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 3

TITLE (4)

Reactor Scrams Due to IRM "D" Upscale Trip and SDV High Level

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
1 1	0 5	8 6	8 6	0 0 1	0 1	0 7	0 7	8 7	N/A	0 5 0 0 0

OPERATING MODE (9)	5	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	20.402(b)	20.405(c)	X 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)	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
Robert G. Randall, Supervisor Technical Support	3 1 5 3 4 9 - 2 4 4 5

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	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 11/5/86, Nine Mile Point Unit 2 experienced two scrams during initial fuel loading. The first resulted from a spike on IRM "D" caused by noise created when a fuel bundle was loaded adjacent to the detector. The second occurred 2 minutes and 38 seconds later due to a high level scram discharge volume trip which was not bypassed after the first scram. The second scram was not reported as specified by 10 CFR 50.72.

No transients or equipment failures were experienced during these scrams and a recommendation was given to resume core loading.

Corrective Actions Taken:

(1) The IRM that might have been affected by adjacent bundle placement was bypassed as permitted by Tech. Spec. 3.3.1.

(2) A training modification recommendation for licensed operators has been submitted to ensure that the Reactor Operator bypasses the SDV high level trip (as specified in operating procedure N2-OP-101C) even after a scram that occurs with the control rods already fully inserted and the SDV high level alarm has not yet come in.

(3) Personnel responsible for 10 CFR 50.72 notification will be instructed to ensure each reportable event is reported.

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	8 6	— 0 0 4	— 0 1	0 2 OF 0 3

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

On 11/5/86, Nine Mile Point Unit Two experienced two scrams, the first at 12:41:15, the second at 12:43:54.

First Scram Event Description

The first scram occurred while initial core loading was in progress with the reactor head removed and all control rods fully inserted. The shorting links were removed per Technical Specification Section 3.10.7 and start up test procedure N2-SUT-3-0V "Fuel Load".

Removal of the shorting links provides for a full RPS scram (both channels) if any one neutron monitor (SRM, IRM or APRM) outputs a signal above the scram set point. The 135th fuel assembly was being installed adjacent to IRM "D" when that IRM experienced an output spike causing a full scram.

The IRM spike and subsequent scram was most probably caused by the high IRM gains required for initial fuel load (FSAR Table 14.2-209). These high gains amplified the noise created by bundle placement adjacent to the detector. This conclusion resulted from a review of the Control Room Post Trip Logs, the alarm print out and discussions with Operations, I&C, and General Electric personnel.

Second Scram Event Description

Two minutes and thirty eight seconds after the scram caused by the IRM "D" upscale trip, a second scram occurred due to a high level in the scram discharge instrument volume (SDIV). The reactor was in the same conditions as described above.

When the IRM scram occurred, the scram air header depressurized and both SDV vent valves and both SDV drain valves closed. In this condition only water leaking past the seals in the CRD exhausted to the SDV since the CRD's were all full in prior to the first scram signal.

When the NMPC licensed operator went to reset the RPS logic, sufficient water had not drained from the scram discharge volume (SDV) into the SDIV to activate a high level alarm. As a result, the NMPC licensed operator , with accurate knowledge of plant conditions, decided not to bypass the SDV high level trip. This action was not in accordance with the scram recovery procedure N2-OP-101C.

After the RPS logic was reset, both vent valves and one drain valve opened as the scram air header began to repressurize. The delay in opening the second drain valve was the result of a longer air header path to this valve. All valves did respond within the Technical Specifications requirements.

Computer logs showed that levels continued to rise in the SDIV. This happened because the scram air header had not repressurized enough to close the HCU scram outlet valves, allowing more water to fill the SDIV. The high level trip point was reached in the SDIV before the other drain valve opened, causing another full scram.

After the second full scram occurred, the SDV high level trip was properly bypassed and the scram reset. All vent and drain valves opened and the SDIV drained.

Since the second scram was a resultant of the initial IRM "D" scram the licensed operator responsible for making the 10 CFR 50.72 notification considered both scrams to be a single event. In light of this, upon making his notification he failed to mention the SDIV high level scram as a separate event.

Assessment of Potential Safety Consequences For Both Scrams

There are no other operating conditions for which the IRM gains are set to the maximum. Therefore, the first scram would not be expected to occur during other operating conditions.

Failure to bypass a SDV high level scram could occur at any of the five modes of operation. A delayed second scram from a failure to bypass the SDV high level trip would not result in a significant transient. This is because the CRDs would already be in full in position from the previous reactor scram.

There are no additional credible component failures that could have increased the severity of the transient. The plant was in cold non-critical condition with the control blades fully inserted prior to the initial scram.

The RPS logic operated as designed such that no adverse safety consequences or transients resulted from this event. Upon satisfactory analysis of the scram root causes, a recommendation was given to resume fuel loading.

Corrective Action

(1) The full gain currently set on the IRMs is only for initial fuel load. The IRM gains will be properly adjusted during power ascension. For the short term, the IRM that might have been affected by adjacent bundle placement will be bypassed as permitted by Technical Specification Section 3.3.1.

(2) A training modification recommendation for licensed operators has been submitted to ensure that the reactor operator will bypass the SDV high level trip (as specified in operating procedure N2-OP-101C), after a scram with the control rods already fully inserted, where a SDV high level trip may not be immediately present.

(3) Personnel responsible for NRC notification under the provisions of 10 CFR 50 part 72 will be instructed to ensure each reportable event is reported.

Identification of Components Refered to in this LER

Component	IEEE 803 EIIS Funct	IEEE 805 System ID
Source Range Monitor (SRM)	JI	IG
Intermediate Range Monitor (IRM)	JI	IG
Average Power Range Monitor (APRM)	JI	IG
Scram Discharge Volume (SDV)	COL	JC
Reactor Protection System (SRM)	Not Appl	JC