NRC FORM 366
(7-77)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

UPDATE REPORT - PREVIOUS REPORT DATED 122878

CONTROL BLOCK: (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 N J O C P 1 (2) 0 0 - 0 0 0 0 0 - 0 0 (3) 4 1 1 1 1 (4) (5)
LICENSEE CODE — LICENSE NUMBER — LICENSE TYPE — CAT

CON'T 01 REPORT SOURCE L (6) 0 5 0 0 0 2 1 9 (7) 1 2 1 4 7 8 (8) 0 1 1 0 7 9 (9)
DOCKET NUMBER — EVENT DATE — REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

During routine startup, a reactor scram occurred in range one of the IRM system. At the time of the scram, rods were being withdrawn for approach to critical. Because of high xenon concentrations, the operator was making the approach using information from the SRM. Since the SRM count rate had changed very little, rods were being withdrawn in the notch override mode. An attempt to insert the rod using the emergency rod in switch failed and the reactor scram followed.

SYSTEM CODE (11)	CAUSE CODE (12)	CAUSE SUBCODE (13)	COMPONENT CODE (14)	COMP. SUBCODE (15)	VALVE SUBCODE (16)
IB	E	B	INSTRU	S	Z

(17) LER/RO REPORT NUMBER

EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
78	—	033	/	01	T	—	1

ACTION TAKEN (18)	FUTURE ACTION (19)	EFFECT ON PLANT (20)	SHUTDOWN METHOD (21)	HOURS (22)	ATTACHMENT SUBMITTED (23)	NPRD-4 FORM SUB. (24)	PRIME COMP. SUPPLIER (25)	COMPONENT MANUFACTURER (26)
A	G	C	C	0000	Y	Y	N	Z999

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

The failure of the emergency rod in switch is attributed to a bent switch stop which would not allow contact to be maintained in the fully stroked position of the switch. The mechanical stop plate on the switch was replaced. In addition, the appropriate procedures will be revised to require rods to be notched out after the sixth group on startups.

FACILITY STATUS (28)	% POWER (29)	OTHER STATUS (30)	METHOD OF DISCOVERY (31)	DISCOVERY DESCRIPTION (32)
C	000	NA	A	NA

ACTIVITY RELEASED (33)	CONTENT OF RELEASE (34)	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
Z	Z	NA	NA

PERSONNEL EXPOSURES

NUMBER (37)	TYPE (38)	DESCRIPTION (39)
000		NA

PERSONNEL INJURIES

NUMBER (40)	DESCRIPTION (41)
000	NA

LOSS OF OR DAMAGE TO FACILITY (43)

TYPE (42)	DESCRIPTION
Z	NA

7901170254

PUBLICITY

ISSUED (44)	DESCRIPTION (45)
Y	Weekly news release - January 3, 1979

NRC USE ONLY

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JCP&L / GPU

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Forked River, New Jersey 08731

Licensee Event Report
Reportable Occurrence No. 50-219/78-33/1T-1

Report Date

January 10, 1979 (Previous report dated December 28, 1978)

Occurrence Date

December 14, 1978

Identification of Occurrence

While performing a routine reactor startup following a scram from full power, a reactor period less than five seconds occurred resulting in a scram in range one of the IRM's. This event is considered to be a reportable occurrence as defined in the Technical Specifications, paragraph 6.9.2.a.4.

Conditions Prior to Occurrence

The plant was in a routine startup.

Moderator temperature - 380°F.
Reactor pressure - 190 psig
Recirculation flow - 5.2×10^4 gpm
Source range monitor count rate - 450 cps
Reactor at peak xenon
Rod worth minimizer in service withdrawal sequence VIII A-1

Description of Occurrence

On December 14, 1978, at 0415 hours, a reactor scram occurred in range one of the IRM's. At the time of the scram, control rods were being withdrawn for approach to critical as part of recovery operations following a scram from full power at approximately 1900 hours on December 13. Because of the high xenon concentrations, an accurate estimated critical position was not possible. The operator at the controls was using SRM count rate information as the guide for approach to critical. Since the SRM count rate had changed only slightly (425 to 450 cps) from the start of the rod withdrawal process, it was thought that the reactor was still strongly subcritical; hence, rods were being withdrawn in the "notch override mode." When control rod 10-43 (first rod in Group 9) was withdrawn to notch position (10), the reactor became critical on an estimated 2.8 second period. The operator attempted to insert the rod using the "emergency rod in" control switch to no avail. The neutron flux excursion was terminated by a reactor scram in range one of the IRM's.

Apparent Cause of Occurrence

The operator at the controls did not expect criticality to occur at this time considering the low SRM count rate. Furthermore, the approach to critical procedure does not provide specific guidance for startup under hot/peak xenon conditions. The reason that the rod did not respond to the "emergency rod in" switch was a failure of the switch to maintain contact in the fully stroked position due to a bent mechanical switch stop.

Analysis of Occurrence

There is no safety significance to the fast positive period since it occurred very low in power and did not cause any observed heating of the moderator or changes in reactor pressure. In addition, because of the time constant between neutron flux and heat flux, the fuel cladding integrity safety limit was not violated. It is highly likely that, had the "emergency rod in" switch functioned properly, the short period would have been terminated by manual control.

Corrective Action

The mechanical stop plate on the switch was replaced and the two dogs on the switch shaft that contact the tab on the stop plate were positionally interchanged to reduce the tendency to bend the tab when the switch is full stroked to the "emergency in" position.

The appropriate procedure(s) will be revised to require non-peripheral control rods to be notched out when greater than group six (6) on startups. (1

Reportable Occurrence Report No. 78-33/1T will be placed on the required reading list. (1

The significance of the reportable occurrence will be incorporated into the plant's training program. Emphasis will be placed on hot operation/startup xenon transients. (1

Failure Data

Type: SRM Control Switch
Part Replaced: Front Plate, Catalog No. 127A6753P1