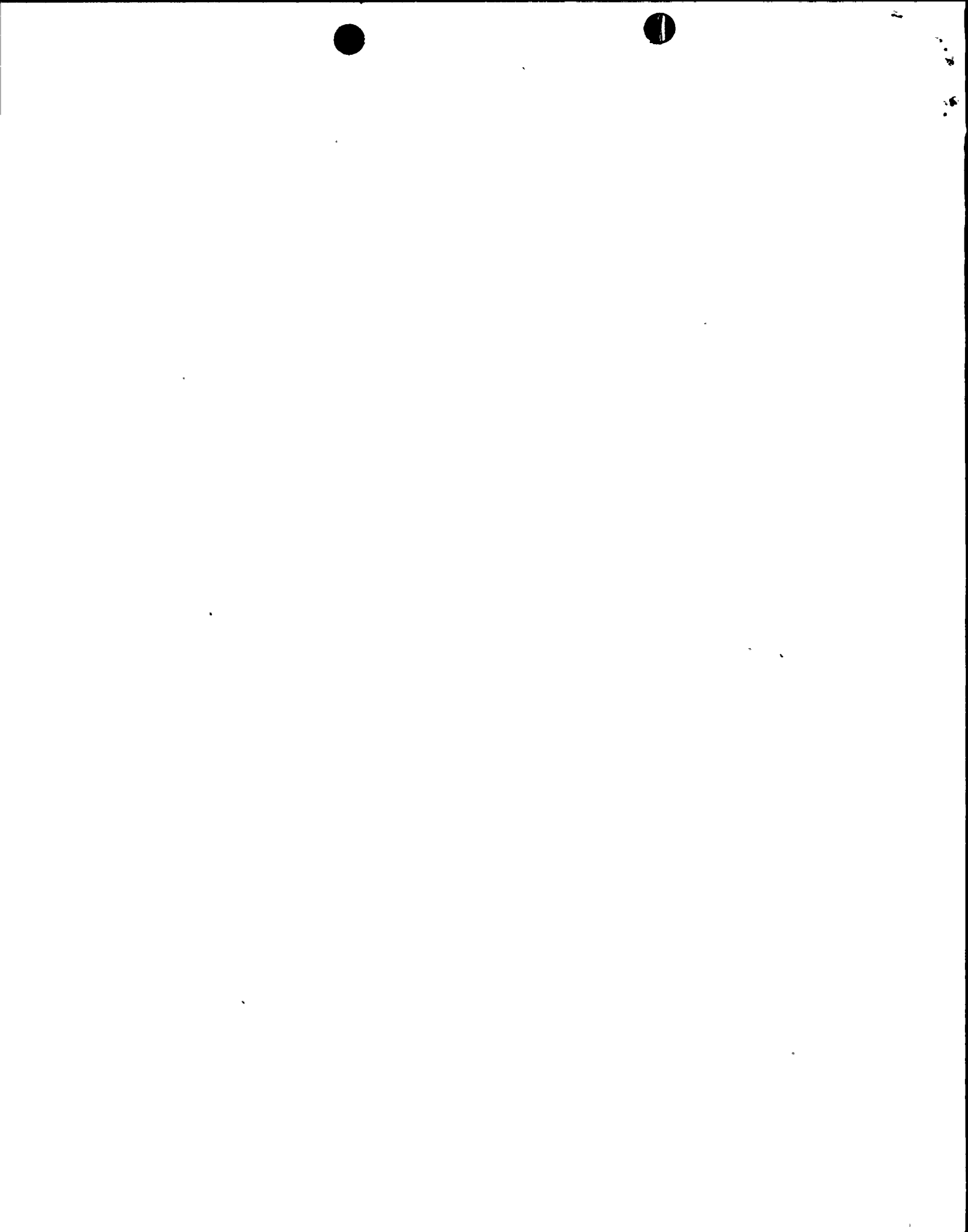
DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 8
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: 21

05000410

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

TOTAL NUMBER OF COPIES REQUIRED: LTTR 45 ENCL 44



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 07
--	---	----------------------------

TITLE (4) **Missed Surveillance for Standby Gas Treatment System Train A with Division II Diesel Generator Inoperable Results in Initiation of Required Plant Shutdown**

EVENT DATE (6)			LER NUMBER (8)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		
									N/A		
09	02	87	87	052	00	10	02	87	N/A		
									DOCKET NUMBER(S) 0 5 0 0 0		

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

OPERATING MODE (9) 1	20.402(b)	20.406(c)	60.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 040	20.406(a)(1)(i)	60.38(a)(1)	60.73(a)(2)(v)	73.71(c)
	20.406(a)(1)(ii)	60.38(c)(2)	60.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.406(a)(1)(iii)	X 60.73(a)(2)(i)	60.73(a)(2)(vii)(A)	
	20.406(a)(1)(iv)	60.73(a)(2)(ii)	60.73(a)(2)(viii)(B)	
	20.406(a)(1)(v)	60.73(a)(2)(iii)	60.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

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

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

SUPPLEMENTAL REPORT EXPECTED (14)

<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
			11	30	87

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

On September 2, 1987 two related Technical Specification (TS) violations occurred at Nine Mile Point Unit 2. The first was a result of exceeding a Surveillance Requirement of a Standby Gas Treatment System (GTS) charcoal adsorber (TS 4.6.5.3.c). The second was a result of exceeding a Limiting Condition of Operation (LCO) for the AC power sources (TS 3.8.1.1 Action e). At the time of the event discovery the reactor was at approximately 40% rated thermal power. After the event had been analyzed a third TS violation (TS 6.8.1.d) was also discovered.

The cause of the event was determined to be inadequate procedural control of the cumulative operating hours status of GTS charcoal adsorbers. Contributing to the event was the untimely completion of a review to determine the cumulative GTS operating hours and the failure to notify the Station Shift Supervisor that the status of a TS required surveillance was in question.

Corrective actions include the following:

1. An inadequate procedure has been revised and a new procedure has been generated to track GTS cumulative operating time on a daily basis.
2. A modification to add elapsed time meters to all special filter trains, including the GTS, has been completed.
3. Administrative controls shall be reviewed and changed, as required, to preclude recurrence of similar event situations.

LE22
1/1



LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		87	— 052	— 00	02	OF 07

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

I. DESCRIPTION OF EVENTS

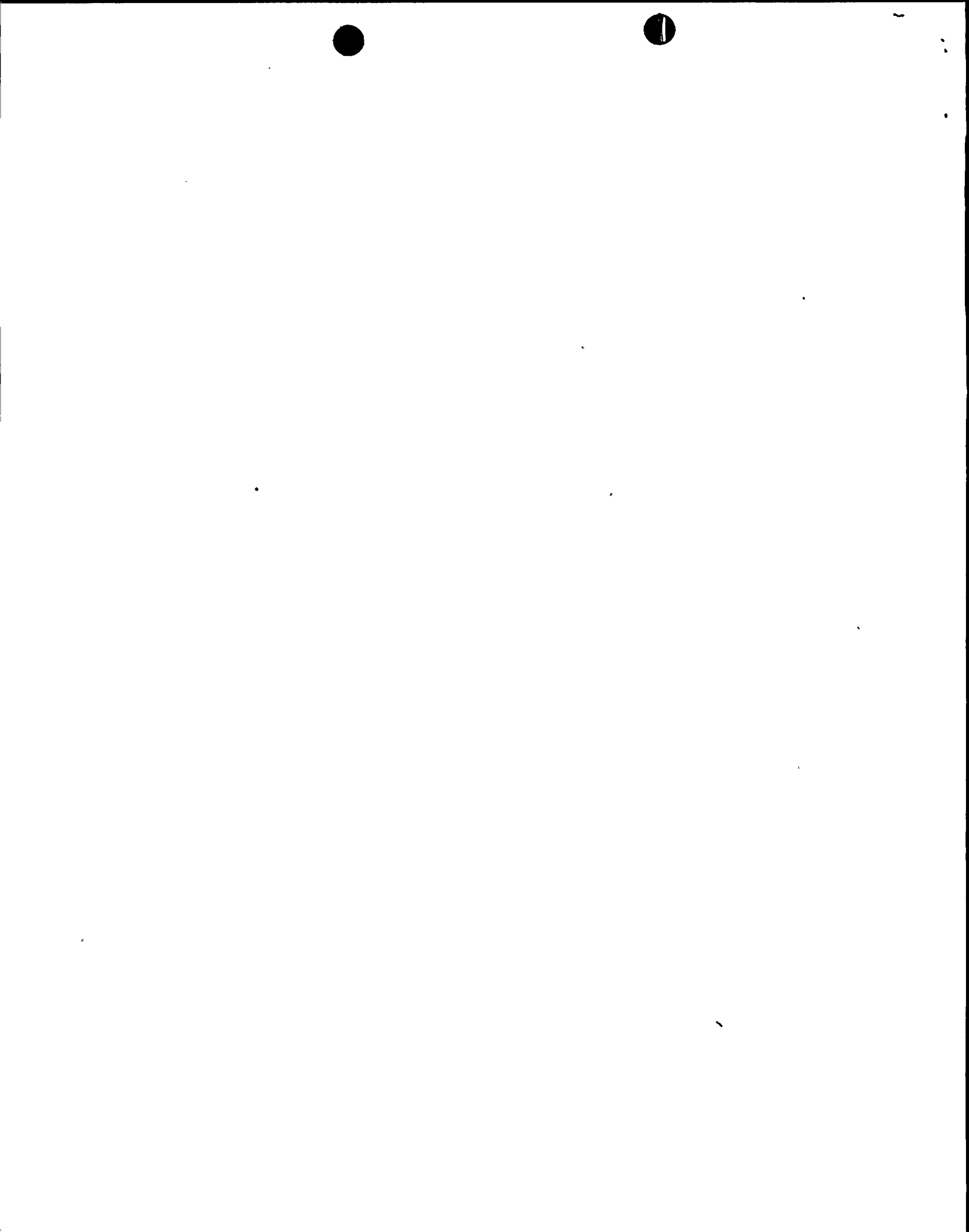
On September 2, 1987 at 1735 hours, two related Technical Specification (TS) items were discovered to have been violated at Nine Mile Point Unit 2 (NMP2). The first TS violation was a result of exceeding a Surveillance Requirement of a Standby Gas Treatment System (GTS) charcoal adsorber (TS 4.6.5.3.c). The second TS violation was a result of exceeding a Limiting Condition of Operation (LCO) for the AC power sources (TS 3.8.1.1 Action e). At the time the event was discovered the reactor was at approximately 40% rated thermal power. After the event had ended, a review of the cause revealed that a third TS had also been violated (TS 6.8.1.d) which requires that written procedures be established, implemented, and maintained covering surveillance and test activities of safety related equipment.

The sequence of events which resulted in these TS violations is as follows:

On September 1, 1987 at 1317 hours, the Division 2 emergency diesel generator (EDG) was removed from service and declared inoperable, so that a modification could be performed per Modification Work Request 20222.

Per TS 3.8.1.1 Action e, the Station Shift Supervisor (SSS) proceeded to verify that all required systems, subsystems, trains, components, and devices that depend on the remaining operable emergency diesel generator (Division 1) as a source of emergency backup power were operable. This verification was completed by checking the equipment status log located in the Control Room and noting the verification as complete in the SSS log book.

Approximately three hours after the Division 2 EDG was removed from service, Operations Management personnel outside the Control Room noticed that the cumulative operating hours of GTS Train A through July 31, 1987 was 785 hours, which was in excess of its TS surveillance limit of 720 hours (TS 4.6.5.3.c). The Surveillance Requirement states that after 720 hours of a GTS charcoal adsorber operation, a representative carbon sample must be drawn and analyzed within 31 days of the sample date. The cumulative operating hours had been determined by reviewing the Chief Shift Operator (CSO) logs through July 31, 1987. Per TS 4.0.2.a, it was determined that the maximum allowable surveillance requirement extension of 25% of the surveillance interval applied to TS 4.6.5.3.c. This increased the maximum allowable GTS charcoal adsorber operating time limit from 720 to 900 hours.



LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Nine Mile Point Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 4 7 0	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		87	— 052	— 00	03	OF 07

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

By the end of the working day on September 1, 1987 the total GTS Train A operating time through August 25, 1987 was calculated to be 847 hours. The review was incomplete at that time pending the following items:

1. It had been found that the initial calculation start date was in error. The calculations were based upon a start date of October 31, 1986. This date corresponds to the issuance of the operating license to NMP2 and the date surveillance requirements first went into effect. Operations Management personnel determined that the last sample date of the charcoal adsorber carbon was drawn in August of 1986. This is the time the calculations should have started. Thus, the GTS run times from August through October 1986 were not included in the calculations.
2. The calculations did not include data for the period from August 25 to September 1, 1987.

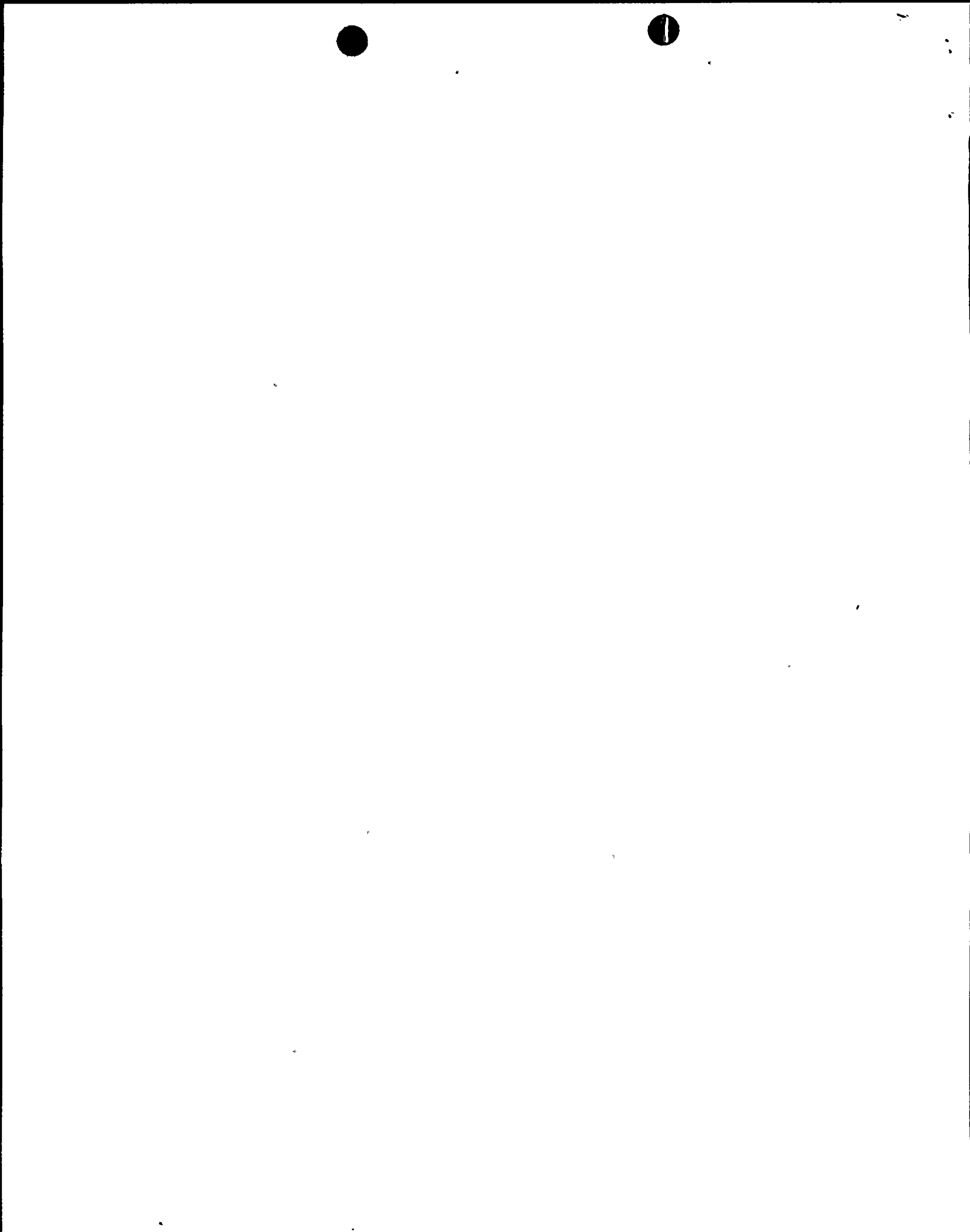
After review of the ongoing calculation by the Operations Management personnel involved, it was believed that the total GTS run time was going to be somewhere between 720 and 900 hours. This assumption was based upon the following:

1. They questioned the validity of the data in that they felt it was too high.
2. They felt that GTS run times during the period from August 1986 through October 1986 were small (10-15 hours per month) and would not significantly impact the final corrected result.
3. They thought that another carbon sample had been drawn from the GTS Train A charcoal adsorber at a date later than August 1986.

Based upon this evaluation the review was scheduled to be finished the next day.

On the next morning (September 2, 1987) the data collection resumed. The data from August through October 1986 added 39 hours to the total. Strip charts for GTS run times for the period between August 25 and September 2, 1987 were obtained from the Control Room. Errors were also found in the data which had been calculated on the previous day.

On the afternoon of September 2, 1987 the review of the GTS Train A charcoal adsorber operating time was completed. The results showed that as of August 31, 1987 the cumulative operating time of the GTS was in excess of the maximum allowable TS time limit of 900 hours. Operations personnel in the Control Room were promptly notified at 1730 hours and declared GTS Train A inoperable. Thus, with the GTS Train A inoperable due to exceeding the maximum 900 hour surveillance interval, and the Division 2 emergency diesel generator out of service, NMP2 had 12 hours to be in the hot shutdown condition per TS 3.8.1.1 Action e. This is because GTS Train A, which depends upon the remaining operable diesel (Division 1) as a source of emergency backup power, was not operable.



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	SEQUENTIAL NUMBER	REVISION NUMBER			
		87	— 052	— 00	04	OF	07

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

TS 3.8.1.1 Action e requires that within two hours after removing either emergency diesel generator EDG*1 (Division 1) or EDG*3 (Division 2) from service that all required systems, subsystems, trains, components, and devices that depend on the remaining operable diesel as a source of emergency power be verified operable; otherwise, be in at least HOT SHUTDOWN within the next 12 hours and COLD SHUTDOWN within the following 24 hours. The GTS depends upon the emergency diesel generators as a source of emergency backup power. The LCO time limit to be in at least HOT SHUTDOWN within 12 hours had been exceeded by 16 hours 13 minutes.

At 1735 hours on September 2, 1987 a plant shutdown commenced as required by TS 3.8.1.1 Action e without further incident. The Division 2 EDG was returned to an operable status at 2150 hours that same day thus ending the duration of the violation of TS 3.8.1.1 Action e. The plant was in the hot shutdown condition at 1435 hours on September 3, 1987 and in the cold shutdown condition at 0220 hours on September 4, 1987.

On September 4, 1987 a carbon sample was retrieved from the Train A charcoal adsorber and analyzed. The analysis showed that the efficiency of the charcoal adsorber was $\geq 99.99\%$, which is within its acceptable performance criteria for methyl iodine removal efficiency of $\geq 99.825\%$. When the charcoal sample was analyzed the charcoal adsorber was once again operable per TS 4.6.5.3.c.

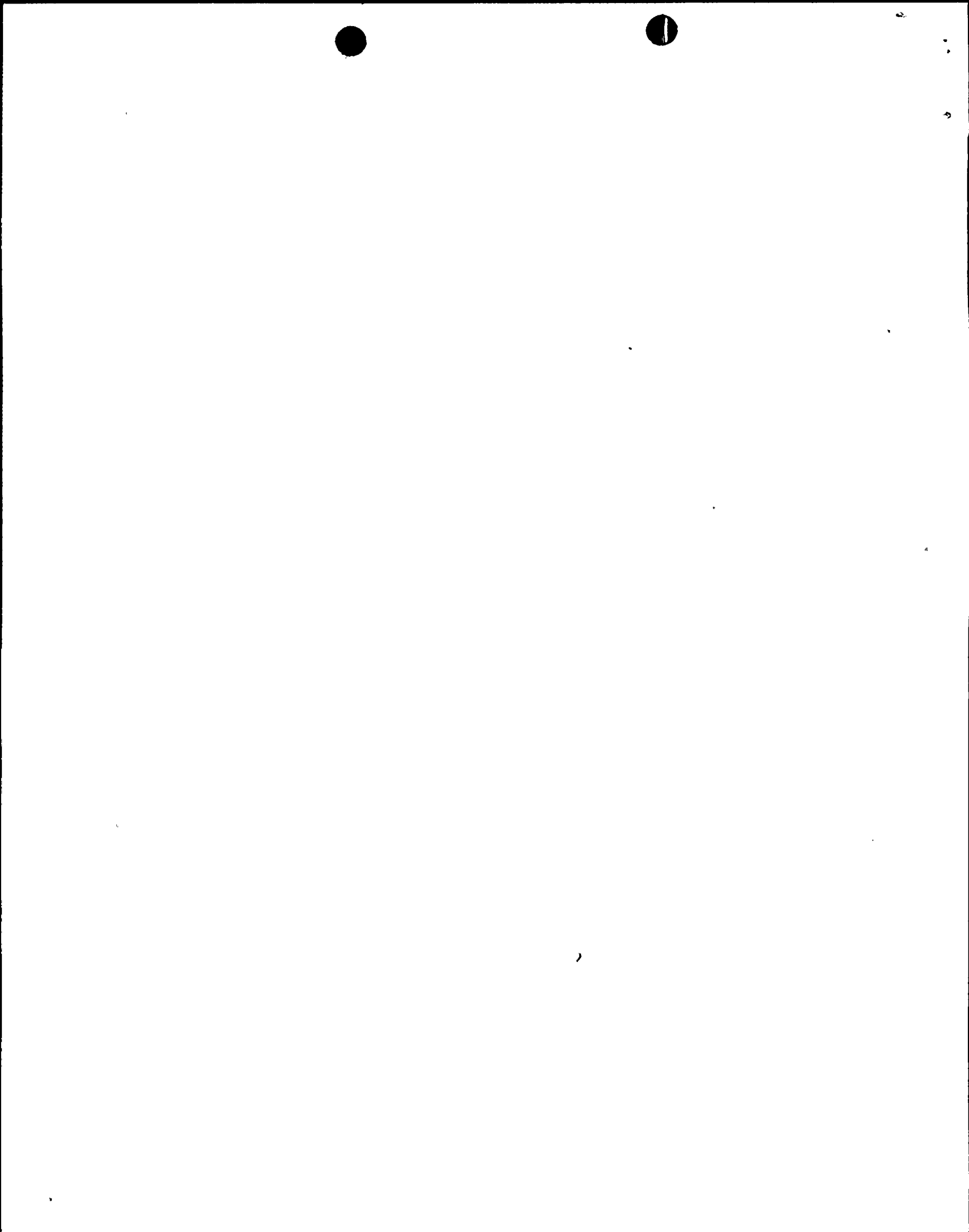
This event was subsequently the subject of a US Nuclear Regulatory Commission special safety inspection by resident inspectors (Special Inspection 50-410/87-32). This special safety inspection resulted in the submittal of five potential violations to Niagara Mohawk Power Corporation.

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 events has been completed per Site Supervisory Procedure S-SUP-1, "Root Cause Analysis Program". The results of this analysis have found that the root cause of this event was inadequate procedural control of the status of cumulative operating hours of the GTS charcoal adsorbers.

Until August 31, 1987 there was no written procedure for tracking the cumulative operating hours of the GTS charcoal adsorbers. Operating times were supposed to be updated on a monthly basis by Operations clerks outside the Control Room. Operating times were obtained by review of daily logs kept by the SSS and the CSO and by review of strip charts, when available, for the GTS. The method of tracking this particular plant parameter was a violation of TS 6.8.1.d which requires written procedures be established, implemented, and maintained covering activities associated with surveillance and test activities of safety related equipment.



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	SEQUENTIAL NUMBER	REVISION NUMBER			
		87	— 052	— 00	05	OF	07

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

Further deficiencies have been identified which contributed to this event. These deficiencies include the following items:

1. Failure of Operations personnel who originally identified that the 720 hour GTS charcoal adsorber operating hours had been exceeded to notify supervisory personnel in the Control Room. This would have alerted Control Room personnel that they were possibly in an LCO per TS 3.8.1.1 Action e.
2. Failure of Operations personnel to complete a timely review of the actual GTS Train A operating hours. At the end of the working day on September 1, 1987 the review was stopped and not completed until the next day.
3. The SSS was not kept routinely informed of the actual operating hours status of the GTS on a day to day basis. This led to a failure of Control Room personnel to recognize that the GTS Train A was inoperable when the Division II emergency diesel generator was removed from service.
4. Failure of Operations Management to take prompt and effective corrective action on a previously identified item. During Operational Readiness Team Inspection (50-410/87-16) conducted by the NRC during the first few weeks of June 1987, a deficiency was noted in the existing program for tracking the accumulated run times of the GTS Trains. These deficiencies were not corrected until August 31, 1987 when changes were incorporated into the operating procedure for GTS.

III. ANALYSIS OF EVENT

The Standby Gas Treatment system is designed to limit the release of radioactive gases from the Reactor Building to the environment within the guidelines of 10CFR100 following a design basis accident. The function of the GTS charcoal adsorbers is to remove radioiodines from the GTS air stream before its release to the environment.

Although there is a 720 operating hours limit specified in the TS to take a carbon sample from the GTS charcoal adsorber, there is also a 31 day time period allowed for the sample analysis to be performed. Testing of this and other Engineered Safety Feature Systems is performed at intervals so that credible failure may be detected and repaired before system reliability is reduced. It was later discovered that the GTS Train A charcoal adsorber was capable of performing within its acceptable performance criteria (methyl iodine removal efficiency $\geq 99.825\%$).

With the Division II emergency diesel generator inoperable, GTS Train B had no backup emergency power source. It did however, have its primary power source (offsite power) available. GTS Train A had both primary and backup power available, was not in a condition of reduced reliability, and was operating within its acceptable performance criteria. This leads to the conclusion that no adverse safety consequences resulted from this event.



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	SEQUENTIAL NUMBER	REVISION NUMBER		
		87	— 052	— 00	06	OF 07

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

Radioactive gaseous releases discharged via the GTS during the event were insignificant when compared to the limits of such releases allowed by Technical Specifications.

The total duration of the event involving TS 3.8.1.1 Action e was from September 2, 1987 at 0117 hours when the plant initially exceeded its 12 hour LCO to be in hot shutdown until September 2, 1987 at 2150 hours when the Division 2 Emergency Diesel Generator was placed back in service, a total of 20 hours 33 minutes. The total duration of the event involving TS 4.6.5.3.c was from July 29, 1987 when the 900 hour time limit was first exceeded for GTS Train A until September 4, 1987 when the carbon sample was satisfactorily tested, a total of 38 days. The calculation results of September 2, 1987 which showed NMP2 exceeded the 900 hour TS limit on August 31, 1987 were found to be in error. The revised calculations showed that the 900 hour TS time limit had actually been exceeded on July 29, 1987.

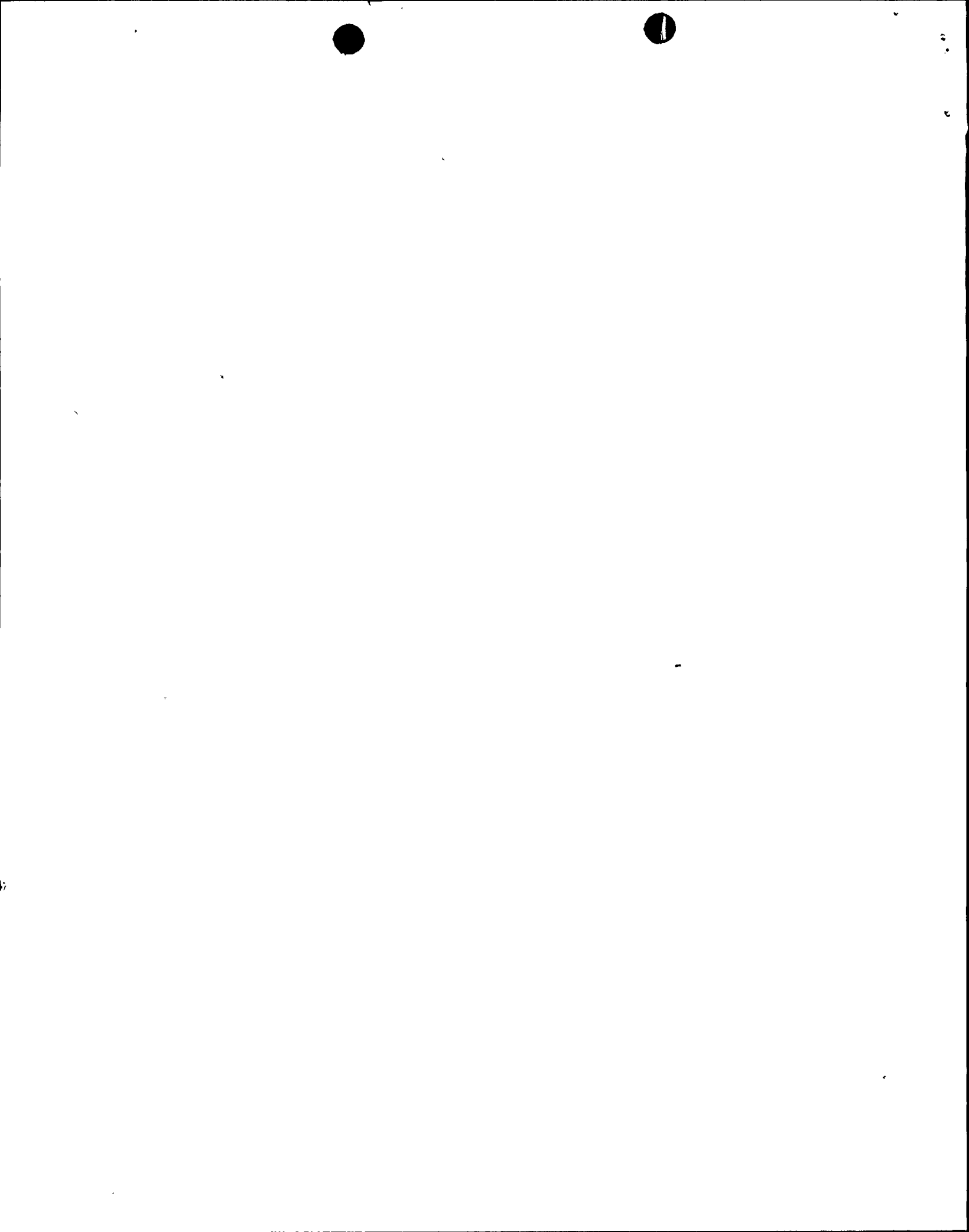
IV. CORRECTIVE ACTIONS

Upon receiving notification that TS surveillance requirement 4.6.5.3.c had been exceeded, operators in the Control Room initiated an orderly plant shutdown as required by TS 3.8.1.1 Action e. Actions were then taken to return the Division 2 emergency diesel generator back to an operable status as soon as possible. The Division 2 EDG was returned to an operable status at 2150 hours on September 2, 1987. At this time the shutdown could have been terminated, however, at the direction of the Station Superintendent, the unit shutdown was continued to proceed to the Test Condition 2 outage portion of the NMP2 Power Ascension Program.

On September 4, 1987 carbon samples were removed from both GTS (Train A and B) charcoal adsorbers and analyzed for their ability to retain radioiodines. Both samples were found to be acceptable with radioiodine retention rates of 99.99%. The acceptable performance criteria is 99.825%.

A new Operations Surveillance Procedure, N2-OSP-LOG-D@002, "GTS and HVC Run Time Log", has been developed. This procedure provides detailed steps necessary to ensure the required surveillance testing of the GTS and the Control Room Outdoor Air Special Filter Train System (HVC) is performed after every 720 hours of operating time as required by TS. This procedure became effective on September 22, 1987.

The GTS operating procedure, N2-OP-61B, "Standby Gas Treatment" has been revised to include an attachment for recording Standby Gas Treatment train operating hours. Steps have been added to the procedure requiring that the attachment be filled out each time a GTS train is operated. Upon completion of the attachment, it shall be forwarded to the Superintendent of Operations so that the data may be entered into the GTS operating hours record. This revision became effective on August 31, 1987.



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	SEQUENTIAL NUMBER	REVISION NUMBER		
		87	052	00	07	OF 07

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

A review of the Technical Specifications to ascertain other areas which specify an operating time surveillance requirement has been completed. Operating surveillance procedures have been updated and initiated, as required. An evaluation is continuing into the other departmental areas of NMP2 to determine the adequacy of their procedures with respect to this review.

A modification (PN2Y87MX133) to install elapsed time meters for all special filter trains, including the GTS, has been completed at Nine Mile Point Unit 2. This modification will improve the accuracy of the surveillance program for the GTS as required by TS. The elapsed time meters shall be checked on a daily basis as part of Operations Surveillance Procedure N2-OSP-LOG-D0002. A review of other plant systems where elapsed time meters could improve the accuracy of TS required surveillance programs is currently under way. Further modifications shall be initiated based upon the results of this review. This review is scheduled to be complete by December 31, 1987.

To preclude untimely review and corrective action on future NRC identified items, Licensing personnel shall be present at all NRC exit meetings to record identified action items. Licensing shall then review the action items with the appropriate Management personnel to determine the accuracy of the item and establish a required completion date before entering the item on the open item tracking system. The action items shall then be forwarded to the appropriate departmental head so that they may be resolved in a timely manner.

Reportability requirements shall be reemphasized to all personnel by departmental heads. A program shall also be added to the Continuing Training Program at Nine Mile Point so the subject matter will be reemphasized to personnel on a regular basis.

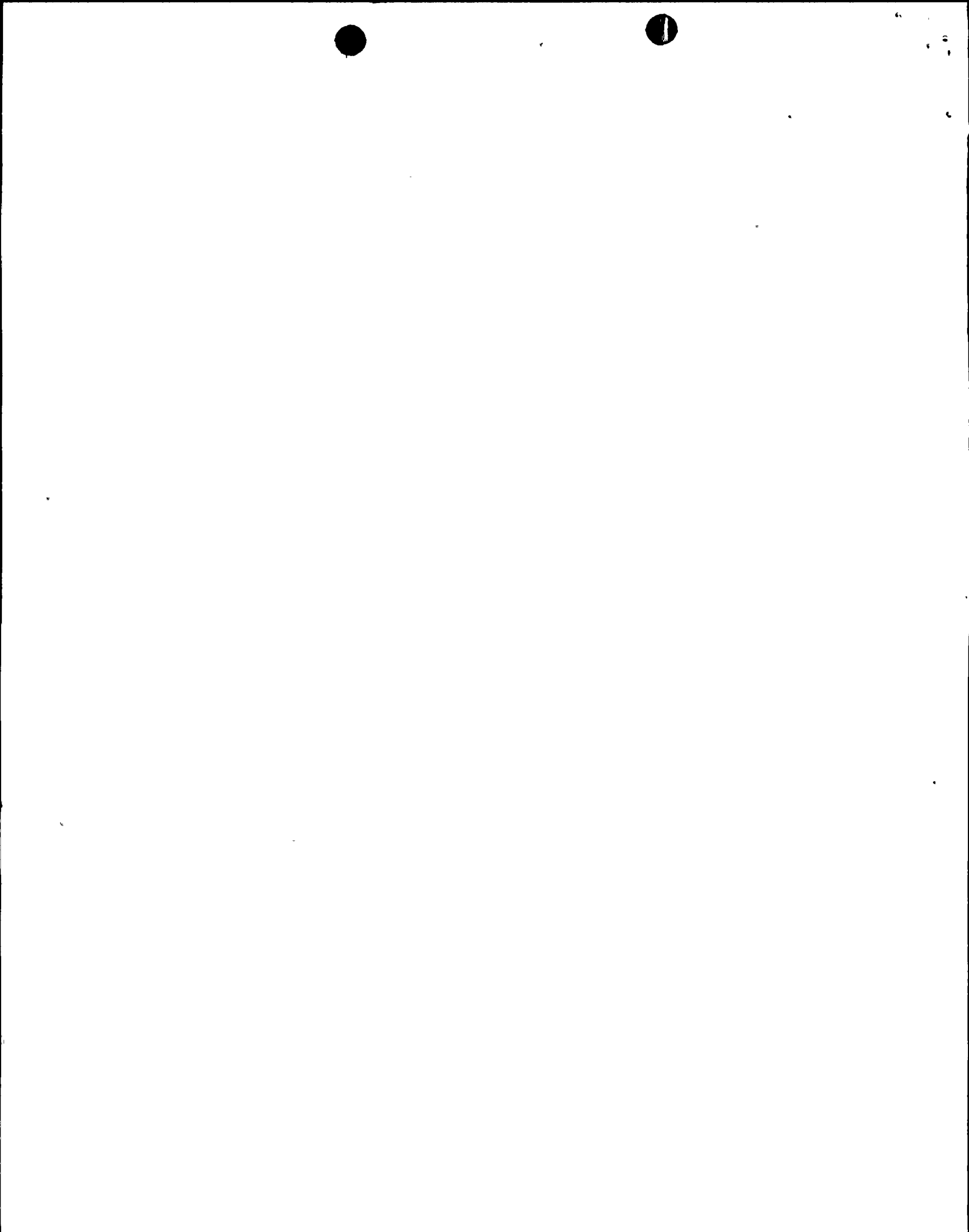
V. ADDITIONAL INFORMATION

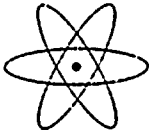
The corrective actions identified in this report were developed to address the root cause determined for this event. Some of these corrective actions are also appropriate with respect to the contributing deficiencies identified in Section II. However, Niagara Mohawk is continuing its evaluation of these contributing deficiencies to identify their root cause. A supplemental report will be issued which will describe the results of this evaluation and any additional corrective actions. This supplemental report will be issued by November 30, 1987.

Identification of Components Referred to in this LER

Component	IEEE 803 EIIIS Funct	IEEE 805 System ID
Standby Gas Treatment System	N/A	BH
Emergency Diesel Generator	DG	EK
Charcoal Adsorber	ADS	BH
Elapsed Time Meters	KI	BH

There have been no similar previous events at Nine Mile Point Unit 2.





NIAGARA MOHAWK POWER CORPORATION

NIAGARA  MOHAWK

301 PLAINFIELD ROAD
SYRACUSE, NY 13212

THOMAS E. LEMPGES
VICE PRESIDENT—NUCLEAR GENERATION

October 2, 1987

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

RE: Docket No. 50-410
LER 87-52

Gentlemen:

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

LER 87-52 Which is being submitted in accordance with 10 CFR 50.73 (a) (2) (i) (B), "Any operation or condition prohibited by the plants Technical Specifications."

A 10 CFR 50.72 report was made at 1811 hours on September 2, 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. Cook

IE22
/1

