**U.S. NUCLEAR REGULATOR** NRC FORM 366 (7.77)LICENSEE EVENT REPORT (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION) CONTROL BLOCK: (1)0 0 0 0 00 - 0 0 3 4 1 1 1 1 4 E M Y P 11 0 - 1 (2) 0 CON'T 0 0 0 3 0 9 7 0 7 2 9 8 2 8 0 8 1 1 8 2 9 REPORT L 6 0 5 0 1 SOURCE DOCKET NUMBER EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10) During a review of C.E. owners group training material on control rod drop quidelines 0 2 by engineering personnel it was discovered that the increase in planar radial peaking 0 3 due to local Xenon burnout in core areas away from a dropped rod had not been 0 4 previously considered. With an irretrievable dropped control rod the increase in 0 5 planar radial peaking due to Xenon burnout at four hours results in a peak nearly 0 6 double the initial predicted increase in peak. The increased radial peaking could 0 7 (continued on attached page) 0 8 COMP. SYSTEM CAUSE CAUSE VALVE COMPONENT CODE SUBCOD Z 15 Z (3) RB X X X X X X (14) Z (16) X X 0 9 REVISION OCCURRENCE SEQUENTIAL REPORT EVENT YEAR REPORT NO. CODE TYPE NO. LEB/RO REPORT 0 1 0 2 1 NUMBER NPRD-4 COMPONENT PRIME COMP ATTACHMENT SUBMITTED TION FUTURE EFFECT ON PLANT METHOD HOURS (22) FORM SUB SUPPLIER MANUFACTURER 9 9 19 0 0 0 Z Z (21 (23) N (24) G (18) X (19) Z (20) Z CAUSE DESCRIPTIC AND CORRECTIVE ACTIONS (27) The situation is to ensure that the increase in planar radial peaking following a 1 0 dropped rod does not result in violation of the specified acceptable fuel design 1 1 limits. To accomplish this requires ensuring that reactor power is reduced in sufficient time to counter the long term increase in peaking due to Xenor. burnout if the rod should prove to be irretrievable in the short term. Until quantification 1 4 (Continued on attached page) METHOD OF DISCOVERY OTHER STATUS (30) ATUS DISCOVERY DESCRIPTION (32) % POWER D (31) Notification from Engineering Vendor 0 9 7 29 E (28) NA 9 10 ACTIVITY CONTENT LOCATION OF RELEASE (36) AMOUNT OF ACTIVITY (35) RELEASED OF RELEASE Z (33) NA NA Z (34) 10 80 PERSONNEL EXPOSURES DESCRIPTION (39) NUMBER TYPE 0 0 0 0 37 Z 38 NA 80 PERSONNEL INJURIES DESCRIPTION (41) NUMBER 0 0 0 40 NA 8208230210 820811 PDR ADOCK 05000309 LOSS OF OR DAMAGE TO FACILITY (43) DESCRIPTION NA PDR N (42) PUBLICITY NRC USE ONLY DESCRIPTION (45) SSUED N (44) NA PHONE: (207) 882-6321 James E. Brinkler NAME OF PREPARER

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## EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (Cont'd)

lead to violation of the specified acceptable fuel design limits if either the rod is not retrieved expeditiously or reactor power is not reduced within a reasonable period of time. Since the variations in planar radial peaking are related to Xenon redistribution sufficient time exists for corrective action. There was no effect on the health and safety of the public.

## CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (Cont'd)

of the effect of long term Xenon redistribution can be performed, the prudent course of action, therefore, is to require an immediate power reduction following a rod drop. This action is as conservative as current C.E. Technical Specifications for similar plants.

Immediate corrective action was to revise the rod drop procedure (EP-2-21) to require initiation of a power reduction such that power is reduced to less than 70% within one hour after the dropped rod event. An attempt to withdraw the dropped rod will not commence till reactor power has been reduced below 70%. If the dropped rod cannot be retrieved within two hours after the dropped rod event, then a reactor shutdown will commence and the plant is to be in a hot shutdown condition within 6 hours.

Long term corrective action was to initiate a study by engineering personnel to determine an appropriate time allowance during which operation may continue at a reduced power level with a dropped rod misaligned from its group, as well as recommendations for the required rate of power reduction and maximum power level for operation with a dropped rod. This engineering study is on going now and is scheduled to be complete prior to submittal of cycle 7 reload analysis. Modification to Technical Specifications will also be proposed as part of cycle 7 submittal.