



**Constellation
Energy Group**

Nine Mile Point
Nuclear Station

October 14, 2003
NMP1L 1781

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

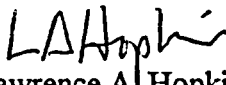
Subject: Nine Mile Point Unit 1
Docket No. 50-220
Facility Operating License No. DPR-63

Licensee Event Report 03-002, "Reactor Scram Due to Electric Grid Disturbance"

Gentlemen:

In accordance with 10 CFR 50.73(a)(2)(iv)(A), we are submitting Licensee Event Report (LER) 03-002, "Reactor Scram Due to Electric Grid Disturbance."

Very truly yours,


Lawrence A. Hopkins
Plant General Manager

LAH/KLE/bjh
Attachment

cc: Mr. H. J. Miller, NRC Regional Administrator, Region I
Mr. G. K. Hunegs, NRC Senior Resident Inspector

IE22

LICENSEE EVENT REPORT (LER)

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1)

Nine Mile Point, Unit 1

DOCKET NUMBER (2)

05000220

PAGE (3)

1 OF 3

TITLE (4)

Reactor Scram Due to Electric Grid Disturbance

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER	
08	14	2003	2003 - 002 - 00			10	14	2003	FACILITY NAME	DOCKET NUMBER	
										05000	
									FACILITY NAME	DOCKET NUMBER	
										05000	
OPERATING MODE (9) 1			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)								
POWER LEVEL (10) 100			20.2201(b)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)		
			20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)		50.73(a)(2)(x)		
			20.2203(a)(1)		50.36(c)(1)(i)(A)		X	50.73(a)(2)(iv)(A)		73.71(a)(4)	
			20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)		73.71(a)(5)		
			20.2203(a)(2)(ii)		50.36(c)(2)		50.73(a)(2)(v)(B)		OTHER		
			20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)		Specify in Abstract below or in		
			20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)		NRC Form 366A		
			20.2203(a)(2)(v)		50.73(a)(2)(i)(B)		50.73(a)(2)(vii)				
20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)							
20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)							

LICENSEE CONTACT FOR THIS LER (12)

NAME

Michael T. Navin, Manager Operations

TELEPHONE NUMBER (Include Area Code)

315-349-2421

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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 15 single-spaced typewritten lines) (16)

On August 14, 2003 at approximately 1611 hours, Nine Mile Point Unit 1 automatically scrambled from 100% rated thermal power when the turbine tripped on a load rejection. A large disturbance in the electric grid had caused the turbine to trip. Both emergency diesel generators (EDGs) automatically started and supplied the emergency buses. The electric grid disturbance ultimately led to the loss of the reactor recirculation pumps and circulating water pumps. Reactor pressure and water level were maintained using the electromatic relief valves (ERVs), emergency condensers, and the control rod drive injection system. At 1633 hours an Unusual Event (UE) was declared due to grid instability. After grid stability had been established the EDGs were secured. EDG 103 was secured at 2339 hours on August 14, 2003 and EDG 102 was secured at 0018 hours on August 15, 2003. The UE was terminated at 0120 hours on August 15, 2003.

The cause of the event was the severe disturbance on the northeast electric grid.

This event is reportable in accordance with 10 CFR 50.73(a)(2)(iv)(A) because of the critical reactor scram, and because of the automatic start of the EDGs.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2) NUMBER (2)	LER NUMBER (6)			PAGE (3)
Nine Mile Point, Unit 1	05000220	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		2003	-- 002	-- 00	

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

I. Description of Event

On August 14, 2003 at approximately 1611 hours, Nine Mile Point Unit 1 (NMP1) automatically scrammed from 100 percent power. A turbine trip due to load rejection caused the reactor scram with all control rods fully inserting into the core. A large disturbance in the electric grid, affecting parts of the northeastern United States and southern Ontario in Canada caused the turbine to trip on load rejection.

At approximately 1612 hours, the grid disturbance resulted in degraded voltage conditions on NMP1 emergency buses. This caused the emergency buses to automatically isolate from off-site 115 KV electrical power, which resulted in the starting and loading of both emergency diesel generators (EDGs). Post scram, non-safety related loads initially remained powered by off-site 115 KV power and experienced significant voltage transients. By approximately 1622 hours, the voltage transients had led to the loss of all reactor recirculation pumps and circulating water pumps. Loss of the circulating water pumps resulted in the eventual loss of the condenser.

Immediately following the scram, both motor driven feedwater pumps operated in the high pressure coolant injection (HPCI) mode, as designed, to restore reactor vessel water level. After recovery of the water level, the feedwater pumps continued to operate in the HPCI mode until the water level reached the "Hi-Hi" level (approximately one minute after the scram) at which point the feedwater pumps tripped as designed.

Turbine bypass valves (TBVs) and all six electromatic relief valves (ERVs) opened automatically to relieve reactor pressure after the scram. The TBVs relieve to the main condenser and the ERVs relieve to the suppression pool. Operators then manually operated two ERVs as needed to control reactor pressure and to assist in controlling reactor vessel water level.

All main steam isolation valves were manually closed at 1623 hours and emergency condensers (EC) and ERVs were used to control reactor system pressure and reactor vessel level. The control rod drive injection (CRDI) system provided a source of makeup water to aid in maintaining reactor vessel water level.

Because of continued grid instability, an Unusual Event (UE) was declared at 1633 hours on August 14, 2003. Although there was never a complete loss of both 115 KV off-site lines, the fluctuations in voltage were such that off-site power was deemed unstable and the Emergency Action Levels for an UE were deemed to be met. The EDGs continued to power the emergency buses until the grid was determined to be stable, at which time the emergency buses were paralleled to off-site power and the EDGs secured. EDG 103 was secured at 2339 hours on August 14, 2003 and EDG 102 was secured at 0018 hours on August 15, 2003. The UE was terminated at 0120 hours on August 15, 2003. NMP1 reached cold shutdown at 0126 hours on August 16, 2003.

II. Cause of Event

A severe disturbance in the electric grid, affecting parts of the northeastern United States and southern Ontario in Canada caused the turbine trip on load rejection leading to the reactor scram.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2) NUMBER (2)	LER NUMBER (6)			PAGE (3)
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		2003	-- 002 --	00	

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

III. Analysis of Event

This event is reportable in accordance with 10 CFR 50.73(a)(2)(iv)(A) because of the critical reactor scram and because of the automatic start of the EDGs.

No Emergency Core Cooling Systems actuated or should have actuated.

All control rods fully inserted on the scram.

Both EDGs started and ran as designed.

Based on the above, the event did not pose a threat to the health and safety of the public.

IV. Corrective Actions

None.

V. Additional Information

1. Failed Components:
None
2. Previous similar events:
None
3. Identification of components referred to in this Licensee Event Report:

<u>Components</u>	<u>IEEE 805 System ID</u>	<u>IEEE 803A Function</u>
Feedwater System	SJ	N/A
Main Steam System	SB	N/A
Main Turbine System	TA	N/A
Turbine Bypass System	JI	N/A
Condenser System	SG	N/A
Recirculation System	AD	N/A
Reactor Core	AC	N/A
Emergency Diesel Generator	EK	N/A
Emergency Buses	EB	N/A
Non-Emergency Buses	EA	N/A
115 KV Off-site Power System	FK	N/A
Circulating Water System	KE	N/A
Emergency Condenser	BL	N/A
Control Rod Drive System	AA	N/A
Suppression Pool	NH	N/A
Turbine	TA	TRB
Condenser	SG, BL	COND
Control rod	AA	ROD
Motor	SJ	MO
Bus	EA, EB	BU
Pump	AD, KE, AA	P
Valve	SB, JI	ISV, EV, PCV
Reactor Vessel	AD	RPV