



Telegram

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VEB219(1558)(1-028815C284)PD 10/11/74 1545

TLX CONSPower JKN

ZCZC 004 DLY JACKSON MICHIGAN 10-11-74

PMS US ATOMIC ENERGY COMMISSION

799 ROOSEVELT ROAD

GLEN ELLYN, IL 60187

ATT- RON COOK

TELEPHONE NBR. 312-858-2660

TELEPHONED TO DWK BY MK

DATE DLD 10/14/74 TIME 1053A

ATTEMPTS TO DELIVER. Mail

1. REPORT NO - A0-22-74, DOCKET 50-255

2. A. REPORT DATE - 10-11-74

B. OCCURRENCE DATE - 10-10-74

3. FACILITY - PALISADES PLANT

8308230036 741018
PDR ADCK 05000255
S PDR

SP-1201 (RS-69)



Telegram

4. IDENTIFICATION OF OCCURRENCE -

LOW FLOW TRIP SETPOINTS FOR 3 PCP AND 2 PCP OPERATION FOUND TO BE BELOW TECHNICAL SPECIFICATIONS LIMIT.

5. CONDITIONS PRIOR TO OCCURRENCE -

PLANT OPERATING IN 4 PCP CONFIGURATION AT POWER LEVEL OF X 30 PERCENT.

6. DESCRIPTION OF OCCURRENCE -

A. A POSSIBLE VIOLATION WAS DETECTED 10-3-74 WHEN P-CE-3962

SP-1201 (RS-39) WAS REVIEWED AND IT WAS FOUND THAT PRESENT SETPOINTS APPEARED

LESS CONSERVATIVE THAN THOSE RECOMMENDED IN P-CE-3962.

THIS INFORMATION WAS VERBALLY RELAYED TO RON COOK ON 10-4-74.

B. FURTHER ANALYSIS OF AVAILABLE INFORMATION WAS CONDUCTED BOTH AT THE PLANT AND IN THE GENERAL OFFICE AND ON 10-10-74 A PRC MEETING WAS HELD AT THE PLANT WITH FIVE MEMBERS OF THE GENERAL OFFICE STAFF PRESENT. AT THIS TIME IT WAS DETERMINED THAT THE SETPOINTS FOR 3 PUMP AND 2 PUMP OPERATION WERE BELOW TECHNICAL SPECIFICATION LIMITS.

7. APPARENT CAUSE -

IN CALCULATING TRIP SETPOINTS FOR

ALL PUMP COMBINATIONS IT WAS ASSUMED THAT FLOW WAS EQUAL TO THE SQUARE ROOT OF DP - BASED ON A4 PUMP DP AS 100 PERCENT - FOR ALL PUMP CONFIGURATIONS. IT HAS BEEN DETERMINED THAT THE SQUARE ROOT RELATIONSHIP IS ONLY A VALID ASSUMPTION WHEN THE FLOW CORRESPONDING TO EACH PUMP CONFIGURATION IS ASSUMED TO BE 100 PERCENT FLOW IN CALCULATING EACH TRIP SETPOINT AND THE PERCENT OF 4 PUMP FLOW CONVERTED TO A PERCENT OF 3 PUMP - OR 2 PUMP - FLOW TO ESTABLISH THE MINIMUM TRIP SETPOINT.

ORIGINAL CALCULATIONS SHOWED THAT 90 PERCENT OF 3 PUMP FLOW - AND 2 PUMP - WAS MORE CONSERVATIVE THAN THE CALCULATED MINIMUM SETPOINT AND THIS VALUE WAS USED. THE TRIP SETPOINT BECAME --

EQUALS $0.81 \times DP3$

HOWEVER, ASSUMING MEASURED 3 PUMP FLOW - $F3$ - EQUALS .738 OF MEASURED 4 PUMP FLOW - $F4$ - AND USING 71 PERCENT OF 4 PUMP FLOW TRIP AS A SETPOINT, THE PREVIOUSLY CALCULATED SETPOINT IS SHOWN TO BE IN ERROR.

E.G. $F3$ EQUALS $.738F4$

$F/TRIP/$ EQUALS $.71F4$ EQUALS .71
 ----- $F3$
 .738

BF-1201 (RS-69)

$DP3/TRIP/$ EQUALS .71
 ----- $E2 \times DP3$
 .738

A SIMILAR ANALYSIS ALSO SHOWS THAT THE 2 PUMP TRIP SETPOINT WAS ALSO BELOW TECHNICAL SPECIFICATIONS LIMITS.

8. ANALYSIS OF OCCURRENCE -

SINCE THE PLANT HAS NOT OPERATED IN THE 2 OR 3 PUMP CONFIGURATION AT POWER NO SAFETY LIMITS WERE VIOLATED. ALSO BECAUSE ALL INFORMATION USED TO DETERMINE THE TECHNICAL SPECIFICATION LIMITS IS NOT IMMEDIATELY AVAILABLE, THE DETERMINATION AS TO POSSIBLE SAFETY

PROBLEMS HAD THE PLANT OPERATED IN THESE MODES HAS NOT BEEN ANALYZED

9. CORRECTIVE ACTION-

CORRECTIVE ACTION RECOMMENDED BY THE PLAN

A. INITIATE ADMINISTRATIVE CONTROLS TO LIMIT REACTOR OPERATION IN THE 2 PUMP MODE TO THE HOT STANDBY CONDITION UNTIL THE PROPER FLOW TRIP SETPOINTS ARE ESTABLISHED.

B. SET THE HIGH POWER TRIP SETPOINT FOR 3 PUMP OPERATION AT 25 PERCENT POWER. THIS IS BASED ON THE FACT THAT NORMAL 2 PUMP OPERATION ALLOWS 25 PERCENT REACTOR POWER, AND THE 3 PUMP FLOW TRIP SETPOINT PRESENTLY ESTABLISHED IS WELL ABOVE THE 46 PERCENT TECH SPEC LIMIT FOR 2 PUMP FLOW. GIVEN THAT FLOW EXCEEDS THE

MINIMUM ALLOWABLE FOR 25 PERCENT, THE POWER LEVEL OF 25 PERCENT IS CONSERVATIVE.

C. CP CO IS ALREADY ENGAGED IN DISCUSSIONS WITH COMBUSTION ENGINEERING TO ESTABLISH JUSTIFICATION FOR NEW LOW FLOW TRIP SETPOINTS. WHEN THIS DATA BECOMES AVAILABLE, A TECH SPEC CHANGE WILL BE INITIATED TO ALLIEVIATE THE PRESENT SITUATION.

10. FAILURE DATA -
NOT APPLICABLE



western union

Telegram

G B SLADE/J P FLYNN

PALISADES PLANT

ALL HO

CC- R B SEWELL
R L HAUETER

NNNN

OCT 16 1974

SF-1201 (RS-69)