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ZIP 60137



Mailgram

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799 ROOSEVELT RD  
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TO MR JOHN F O'LEARY, DIRECTOR ATTENTION: MR B H CRUTCHFIELD

DIRECTORATE OF LICENSING  
UNITED STATES ATOMIC ENERGY COMMISSION  
WASHINGTON, DC 20545

RE- SOCKET 50-255, LICENSE DPR-20

DEAR MR O'LEARY

ON SATURDAY, DECEMBER 9, 1972, THE PALISADES PLANT WAS SHUT DOWN FOR A SHORT SCHEDULED OUTAGE TO CONDUCT MAINTENANCE IN SEVERAL AREAS. DURING THE SHUTDOWN, TWO UNANTICIPATED PROBLEMS WERE EXPERIENCED. A VERY SMALL LEAK WAS DISCOVERED ON THE "C" REACTOR RECIRCULATING WATER PUMP SEAL CARTRIDGE CONTROLLED LEAKOFF LINE. THE LEAK WAS IN A SOCKET WELD AND IT WAS NECESSARY TO COOL THE PLANT TO A COLD SHUTDOWN CONDITION TO PERFORM REPAIRS. THE OTHER PROBLEM INVOLVED THE FAILURE OF ONE OF THE TWO STARTUP CHANNELS OF NUCLEAR INSTRUMENTATION.

TROUBLESHOOTING OF THE STARTUP CHANNEL REVEALED THE CAUSE OF THE FAILURE TO BE INTERNAL TO THE DETECTOR, WHICH IS BEYOND THE PLANT ON SITE REPAIR CAPABILITIES. THE PLANT NORMALLY MAINTAINS A SPARE DETECTOR, HOWEVER, THE SPARE HAD BEEN SENT TO THE MANUFACTURER FOR REPAIRS AND IS NOT SCHEDULED FOR RETURN TO THE PLANT UNTIL FEBRUARY 1973. ATTEMPTS TO LOCATE A SIMILAR UNIT FOR TEMPORARY SERVICE AT PALISADES WERE FRUITLESS.

THE FAILURE OF THE STARTUP CHANNEL WAS DETECTED FOLLOWING SHUTDOWN AND PRIOR TO THE COOLDOWN TO REPAIR THE SEAL CARTRIDGE CONTROLLED LEAKOFF LINE. AT THIS TIME, BOTH CHANNELS OF INTERMEDIATE RANGE NUCLEAR INSTRUMENTATION, WHICH PROVIDES COVERAGE FROM 10 TO THE MINUS 8TH POWER PERCENT TO 150 PERCENT REACTOR POWER, WAS READING ON SCALE BY ABOUT 2 DECADES. DURING THE COOLDOWN, THE INTERMEDIATE RANGE INSTRUMENTATION DECREASED, AS WOULD BE EXPECTED, TO ABOUT 2 OR 3 X 10 TO THE MINUS 8TH POWER PERCENT POWER. THE REMAINING STARTUP CHANNEL ALSO SHOWED A SIMILAR DECREASE. ON SATURDAY, DECEMBER 9, REPRESENTATIVES OF THE DIRECTORATE OF REGULATORY OPERATIONS WERE INFORMED OF THE PROBLEM.

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A SAFETY AUDIT AND REVIEW BOARD (SARB) MEETING WAS HELD DECEMBER 10, 1972 TO CONSIDER THE STARTUP CHANNEL FAILURE AND THE POSSIBILITY OF RETURNING THE PLANT TO SERVICE WITHOUT 1 OF THE 2 STARTUP CHANNELS IN SERVICE. TABLE 3.17.4 OF THE TECHNICAL SPECIFICATIONS REQUIRES THAT BOTH STARTUP CHANNELS BE IN SERVICE WHENEVER REACTOR POWER IS BELOW 10 TO THE MINUS 4TH POWER PERCENT POWER. SARB CONCLUDED THAT SINCE BOTH INTERMEDIATE RANGE CHANNELS WERE OPERATING NORMALLY AND INDICATING THE SHUTDOWN NEUTRON POWER LEVEL, THE INTENT OF THE TECHNICAL SPECIFICATIONS OF PROVIDING REDUNDANT CHANNELS OF VISIBILITY FOR NEUTRON POWER LEVEL DURING STARTUP WAS BEING MET. IN ADDITION, AS NO REACTOR PROTECTIVE SYSTEM FUNCTIONS ARE ASSOCIATED WITH THE STARTUP CHANNELS AND REDUNDANT CHANNELS OF INSTRUMENTATION ARE AVAILABLE AND INDICATING NEUTRON POWER LEVEL, SARB CONCLUDED THAT RETURNING THE PLANT TO SERVICE WOULD NOT INVOLVE SIGNIFICANT HAZARDS CONSIDERATIONS NOT DESCRIBED OR IMPLICIT IN THE PALISADES PLANT FINAL SAFETY ANALYSIS REPORT. SARB RECOMMENDED THE FOLLOWING PRECAUTIONS BE TAKEN:

- A. BOTH INTERMEDIATE RANGE CHANNELS AND ONE STARTUP RANGE CHANNEL BE OPERABLE.
- B. NEUTRON VISIBILITY BE CONFIRMED THROUGHOUT THE PLANT HEATUP, ROD DROP TESTS (WHEN IT WOULD BE EXPECTED) AND THE CRITICAL APPROACH (INVERSE COUNT RATE PLOT).
- C. COMPARE EVENTS OBSERVED DURING THIS STARTUP TO A PREVIOUS STARTUP. ALTHOUGH NO TWO STARTUPS ARE EXACTLY THE SAME, THE DIFFERENCES SHOULD BE READILY EXPLAINABLE. IF THEY ARE NOT, THE STARTUP SHOULD BE HALTED UNTIL THE DIFFERENCES CAN BE EXPLAINED.
- D. USE ESTABLISHED PROCEDURE FOR CRITICAL APPROACH.
- E. THE PLANT REACTOR ENGINEER SHOULD BE IN THE CONTROL ROOM TO OVERSEE THE CRITICAL APPROACH.

WITH RESPECT TO ITEM D, SARB DISCUSSED THE PROCEDURE THE PLANT INTENDED TO USE FOR THE CRITICAL APPROACH. THIS PROCEDURE INVOLVED PULLING CONTROL RODS FIRST AND THEN DILUTING BORON (APPROXIMATELY 0.5 PERCENT REACTIVITY) TO ACHIEVE CRITICALITY. SARB CONCLUDED THIS PROCEDURE WAS ACCEPTABLE.

FOLLOWING THE SARB MEETING, CONSUMERS POWER COMPANY MANAGEMENT CONCLUDED, BASED ON THE SARB REVIEW AND CONCLUSION THAT NO REACTOR SAFETY PROBLEM EXISTED, IT WOULD BE NECESSARY TO RETURN THE PLANT TO SERVICE AS QUICKLY AS POSSIBLE IN ORDER TO MEET SYSTEM LOAD REQUIREMENTS. BASED ON THIS REQUIREMENT AND THE FOREGOING SAFETY REVIEW, I CONTACTED MR D M CRUTCHFIELD OF YOUR STAFF AND REQUESTED A TEMPORARY WAIVER OF THE TECHNICAL SPECIFICATION REQUIREMENT THAT TWO STARTUP CHANNELS BE IN SERVICE BELOW 10 TO THE MINUS 4TH POWER PERCENT POWER. LATER IN THE DAY, MR CRUTCHFIELD GAVE VERBAL AUTHORIZATION TO PROCEED WITH THE PLANT STARTUP, PROVIDED THE REQUIREMENTS DELINEATED IN ITEMS A THROUGH E WERE MET. HE ALSO INFORMED ME THAT REPRESENTATIVES OF THE DIRECTORATE OF REGULATORY OPERATIONS, REGION III PLANNED TO TRAVEL TO THE PLANT SITE TO WITNESS THE STARTUP.



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AT THIS WRITING, THE REACTOR IS CRITICAL AND THE TURBINE GENERATOR IS BEING STARTED UP IN ACCORDANCE WITH THE PROVISIONS OF THE TECHNICAL SPECIFICATIONS. WE APPRECIATE YOUR STAFF'S PROMPT ATTENTION TO THIS MATTER AND WILL KEEP THEM AS WELL AS DIRECTORATE OF REGULATORY OPERATIONS PERSONNEL INFORMED WITH RESPECT TO THE STATUS OF OUR STARTUP CHANNELS.

YOURS VERY TRULY,

RALPH B SEWELL  
NUCLEAR LICENSING ADMINISTRATOR  
CONSUMERS POWER COMPANY

CBW

CC- B H GRIER, USAEC  
L M HAUSLER, PALISADES

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