

LICENSEE: CONSUMERS POWER CO.  
SITE: PALISADES 1 EN NUMBER: 25916  
DOCKET: 05000255 EVENT DATE: 08-13-93  
RX TYPE: PWR EVENT TIME: 14:30  
VENDORS: CE NOTIFY DATE: 08-13-93  
EMERGENCY CLASS: N/A REGION: 3 STATE: MI TIME: 17:02  
OPS OFFICER: WILLIAM HUFFMAN  
10 CFR SECTION: ADAS 50.72(b)(2)(i) DEG/UNANALYZED COND  
UNIT SCRAM RX INIT INITIAL MODE CURR CURRENT MODE  
CODE CRIT PWR PWR  
1 N N 0 REFUELING 0 REFUELING

CONTAINMENT ISOLATION RELAYS DETERMINED TO BE INADEQUATE.

WHILE TESTING THE CONTAINMENT HIGH PRESSURE ISOLATION ACTUATION RELAY LOGIC, A RELAY FAULT OCCURRED WHICH RESULTED IN A TEST FAILURE. ANALYSIS OF THE CAUSE OF THE FAILURE DETERMINED THAT CERTAIN RELAYS USED IN THE ACTUATION CIRCUITRY WHICH HAVE GREATER THAN NINE CONTACTS MAY NOT BE ADEQUATELY DESIGNED. THE LICENSEE'S ENGINEERING GROUP BELIEVES THAT THE RELAY CLOSING COIL MAY BE INADEQUATELY SIZED. THE RELAY IS MANUFACTURED BY CLARK, MODEL #5U12-76.

THE ONLY OTHER SYSTEM WHERE THESE RELAYS ARE USED IS THE CONTAINMENT HIGH RADIATION ISOLATION ACTUATION CIRCUITRY. AS A RESULT OF THIS PROBLEM, THE CONTAINMENT RADIATION ISOLATION SYSTEM WAS DECLARED INOPERABLE. BECAUSE AUTOMATIC CONTAINMENT ISOLATION ON HIGH RADIATION IS REQUIRED FOR REFUELING PER TECH SPEC 3.8.1.B, REFUELING OPERATIONS WERE HALTED.

THE LICENSEE HAS CLOSED ALL AUTOMATIC CONTAINMENT ISOLATION VALVES AS AN ADDED PRECAUTION. WITH THE AUTOMATIC CONTAINMENT ISOLATION VALVES CLOSED, REFUELING OPERATIONS COULD RESUME BUT THE LICENSEE HAS ELECTED NOT TO PROCEED UNTIL THE PROBLEM WITH THE RELAYS IS BETTER UNDERSTOOD.

THE NRC RESIDENT INSPECTOR HAS BEEN NOTIFIED.

\*\*\*RETRACTION OF EVENT BY C KOZUP @ 1619EDT 10/18/93 TAKEN BY MACKINNON\*\*\*

THE ABOVE EVENT REPORT IS BEING RETRACTED AFTER FURTHER TESTING AND INVESTIGATION OF SYSTEM OPERABILITY. ALL RELAYS IN THE ABOVE MENTIONED SYSTEM WERE FULLY OPERABLE AT ALL TIMES AND WOULD HAVE FUNCTIONED AS NEEDED. LICENSEE DISCUSSED THIS EVENT WITH THE RESIDENT INSPECTOR ON 09/17/93 AND INFORMED HIM THEY WERE GOING TO RETRACT THIS EVENT.  
R3D0 (JEFF WRIGHT) NOTIFIED.

RESIDENT INSPECTOR WAS INFORMED BY THE LICENSEE.

\*\*\* UPDATE FROM LICENSEE:KUEMIN TO NRC:HUFFMAN @ 12:40 EST ON 11/3/93 \*\*\*

THE LICENSEE IS RESCINDING THE ABOVE RETRACTION BASED ON ADDITIONAL ANALYSIS OF THE RELAY TESTING DATA. IT WAS INITIALLY BELIEVED THAT THE RELAYS INSTALLED IN THE CONTAINMENT HIGH PRESSURE/HIGH RADIATION ACTUATION CIRCUITRY WHICH USED NINE OR MORE CONTACTS HAD INADEQUATELY SIZED CLOSING COILS. THE CLOSING COILS IN THESE RELAYS WERE REPLACED WITH STRONGER COILS TO ALLEVIATE ANY CONCERNS DURING THE 1993 REFUELING OUTAGE. ADDITIONAL TESTING OF THE OLD RELAY DESIGN CONVINCED THE LICENSEE THAT THE STRENGTH OF THE ORIGINAL CLOSING COIL DESIGN WAS ACTUALLY ADEQUATE AND THAT, FOR REPORTABILITY PURPOSES, THERE WAS NEVER ANY PROBLEM WITH THE DESIGN. THEREFORE, THE LICENSEE ISSUED THE ABOVE RETRACTION.

FURTHER REVIEW OF THE TESTING DATA HAS DETERMINED THAT THE OLD RELAY CONFIGURATION WOULD NOT HAVE MET SEISMIC QUALIFICATION REQUIREMENTS FOR RELAYS WITH NINE OR MORE CONTACTS. SPECIFICALLY, THE MINIMUM CLOSING VOLTAGE REQUIRED FOR THE RELAYS UNDER SEISMIC CONDITIONS IS GREATER THAN THE MINIMUM CLOSING VOLTAGE OUTPUT THAT MAY HAVE BEEN GENERATED BY THE CORRESPONDING INVERTER. THEREFORE, THE ORIGINAL DEGRADED CONDITION REPORTED BY THIS EVENT NOTIFICATION IS STILL VALID, ALTHOUGH FOR A DIFFERENT REASON. THE LICENSEE NOTES THAT THE SEISMIC QUALIFICATIONS OF THE RELAYS IS NO LONGER A PROBLEM WITH THE NEW STRONGER COILS AND, SO, HAS NO AFFECT ON CURRENT STATUS OF THE PLANT. THIS REPORT IS DOCUMENTS THE HISTORY OF THE RELAYS.

THE NRC RESIDENT INSPECTOR AND R3DO (GROBE) HAVE BEEN INFORMED.