ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8901110080 DOC.DATE: 89/01/03 NOTARIZED: NO DOCKET #
FACIL:50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410
AUTH.NAME AUTHOR AFFILIATION
KINSLEY,J. Niagara Mohawk Power Corp.
WILLIS,J.L. Niagara Mohawk Power Corp.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-066-00:on 881201,alternate rod insertion actuation during surveillance test due to design deficiency.
W/8 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 6
TITLE: 50.73 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
	HAUGHEY,M	1	1	BENEDICT,R	1	1
INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	2	2
	ACRS WYLIE	1	1	AEOD/DOA	1	1
	AEOD/DSP/TPAB	1	1	AEOD/ROAB/DSP	2	2
	ARM/DCTS/DAB	1	1	DEDRO	1	1
	NRR/DEST/ADE 8H	1	1	NRR/DEST/ADS 7E	1	0
	NRR/DEST/CEB 8H	1	1	NRR/DEST/ESB 8D	1	1
	NRR/DEST/ICSB 7	1	1	NRR/DEST/MEB 9H	1	1
	NRR/DEST/MTB 9H	1	1	NRR/DEST/PSB 8D	1	1
	NRR/DEST/RSB 8E	1	1	NRR/DEST/SGB 8D	1	1
	NRR/DLPQ/HFB 10	1	1	NRR/DLPQ/QAB 10	1	1
	NRR/DOEA/EAB 11	1	1	NRR/DREP/RAB 10	1	1
	NRR/DREP/RPB 10	2	2	NRR/DRIS/SIB 9A	1	1
	NUDOCS-ABSTRACT	1	1	REG FILE 02	1	1
	RES/DSIR/EIB	1	1	RES/DSR/PRAB	1	1
	RGN1 FILE 01	1	1			
EXTERNAL:	EG&G WILLIAMS,S	4	4	FORD BLDG HOY,A	1	1
	H ST LOBBY WARD	1	1	LPDR	1	1
	NRC PDR	1	1	NSIC HARRIS,J	1	1
	NSIC MAYS,G	1	1			

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!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 46 ENCL 45

RIDS/ADDS

RIDS/ADDS

A/04 cc

NMP41690

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 0 410	1 OF 05

TITLE (4)

Alternate Rod Insertion Actuation During Surveillance Test due to Design Deficiency

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
12	01	88	88	066	00	01	03	89	N/A	0 5 0 0 0

OPERATING MODE (9)	4
POWER LEVEL (10)	000

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

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)	X 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)	Voluntary

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER	
	AREA CODE	
James Kinsley, Supervisor of Instrument and Control	315	349-7502

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 December 1, 1988 at 1406 hours, Nine Mile Point Unit 2 experienced an inadvertent Redundant Reactivity Control System (RRCS) activation resulting in an Alternate Rod Insertion (ARI). The ARI was inadvertently initiated while performing a Reactor Vessel Pressure Instrument Channel Calibration Surveillance Test. At the time of the event the reactor was in Cold Shutdown condition, with the mode switch in shutdown (Operational Condition 4). The reactor was approximately at ambient pressure and a temperature of 108 degrees Fahrenheit.

The root cause of this event was a design deficiency.

The immediate corrective action was to verify plant conditions were in normal status and reset the RRCS.

Corrective action will be to evaluate the priority of Modification No. PN2Y85MX089 for redesign of the level transmitters configuration, where both channels of a single division would not be affected by a pressure transient on the common sensing line. This modification would reduce the chances of a recurrence of an event of this type.

This event is considered to be not reportable per 10CFR21, "Reporting of Defects and Noncompliance", nor 10CFR50.73, "Licensee Event Report System", but is being submitted as a voluntary LER.

IE22
1/1

8901110080 890103
PDR ADOCK 05000410
S PDC

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 0 410	88	— 066	— 00	02 OF 05

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

I. DESCRIPTION OF EVENT

On December 1, 1988 at 1406 hours, Nine Mile Point Unit 2 experienced an inadvertent Redundant Reactivity Control System (RRCS) activation resulting in an Alternate Rod Insertion (ARI). The ARI was inadvertently initiated while performing a Reactor Vessel Pressure Instrument Channel Calibration Surveillance Test. At the time of the event the plant was in a cold shutdown condition with the reactor mode switch in Shutdown (Operational Condition 4). The reactor was at approximately atmospheric pressure and 108 degrees Fahrenheit.

At the time of this event Instrument and Control (I&C) personnel were performing the "Remote Shutdown Monitor Reactor Vessel Pressure Instrument Channel Calibration" (N2-ISP-ISC-R111) surveillance test. This surveillance test calibrates the Remote Shutdown Reactor (RSS) Vessel Pressure Instrument Channels 2RSS*PI102 and 2RSS*PT113. The I&C technicians had completed the loop calibration portion of the surveillance test and were in the process of restoring the Remote Shutdown Pressure Transmitter (PT) 2RSS*PT113 to service. The I&C technician at the PT notified the technician in the remote shutdown room that all the appropriate steps had been performed in the procedure. The pressure indicator in the Remote Shutdown room was verified by the technician to be at 0 psig. The technician at the PT slowly opened the inlet valve to the pressure transmitter admitting system pressure; putting 2RSS*PT113 back into service.

When the I&C technician returned the pressure transmitter to service, a pressure transient was transmitted throughout the common leg in which the level transmitters are mounted. (See Figure 1) This pressure transient caused a spurious Reactor Protection System (RPS) half scram on low level transmitter 2ICS*LT7B and A Division II RRCS initiation signal.

The control rods scrammed via the action of ARI. This resulted in a scram discharge instrument volume (SDIV) high level RPS trip signal. However, the control rod drive hydraulic units did not receive an RPS signal because the operators had bypassed that trip function as part of the ARI scram recovery.

The immediate corrective actions taken by the licensed operations personnel were to: 1) verify plant conditions were normal; 2) bypass the scram discharge volume high level scram signal; 3) and reset the ARI and RPS half scram signal.

There were no other inoperable systems which contributed to this event. No plant system or component failure resulted from this event.

This event is considered to be not reportable per 10CFR21, "Reporting of Defects and Noncompliance", nor 10CFR50.73, "Licensee Event Report System", but is being submitted as a voluntary LER. RRCS is not an Engineered Safety Feature at Nine Mile Point Unit 2.

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 0 410	88	066	00	03 OF 05

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

II. CAUSE OF EVENT

The root cause of this event is design deficiency. The present design of level transmitter 2RSS*PT113 reference leg is such that, both channels of Division II are connected together. Therefore, when the pressure transient occurred at 2RSS*PT113, both channels of Division II were affected. A trip of both channels of a division satisfied the logic for initiation of the RRCS.

III. ANALYSIS OF EVENT

This event is considered to be not reportable per 10CFR21, "Reporting of Defects and Noncompliance", nor 10CFR50.73, "Licensee Event Report System", but is being submitted as a voluntary LER. RRCS is not an Engineered Safety Feature at Nine Mile Point Unit 2.

The Redundant Reactivity Control System (RRCS) is designed in conjunction with other systems to prevent and/or mitigate the potential consequence of an Anticipated Transient Without Scram (ATWS) event. This safety-related system provides timely protective action inputs to other safety systems to protect the onset and consequences of conditions that threaten the integrity of the fuel barrier and the reactor coolant pressure boundary.

If the event had occurred at rated conditions the reactor would have automatically scrammed; a scram is an analyzed event.

The duration of this event, starting from the time the ARI signal occurred at 1406 hours, till the time the RRCS signal was reset 1428 hours, was 22 minutes.

IV. CORRECTIVE ACTIONS

The immediate corrective action was to verify plant conditions were in normal status, and reset the RRCS.

Corrective action will be to evaluate the priority of Modification No. PN2Y85MX089 for redesign of the level transmitters configuration, where both channels of a single division would not be affected by a pressure transient on the common sensing line. This modification would reduce the chances of a recurrence of an event of this type.

ADDITIONAL CORRECTIVE ACTION TO PREVENT RECURRENCE:

1. Revise Operating Procedure N2-OP-101C "Plant Shutdown" to remove the RRCS from service while the plant is shutdown. This will eliminate the possibility of a spurious perturbation in a common sensing line that could cause an ARI initiation resulting in a control rod insertion.

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 0 410	88	— 066	— 00	04 OF 05

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

2. A lesson learned transmittal will be issued to the Instrument and Control (I&C) department discussing the following issues: 1) the importance of equalizing pressure prior to valving in transmitters and; 2) the importance of valving in transmitters slowly to avoid a pressure transient in the system.

V. ADDITIONAL INFORMATION

A. Previous Similar Events

There were no events that were similar to this event. However, a related event was LER 87-33.

LER 87-33 discusses an event in which a Division II RRCS occurred during the performance of the Redundant Reactivity Control System (RRCS) Surveillance test. The cause of the event could not be determined, but was not the result of valving in an instrument.

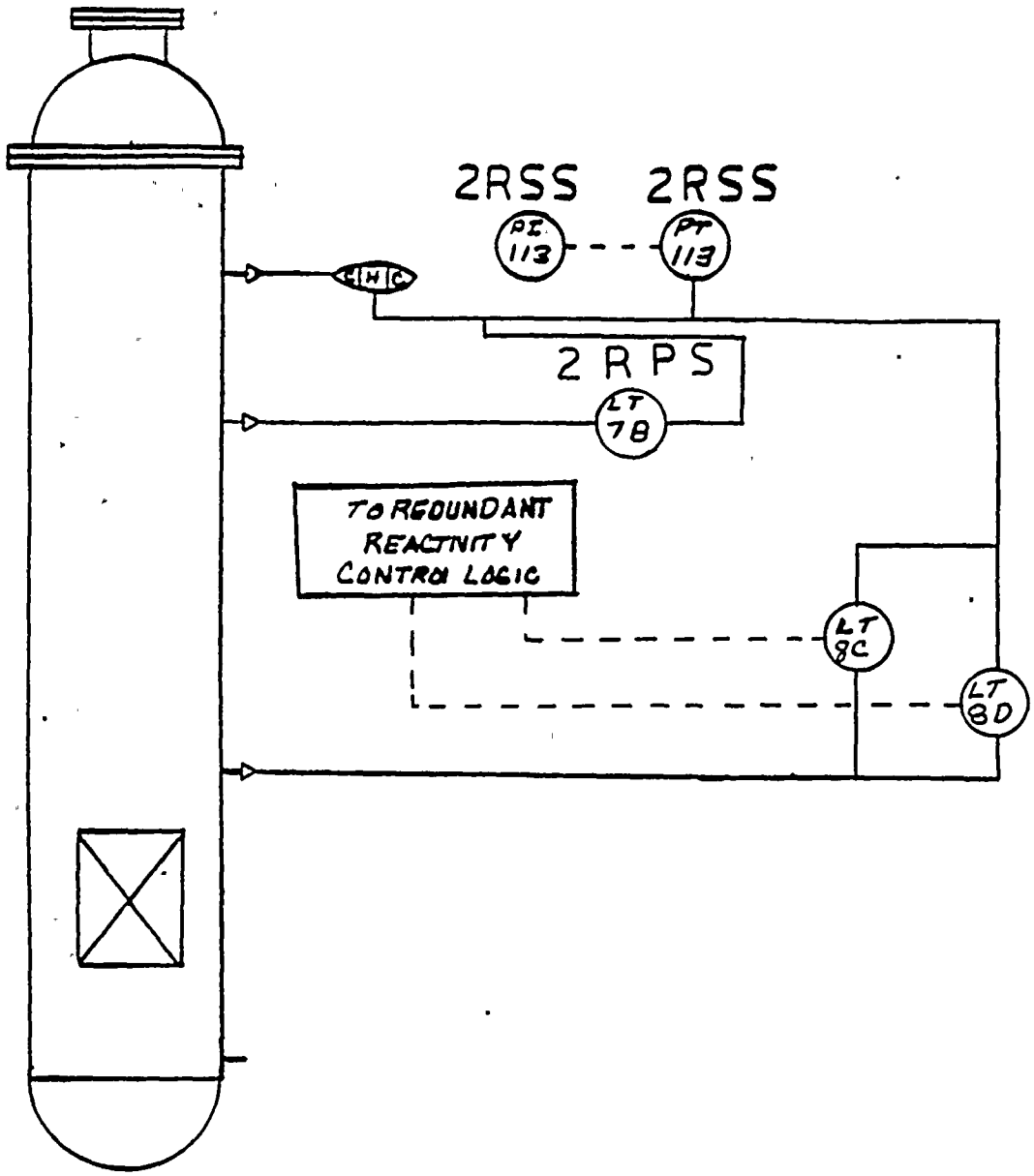
B. Failed Components - none

C. Identification of Components Referred to in this LER

Component	IEEE 803 EIIS FUNCT	IEEE 805 SYSTEM ID
Redundant Reactivity Control System (RRCS)	N/A	N/A
Alternate Rod Insertion (ARI)	N/A	N/A
Reactor Protection System (RPT)	N/A	N/A
Pressure Transmitter	PDT	N/A
Level Transmitter	CHA	N/A
Reactor Protection System (RPS)	N/A	JC

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 0 410	88	—	066	—	00	05	OF	05

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



PIPING AND INSTRUMENTATION TO THE REDUNDANT REACTIVITY CONTROL LOGIC

FIGURE - 1

NIAGARA MOHAWK

NMP 41690

NINE MILE POINT—UNIT 2/P.O. BOX 63, LYCOMING, NY 13093/TELEPHONE (315) 343-2110

January 3, 1989

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

RE: Docket No. 50-410
LER 88-66

Gentlemen:

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

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

Very truly yours,

J. L. Willis
General Superintendent
Nuclear Generation

JLW/AH/cjm

Attachments

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

IE22
1/1