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Memorandum

HAN-95575

TO : Files

THRU: R. L. Plum

DATE: September 20, 1966

HANFORD CODE C65

FROM : J. P. Thereault *J. P. Thereault*
Production Reactor Operations Branch
Production Reactor Division

This document consists of 1 pages
No. 1 of 3 copies, Series A

SUBJECT: OPERATION OF KW REACTOR OUTSIDE OPERATING LIMITS

OR:JPT

HAN-95575

On September 9, 1966, RLO was informed by DUN that KW reactor had exceeded the operating limits via a lapse in meeting total control requirements. Review of the incident with the KW Processing Manager and analyst revealed the following information.

KW reactor was shut down on 9/5/66 for a scheduled charge-discharge during which lining of VSR channel 43 was planned. Due to the unavailability of the rear platform, the necessary discharge of two process tubes and the shutting off of water in same, prior to broaching VSR 43, could not be accomplished. Shield boring of VSR 52 was then scheduled as an alternative and maintenance work began at approximately 1000 on 9/6/66. It was at this time that VSR 52 was pulled; however, no supplementary poison was charged to compensate. At 0830 on 9/9/66 the condition was discovered and VSR 43 was dropped into the pile.

During the outage the reactivity of the pile fluctuated due to (1) xenon decay, (2) charging of poison columns, and (3) insertion and withdrawal of splines. Back calculation by the physicist reveals that operating limits were first exceeded at 2000 on 9/7/66 due to xenon decay and this condition prevailed until approximately 2330 on 9/8/66 when poison columns were charged in anticipation of withdrawal of splines for charge-discharge of these tubes. Following spline removal, operating limits were again exceeded and remained this way until 0830 on 9/9/66 when the error was discovered.

The physicist has further estimated that the maximum reactivity excess upon water loss would have been 100 cmk.

Formal investigation is under way by DUN and a report with proposed corrective action will be forwarded to RLO.

cc: CN Zangar

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By Authority of CC PR-2

DS Review 1/9/94

By DD Whisker 1/9/94

Classified By DM Euk

121-94

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