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Licensee Event Report (LER) Compilation

For month of February 1990

Oak Ridge National Laboratory

Prepared for U.S. Nuclear Regulatory Commission

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Oak Ridge National Laboratory Nuclear Operations Analysis Center Oak Ridge, TN 37831

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Abstract

This monthly report contains Licensee Event Report (LER) operational information that was processed into the LER data file of the Nuclear Safety Information Center (NSIC) during the one month period identified on the cover of the document. The LERs, from which this information is derived, are submitted to the Nuclear Regulatory Commission (NRC) by nuclear power plant licensees in accordance with federal regulations. Procedures for LER reporting for revisions to those events occurring prior to 1984 are described in NRC Regulatory Guide 1 16 and NUREG-0161, Instructions for Preparation of Data Entry Sheets for Licensee Event Reports. For those events occurring on and after January 1, 1984, LERs are being submitted in accordance with the revised rule contained in Title 10 Part 50.73 of the Code of Federal Regulations (10 CFR 50.73 - Licensee Event Report System) which was published in the Federal Register (Vol. 48, No. 144) on July 26, 1983. NUREG-1022, Licensee Event Report System - Description of Systems and Guidelines for Reporting, provides supporting guidance and information on the revised LER rule.

The LER summaries in this report are arranged alphabetically by facility name and then chronologically by event date for each facility. Component, system, keyword, and component vendor indexes follow the summaries. Vendors are those identified by the utility when the LER form is initiated; the keywords for the component, system, and general keyword indexes are assigned by the computer using correlation tables from the Sequence Coding and Search System. Questions concerning this report or its contents should be directed to

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I 13 ARKANSAS NUCLEAR 1 REACTOR BUILDING ISOLATION VALVES RENDERED INOPERABLE DUE TO DEFICIENT WELDS ON PIPING SUPPORTS WHICH WERE INSTALLED DURING INITIAL PLANT CONSTRUCTION. EVENT DATE: 120489 REPORT DATE: 010390 NSSS: BW TYPE: PWR

(NSIC 216396) ON 12/4/89, DURING A MAINTENANCE OUTAGE, PLANT QUALITY CONTROL PERSONNEL IDENTIFIED DEFICIENT WELDS ON 2 PIPING SUPPORTS LOCATED ON THE SAMPLE LINE FROM THE 'B' CORE FLOOD TANK (CFT) AND ON 2 SUPPORTS LOCATED ON THE SECONDARY SIDE SAMPLE LINE FROM THE ONCE THROUGH STEAM GENERATORS (OTSGS) AT REACTOR BUILDING (RB) PENETRATION P-10. A SUBSEQUENT WALKDOWN ON 12/6/89, IDENTIFIED 2 ADDITIONAL SUPPORT DEFICIENCIES ON THE 'B' CFT SAMPLE LINE. THE 6 DEFICIENT SUPPORTS WERE NOT PROPERLY WELDED TO THE BUILDING STRUCTURAL STEEL. ENGINEERING JUDGEMENT WAS EXERCISED IN DETERMINING THAT BOTH OF THE ABOVE REFERENCED SAMPLE LINES AND THEIR ASSOCIATED INSIDE CONTAINMENT ISOLATION VALVES WERE INOPERABLE IN THEIR "AS FOUND" CONDITION SINCE THEIR CONTINUED INTEGRITY DURING A SEISMIC EVENT COULD NOT BE ASSURED. THE 6 DEFICIENT SUPPORTS DISCUSSED IN THIS REPORT WERE REPAIRED PRIOR TO RESTART FROM THE OUTAGE. PLANT ENGINEERING CONDUCTED A WALKDOWN OF RE PENETRATIONS IN THE GENERAL AREA OF THE IDENTIFIED DEFICIENCIES. NO ADDITIONAL SUPPORT WELD DECREPANCIES WERE IDENTIFIED. AN ISOMETRIC DRAWING UPDATE PROJECT, WHICH WAS INITIATED IN 1987 TO IDENTIFY AND RESOLVE EXISTING DISCREPANCIES BETWEEN SAFETY RELATED FIPING ISOMETRIC AND HANGER DRAWINGS AND THE AS-BUILT CONDITION OF THE PLANT SHOULD IDENTIFY ANY OTHER DEFICIENCIES.

[2]ARKANSAS NUCLEAR 1DOCKET 50-313LER 89-040TWO EMERGENCY DIESZL GENERATOR ACTUATIONS DUE TO LOSS OF POWER TO A 480VENGINEERED SAFEGUARDS BUS CAUSED BY PERSONNEL ERROR.EVENT DATE: 120589REPORT DATE: 010490NSSS: EWTYPE: PWR

(NSIC 216389) ON 12/5/89 AT 0645 AND 12/6/89 AT 2205, WHILE THE PLANT WAS SHUTDOWN IN A MAINTENANCE OUTAGE, AUTOMATIC ACTUATIONS OF AN EMERGENCY DIESEL GENERATOR (EDG) OCCURRED AS A RESULT OF LOSS OF POWER TO A 480 VOLT (V) ENGINEERED SAFEGUARDS (ES) BUS. PRIOR TO BOTH EVENTS, THE B5 AND B6 480V ES BUSSES WERE CROSSCONNECTED TO FACILITATE MAINTENANCE ACTIVITIES. THE DECEMBER 5 EVENT OCCURRED AS A RESULT OF A PERSONNEL ERROR WHICH OCCURRED WHILE OPERATORS WERE ATTEMPTING TO "SPLITOUT" THE B5 AND B6 BUSSES AND RETURN THE ES POWER DISTRIBUTION SYSTEM LINEUP TO NORMAL. THE ERROR RESULTED IN A LOSS OF POWER TO BUS B6 WHICH CAUSED THE OFFSITE FEEDER BREAKER FOR 4.16 KILOVOLT BUS A4 TO OPEN AND INITIATED A START OF THE 'B' EDG WHICH TIED ON TO THE A4 BUS. THE DECEMBER 6 EVENT WAS ALSO THE RESULT OF A PERSONNEL ERROR WHICH CAUSED A LOSS OF POWER TO 480V ES BUS B5. THIS CONDITION CAUSED THE OFFSITE FEEDER BREAKER FOR A3 TO TRIP AND THE 'A' EDG TO START. THE MOMENTARY LOSS OF POWER TO A3 CAUSED THE OPERATING DECAY HEAT REMOVAL (DHR) PUMP TO TRIP. DHR FLOW WAS LOST FOR APPROXIMATELY 9 MINUTES AND RESULTED IN A REACTOR COOLANT SYSTEM TEMPERATURE INCREASE OF 17 DEGREES. MANAGEMENT ERIEFINGS WERE CONDUCTED FOR THE OPERATING CREWS PRIOR TO RESTART FROM THE OUTAGE COVERING THE LESSONS LEARNED FROM THESE EVENTS.

[3]ARKANSAS NUCLEAR 1DOCKET 50-313LER 89-043BORIC ACID CORROSION OF A CONTROL ROD DRIVE MECHANISM FLANGE FASTENING ASSEMBLY
CAUSED BY A DETERIORATED GASKET RESULTS IN REACTOR COOLANT SYSTEM PRESSURE
BOUNDARY DEGRADATION.
EVENT DATE: 120889REPORT DATE: 010890NSSS: EWTYPE: PWR

(NSIC 216393) ON 12/8/89, WHILE REMOVING THE NUT RING FROM BENEATH THE REACTOR VESSEL (RV) NOZZLE FLANGE AT CONTROL ROD DRIVE MECHANISM (CRDM) LOCATION L-2, PLANT MAINTENANCE PERSONNEL DISCOVERED THAT APPROXIMATELY 50% OF ONE OF THE NUT RING HALVES HAD CORRODED AWAY AND THAT TWO OF THE FOUR BOLT HOLES IN THE CORRODED NUT RING HALF WERE DEGRADED TO THE POINT WHERE THERE WAS NO BOLT/THREAD ENGAGEMENT. A TOTAL OF SIX CRDM FLANGES HAD BEEN IDENTIFIED TO BE POTENTIALLY LEAKING DURING A VIDEO CAMERA INSPECTION ON 11/28/89 WHILE THE PLANT WAS IN HOT SHUTDOWN. AFTER THE PLANT WAS TAKEN TO COLD SHUTDOWN, MAINTENANCE PERSONNEL DISASSEMBLED AND INSPECTED THE SIX CRDM FLANGES WHICH HAD BEEN IDENTIFIED DURING THIS INSPECTION. ALL OF THE GASKET SEATING SURFACES WERE FOUND TO BE UNDAMAGED WITH THE EXCEPTION OF L-2. THE RV NOZZLE FLANGE AT L-2 WAS ERODED AND PITTED. AN INSPECTION OF THE FLANGES AND SPIRAL WOUND GASKETS WHICH WERE REMOVED FROM BETWEEN THE FLANGES REVEALED THAT THE CAUSE OF THE LEAKS WAS THE GRADUAL DETERIORATION OF THE GASKETS WITH AGE. AN ENGINEERING EVALUATION CONCLUDED THAT THE L-2 NOZZLE FLANGE WAS ACCEPTABLE FOR USE. A REPLACEMENT CRDM WAS INSTALLED AT LOCATION L-2. ADDITIONALLY, THE GASKETS ON THE SIX CRDMS WERE REPLACED WITH NEW DESIGN GRAPHITE TYPE GASKETS.

[4] ARKANSAS NUCLEAR 1 DOCKET 50-313 LER 89-042 REV 01 UPDATE ON INADVERTENT ACTUATION OF THE CONTROL ROOM EMERGENCY VENTILATION SYSTEM INITIATED BY A TRIP OF THE CHLORINE MONITORS CAUSED BY A PERSONNEL ERROR. EVENT DATE: 120989 REPORT DATE: 012290 NSSS: BW TYPE: PWR OTHER UNITS INVOLVED: ARKANSAS NUCLEAR 2 (PWR)

(NSIC 216592) ON 12/9/89 AT APPROXIMATELY 2004 HOURS, AN INADVERTENT ACTUATION OF THE CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CREVS) OCCURRED. THE CREVS ACTUATION WAS CAUSED BY THE ARKANSAS NUCLEAR ONE, UNIT TWO CHLORINE MONITORS TRIPPING. A MAND HELD RADIO WAS KEYED IN THE VICINITY OF THE MONITORS CAUSING THE MONITORS TO TRIP AND INITIATE THE ACTUATION OF THE CREVS. THE SYSTEM ACTUATED AS DESIGNED. AFTER DETERMINATION THAT THE ACTUATION WAS SPURIOUS, THE CHLORINE MONITORS WERE RESET AND THE VENTILATION SYSTEM WAS RETURNED TO WORMAL. SINCE NO ACTUAL HIGH CHLORINE CONCENTRATION EXISTED, AND BECAUSE THE CREVS ACTUATED AS DESIGNED, THERE WAS NO SAFETY SIGNIFICANCE RELATED TO THIS EVENT. THE INDIVIDUAL WHO KEYED THE HAND MELD RADIO IN THE VICINITY OF THE CHLORINE MONITORS HAS BEEN COUNSELLED REGARDING THE USE OF RADIOS IN THE RESTRICTED AREA. AS A RESULT OF PREVIOUS INADVERTENT CREVS ACTUATIONS, SEVERAL SYSTEM ENHANCEMENTS HAVE BEEN COMPLETED. ADDITIONALLY, AN ENGINEERING EVALUATION OF THE SYSTEM DESIGN WAS PREVIOUSLY INITIATED TO DETERMINE IF ADDITIONAL CORRECTIVE ACTIONS ARE NECESSARY. THIS EVENT IS BEING REPORTED PURSUANT TO 10CFR50.73(A)(2)(IV), AS AN EVENT THAT RESULTED IN AN AUTOMATIC ACTUATION OF AN ENGINEERED SAFETY FEATURES SYSTEM.

[5] ARKANSAS NUCLEAR 1	DOCKET 50-3	13 LER 89-045
PRESSURIZER SAMPLING SYSTEM CONTAINMENT	ISOLATION VALVES	INOPERABLE DUE TO
EVENT DATE: 121089 REPORT DATE: 01099	NSSS. RW	TYPE . DWP

(NSIC 216392) ON 12/10/89, WHILE INSPECTING PRESSURIZER SAMPLE LINES AND ASSOCIATED HANGERS IN PREPARATION OF REPLACING TWO CONTAINMENT ISOLATION VALVES LOCATED IN THE CONTAINMENT BUILDING, IT WAS IDENTIFIED THAT U-BOLT SUPPORTS WHICH WERE SHOWN ON DETAIL DRAWINGS WERE NOT INSTALLED ON THE CONTAINMENT ISOLATION VALVES. ADDITIONALLY, A SPRING MANGER WAS FOUND NOT INSTALLED. BASED UPON AN ENGINEERING JUDGEMENT, THE PRESSURIZER SAMPLE LINES AND ISOLATION VALVES WERE CONSIDERED INOPERABLE DUE TO THE MISSING U-BOLTS. THE MISSING SPRING HANGER DID NOT AFFECT OPERABLITY OF THE PIPING OR ISOLATION VALVES. WHILE REPLACING THE VALVES, THE U-BOLTS WERE REINSTALLED. THE PRESSURIZER SAMPLE LINES ARE DESIGNED AS SEISMIC CATEGORY I. HAD A SEISMIC EVENT OCCURRED, A SMALL REACTOR COOLANT SYSTEM (RCS) LEAK AND SMALL RCS DEPRESSURIZATION MAY HAVE OCCURRED IF THE PIPING HAD RUPTURED. CONTAINMENT ISOLATION WOULD HAVE BEEN MAINTAINED BY THE EXTERNAL SOLENOID OPERATED VALVE WHICH IS NORMALLY CLOSED. A REVIEW OF PREVIOUS MAINTENANCE ACTIVITIES AND PLANT MODIFICATIONS ASSOCIATED WITH THE TWO VALVES DID NOT INDICATE THAT THE U-BOLTS HAD BEEN REMOVED PREVIOUSLY. IT APPEARS THAT THE U-BOLTS WERE REMOVED DURING A MAINTENANCE ACTIVITY OR CONSTRUCTION AND NOT REINSTALLED. THIS CONDITION IS REPORTABLE PER 10CFRS0.73(A)(2)(I)(B).

[6] ARKANSAS NUCLEAR 1 DOCKET 50-313 LER 89-044 INCORRECT ASSUMPTIONS AND CALCULATIONAL ERRORS IN ORIGINAL CALCULATIONS FOR LOW PRESSURE INJECTION AND REACTOR BUILDING SPRAY PUMPS RESULTED IN INCORRECTLY CHARACTERIZING FLOW CAPABILITIES. EVENT DATE: 121489 REPORT DATE: 011590 NSSS: BW TYPE: PWR

(NSIC 216464) WHILE PERFORMING A REVIEW OF THE DECAY HEAT REMOVAL (DHR) SYSTEM, SEVERAL CALCULATIONAL ERRORS AND INCONSISTENCIES WERE IDENTIFIED ON 12/14/89, WHICH TOGETHER INCORRECTLY CHARACTERIZED THE FLOW CAPABILITIES OF THE LOW PRESSURE INJECTION (LPI) AND REACTOR EVILDING SPRAY (RES) PUMPS WHEN ALIGNED TO TAKE SUCTION FROM THE REACTOR BUILDING SUMP. THE CALCULATIONS FOR POST LOSS OF COOLANT ACCIDENT (LOCA) REACTOR BUILDING SUMP WATER LEVEL, NET POSITIVE SUCTION HEAD (NPSH) AVAILABLE AND REQUIRED FOR THE LPI AND RES PUMPS AND SUMP VORTEXING WERE SPECIFICALLY INVOLVED IN THIS CONDITION. THE CAUSE OF THE DISCREPANCIES FOUND IN THESE CALCULATIONS WAS THE USE OF INCORRECT ASSUMPTIONS AND CALCULATIONAL ERRORS MADE DURING THEIR ORIGINAL ISSUANCE IN 1970. OPERATOR TRAINING, AVAILABLE DIAGNOSTIC CONTROL ROOM INSTRUMENTATION AND EXISTING PROCEDURAL INSTRUCTIONS VERIFY PROPER OPERATION OF ENGINEERED SAFEGUARD SYSTEMS, AND HAD FLOW INSTABILITIES OCCURRED WITH THE LPI OR RBS PUMPS ALIGNED TO TAKE SUCTION FROM THE REACTOR EUILDING SUMP, APPROPRIATE CORRECTIVE ACTIONS WOULD HAVE BEEN TAKEN TO MAINTAIN LPI AND RBS FLOW FOR REACTOR CORE DECAY HEAT REMOVAL CAPABILITY. THEREFORE, IN THE EVENT OF A LOCA, THE HEALTH AND SAFETY OF THE GENERAL PUBLIC COULD HAVE BEEN PROTECTED.

[7] ARKANSAS NUCLEAR 1 DOCKET 50-313 LER 89-049 IMPROPER ENVIRONMENTAL QUALIFICATION TAPING OF INTERNAL MOTOR LEAD CONNECTIONS FOR MAIN FEEDWATER CONTAINMENT ISOLATION VALVES. EVENT DATE: 122089 REPORT DATE: 011990 NSSS: BW TYPE: PWR

(NSIC 216593) ON 12/20/89, ARKANSAS POWER AND LIGHT (AP&L) DISCOVERED THAT OKONITE T-95 TAPE HAD NOT BEEN USED TO TAPE THE INTERNAL MOTOR LEAD CONNECTIONS FOR TWO MAIN FEEDWATER (MFW) CONTAINMENT ISOLATION VALVES. IT WAS SUBSEQUENTLY DETERMINED THAT THESE VALVES DID NOT MEET ENVIRONMENTAL QUALIFICATIONS (EQ) AND THE VALVES WERE DECLARED INOPERABLE. THE INTERNAL MOTOR LEADS OF BOTH VALVES WERE IMMEDIATELY TAPED ACCORDING TO DESIGN DRAWINGS TO BRING THEM INTO COMPLIANCE WITH EQ REQUIREMENTS. ALTHOUGH THE POTENTIAL EXISTED FOR BOTH MFW ISOLATION VALVES NOT TO CLOSE IF THEY WERE EXPOSED TO A HARSH ENVIRONMENT, CONTROL VALVES LOCATED AT THE DISCHARGE OF THE MFW PUMPS WOULD HAVE CLOSED OR BEEN AVAILABLE TO CLOSE TO STOP THE FLOW OF MFW TO THE STEAM GENERATORS AND, THEREBY, LIMIT THE POTENTIAL FOR REACTOR COOLANT SYSTEM OVERCOOLING. THEREFORE, THE SAFETY SIGNIFICANCE IS CONSIDERED MINIMAL. THE MOTORS FOR THE MFW VALVES WERE DUAL VOLTAGE TYPE MOTORS WITH INTERNAL MOTOR LEADS WHICH MUST BE TAPED FOR EQ PURPOSES. IN OCTOBER 1988, THE VALVE MOTOR OPERATORS FOR BOTH VALVES WERE SENT TO THE VENDOR TO BE REWORKED. WHEN THE VALVES WERE RETURNED, AP&L DID NOT RECOGNIZE THE INTERNAL MOTOR LEAD CONNECTIONS FOR BOTH VALVES WERE SENT TO THE VENDOR TO BE REWORKED. WHEN THE VALVES WERE TAPED WITH ONLY SCOTCH 33. ADDITIONAL INSPECTIONS ARE ONGOING. THIS CONDITION IS REPORTABLE PURSUANT TO 10CFR50.73(A)(2)(I)(B) AND 10CFR50.73(A)(2)(II)(B).

[8] ARKANSAS NUCLEAR 1 DOCKET 50-313 LER 89-041 EMERGENCY FEEDWATER SYSTEM ACTUATION DUE TO A LOW LEVEL IN THE "E" ONCE THROUGH STEAM GENERATOR WHICH RESULTED FROM INADEQUATE GUIDANCE. EVENT DATE: 122189 REPORT DATE: 012290 NSSS. BW TYPE: PWR

(NSIC 216591) ON 12/21/89, AT APPROX. 0140, AN AUTOMATIC ACTUATION OF THE EMERGENCY FEEDWATER SYSTEM (EFW) WAS INITIATED AS A RESULT OF A LOW LEVEL IN THE "B" ONCE THROUGH STEAM GENERATORS (OTSG). AT THE TIME OF THE EFW ACTUATION, THE PLANT WAS AT HOT SHUTDOWN WITH DECAY HEAT BEING REMOVED BY STEAMING BOTH OTSGS TO THE CONDENSER HOTWELL. THE AFW PUMP WAS IN OPERATION SUPPLYING FEEDWATER TO THE OTSGS THROUGH STARTUP FEEDWATER CONTROL VALVES CV-2623 AND CV-2673. DUE TO LEAKAGE THROUGH THESE VALVES, IT HAD BECOME NECESSARY TO THROTTLE OPEN MFW RECIRCULATION VALVES FW-EA AND B TO MAINTAIN OTSG LEVELS. THE "A" OTSG WAS ABOVE ITS PROGRAMMED LEVEL AND ITS ASSOCIATED CONTROL VALVE WAS CLOSED. WHEN THE "A" OTSG LEVEL DECREASED TO ITS LOW LEVEL CONTROL VALVE WAS CLOSED. WHEN THE "A" OTSG LEVEL DECREASED TO ITS LOW LEVEL CONTROL VALVE WAS CLOSED. WHEN THE "A" OTSG LEVEL DECREASED TO ITS LOW LEVEL CONTROL LIMIT, ITS CONTROL VALVE BEGAN TO OPEN. WITH BOTH RECIRC VALVES OPEN AND FEEDWATER BEING SUPPLIED TO BOTH OTSGS, THE CAPACITY OF THE AFW PUMP WAS EXCEEDED. FEEDWATER PRESSURE DECREASED AND OTSG LEVELS CONTINUED TO FALL UNTIL EFW WAS INITIATED. THE EFW SYSTEM ACTUATED AS DESIGNED AND THE FEEDWATER SYSTEM PARAMETERS AND OTSG LEVELS WERE EXPEDITIOUSLY RETURNED TO NORMAL. THIS EVENT WAS CAUSED BY CV-2623 AND CV-2673 LEAKING BY THEIR SEATS WITH THE VALVES IN THE CLOSED POSITION. THIS LEAKAGE RESULTED FROM A LACK OF ADEQUATE GUIDANCE WITH RESPECT TO SETUP AND CALIBRATION OF THE CONTROL VALVES. [9] ARKANSAS NUCLEAR 2 UPDATE ON RECURRING ELECTRICALLY INDUCED NOISE RESULTED IN TWO LOGARITHMIC POWER LEVEL NUCLEAR INSTRUMENTATION CHANNELS BEING INOPERABLE AND A DEFECTIVE PREAMPLIFIER MODULE TO BE INOFERABLE. EVENT DATE: 111789 REPORT DATE: 011890 NSSS: CE TYPE: PWR

(NSIC 216408) ON 11/17/89 AT 1735 HOURS AN APPROACH TO CRITICALITY WAS COMMENCED FOLLOWING THE SEVENTH REFUELING OUTAGE WITH TWO OF FOUR LOGARITHMIC (LOG) POWER LEVEL NUCLEAR INSTRUMENTATION CHANNELS DECLARED INOPERABLE DUE TO ELECTRICALLY INDUCED NOISE IN THE CIRCUITRY. AS POWER LEVEL WAS INCREASED IT WAS EXPECTED THAT THE NEUTRON LEVEL SIGNAL WOULD OVERCOME THE AFFECTS OF THE ELECTRICALLY INDUCED NOISE AND CHANNELS 'E' AND 'C' WOULD TRACK WITH THE OTHER LOG POWER LEVEL CHANNELS. AT 1955 HOURS 'E' CHANNEL WAS DECLARED OPERABLE AND RETURNED TO SERVICE. AT 2021 HOURS 'C' CHANNEL WAS DECLARED OPERABLE AND RETURNED TO SERVICE. AT THE SAME TIME, AS OPERATIONS PERSONNEL MONITORED THE LOG POWER LEVEL INSTRUMENTS IT WAS NOTED THAT 'A' CHANNEL WAS NOT RESPONDING TO THE CHANGE IN POWER LEVEL, THEREFORE, 'A' CHANNEL WAS DECLARED INOPERABLE. A DEFECTIVE PREAMPLIFIER WAS REPLACED AND 'A' CHANNEL WAS DECLARED TO AN OPERABLE. STATUS. SUFFICIENT INSTRUMENTATION WOULD HAVE BEEN AVAILABLE TO PROVIDE THE PROTECTIVE FUNCTION PROVIDED BY THE LOG POWER CHANNELS IF REQUIRED. THEREFORE, THE SAFETY SIGNIFICANCE WAS MINIMAL. THE ROOT CAUSE OF THIS EVENT WAS THAT THE TYPE OF MALFUNCTION WHICH OCCURRED IN THE 'A' CHANNEL PREAMPLIFIER MODULE COULD NOT BE DETECTED BY THE CHANNEL FUNCTION TEST.

[10] ARKANSAS NUCLEAR 2 PERSONNEL ERROR RESULTED IN NOT PROPERLY IDENTIFYING FIRE BARRIERS RENDERING THE FIRE BARRIER PENETRATIONS INOPERABLE. EVENT DATE: 122189 REPORT DATE: 012290 NSSS: CE TYPE: PWR OTHER UNITS INVOLVED: ARKANSAS NUCLEAR 1 (PWR)

(NSIC 216609) ON 12/21/89, IT WAS IDENTIFIED THAT A PORTION OF A WALL LOCATED IN THE AUXILIARY BUILDING BETWEEN THE 354 AND 360 FOOT ELEVATIONS HAD NOT BEEN PREVIOUSLY IDENTIFIED AS A TECH SPEC FIRE BARRIER. AS A RESULT, TWO PIPING PENETRATIONS LOCATED IN THE BARRIER HAD NOT BEEN SURVEILLED AS REQUIRED BY TECH SPECS. A VISUAL INSPECTION OF ONE SIDE OF THE PENETRATIONS WAS PERFORMED WITH NO DISCREPANCIES IDENTIFIED. IT IS REASONABLE TO BELIEVE SINCE NO DISCREPANCIES WERE IDENTIFIED THAT THE PENETRATION FIRE BARRIERS HAD PREVIOUSLY BEEN FUNCTIONAL. THEREFORE, NO SAFETY CONCERN EXISTED. THE ROOT CAUSE OF THIS EVENT WAS PERSONNEL ERROR. DURING THE INITIAL REVIEW OF PLANT AREAS THE DESIGN CONFIGURATION ON DIFFERENT ELEVATIONS WAS NOT CONSIDERED. A REVIEW OF THE DRAWINGS FOR ANO-1 AND ANO-2 IS BEING PERFORMED TO ENSURE ANY OTHER BARRIERS THAT EXIST ON DIFFERENT PLANT ELEVATIONS HAVE BEEN PROPERLY ACCOUNTED FOR AS TECH SPEC BARRIERS. SEVERAL BARRIERS HAVE BEEN IDENTIFIED WHICH ARE LOCATED ON DIFFERENT PLANT ELEVATIONS AND A WALKDOWN OF THESE BARRIERS IS IN PROGRESS. A FIRE WATCH HAS BEEN POSTED WHEN NECESSARY AS REQUIRED BY TECH SPECS. FIRE BARRIERS WHICH PREVIOUSLY HAVE NOT BEEN IDENTIFIED AS TECH SPEC FIRE BARRIERS WILL BE UPGRADED AND A VISUAL INSPECTION OF THE FIRE BARRIER PENETRATIONS WILL BE PERFORMED.

[11] ARNOLD DOCKET 50-331 LER 89-016 HIGH PRESSURE COOLANT INJECTION SYSTEM INOPERABILITY DUE TO FAILURE TO OBTAIN ADEQUATE FLOW IN REQUIRED TIME. EVENT DATE: 121289 REPORT DATE: 010990 NSSS: GE TYPE: BWR VENDOR: DRESSER INDUSTRIES, INC. WOODWARD GOVERNOR COMPANY

(NSIC 216452) ON DECEMBER 12, 1989 AT 1410 HOURS, THE HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM WAS DECLARED INOPERABLE DURING PERFORMANCE OF SURVEILLANCE TESTING. THE REACTOR WAS AT 100% POWER. DURING THE SURVEILLANCE TESTING, THE HPCI SYSTEM FAILED TO REACH 3000 GALLONS PER MIMUTE FLOWRATE WITHIN THE REQUIRED 30 SECONDS DURING A COLD QUICK START. ACTUAL START TIME WAS 30.52 SECONDS. THE REQUIRED EMERGENCY CORE COOLING SYSTEMS WERE PROVEN OPERABLE PER TECHNICAL SPECIFICATIONS LIMITING CONDITIONS FOR OPERATION. THE CAUSE OF THE EVENT WAS DETERMINED TO BE INADEQUATE HPCI TURBINE ELECTRO- HYDRAULIC RESPONSE DURING THE TURBINE STARTUP SEQUENCE. THE ELECTRONIC PORTION OF THE TURBINE GOVERNOR (EG-M) WAS ADJUSTED WITHIN ALLOWABLE TOLERANCES AND A SATISFACTORY START TIME WAS ACHIEVED. OIL SYSTEM IMPROVEMENTS HAVE BEEN IDENTIFIED AND INCORPORATED IN A DESIGN CHANGE PACKAGE SCHEDULED FOR THE NEXT REFUEL OUTAGE. IN THE INTERIM, A NEW EG/R UNIT IS BEING TESTED AND INSTALLED TO ALLOW A MODIFICATION, PREVIOUSLY SCHEDULED AS PART OF THE DCP, TO BE COMPLETED PRIOR TO THE REFUEL OUTAGE. A SUPPLEMENTARY REPORT DETAILING RESULTS OF THE SYSTEM IMPROVEMENTS WILL BE PROVIDED BY SEPTEMBER 30, 1990, FOLLOWING THE REFUELING OUTAGE. THE HPCI SYSTEM WAS DECLARED OPERABLE AT 1034 HOURS ON DECEMBER 19, 1989.

L 12] BEAVER VALLEY 1 DOCKET 50-334 LER 89-014 REV 01 UPDATE ON BARRICADED BUT UNLOCKED RADIATION DOOR. EVENT DATE: 110189 REPORT DATE: 012390 NSSS: WE TYPE: PWR

(NSIC 216597) ON 11/01/89 AT 1716 HOURS, WITH THE UNIT IN COLD SHUTDOWN (OPERATING MODE 5), A ROUTINE RADIATION BARRIER CHECK IDENTIFIED A FAULTY DOOR LOCKING MECHANISM. THE NORTH BARRIER DOOR TO THE EAST VALVE TRENCH AREA ON THE PROVIDE AT DESCRIPTION OF THE PRIMARY AUX. BLDG WAS FOUND CLOSED AND UNLOCKED. THIS DOOR WAS LAST VERIFIED AT 0609 HOURS THIS SAME DAY. THIS DOOR RESTRICTS ACCESS TO A HIGH RADIATION AREA. A HIGH RADIATION AREA IS AN AREA WITH A RADIATION FIELD OF GREATER THAN 100 MILLIREM PER HOUR. TECH SPEC 6.12.2 REQUIRES HIGH RADIATION AREAS WITH RADIATION FIELDS GREATER THAN 1000 MREM/HR, TO HAVE LOCKED DOORS PREVENTING UNAUTHORIZED ENTRY. THIS EVENT IS BEING REPORTED IN ACCORDANCE WITH 10CFR50.73.A.2.I.B, AS A CONDITION IN VIOLATION OF TECH SPECS. THE CAUSE FOR THIS EVENT WAS ATTRIBUTED TO A FAULTY DOOR MECHANISM. THE LOCKING MECHANISM WOULD NOT OPERATE CORRECTLY DUE TO A WELDED LATCHING MECHANISM PLATE WHICH INTERFERED WITH THE LOCKING ACTION OF THE INTERFERING DOOR. THE LOCKING MECHANISM WAS MODIFIED. THE INTERFERING LATCH WAS REMOVED. ALL INVOLVED INDIVIDUALS WERE COUNSELED WITH REGARDS TO THE PROPER VERIFICATION OF HIGH RADIATION AREA BARRIER DOORS. THERE WERE NO SAFETY IMPLICATIONS AS A RESULT OF THIS EVENT. PERSONNEL EXPOSURE RECORDS OF INDIVIDUALS IN CONTROLLED AREAS DURING THIS TIME PERIOD WERE REVIEWED AND NO ANOMALIES WERE IDENTIFIED.

[13] BEAVER VALLEY 1 INADVERTENT SAFETY INJECTION DURING RESTORATION OF THE SOLID STATE PROTECTION SYSTEM. EVENT DATE: 121389 REPORT DATE: 011290 NSSS: WE TYPE: PWR

(NSIC 216453) ON 12/13/89, WITH THE UNIT IN COLD SHUTDOWN, OPERATIONS PERSONNEL WERE PERFORMING REQUIRED TESTS TO ALLOW AN ESCALATION IN PLANT MODES. OPERATIONS PERSONNEL WERE PREPARING TO PERFORM SURVEILLANCE TEST (OST) 1.36.4, "DIESEL GENERATOR NO.2 AUTOMATIC TEST". IN ACCORDANCE WITH THIS PROCEDURE, TRAIN "A" OF THE SOLID STATE PROTECTION SYSTEM (SSPS) HAD BEEN PLACED IN THE "TEST" POSITION. PRETEST VALVE ALIGNMENTS FOR OST 1.36.4 REQUIRED THE MAIN FEEDWATER REGULATING VALVES (MFRV) TO BE OPENED. ALTHOUGH NOT STATED IN OST 1.36.4, THE REACTOR TRIP BREAKERS (RTE) ARE REQUIRED TO BE CLOSED IN ORDER TO OPEN THE MFRVS. TRAIN "A" OF SSPS TO ALLOW RTB CLOSURE. AN OPERATOR WAS DISPATCHED TO RESTORE TRAIN "A" OF SSPS. THE OPERATOR INCORRECTLY RESTORED THE SSPS GENERATING A LOW STEAMLINE PRESSURE SAFETY INJECTION (SI) SIGNAL. THE CAUSE FOR THE EVENT WAS OPERATOR ERROR. THE OPERATOR FAILED TO UTILIZE AM SSPS RESTORATION PROCEDURE TO RESTORE THE SYSTEM. THE SI WAS RESET, AND THE PLANT WAS RESTORED TO THE PRE-SI CONDITION. THERE WERE NO SAFETY IMPLICATIONS AS A RESULT OF THIS EVENT. THE NO. 1 EMERGENCY DIESEL GENERATOR STARTED AS DESIGNED AND THE TRAIN "A" CONTAINMENT ISOLATION VALVES CLOSED. ALL OTHER TRAIN "A" EQUIPMENT WAS NOT NEEDED AND HAD BEEN DEFEATED PRIOR TO THE SIGNAL AND DID NOT OPERATE.

L 14J BEAVER VALLEY 1 DOCKET 50-334 LER 89-016 FEEDWATER ISOLATION DUE TO ERRATIC STEAM GENERATOR LEVEL TRANSMITTER BEHAVIOR. EVENT DATE: 121589 REPORT DATE: 011690 NSSS: WE TYPE: PWR VENDOR: KEROTEST MANUFACTURING CORP.

(NSIC 216598) ON 12/15/89, THE UNIT WAS IN MODE 4 (HOT SHUTDOWN) PREPARING TO STARTUP FOLLOWING COMPLETION OF ITS SEVENTH REFUELING OUTAGE. FOLLOWING THE FILL OF THE "B" STEAM GENERATOR, ERRATIC LEVEL TRANSMITTER BEHAVIOR CAUSED A "B" STEAM GENERATOR HI-HI LEVEL FEEDWATER ISOLATION. THE INSTRUMENTATION AND CONTROL (I&C) DEPARTMENT WAS REQUESTED TO INVESTIGATE AND REPAIR THIS MALFUNCTION. ON 12/16/89, WHILE TROUBLESHOOTING THESE INSTRUMENTS, TWO CHANNELS INDICATED A HI-HI LEVEL, CAUSING A SECOND FEEDWATER ISOLATION. INVESTIGATION DETERMINED THAT THIS ERRATIC BEHAVIOR WAS CAUSED BY THE LEVEL TRANSMITTERS' KEROTEST ROOT STOP VALVES' INNER PLUGS REMAINING PARTIALLY INSERTED AFTER THE VALVES WERE OPENED. AFTER I&C FREED THE PLUGS, ALLOWING THE VALVES TO FULLY OPEN, THE TRANSMITTERS FUNCTIONED PROPERLY. THE PLUGS APPARENTLY BECAME BOUND TO THE SEATS WHEN THE VALVES WERE CLOSED DURING THE REFUELING OUTAGE WHILE REPLACING THE TRANSMITTERS FOR ENVIRONMENTAL QUALIFICATION CONCERNS. THERE WERE NO SAFETY IMPLICATIONS DUE TO THIS EVENT. FEEDWATER ISOLATIONS CAUSED BY HI-HI STEAM GENERATOR LEVELS ARE ANALYZED IN BEAVER VALLEY UNIT 1 UFSAR SECTION 14.1.9, "EXCESSIVE HEAT REMOVAL DUE TO FEEDWATER SYSTEM MALFUNCTIONS."

[15] BEAVER VALLEY 1		DOCKET 50-334	LER 89-019
START-UP PRIOR TO TRIP BREAM	ER TESTING.		
EVENT DATE: 122489 REPORT	DATE: 012390	NSSS: WE	TYPE: PNR

(NSIC 216601) ON 12/27/89, WHILE RECOVERING FROM A REACTOR TRIP, IT WAS DISCOVERED THAT THE MANUAL REACTOR TRIP OPERATING SURVEILLANCE TEST (OST 1.1.7) HAD NOT BEEN PERFORMED WITHIN ITS REQUIRED FREQUENCY (7 DAYS) PRIOR TO THE PREVIOUS REACTOR START-UP ON 12/24/89. THE TEST WAS IMMEDIATELY PERFORMED, VERIFYING ALL TRIP BRFAKERS TO BE OPERABLE. THE FAILURE TO PERFORM THE TEST WITHIN THE REQUIRED FREQUENCY WAS DUE TO INADEQUACIES IN THE START-UP PROCEDURES (START-UP SURVEILLANCE CHECKLIST, SURVEILLANCE SCHEDULE AND MANUAL REACTOR TRIP SURVEILLANCE PROCEDURE) WHICH DID NOT REFERENCE THE 7 DAY TIME LIMIT. THESE PROCEDURES HAVE BEEN REVISED TO CLARIFY TESTING REQUIREMENTS. THERE WERE NO SAFETY IMPLICATIONS DUE TO THIS EVENT. THE MISSED SURVEILLANCE PROCEDURE IS USED TO VERIFY THAT THE REACTOR TRIP BREAKERS WILL OPEN IN RESPONSE TO A MANUAL REACTOR TRIP SIGNAL FROM THE CONTROL ROOM. ALTHOUGH A FORMAL SURVEILLANCE WAS NOT PERFORMED WITHIN 7 DAYS OF THE START-UP ON 12/24/89, STATION RECORDS DOCUMENT SEVERAL INSTANCES ON 12/21/89, 12/22/89 AND 12/24/89 WHERE THE REACTOR TRIP BREAKERS WERE OPENED VIA A MANUAL SIGNAL FROM THE CONTROL ROOM.

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[16] BEAVER VALLEY 2 UPDATE ON DEGRADED HIGH ENERGY LINE BREAK TEMPERATURE ELEMENTS. EVENT DATE: 041389 REPORT DATE: 012390 VENDOR: FLUID COMPONENTS, INC. DOCKET 50-412 DOCKET 50-412 NSSS: WE TYPE: PWR TYPE: PWR

(NSIC 216617) ON 4/13/89, WITH THE UNIT IN REFUELING (OPERATING MODE 6), TESTING AND PLANT PERFORMANCE PERSONNEL WERE PERFORMING A SURVEILLANCE PROCEDURE TO CHECK THE RESPONSE OF TEMPERATURE SENSORS (ELEMENTS). THE TEMPERATURE SENSORS ARE LOCATED IN THE CABLE VAULT, "A" PENETRATIONS AND PRIMARY AUX. BLDG. AREAS. THEY PROVIDE PROTECTION IN THE EVENT OF A HIGH LINE BREAK (HELE) BY CAUSING AUTOMATIC ISOLATION OF THE STEAM GENERATOR BLOWDOWN AND AUX. STEAM LINES IN THOSE AREAS. DURING THE PERFORMANCE OF THIS TEST, CARDEOARD COVERS AND TEMPORARY PROTECTION COVERS WERE FOUND ON 5 OF 22 TEMPERATURE ELEMENTS. THESE COVERS WERE REMOVED TO ALLOW TESTING OF THE TEMPERATURE ELEMENTS. THE COVERS WERE REMOVED TO ALLOW TESTING OF THE TEMPERATURE ELEMENTS. THE COVERS WERE REMOVED TO ALLOW TESTING OF THE TEMPERATURE ELEMENTS. THE TEMPERATURE ELEMENTS WERE LEFT EXPOSED FOLLOWING THE COMPLETION OF TESTING. THE CAUSE FOR THIS EVENT WAS ATTRIBUTED TO A DEFICIENCY IN THE SURVEILLANCE PROGRAM. THE TEMPORARY COVERS WERE LEFT ON AFTER ACCEPTANCE TESTING TO PROTECT THE ELEMENTS DURING ADDITIONAL CONSTRUCTION ACTIVITIES. THE COVERS AFFECTED THE RESPONSE TIME FOR THE ELEMENTS, BECAUSE OF THE LIMITED AREA OF THE ELEMENT EXPOSED TO SENSE TEMPERATURE. AN ANALYSIS WAS PERFORMED TO DETERMINE THE AMOUNT OF DEGRADATION IN RESPONSE TIME. THIS ANALYSIS SHOWED THAT THE DELAY IN SYSTEM RESPONSE FOR ELOWDOWN LINE AND AUX. STEAM BREAKS DID NOT RESULT IN EQUIPMENT DAMAGE OR EXCEEDING THE PEAK QUALIFICATION TEMPERATURE FOR THE AREAS.

17] BIG ROCK POINT GARLOCK STYLE #938 PACKING PROBLEMS PREVENT TURBINE BYPASS VALVE FROM OPENING. EVENT DATE: 102789 REPORT DATE: 010990 VENDOR: GARLOCK, INC. (NSIC 216373) ON OCTOBER 27, 1989 AT 0315 HOURS, THE TURBINE BYPASS VALVE WOULD NOT OPEN WHEN GIVEN AN OPEN SIGNAL. SUBSEQUENT TROUBLESHOOTING DETERMINED THAT THE PROBLEM WAS NOT IN THE CONTROLS AND THE VALVE WAS ISOLATED FOR FURTHER MAINTENANCE. THE VALVE OPERATOR APPLIED OVER 25,000 POUNDS OF FORCE, BUT THE VALVE WOULD NOT OPEN. DURING FURTHER MAINTENANCE IT WAS APPARENT THAT THE "PACKING" WAS SEVERELY HARDENED AND BOUND TO THE STEM, PREVENTING VALVE OPERATION. AFTER THE PACKING WAS REMOVED, THE VALVE OPERATED FREELY. CAUSE OF THE FAILURE IS ATTRIBUTED TO THE CHARACTERISTICS OF THE GARLOCK STYLE # 938 WHICH SEEMS TO HARDEN WHEN SUBJECTED TO HEAT AND PRESSURE. THIS VALVE AND THREE OTHERS WERE REPACKED AND FUNCTIONED PROPERLY AFTER MAINTENANCE.

[18] BRAIDWOOD 1 UPDA: ON MISSED HOURLY AND CONTINUOUS FIRE WATCHES DUE TO MISCOMMUNICATIONS, INATTENTIVENESS, AND COGNITIVE PERSONNEL ERROR OF CONTRACTOR PERSONNEL. EVENT DATE: 012087 REPORT DATE: 121889 NSSS: WE TYPE: PWR OTHER UNITS INVOLVED: BRAIDWOOD 2 (PWR)

(NSIC 216574) THESE ARE THE ADDITIONAL EVENTS ASSOCIATED WITH INATTENTIVE FIRE WATCHES IN 1987: AT 0400 ON 3/28/87 THE ROUTE 4 MOURLY FIRE WATCH PATROL WAS DETAINED BY RADIATION CHEMISTRY PERSONNEL DUE TO NOT SIGNING THE LATEST RADIATION WORK PERMIT. THE WIRE WATCH WAS UNAWARE OF THE REQUIREMENT TO NOTIFY RADIATION CHEMISTRY OF THE TIME REQUIREMENTS ASSOCIATED WITH FIRE WATCH DUTIES. AT 0600 ON 3/31/87 THE ROUTE 4 HOURLY FIRE WATCH PATROL WAS WAITING TO BE RELIEVED AT THE STARTING POINT OF THE ROUTE, AND DID NOT START THE ROUTE AT 0605. THE CAUSE OF THIS EVENT WAS A COGNITIVE PERSONNEL ERROR IN THAT THE FIRE WATCH FAILED TO RESTART THE ROUTE WHILE AWAITING WATCH RELIEF. AT 1355 ON 5/10/87 AND AT 0555, ON 5/14/87 ARE TWO CASES OF FIRE WATCH INATTENTIVENESS. THESE EVENTS WERE CAUSED BY COGNITIVE PERSONNEL ERRORS DUE TO INATTENTIVENESS TO DUTY. THE CORRECTIVE ACTIONS WERE AS FOLLOWS: FOR THE MARCH 28 AND MARCH 31, 1987 OCCURRENCES THE FIREWATCH PERSONNEL WERE RETRAINED REGARDING ACTIONS REQUIRED BY THE FIRE WATCH. FIREWATCH PERSONNEL WERE RETRAINED REGARDING ACTIONS REQUIRED BY THE FIRE WATCH. FOR THE 5/10 AND 5/14/87 OCCURRENCES THE FIRE WATCH PERSONNEL WERE TERMINATED. PREVIOUS OCCURRENCES OF FIRE WATCH INATTENTIVENESS ARE DOCUMENTED BY THE FIRE WATCH.

[19] BRAIDWOOD 1 RESIDUAL HEAT REMOVAL PUMP SUCTION RELIEF VALVE PREMATURE ACTUATION AND FAILURE TO RESEAT DUE TO DEFICIENT WORK PRACTICES AND PERSONNEL ERROR. EVENT DATE: 120189 REPORT DATE: 122989 NSSS: WE TYPE: PWR VENDOR: CROSEY VALVE & GAGE CO.

(NSIC 216416) AT 0142 ON 12/1/89 WHILE DRAWING A SUBBLE IN THE PRESSURIZER (PZR), REACTOR COOLANT SYSTEM (RCS) PRESSURE SLOWLY INCREASED FROM 375 75.3 TO 404 PSIG. AT THIS TIME THE 1E RESIDUAL HEAT REMOVAL (RHR) PUMP SUCTION RELIEF VALVE, WHICH HAD A SETPOINT OF 450 PSIG, ACTUATED AND REMAINTED OPEN. CHARGING FLOW WAS INCREASED BUT PZR LEVEL INDICATED 0% BY 0151. REACTOR OPERATORS CONCLUDED THAT AN RHR PUMP SUCTION RELIEF VALVE HAD LIFTED BECAUSE HOLD UP TANK LEVELS WERE INCREASING RAPIDLY. THE OPERATING TRAIN OF RHR, 1A, WAS ISOLATED AT 0155. AT 0200 RCS PRESSURE REACHED 272 PSIG AND STABILIZED. RCS LEVEL WAS AT THE LOWCR PORTION OF THE PZR SURGE LINE AND FLOW INTO THE RCS WAS EQUAL TO THE FLOW EXITING THE RCS. AT 0215 THE LICENSED SUPERVISORS DECIDED TO RETURN THE SECOND CHARGING PUMP TO SERVICE PER 10CFR50.54(X). AT 0235 THE SECOND CHARGING PUMP WAS STARTED. AT 0245 PZR LEVEL WAS ABOVE 0%. AT 0319 FIELD REPORTS IDENTIFIED THAT THE 1B RHR PUMP SUCTION RELIEF HAD ACTUATED. AT 0350 THE "B" RHR TRAIN WAS ISOLATED WHICH TERMINATED THE EVENT. APPROXIMATELY 64,000 GALLONS HAD RELIEVED THROUGH THE VALVE. THE CAUSE OF THE EARLY LIFT WAS DIRT BETWEEN THE VALVE SPINDLE AND GUIDE SLEEVE WHICH AFFECTED VALVE LIFT SETPOINT ADJUSTMENT. THE CAUSE FOR THE VALVE REMAINING OPEN WAS AN INCORRECT NOZZLE RING SETTING DUE TO A PERSONNEL ERROR.

[20] BRAIDWOOD 1 CONTROL ROOM VENTILATION ACTUATIONS DUE TO FAILED RADIATION DETECTOR. EVENT DATE: 121089 REPORT DATE: 010890 (NSIC 216477) ON 12/6/89 THE GAS DETECTOR CHANNEL OF PROCESS RADIATION MONITOR (PR) OPR31J, CONTROL ROOM OUTSIDE AIR INTAKE A, EXPERIENCED A SPIKE THAT RESULTED IN AN ALERI ALARM ON THE MONITOR. DURING THE NEXT SEVERAL DAYS SEVERAL ALERT ALARMS WERE RECEIVED. ON 12/10/89 A SPIKE ON THE CHANNEL RESULTED IN A HIGH RADIATION ALARN WHICH CAUSED A CONTROL ROOM VENTILATION (VC) ACTUATION FOR THE OA TRAIN OF VC. AFTER MAINTENANCE TROUB! SHOOTING IT WAS BELIEVED THE SPIKES WERE DUE TO A FAULTY HIGH VOLTAGE CONNECTOR WHICH WAS REPLACED. AT 0649 ON 12/21/89, A SPIKE ON THE CHANNEL AGAIN RESULTED IN THE HIGH RADIATION ALARM WHICH CAUSED A VC ACTUATION FOR THE CA VC TRAIN. AT 1840 A SPIKE ON THE CHANNEL RESULT2D IN ANOTHER VC ACTUATION FOR THE OA TRAIN OF VC. DURING MAINTENANCE TROUBLESHOOTING, IT WAS DISCOVERED THAT THE DETECTOR HAD FAILED. A NEW DETECTOR WAS INSTALLED AND CALIERATED. DISCREPANCIES WITH RADIATION MONITORING COMPONENTS ARE BEING TRENDED. THIS EVENT HAS BEEN ADDED TO THAT TREND. PREVIOUS CORRECTIVE ACTIONS ARE NOT APPLICABLE TO THIS EVENT.

[21] BRAIDWOOD 1 CONTAINMENT VENTILATION ISOLATION SIGNAL DUE TO SURVEILLANCE PROCEDURE DEFICIENCY. EVENT DATE: 121589 REPORT DATE: 010290 NSSS: WE TYPE: PWR

(NSIC 216417) SURVEILLANCE 18WVS 3.3.1-2, MONTHLY DIGITAL CHANNEL OPERATIONAL TEST OF AREA RADIATION MONITORS 1RT-AR011 AND 1RT-AR012 WAS IN PROGRESS. THE PROCEDURE REQUIRED A LEAD TO BE LIFTED, CONTACTS VERIFIED OPEN OR CLOSED SEVERAL TIMES USING A VOLT-OHM METER (VOM), AND THE LEAD LANDED. AT 1318 ON 12/15/89. AS THE LEAD WAS BEING LANDED, THE CONTAINMENT BUILDING FUEL HANDLING INCIDENT AREA RADIATION MONITOR 1RT-AR011 (AR)(IL) WENT INTO ALERT ALARM AND INTERLOCK ACTUATION. THE INTERLOCK FUNCTION OF MONITOR 1RT-AR011 INITIATED "A" TRAIN A CONTAINMENT VENTILATION ISOLATION SIGNAL. NO COMPONENTS WERE REPOSITIONED AS THE ASSOCIATED CONTAINMENT ISOLATION VALVES WERE ALREADY CLOSED. THE ROOT CAUSE OF THIS EVENT WAS A DEFICIENT PROCEDURE. THE PROCEDURE FAILED TO DIRECT REMOVAL OF THE VOM PRIOR TO LANDING THE LEAD. THIS ALLOWED A SPIKE TO OCCUR AS THE LEAD WAS LANDED. THE CONTAINMENT ISOLATION SIGNAL WAS RESET FOLLOWING VERIFICATION THAT IT WAS DUE TO THE PERFORMANCE OF THE SURVEILLANCE. 1BWVS 3.3.1-2 WILL BE REVISED TO INCLUDE A STEP FOR REMOVAL OF THE VOM PRIOR TO LANDING THE LEAD. THE OTHER TECHNICAL STAFF RADIATION MONITOR SURVEILLANCE HERCEDURES THAT HAVE A POTENTIAL FOR AN ENGINEERED SAFETY FEATURE ACTUATION WILL BE REVISED AS NECESSARY.

[22] BRAIDWOOD 1 DOCKET 50-456 LER 89-020 FAILURE TO VERIFY SAFETY INJECTION ACCUMULATOR BORON CONCENTRATION WITHIN SPECIFIED TIME INTERVAL DUE TO PROGRAMMATIC DEFICIENCY. EVENT DATE: 122389 REPORT DATE: 012290 NSSS: WE TYPE: PWR

(NSIC 216500) AT 0828, ON 12/23/89 TWO SAFETY INJECTION ACCUMULATOR (SIA) LEVELS WERE RAISED IN ACCORDANCE WITH PROCEDURE. THIS REPRESENTED AN ADDITION OF 105 GAL. TO ONE, AND 189 GALS. TO THE OTHER. BORON CONCENTRATION WAS TO BE VERIFIED WITHIN 6 HOURS AFTER EACH VOLUME INCREASE OF 70 GALS. AT 0836 THE CONTROL ROOM SUPERVISOR (SCRE) TELEPHONED THE CHEMISTRY SUPERVISOR (CS) AND REQUESTED THE SAMPLES. THE CS ENTERED THE REQUEST IN THE LOGBJOK INTENDING TO ASSIGN THE TASK WHEN PERSONNEL BECAME AVAILABLE. THE CS WAS NOT AWARE OF THE 6 HR REQUIREMENT. WHEN THE CS WAS RELIEVED AT 1100 BY THE AFTERNOON SHIFT CS, THE SAMPLE WAS NOT MENTIONED. AT 1530 THE SCRE CONTACTED THE CS. AFTER CHECKING THE LOG THE CS CONCLUDED THAT THE SAMPLES HAD NOT BEEN TAKEN. A TECHNICIAN WAS IMMEDIATELY DISPATCHED TO SAMPLE THE SIAS; THEY WERE WITHIN ACCEPTABLE LIMITS. THE CAUSE WAS A PROGRAMMATIC DEFICIENCY. THERE WAS NO PROGRAM TO MONITOR ROUTINE SPECIFICATION BEING PERFORMED ON A NON-ROUTINE BASIS WHICH DID NOT REQUIRE ACTION STATEMENT ENTRY. A CONTRIBUTING CAUSE WAS THE CS BEING UNAWARE OF THE 6 HOUR REQUIREMENT. THE DEPARTMENT SUPERVISOR ISSUED A MEMO TO ALL CHEMISTRY PERSONNEL. THE PROCEDURE WILL BE REVISED TO INCLUDE AN ACTION REQUIREMENT SHEET. CHEMISTRY SURVEILLANCES WILL BE REVIEWED. A CS TURNOVER SHEET WILL BE DEVELOPED. TRAINING WILL BE CONDUCTED. [23] BRAIDWOOD 2 DOCKET 50-457 LER 89-008 REFUELING WATER STORAGE TANK VENT LINE TEMPERATURE LESS THAN 35F DUE TO PRESERVICE DEFICIENCY. EVENT DATE: 122889 REPORT DATE: 011690 NSSS: WE TYPE: PWR

(NSIC 216501) OUTSIDE AIR TEMPERATURES HAD BEEN BELOW O DEGREES F FOR SEVERAL DAYS WITH NIGHTLY LOWS REACHING -18F. DURING THE MIDNIGHT SHIFT ON 12/22/89 AN EQUIPMENT ATTENDANT (EA) AND AN EA TRAINEE PERFORMING AUX. ELDG. ROUNDS RECORDED THE UNIT 2 REFUELING WATER STORAGE TANK (RWST) VENT LINE TEMPERATURE AS 34F. THIS TEMPERATURE WAS REQUIRED TO BE > OR = 35F. THE EA TRAINEE TELEPHONED THIS INFORMATION TO THE UNIT 2 NUCLEAR STATION OPERATOR (NSO) WHO ENTERED IT IN THE NSO ROUNDS. THE NSO DID NOT IDENTIFY THE BELOW MINIMUM READING. THE ROUNDS WERE REVIEWED BY SEVERAL SUPERVISORS WHO DID NOT IDENTIFY THE BELOW MINIMUM READING WAS DISCOVERED. AN EA WAS IMMEDIATELY DISPATCHED TO CHECK THE TEMPERATURE. IT WAS 36F. THE CAUSE OF THIS EVENT WAS A PRESERVICE DEFICIENCY. THE CAPACITY OF THE ELECTRICAL HEAT TRACING WAS NOT ADEQUATE. THE FAILURE TO IDENTIFY THE BELOW LIMIT READING WAS DUE TO PERSONNEL ERROR, ABSENCE OF ALARM, AND ABSENCE OF AN ADMINISTRATIVE TEMPERATURE LIMIT. THE RWST HEATER WAS PLACED IN CONTINUAL OPERATION. THE EA ROUNDS WILL BE REVISED. METHODS TO INCREASE VENT LINE HEATING CAPABILITY AND PROVIDE FOR A LOW TEMPERATURE ALARM WILL BE EVALUATED. TRAINING WILL BE CONDUCTED. A PROGRAM WILL BE DEVELOPED TO FLAG ROUNDS WITH AN OUT OF TOLERANCE READING. NO PREVIOUS OCCURRENCES.

[24] BROWNS FERRY 1 FAILURE TO ESTABLISH CORRECT FIRE WATCH DUE TO PERSONNEL ERROR RESULTS IN CONDITION PROHIBITED BY TECH SPECS. EVENT DATE: 080589 REPORT DATE: 090689 NSSS: GE TYPE: BWR OTHER UNITS INVOLVED: BROWNS FERRY 2 (BWR)

(NSIC 216362) ON 8/7/89, FIRE PROTECTION PERSONNEL IDENTIFIED THAT A CONTINUOUS FIRE WATCH WAS NOT ESTABLISHED FOR TWO BLOCKED-OPEN FIRE DOORS AS REQUIRED BY TECH SPECS. THE EMERGENCY SERVICES TECHNICIAN (EST) FOREMAN, WHO ISSUED THE PERMIT AT 2000 HOURS ON 8/5/89, INAPPROPRIATELY RELIED UPON THE EXISTING HOURLY FIRE WATCH PATROL IN THE AREA AS THE COMPENSATORY MEASURE. THE SHIFT OPERATIONS SUPERVISOR WAS IMMEDIATELY NOTIFIED AND A CONTINUOUS FIRE WATCH WAS ESTABLISHED TO MONITOR BOTH FIRE DOORS AT 0900 HOURS ON 8/7/89. FAILURE TO ESTABLISH REQUIRED FIRE WATCH IS A VIOLATION OF TECH SPECS AND IS REPORTABLE IN ACCORDANCE WITH 10 CFR 50.73(A)(2) (1)(B). DURING THE EVENT, THE UNIT 2 REACTOR WAS IN THE COLD SHUTDOWN CONDITION WITH IRRADIATED FUEL IN THE REACTOR. UNITS 1 AND 3 WERE DEFUELED. CAUSE OF THE EVENT IS ATTRIBUTED TO PERSONNEL ERROR, IN THAT PERSONNEL FAILED TO FOLLOW PROCEDURES IN DETERMINING THE CORRECT FIRE WATCH REQUIREMENTS. THE EST FOREMAN WAS COUNSELED ON THE CONTENT OF THE APPLICABLE FIRE PROTECTION PROCEDURES AND THE NEED TO CONSULT WITH THE DUTY FIRE PROTECTION ENGINEER REGARDING COMPENSATORY PROCEDURES FOR INOPERABLE FIRE PROTECTION ENGINEER REGARDING COMPENSATORY PROCEDURES FOR INOPERABLE FIRE PROTECTION EQUIPNENT. FIRE PROTECTION PERSONNEL WILL REVIEW THIS EVENT. A MEMORANDUM WAS ISSUED TO REQUIRE EST-FOREMEN TO CONSULT WITH THE FIRE PROTECTION EQUIPNENT. FIRE PROTECTION PERSONNEL WILL REVIEW THIS EVENT. A MEMORANDUM WAS ISSUED TO REQUIRE EST-FOREMEN TO CONSULT WITH THE FIRE PROTECTION EQUIPNENT. FIRE PROTECTION PERSONNEL WILL REVIEW THIS EVENT. A MEMORANDUM WAS ISSUED TO REQUIRE EST-FOREMEN TO CONSULT WITH THE FIRE PROTECTION ENGINEER COMPENSATORY MEASURES.

[25] BROWNS FERRY 2 UPDATE ON TECH SPEC VIOLATION DUE TO LOSS OF TWO TRAINS OF STANDBY GAS TREATMENT SYSTEM. EVENT DATE: 072189 REPORT DATE: 122189 NSSS: GE TYPE: BWR OTHER UNITS INVOLVED: BROWNS FERRY 1 (BWR) BROWNS FERRY 3 (BWR) VENDOR: GENERAL ELECTRIC CO.

(NSIC 216307) ON JULY 21, 1989 AT 1345, TRAINS "A" AND "B" OF THE STANDBY GAS TREATMENT (SBGT) SYSTEM WERE DECLARED INOPERABLE FOLLOWING THE DISCOVERY THAT THE CIRCUIT BREAKERS FOR THEIR RELATIVE HUMIDITY CONTROL HEATERS WERE TRIPPED. THIS RESULTED IN NOT MEETING THE REQUIREMENTS OF TECHNICAL SPECIFICATION 3.7.B FOR THE SEGT SYSTEM. AS A RESULT OF THIS EVENT, EXTENSIVE INVESTIGATION, TESTING, AND EVALUATION OF THE CAUSE OF THE CIRCUIT BREAKER OPERATIONS WERE PERFORMED. THE ROOT CAUSE OF THIS EVENT WAS AN INADEQUATE INITIAL DESIGN APPLICATION OF THIS TYPE CIRCUIT BREAKER. THIS INITIAL DESIGN APPLICATION DID NOT ADDRESS THE HIGH TEMPERATURES ENCOUNTERED AT THE PRESENT CIRCUIT BREAKER LOCATION. CONTRIBUTING TO THIS EVENT WAS THE FACT THAT THE ROOM EXHAUST FANS WERE NOT OPERATING WHICH RESULTED IN ELEVATED ROOM TEMPERATURES. ADDITIONALLY, A POSSIBLE CONTRIBUTOR TO THIS EVENT WAS BAD CONTACTS WHICH WERE IDENTIFIED ON ONE PHASE OF THE RELATIVE HUMIDITY CONTROL HEATER CIRCUIT BREAKER FOR TRAIN "A" OF THE SBGT SYSTEM. AS A RESULT OF THIS EVENT, THE CIRCUIT BREAKER FOR TRAIN "A" HAS BEEN REPLACED. APPROPRIATE PLANT INSTRUCTIONS WILL BE PREPARED ADDRESSING THE OPERATION OF THE EXHAUST FANS. A DESIGN CHANGE NOTICE HAS BEEN INITIATED TO ELIMINATE SPURIOUS TRIPPING OF THE BREAKER CAUSED BY THE EXCESSIVE TEMPERATURE IN THE 480 VOLT DIESEL GENERATOR AUXILIARY BOARD ROOMS "A" AND "B".

[26] BROWNS FERRY 2 FAILED SOLDER CONNECTION ON SCRAM PILOT AIR HEADER DURING INSTRUMENT CALIBRATION RESULTS IN REACTOR PROTECTION SYSTEM ACTUATION. EVENT DATE: 120689 REPORT DATE: 010590 NSSS: GE TYPE: BWR

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(NSIC 216379) ON DECEMBER 6, 1589 AT 2111, A REACTOR PROTECTION SYSTEM (RPS) ACTUATION OCCURRE D DUE TO A RPS TRIP SIGNAL GENERATED BY LOW SCRAM FILOT AIR HEADER PRESSURE. DURING THE CALIBRATION OF A PRESSURE INDICATOR, THE INSTRUMENT TAP PIPING DISCONNECTED FROM THE AIR HEADER PIPING AT A SOLDERED REDUCING CONNECTION. THIS RESULTED IN AN AIR LEAK ON THE SCRAM PILOT AIR HEADER WHICH REDUCED THE PRESSURE TO THE RPS ACTUATION SETPOINT. NO CONTROL ROD MOVEMENT OCCURRED SINCE ALL RODS WFRE ALREADY FULLY INSERTED. THE CAUSE OF THIS EVENT WAS THE UNEXPECTED FAILURE OF A SOLDERED CONNECTION DURING REINSTALLATION OF THE PRESSURE INDICATOR. THIS SOLDERED CONNECTION HAD BEEN IN SERVICE FOR 14 YEARS AND THE PRESSURE INDICATOR HAD BEEN REMOVED SEVERAL TIMES FOR CALIBRATION PRIOR TO THIS EVENT. ALTHOUGH THE EXACT CAUSE OF THE SOLDERED CONNECTION FAILURE COULD NOT BE DETERMINED, STRESSES ADDED DURING THE REMOVAL AND REINSTALLATION OF THE PRESSURE INDICATOR WHILE PERFORMING THE CALIBRATIONS MAY HAVE CONTRIBUTED TO THE FAILURE. AS A RESULT OF THIS EVENT, THE SOLDER CONNECTION HAS BEEN REPAIRED. LEAK TESTING OF THE SOLDERED CONNECTIONS IN THE SCRAM PILOT AIR HEADER MAS BEEN PERFORMED TO ENSURE THE INTEGRITY OF THE AIR PIPING SYSTEM. THREE AIR LEAKS AT SOLDERED CONNECTIONS HAVE BEEN IDENTIFIED. THESE AIR LEAKS WILL BE REPAIRED.

[27] BROWNS FERRY 2 FAILURE OF RESIDUAL HEAT REMOVAL SERVICE WATER SUMP PUMP LEVEL SWITCH RESULTED IN A CONDITION PROHIBITED BY TECH SPECS. EVENT DATE: 122189 REPORT DATE: 011190 NSSS: GE TYPE: BWR

(NSIC 216444) AT APPROXIMATELY 0215 HOURS ON DECEMBER 21, 1989, THE REQUIRED NUMBER OF RESIDUAL HEAT REMOVAL SERVICE WATER (RHRSW) PUMPS AVAILABLE WAS FOUND TO BE LESS THAN THAT REQUIRED BECAUSE OF THE LOSS OF TWO REDUNDANT RHRSW SUMP PUMPS. ONE SUMP PUMP WAS OUT OF SERVICE BECAUSE OF MODIFICATIONS TO REPLACE ITS LEVEL SWITCH, AND THE REDUNDANT SUMP PUMP FAILED CAUSING THE RHRSW PUMP ROOM SUMPS TO OVERFILL. THE ASSOCIATED RHRSW PUMPS ARE CONSIDERED TO BE TECHNICALLY INOPERABLE WITHOUT THE SUPPORT OF THEIR SUMP PUMPS. THIS LEFT ONLY ONE OPERABLE RHRSW PUMP ALIGNED TO THE OPERABLE LOOP OF RESIDUAL HEAT REMOVAL (RHR). IN VIOLATION OF THE TECHNICAL SPECIFICATIONS, SINCE THE OTHER RHRSW PUMPS OF THAT RHR LOOP WERE OUT OF SERVICE BECAUSE OF MAINTENANCE AND MODIFICATIONS. DURING THIS EVENT, UNITS 1 AND 3 WERE DEFUELED, AND UNIT 2 WAS IN COLD SHUTDOWN WITH FUEL IN THE REACTOR VESSEL AND THE HEAD REMOVED. THE CAUSE OF THE EVENT WAS THE FAILURE OF THE LEVEL SWITCH ASSOCIATED WITH RHRSW SUMP PUMP B1 TO ACTUATE ON HIGH SUMP WATER LEVEL. THE CONTROL SWITCH POSITION FOR THE RHRSW SUMP PUMP WAS CHANGED FROM AUTOMATIC TO MANUAL, WHICH STARTED THE PUMP AND RETURNED THE SUMP LEVEL TO NORMAL. THE LEVEL SWITCH WAS CALIBRATED, AND THE RHRSW SUMP PUMP MAS CHANGED FROM AUTOMATIC TO MANUAL, WHICH STARTED THE PUMP AND RETURNED THE SUMP LEVEL TO NORMAL. THE LEVEL SWITCH WAS CALIBRATED, AND THE RHRSW SUMP PUMP AND ASSOCIATED RHRSW PUMPS WERE RETURNED TO AN OPERABLE CONDITION AT 0600 HOURS ON DECEMBER 22, 1989.

[28] BRUNSWICK 1 FAILURE TO TEST SEVENTEEN PRIMARY CONTAINMENT ISOLATION VALVES PER TECH SPEC 4.6.1.1.A DUE TO FAILURE TO RECOGNIZE TESTING APPLICABILITY. EVENT DATE: 112789 REPORT DATE: 122789 NSSS: GE TYPE: BWR

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OTHER UNITS INVOLVED: BRUNSWICK 2 (BWR)

(NSIC 216294) ON NOVEMBER 27. 1989, IT WAS DETERMINED AS REPORTABLE THAT SEVENTEEN PRIMARY CONTAINMENT ISOLATION VALVES WERE NOT BEING TESTED IN ACCORDANCE WITH TECHNICAL SPECIFICATION (T/S) SURVEILLANCE REQUIREMENT 4.6.1.1.A. SIXTEEN OF THE SEVENTEEN VALVES WERE INSTALLED BY PLANT MODIFICATIONS (PMS) AND THE SEVENTEENTH WAS REMOVED AS A TEMPORARY REPAIR AND THEN REINSTALLED. THE ROOT CAUSE OF THE FAILURE TO IDENTIFY APPROPRIATE TESTING REQUIREMENTS FOR THE VALVES INSTALLED BY PMS WAS DETERMINED TO BE A FAILURE TO IDENTIFY APPLICABLE DESIGN CRITERIA AND REGULATORY COMMITMENTS IN THE DESIGN BASIS DOCUMENTATION. THE ROOT CAUSE FOR THE FAILURE TO INCORPORATE THE SEVENTEENTH VALVE BACK INTO THE APPROPRIATE TEST HAS NOT YET BEEN DETERMINED. AN INVESTIGATION IS STILL UNDERWAY INTO THE ROOT CAUSE FOR THE FAILURE TO DEVELOP APPROPRIATE DESIGN BASIS DOCUMENTATION AND FAILURE TO REINCORPORATE THE REINSTALLED VALVE BACK INTO THE TEST. A REVISION TO INCORPORATE THESE VALVES INTO THE APPROPRIATE TEST HAS BEEN COMPLETED. A REVIEW OF EACH PRIMARY CONTAINMENT PENETRATION IS UNDERWAY TO ENSURE APPROPRIATE TESTING IS BEING CARRIED OUT ON THE REMAINDER OF THE VALVES. A SUPPLEY INT TO THIS REPORT WILL BE ISSUED BY JUNE 30, 1990. THIS EVENT HAD MINIMAL SAFETY SIGNIFICANCE.

[29]	BRUNSWICK	1			DOCKET 50	-325 LER	89-026
LOSS OF	E3 BUS WHILE	DEENERGIZING	BUS 2D	FOR	SCHEDULED	MAINTENANCE.	
EVENT DA	ATE: 121089	REPORT DATE :	010490		NSSS: GE	TYPE	: BWR
OTHER UN	NITS INVOLVED	BRUNSWICK 2	(BWR)				

(NSIC 216399) AT 0553 HOURS ON 12/10/89, UNITS' 1 AND 2 COMMON EMERGENCY BUS E3 UNEXPECTEDLY DEENERGIZED WHEN THE OUTPUT BREAKER OF EMERGENCY DIESEL GENERATOR (DG) NO. 3, WHICH WAS SYNCHRONIZED AND LOADED TO THE BUS, OPENED. THIS EVENT OCCURRED WHEN THE MASTER/SLAVE FEEDER BREAKERS OF THE NORMAL POWER SOURCE TO E3 FROM BALANCE OF PLANT BUS 2D WERE OPENED TO RENOVE BUS 2D FROM SERVICE FOR SCHEDULED MAINTENANCE ACTIVITIES. PER DESIGN DG NO. 3 AUTOMATICALLY TIED ON TO SUPPLY E3. THE LOSS OF E3 RESULTED IN THE FOLLOWING: PRIMARY CONTAINMENT ISOLATIONS, STANDBY GAS TREATMEN T SYSTEM AUTOMATIC INITIATION, AND REACTOR BUILDING VENTILATION SYSTEM ISOLATIONS (BOTH UNITS), AND A "B" LOGIC REACTOR SCRAM SIGNAL (UNIT 2 ONLY). AT THE TIME, UNIT 1 WAS OPERATING AT 100% AND UNIT 2 WAS DEFUELED WHILE IN ITS 1989-1990 REFUEL/MAINTENANCE OUTAGE. BY 0605 HOURS, NORMAL POWER TO E3 FROM BUS 2D WAS RESTORED AND THE INCURRED ISOLATIONS AND INITIATIONS OF THE AFFECTED SYSTEMS ON BOTH UNITS WERE RESET AND THE SYSTEMS WERE RETURNED TO NORMAL. A PRELIMINARY INVESTIGATION HAS DETERMINED THIS EVENT IS THE RESULT OF A PROCEDURAL INADEQUACY OF THE INVOLVED PLANT ELECTRIC SYSTEM OPERATING PROCEDURE (OP)-50 AND THE DG EMERGENCY POWER SYSTEM OP-50.1. UPON COMPLETION OF THE INVESTIGATION A SUPPLEMENT TO THIS REPORT WILL BE SUBMITTED BY 2/16/90 TO FURTHER DETAIL THE CAUSE(S) AND CORRECTIVE ACTION TO THIS EVENT.

[30] BRUNSWICK 2 DOCKET 50-324 LER 89-009 REV 01 UPDATE ON MANUAL REACTOR SCRAM IN ACCORDANCE WITH I&E BULLETIN 88-07 DUE TO LOSS OF BOTH REACTOR RECIRCULATION PUMPS FOLLOWING A LOSS OF OFF-SITE POWER. EVENT DATE: 061789 REPORT DATE: 121589 NSSS; GE TYPE: BWR OTHER UNITS INVOLVED: BRUNSWICK 1 (BWR) VENDOR: GENERAL ELECTRIC CO. ROCKWELL-INTERNATIONAL

(NSIC 216243) AT 2047 HOURS ON JUNE 17, 1989, A MANUAL REACTOR SCRAM WAS INITIATED ON UNIT 2. IN ACCORDANCE WITH I&E BULLETIN 88-07, DUE TO A LOSS OF BOTH REACTOR RECIRCULATION PUMPS. BOTH PUMPS WERE DEENERGIZED WHEN TROUBLESHOOTING ON UNIT 2 STARTUP AUXILIARY TRANSFORMER (SAT), WHICH SUPPLIES POWER TO THE PUMPS, CAUSED THE SAT TO TRIP ON A HIGH RESISTANCE GROUND FAULT. A PLANNED POWER DECREASE WAS IN PROGRESS PRIOR TO THE LOSS OF THE SAT AND THE POWER LEVEL AT THE TIME OF THE SCRAM WAS 76%. AS A RESULT OF THE REACTOR SCRAM AND THE LOSS OF THE SAT, UNIT 2 EXPERIENCED A LOSS OF OFF-SITE POWER. THE DIESEL GENERATORS AUTOMATICALLY STARTED AND POWERED THE UNIT 2 EMERGENCY (E) BUSES PER DESIGN. DUE TO THE MOMENTARY LOSS OF POWER ON THE E-BUSES AND/OR VESSEL LOW LEVEL (AS APPLICABLE), CONTAINMENT ISOLATION GROUPS 1, 2, 3, AND 6 AUTOMATICALLY ISOLATED. REACTOR PRESSURE WAS CONTROLLED BY THE SAFETY RELIEF VALVES, HIGH PRESSURE COOLANT INJECTION SYSTEM, AND THE REACTOR CORE ISOLATION COOLING SYSTEM. THE INVESTIGATION DETERMINED THAT THE CAUSE WAS PERSONNEL ERROR BY THE TECHNICIAN PERFORMING TROUBLESHOOTING ON THE SAT. THE TECHNICIAN PLACED A JUNPER ACROSS THE SAT NEUTRAL GROUNDING TRANSFORMER PRIMARY THINKING IT WAS A CURRENT TRANSFORMER; HOWEVER, IT IS A POTENTIAL TRANSFORMER AND THE RESULTING HIGH CURRENT CAUSED THE SAT TO TRIP.

[31] BRUNSWICK 2 FAILURE OF FOUR SAFETY RELIEF VALVES TO MEET TECH SPEC REQUIRED LIFT PRESSURE TESTING. EVENT DATE: 110189 REPORT DATE: 112789 NSSS: GE TYPE: EWR VENDOR: TARGET ROCK CORP.

(NSIC 215964) AS A RESULT OF REQUIRED TESTING DURING THE CURRENT UNIT 2 REFUEL OUTAGE, IT WAS DETERMINED THAT SAFETY RELIEF VALVES (SRVS) 2-B21-F013F, H, J, AND L DID NOT ACTUATE WITHIN THE REQUIRED +/- 1.0% OF THEIR SETPOINTS. VALVES F013A, B, C, D, E, G, AND K ACTUATED WITHIN REQUIRED SETPOINT TOLERANCE. OF THE FOUR VALVES THAT DID NOT MEET THE 1.0% TOLERANCE, ONE FAILURE, THE F013L VALVE, IS ATTRIBUTED TO DISK TO SEAT BONDING/FUSING. THE SETPOINT DRIFT OF THE OTHER THREE FAILED VALVES, THE F013F, J, AND H, WAS NOT EXCESSIVE FROM THE AS-LEFT LIFT PRESSURE AND HAS NOT BEEN ATTRIBUTED TO ANY SPECIFIC CAUSE. CORRECTIVE ACTIONS INCLUDE RECERTIFYING SETPOINTS FOR THE 11 SRVS AND CONTINUED WORKING WITH THE BWROG AND TARGET ROCK CORPORATION TO FIND A SOLUTION THAT WILL PREVENT THE DISK TO SEAT BONDING PROBLEM IN THESE VALVES. TEST RESULTS WERE EVALUATED AND SHOW THAT THE CONDITION OF THE SRVS DID NOT CREATE A POTENTIAL FOR EXCEEDING ALLOWABLE SAFETY LIMITS ON UNIT 2. NEITHER THE ASILITY OF THE ADS TO PERFORM ITS FUNCTION NOR THE MANUAL LIFT CAPABILITY OF THE VALVES WOULD HAVE BEEN AFFECTED.

[32] BRUNSWICK 2 GROUP 6 ISOLATION AND STANDBY GAS TREATMENT AUTO START DURING THE PERFORMANCE OF 2MST-SCIS21R. EVENT DATE: 120889 REPORT DATE: 010290 NSSS: GE TYPE: BWR

(NSIC 216293) UNIT 2 RECEIVED A GROUP 6 ISOLATION WITH STANDBY GAS TREATMENT (SEGT) SYSTEM AUTO START DURING THE PERFORMANCE OF MST-SCIS21R. THE TECHNICIAN PERFORMING THE TEST WAS RELANDING ENERGIZED LEADS TO THE "B" CHANNEL TEMPERATURE SWITCH WHEN THE LEAD POPPED OFF THE SCREWDRIVER AND GROUNDED AGAINST THE TERMINAL BOX. THIS CAUSED A BLOWN FUSE, WHICH RESULTED IN A LOSS OF POWER TO AN INSTALLED JUMPER. THE LOSS OF POWER TO THE JUMPER INITIATED RELAYS WHICH IN TURN LED TO THE GROUP 6 ISOLATION AND SEGT AUTO START. A HUMAN PERFORMANCE EVALUATION WAS PERFORMED ON THE EVENT. THE CAUSE OF THE EVENT WAS THE INADEQUATE WORK PRACTICE OF ONE HANDED TERMINATION OF A HOT LEAD DUE TO NOT HAVING A MEANS OF EASILY ACCESSING THE TERMINAL BOX. CORRECTIVE ACTIONS INCLUDE COUNSELING OF THE INVOLVED WORK CREW, REAL TIME TRAINING FOR THE EVENT, AND EVALUATION OF THE POSSIBILITY OF REVISING THE CALIBRATION PROCEDURE TO ALLOW POWER TO THE TEMPERATURE SWITCH TO BE REMOVED DURING THE CALIBRATION. THIS EVENT INVOLVED LITTLE SAFETY SIGNIFICANCE.

[33]	BRUNSI	WICK 2				DOC	KET	50-	324 1	ER 89	-020	
LOSS OF	REACTOR	PROTECTION	SYSTEM	(RPS)	BUS	"B"	DUE	TO	A CIRCUIT	MALF	UNCTION	IN
THE 1K F	RELAY OF	THE RPS "B"	MOTOR		10.02					1. COLUMN		
EVENT DA	ATE: 121	789 REPORT	DATE:	011690	0	NSS	5: 1	GE		YPE:	BWR	
VENDOR:	GENERAL	ELECTRIC CO).			6.000						

(NSIC 216491) ON DECEMBER 17, 1989, AT 1520, WITH THE UNIT 2 REACTOR DEFUELED DURING A SCHEDULED REFUEL OUTAGE, A RELAY IN THE REACTOR PROTECTION SYSTEM (RPS) 'B' MOTOR-GENERATOR (M-G) SET CONTROL PANEL BURNED UP CAUSING THE 'B' RPS M-G SET TO TRIP. THE TRIP RESULTED IN A LOGIC TRIP OF THE RPS 'B' BUS AND EXPECTED ACTUATION AND ISOLATIONS OF THE STANDBY GAS TRAINS AND PRIMARY CONTAINMENT ISOLATION SYSTEM, RESPECTIVELY. THE EVENT WAS CAUSED BY A CIRCUIT MALFUNCTION IN THE 1K RELAY OF THE RPS 'B' MOTOR. THE RELAY IS A GENERAL ELECTRIC INDUSTRIAL RELAY, CR120A01102AC, WHICH IS COMMONLY USED THROUGHOUT THE PLANT. THE MALFUNCTION WAS THE RESULT OF EITHER DUST ON CONTACTS 3 AND 4 OR LOOSE WIRES AT THE REFERENCED CONTACTS. THE EXACT CAUSE HAS NOT BEEN DETERMINED BECAUSE OF THE

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EXTENT OF DAMAGE AT THE RELAY CONTACTS. THE REFERENCED RELAY TYPE IS COMMONLY USED THROUGHOUT THE PLANT AND DOES NOT HAVE A HISTORY OF THIS TYPE OF FAILURE. THE INCIDENT IS CONSIDERED AN ISOLATED EVENT. THE RELAY WAS REPLACED AND THE 'B' RPS M-G SET WAS RETURNED TO SERVICE. THIS EVENT HAD NO SAFETY SIGNIFICANCE AS THE REACTOR WAS DEFUELED, THE FUEL POOL GATES WERE INSTALLED AND THE SYSTEM FUNCTIONED AS DESIGNED.

UPDATE ON CONTAINMENT VENTILATION ISOLATION CAUSED BY CONTAINMENT BUILDING FUEL HANDLING INCIDENT AREA RADIATION MONITOR CHECKSOURCE TEST FAILURE. EVENT DATE: 022789 REPORT DATE: 122689 NSSS: WE TYPE: PWR VENDOR: GENERAL ATOMIC CO.

(NSIC 216345) ON 2/27/89, WITH UNIT 2 IN COLD SHUTDOWN (MODE 5), AREA RADIATION MONITOR 2RT-AR012 FAILED ITS AUTOMATIC CHECKSOURCE TEST. THE CHECKSOURCE TEST FAILURE CAUSED THE AUTOMATIC CLOSURE OF THE MINI-FLOW PURGE EXHAUST ISOLATION VALVE (2VQ005B) AND ACTUATED A CONTAINMENT VENTILATION ISOLATION ALARM IN THE MAIN CONTROL ROOM. THE MONITOR WAS DECLARED INOPERABLE AFTER IT FAILED SEVERAL MANUAL CHECKSOURCE TESTS. TECH SPEC 3.3.3.1 REQUIRES THAT MONITORS INOPERABLE. THE LIMITING CONDITION FOR OPERATION ACTION REQUIREMENT (LCOAR) REQUIRES THAT THE CONTAINMENT PURGE VALVES EE CLOSED. THIS WAS PARTIALLY ACHIEVED BY THE AUTOMATIC ACTUATION OF ENGINEERED SAFETY FEATURE VALVE 2VQ005E, WHICH CLOSED AS DESIGNED UPON THE FAILURE OF THE CHECKSOURCE TEST. THE REMAINING PURGE ISOLATION VALVES WERE CLOSED BY THE NUCLEAR STATION OPERATORS (NSO) (LICENSED REACTOR OPERATORS) AFTER THE DETECTOR WAS DECLARED INOPERABLE. THE IMMEDIATE CAUSE OF THE FAILED CHECKSOURCE TEST WAS A FAULTY DETECTOR. THE DETECTOR WAS REPLACED AND THE MONITOR WAS RETURNED TO SERVICE ON 2/28/89. THERE HAVE BEEN NO PREVIOUS ESF ACTUATIONS CAUSED BY SIMILAR RADIATION DETECTOR FAILURES.

[35] CALLAWAY 1 TWO ENGINEERED SAFETY FEATURES ACTUATIONS DUE TO SPURIOUS SIGNALS ON A FUEL BUILDING RADIATION MONITOR. EVENT DATE: 120989 REPORT DATE: 122989 NSUS: WE TYPE: PWR (NSIC 216343) ON 12/9/89, TWO UNPLANNED ENGINEERED SAFETY FEATURES (ESF) ACTUATIONS OCCURRED. AT 0900 CST, A FUEL BUILDING ISOLATION (FBIS) AND A CONTROL ROOM VENTILATION ISOLATION (CRVIS) OCCURRED DURING FUEL BUILDING EXHAUST RADIATION MONITOR GG-RE-27 SAMPLE FLOW TERMINATION TO FACILITATE A ROUTINE FILTER CHANGE. AT 1302 CST, DURING THE SUBSEQUENT EVENT INVESTIGATION AND INSPECTION OF MONITOR GG-RE-27 BY UTILITY PERSONNEL, A SECOND FBIS AND CRVIS OCCURRED. GG-RE-27 WAS DECLARED INOPERABLE. THE PLANT WAS IN MODE 1 - POWER OPERATIONS AT 100 PERCENT REACTOR POWER. AT 1400 THE CONTROL ROOM EMERGENCY VENTILATION SYSTEM WAS RESTORED TO ITS NORMAL STANDBY LINEUP. THE EMERGENCY EXHAUST SYSTEM LINEUP WAS INITIATED TO MAINTAIN THE FUEL BUILDING AT A NEGATIVE PRESSURE TO SATISFY TECHNICAL SPECIFICATIONS AND TO PRECLUDE SUBSEQUENT, SPURIOUS ESF ACTUATIONS WHILE TROUBLESHOOTING. TEPMINATIONS WERE ADJUSTED TOGETHER WITH POWER SUPPLY WHILE TROUBLESHOOTING. TEPMINATIONS WERE ADJUSTED TOGETHER WITH POWER SUPPLY CHECKS AND VISUAL INSPECTIONS. A LOOSE TERMINAL ELOCK CONNECTION ON THE RADIATION MONITOR SKID MOTOR CONTROLLER WAS TIGHTENED AND TESTED. NO POSITIVE

CHECKS AND VISUAL INSPECTIONS. A LOOSE TERMINAL BLOCK CONNECTION ON THE RADIATION MONITOR SKID MOTOR CONTROLLER WAS TIGHTENED AND TESTED. NO POSITIVE DIRECT CAUSE FOR THE SPURIOUS ESF ACTUATIONS COULD BE DETERMINED. GG-RE-27 WAS RETURNED TO SERVICE AT 1513 CST ON 12/12/89. THE EMERGENCY EXHAUST SYSTEM WAS RESTORED TO ITS NORMAL STANDBY LINEUP.

[36] CALVERT CLIFFS 1 UNIMPLEMENTED REQUIREMENT TO LOCK THE HPSI DISCHARGE HEADER ISOLATION VALVES SHUT RESULTS IN OPERATIONS OUTSIDE THE LOW TEMPERATURE OVERPRESSURE PROTECTION DESIGN BASIS. EVENT DATE: 112889 REPORT DATE: 122889 NSSS: CE TYPE: PWR OTHER UNITS INVOLVED: CALVERT CLIFFS 2 (PWR)

(NSIC 216291) AT 1155 ON 11/28/89, A CONDITION WAS DISCOVERED AT CALVERT CLIFFS UNITS 1 AND 2 WHICH DID NOT SATISFY THE PLANT DESIGN BASIS ESTABLISHED IN THE LOW TEMPERATURE OVERPRESSURE PROTECTION (LTOP) SAFETY EVALUATION REPORT (SER). IT WAS DETERMINED THAT THE HIGH PRESSURE SAFETY INJECTION (HPSI) DISCHARGE HEADER ISOLATION VALVES HAD NOT BEEN LOCKED SHUT DURING PREVIOUS OPERATIONS WHEN THE REACTOR COOLANT SYSTEM (RCS) WAS IN A WATER SOLID CONDITION. AT THE TIME OF DISCOVERY, UNIT 1 WAS IN COLD SHUTDOWN WITH THE RCS PARTIALLY DRAINED, AND AT ATM PRESSURE AND 111 F. THE UNIT 2 REACTOR WAS DEFUELED, WITH THE RCS PARTIALLY DRAINED, THE VESSEL HEAD INSTALLED (DETENSIONED), AND THE RCS AT ATMOSPHERIC PRESSURE AND 79 F. INTERIM CORRECTIVE ACTIONS HAVE BEEN IMPLEMENTED. PRIOR TO OUR ENTRY INTO A WATER SOLID CONDITION. WE REVISED THE OPERATING PROCEDURES TO REQUIRE THAT THE HPSI HEADER ISOLATION VALVES BE CLOSED, DE-ENERGIZED AND TAGGED WHEN THE RCS TEMPERATURE IS BELOW 200 F. CURRENTLY, UNIT 1 IS IN MODE 5 (<200F) AND WILL REMAIN IN MODE 5 UNTIL ALL LTOP COMMITMENTS ARE IDENTIFIED AND RESOLVED AS APPLICABLE. UNIT 2 IS DEFUELED AND WILL NOT ENTER A WATER SOLID CONDITION, WITH FUEL, UNTIL THE APPLICABLE LTOP ISSUES ARE RESOLVED. ALL OTHER INFORMATION REQUIRED BY 10 CFR 50.73 WILL BE PROVIDED IN A SUPPLEMENTAL LER.

[37] CALVERT CLIFFS 1 DOCKET 50-317 LER 89-025 MISSED FIRE WATCH TOUR DUE TO PERSONNEL ERROR. EVENT DATE: 121189 REPORT DATE: 011090 NSSS: CE TYPE: PWR

(NSIC 216398) ON DECEMBER 8, 1989, THE ACTION STATEMENT FOR UNIT 1 TECHNICAL SPECIFICATION (TS) 3.7.12 WAS ENTERED AS A PRECAUTIONARY MEASURE. IT HAD BEEN DETERMINED THAT VENTILATION DUCTS PENETRATING A TS FIRE BARRIER COULD NOT BE ACCESSED TO DETERMINE IF FIRE DAMPERS WERE INSTALLED. FOR ONE BARRIER, THERE IS SMOKE DETECTION ON BOTH SIDES OF THE BARRIER, BUT AUTOMATIC SPRINKLERS ONLY ON ONE SIDE. THEREFORE, AN HOURLY FIRE WATCH TOUR WAS INITIATED. ON DECEMBER 11, 1989, THE HOURLY FIRE WATCH TOUR WAS MISSED AT MIDNIGHT. THE HOURLY TOUR AT 2300 ON DECEMBER 10, 1989 AND THE HOURLY TOUR AT 0100 ON DECEMBER 11, 1989 WERE PERFORMED. UNIT 1 WAS IN COLD SHUTDOWN (MODE 5) DURING THE INCIDENT. THE CAUSE OF THE EVENT HAS BEEN DETERMINED TO BE COGNITIVE PERSONNEL ERROR. LACK OF MANAGEMENT OVERSIGHT CONTRIBUTED TO THE EVENT. A CONTRACT FIRE BRIGADE MEMBER WAS ASSIGNED TO PERFORM THIS TOUR AT MIDNIGHT. THE TOUR WAS NOT PERFORMED. THERE WAS NO PROGRAM IN PLACE TO INSURE THAT THIS ASSIGNMENT WAS CARRIED OUT. TO PREVENT FUTURE EVENTS OF THIS TYPE, A SINGLE CONTRACT FIRE BRIGADE MEMBER IS ASSIGNED, AS THEIR PRIMARY RESPONSIBILITY. TO PERFORM ALL HOURLY FIRE WATCH TOURS ON HIS SHIFT. A SUPPLEMENTAL LER WILL BE SUBMITTED TO ADDRESS ADDITIONAL CORRECTIVE ACTIONS THAT ARE UNDER REVIEW.

[38] CALVERT CLIFFS 1 DOCKET 50-317 LER 89-024 INCOMPLETE CHANNEL CALIBRATION PROCEDURE RESULTS IN FAILURE TO TEST CERTAIN PORTIONS OF PORV ACTUATION CIRCUITRY. EVENT DATE: 121889 REPORT DATE: 011790 NSSS: CE TYPE: PWR OTHER UNITS INVOLVED: CALVERT CLIFFS 2 (PWR)

(NSIC 216490) ON DECEMBER 18, 1989 IT WAS DETERMINED THAT A LIMITED PORTION OF THE AUTOMATIC ACTUATION CIRCUITRY ASSOCIATED WITH THE PRESSURIZER POWER OPERATED RELIEF VALVES (PORVS), WAS NOT PROPERLY TESTED IN ITS ASSOCIATED TECHNICAL SPECIFICATION SURVEILLANCE TEST. AN INVESTIGATION DETERMINED THAT THE WIRES WHICH CONNECT THE ACTUATION DEVICE LOGIC RELAY CONTACTS TO THE REMAINDER OF THE CIRCUIT, WERE NOT TESTED DURING CONDUCT OF THE CHANNEL CALIBRATION TESTS. THE BALANCE OF THE CIRCUIT WAS PROPERLY TESTED. THE CAUSE OF THIS EVENT WAS AN INADEQUATE SURVEILLANCE TEST AND HISTORICAL SURVEILLANCE PROGRAM WEAKNESS. THE CALVERT CLIFFS UNIT 1 CIRCUITRY HAS BEEN TESTED AND VERIFIED OPERABLE. THE UNIT 2 CIRCUITRY WILL BE TESTED PRIOR TO RESTART FROM ITS CURRENT OUTAGE. THE CONDITION IDENTIFIED IN THIS REPORT IS LIMITED TO INADEQUATE TESTING OF THE TWO RELATIVELY SHORT LENGTHS OF WIRE ASSOCIATED WITH EACH PORVS HIGH PRESSURE FUNCTION. THE MINIMUM PRESSURIZATION TEMPERATURE PROTECTION FUNCTIONS OF THE PORVS WERE NOT AFFECTED. CORRECTIVE ACTIONS INCLUDE A CHANGE TO CORRECT THE PROCEDURE, AND THE ONGOING SURVEILLANCE TEST PROGRAM UPGRADE EFFORT. SOME OF THE CORDITION AND RESOLUTION OF THIS CONDITION.

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L 393 CALVERT CLIFFS 1 POSTULATED PIPE RUPTURE IN THE TURBINE BUILDING SERVICE WATER SYSTEM (SRW) RENDERS BOTH AUXILIARY BUILDING SRW SUBSYSTEMS UNAVAILABLE. EVENT DATE: 122089 REPORT DATE: 011990 NSSS: CE TYPE: PWR OTHER UNITS INVOLVED: CALVERT CLIFFS 2 (PWR)

(NSIC 216594) AT 0900 HOURS ON 12/20/89 IT WAS DETERMINED THAT A REPORTABLE CONDITION EXISTED AS A RESULT OF A PLANT CONFIGURATION THAT COULD POTENTIALLY RESULT IN UNAVAILABILITY OF BOTH SAFETY RELATED SERVICE WATER (SRW) SUBSYSTEMS. AT THE TIME OF DETERMINATION, UNIT 1 WAS IN COLD SHUTDOWN WITH THE REACTOR COOLANT SYSTEM (RCS) PARTIALLY FILLED, AND AT ATMOSPHERIC PRESSURE AND 114 DEGREES F. THE UNIT 2 REACTOR WAS DEFUELED, WITH THA REACTOR VESSEL PARTIALLY DRAINED. THE VESSEL HEAD DETENSIONED, AND THE PCS AT ATMOSPHERIC PRESSURE AND AMBIENT TEMPERATURE. IT WAS DETERMINED THAT A PIPE RUPTURE IN THE NON-SAFETY RELATED SRW SUBSYSTEM THAT SERVES THE TURBINE BUILDING COULD RESULT IN RAPID DRAINING OF BOTH OF THE INDEPENDENT, SAFETY RELATED SRW SUBSYSTEMS THAT SERVE THE AUXILIARY BUILDING. THE LOSS OF BOTH AUXILIARY BUILDING SRW TRAINS COULD SUBSEQUENTLY RESULT IN UNAVAILABILITY OF THE EMERGENCY DIESEL GENERATORS. THE REPORTED CONDITION DDES NOT DESCRIBE AN ACTUAL EVENT, THERFFORE, IT WAS NOT CONTRIBUTED TO BY ANY ACTUAL COMPONENT OR SYSTEM FAILURES. A TEAM HAS BEEN ASSEMBLED TO DETERMINE THE ROOT CAUSE OF THE REPORTED CONDITION AND A CORRECTIVE ACTION PLAN WILL BE PROVIDED BY A SUPPLEMENT TO THIS LER. SUBMITTAL OF THE SUPPLEMENTAL LER IS SCHEDULED FOR MARCH 31, 1990.

L 403 CATAWEA 1 TECH SPEC VIOLATION DUE TO SHIPMENT OF TWO LINERS OF SECONDARY BEAD AND POWDEX RESIN MIXTURE IN VIOLATION OF THE PROCESS CONTROL PROGRAM. EVENT DATE: 072689 R2PORT DATE: 011290 NSSS: WE "VPE: PWR OTHER UNITS INVOLVED: CATAWEA 2 (PWR) VENDOR: CHEM-NUCLEAR SYSTEMS, INC.

(NSIC 216457) ON JULY 26. 1989, WITH UNITS 1 AND 2 IN MODE 1, POWER OPERATION. TWO CARBON STEEL LINERS CONTAINING A MIXTURE OF POWDEX AND BEAD RESINS WERE APPROVAL OF THE LOW LEVEL WASTE REPOSITORY IN BARNWELL. S.C. VERBAL VENDOR APPROVAL OF THIS SHIPMENT HAD BEEN OBTAINED. ON DECEMBER 7, 1989, DUKE POWER COMPANY (DPC) NUCLEAR CHEMISTRY ISSUED A LETTER TO CNSI ENGINEERING DISCUSSING THE POSSIBILITY OF MIXING OF BEAP AND POWDEX RESINS. THIS LETTER WAS COPIED TO PREVIOUSLY BEEN SHIPPED FROM CNS. CNSI OPERATIONS, ENGINEERING AND DPC NUCLEAR CHEMISTRY WERE CONTACTED. ON DECEMBER 15, 1989, IT WAS DETERMINED THAT A TECHNICAL SPECIFICATION VIOLATION HAD OCCURRED DUE TO THE SHIPMENT OF TWO MIXED SHIPMENTS OF MIXED MEDIA SECONDARY RESIN AT THE PROGESS CONTROL PROGRAM. FURTHER SHIPMENTS OF MIXED MEDIA SECONDARY RESIN AT THE MAY BEEN SUSPENDED UNTIL PROPER TESTING ON DEWATERING EFFECTIVENESS OF MIX. MEDIA RESINS HAS BEEN DETERMINED.

L 413 CATAWBA 1 UPDATE ON FOUR CHANNELS OF POWER RANGE INSTRUMENTATION INOPERABLE FOLLOWING UNIT RUNBACK AS A RESULT OF FAILURE OF A GENERATOR BREAKER AIR PRESSURE GAUGE. EVENT DATE: 091389 REPORT DATE: 011890 NSSS: WE TYPE: PNR

INSIC 216497) ON SEPTEMBER 13, 1989, AT 0541 HOURS, UNIT 1 WAS IN MODE 1, 100% POWER OPERATION. GENERATOR 18 POWER CIRCUIT BREAKER (PCB) OPENED CAUSING UNIT RUNBACK TO 54% POWER. FOUR OUT OF FOUR CHANNELS OF POWER RANGE NUCLEAR INSTRUMENTATION (PRNI) DISPLAYED GREATER THAN THE 5% ALLOWABLE MISMATCH BETWEEN RATED THERMAL POWER (RTP) AND NUCLEAR POWER, IN THE NON-CONSERVATIVE DIRECTION. AT 0550 HOURS, TECHNICAL SPECIFICATION 3.0.3 WAS ENTERED AND WORK REQUEST 4099 SWAR WAS ISSUED TO COMPLETE CALIBRATION OF THE PRNIS. THE UNIT WAS STABLE AT 54% CALIBRATICMG OF THE PRNIS, THE UNIT EXITED TECHNICAL SPECIFICATION 3.0.3. THE PNEUMATIC GAUCE WAS SUBSEQUENTLY REPLACED, AND GENERATOR PCB 18 WAS RESTORED TO SERVICE. UNIT FOWER INCREASES COMMENCED AT 1003 HOURS ON SEPTEMBEF 13, 1989. ALL REQUIRED PRNI CALIBRATIONS WERE COMPLETED TO WITHIN 2% OF RTP BY 1525 HOURS. UNIT POWER REACHED 97% POWER AT 1815 HOURS. AT 2100 HOURS, UNIT REACTOR POWER REACHED 100%. THE POWER RANGE MISMATCH WAS CONSIDERED TO BE AN EXPECTED PHENOMENON FOLLOWING A UNIT RUNBACK. THIS INCIDENT HAS BEEN ATTRIBUTED TO EQUIPMENT FAILURE DUE TO THE FAILURE OF THE PRESSURE GAUGE ON THE PCB WHICH CAUSED THE UNIT RUNBACK.

L 42) CATAWBA 1 UPDATE ON BOTH TRAINS OF CONTROL ROOM AREA VENTILATION BEING INOPERABLE DUE TO AN INCOMPLETE TESTING PROCEDURE AND DAMPER MALFUNCTIONS. EVENT DATE: 091582 REPORT DATE: 120689 NSSS: WE TYPE: PWR OTHER UNITS INVOLVED: CATAWBA 2 (PWR) VENDOR: RUSKIN MANUFACTURING COMPANY

(43)	CATAWBA 1		DOCKET 50	-413 LER	89-020
ABNORMAL	DEGRADATION	OF STEEL CONTAINMENT	VESSELS DUE	TO CORROSION	BY STANDING
WATER IN	THE ANNULUS	AREAS.			** *******
EVENT DAS	TE: 092189	REPORT DATE: 010990	NSSS: WE	TYPE	I PWR
OTHER UN!	ITS INVOLVED	CATAWEA 2 (PWR)			

(NSIC 216474) ON 9/21/89, A PRELIMINARY VISUAL INSPECTION OF THE CATAWBA UNITS 1 AND 2 STEEL CONTAINMENT VESSEL (SCV) EXTERIOR SURFACES WAS PERFORMED BETWEEN AZIMUTHS 0 DEGREES AND 360 DEGREES AT ELEVATION 552 FEET + 0 INCHES. UNITS 1 AND 2 WERE IN MODE 1, POWER OPERATION, AT 100% AND 98% POWER RESPECTIVELY, WHEN THE INSPECTION WAS CONDUCTED. THE OBSERVED CORROSION WAS CAUSED BY STANDING WATER IN THE ANNULUS AREAS. THE MOST SIGNIFICANT CORROSION OCCURRED IN AREAS WHERE BORIC ACID DEPOSITS WERE ALSO FOUND. THE ROOT CAUSE OF THIS EVENT IS ASSIGNED AS A DESIGN OVERSIGHT BECAUSE THE SLOPE OF THE ANNULUS FLOORS WAS NOT SUFFICIENT TO CAUSE FLOW TO THE INSTALLED FLOOR DRAINS. A CONTRIBUTING CAUSE OF UNANTICIPATED ENVIRONMENTAL INTERACTION IS ALSO ASSIGNED BECAUSE OF THE CHEMICAL REACTION BETWEEN THE BORIC ACID AND SCV. DESIGN ENGINEERING PERSONNEL EVALUATED THE EXTENT OF CORROSION BY COMPARISON TO THE CONDITIONS PREVIOUSLY OBSERVED AT MCGUIRE NUCLEAR STATION. THE CORROSION OBSERVED AT THE CATAWBA SCVS BASES IS NOT AS ADVANCED AS AT MCGUIRE AND DOES NOT WARRANT A SEPARATE OPERABILITY KEVIEW. THE SCV WILL BE REPAIRED AND RECOATED, AS APPLICABLE, DURING THE NEXT TWO REFUELING OUTAGES FOR EACH UNIT. THIS IS A COURTESY LER.

[44] CATAWBA 1 UPDATE ON TECHNICAL SPECIFICATION 3.0.3 ENTERED ON BOTH UNITS FOR INOPERABLE POWER RANGE NUCLEAR INSTRUMENTATION DUE TO POWER REDUCTION DURING MURRICANE MUGO. EVENT DATE: 092289 REPORT DATE: 011890 NSSS: WE TYPE: PWR OTHER UNITS INVOLVED: CATAWBA 2 (PWR)

(NSIC 216618) ON SEPTEMBER 22, 1989, UNITS 1 AND 2 WERE IN MODE 1, POWER OPERATION, AT 100% AND 98% POWER, RESPECTIVELY. AT 0547 HOURS, 1HTA, 13.8 KV AUXILIARY SWITCHGEAR, DEENERGIZED RESULTING IN THE LOSS OF POWER TO THE CONDENSER CIRCULATING WATER COOLING TOWER FANS. THIS REQUIRED THE OPERATORS TO REDUCE REACTOR POWER IN ORDER TO MAINTAIN CONDENSER VACUUM. DURING THE POWER REDUCTIONS. UNITS 1 AND 2 ENTERED TECHNICAL SPECIFICATION 3.0.3 AT 0600 HOURS AND 0632 HOURS. RESPECTIVELY, DUE TO GREATER THAN 5 PERCENT MISMATCH BETWEEN THERMAL POWER EEST ESTIMATE AND THE POWER RANGE NUCLEAR INSTRUMENTATION (PRNI). FOLLOWING RECALIERATION OF THE PRNIS, UNITS 1 AND 2 EXITED TECHNICAL SPECIFICATION 3.0.3 AT 0655 HOURS AND 9640 HOURS, RESPECTIVELY. THE PRMI MISMATCH IS CONSIDERED TO BE AN EXPECTED PHENOMENON DURING A POWER REDUCTION. THE POWER REDUCTION IS ATTRIBUTED TO UNUSUAL WEATHER CONDITIONS CAUSED BY THE HIGH WINDS AND RAINFALL DELIVERED BY HURRICANE HUDO WHICH CAUSED WATER FROM THE SERVICE EUILDING ROOF TO LEAK ON THE 1HTA SWITCHGEAR, THUS TRIPPING THE SWITCHGEAR. ALTHOUGH A SUBSEQUENT INSPECTION OF THE ROOF DID NOT IDENTIFY ANY DEFECTS, THE ROOF IS SCHEDULED TO BE REWORKED IN THE NEAR FUTURE.

[45] CATAWBA 1 LOSS OF TRAIN "A" MAIN STEAM ISOLATION FOR STEAM GENERATOR POWER OPERATED RELIEF VALVES DUE TO "A" FAILED FUSE. EVENT DATE: 120489 REPORT DATE: 122989 NSSS: WE TYPE: PWR VENDOR: BUSSMANN NFG (DIV OF NCGRAW-EDISON)

(NSIC 216338) GN 12/4/89, AT 1000 HOURS, UNIT 1 WAS IN MODE 1, POWER OPERATION, AT 100% POWER. 15V1, STEAM GENERATOR (S/G) 1D POWER OPERATED RELIEF VALVE (PORV), DID NOT CLOSE ON A TRAIN "A" MAIN STEAM ISOLATION SIGNAL DURING THE PERIODIC SV VALVE INSERVICE TEST. AT 1045 MOURS, ALL FOUR S/G PORVS WERE DECLARED INOPERABLE, AND TECH SPEC 3.3.2. ACTION 21, GAS ENTERED FOR ONE TRAIN OF STEAM LINE ISOLATION BEING INOPERABLE. A WORK REQUEST HAD BEEN WRITTEN ON 12/3 TO INVESTIGATE/REPAIR THE SM PORV TRAIN "A" RESET LIGHT. A FAILED FUSE (A-39 IN GABINET 1EATC12) WAS FOUND IN THE TRAIN A MAIN STEAM ISOLATION CIRCUIT, AND WAS REPLACED BY 1235 HOURS. BY 1305 HOURS, ACTION 21 WAS EXITED AND THE S/G PORVS WERE RETURNED TO OPERABLE STATUS FOLLOWING SUCCESSFUL COMPLETION OF THE SV VALVE INSERVICE TEST. THIS INCIDENT IS CLASSIFIED AS AN EQUIPMENT FAILURE, DUE TO THE MECHANICAL FAILURE OF FUSE A-39, A EUSSMAN FNA TYPE FUSE. AS DOCUMENTED IN LERS 414/89-001 AND 413/89-015, THE BUSSMAN FNA FUSES HAVE EXPERIENCED A HIGH FAILURE RATE. THE CHANGEOUT OF ALL REMAINING EUSSMAN FNA FUSES TO LITTLEFUSE TYPE FLQ FUSES IS PLANNED. FUSE A-39 WAS SUBSEQUENTLY REPLACED WITH A LITTLEFUSE TYPE FLQ FUSES IS PLANNED. FUSE A-39 WAS SUBSEQUENTLY REPLACED WITH A LITTLEFUSE TYPE FLQ FUSES IS PLANNED. FUSE A-39 WAS SUBSEQUENTLY REPLACED WITH A LITTLEFUSE TYPE FLQ FUSE, THIS INCIDENT HAS ALSO BEEN ASSIGNED A CONTRIBUTING CAUSE OF INADEQUATE SUPERVISION, RESULTING FROM THE SHIFT SUPERVISOR NOT DIRECTING FURTHER IMMEDIATE INVESTICATION OF THE UNLIT INDICATOR LIGHT.

[46] CATAWBA 1 POTENTIAL INOPERABILITY OF COMPONENT COOLING ISOLATION VALVES DUE TO AGE-MARDENED ELASTONERIC SEAT MATERIAL. EVENT DATE: 121389 REPORT DATE: 011590 NSSS: WE TYPE: PWR OTHER UNITS INVOLVED: CATAWBA 2 (PWR) VENDOR: BIF

(NSIC 216456) ON DECEMBER 13. 1989, AT 0730 HOURS, WITH UNITS 1 AND 2 IN MODE 1. POWER OOPERATION. COMPLIANCE ISSUED A TECHNICAL SPECIFICATION OPERABILITY NOTIFICATION IDENTIFYING VALVES 1KC-81E, KC TO ND HX 1E SUPPLY ISOLATION, AND 2KC-56A, KC TO ND HX 2A SUPPLY ISOLATION, AS INOPERABLE. AT THAT TIME, BOTH UNITS 1 AND 2 ENTERED THE TECKNICAL SPECIFICATION ACTION STATEMENT FOR ONE INOPERABLE TRAIN OF THE ENERGENCY CORE COOLING SYSTEM. A POTENTIAL INOPERABILITY WAS IDENTIFIED BY DESIGN ENGINEERING AFTER DETERMINING THAT THE MAXIMUM ACTUATOR TORQUE SWITCH SETTING MAY NOT BE SUFFICIENT TO OVERCOME THE FRICTION FORCE THAT TALE STATUS AND NOT BE SUFFICIENT TO OVERCOME THE FRICTION FORCE THAT NAY EXIST DUE TO AGE HARDENING OF THE ELASTOMERIC SEAT MATERIAL. THESE KC SYSTEM VALVES MAVE NEVER FAILED TO OPEN WHEN CALLED UPON DURING PERFORMANCE TESTS, THUS, IT WAS A CONSERVATIVE APPROACH TO DETERMINE THEM "INOPERABLE" AND MAKE THE NECESSARY TORQUE SWITCH ADJUSTMENTS. THE ACTUATOR'S OPEN TORQUE SWITCH WAS BYPASSED FOR FIFTY PERCENT OF THE VALVE STROKE. THE ACTUATOR IS SUFFICIENTLY RATED TO PRODUCE THE REQUIRED OPENING TORQUE WITH THE TORQUE SWITCH BYPASSED. UNITS 1 AND 2 EXITED THEIR ACTION STATEMENTS ON DECEMBER 14, 1989, AT 0244 HOURS AND 0325 HOURS, RESPECTIVELY. THIS INCIDENT IS CLASSIFIED AS A MANUFACTURER'S FUNCTIONAL DESIGN DEFICIENCY DUE TO AN INADEQUATE ESTIMATE OF THE DEGREE OF AGE HARDENING IN THE ELASTOMERIC SEAT MATERIAL. L 47] CATAWBA 2 UPDATE ON TECH SPEC 3.0.3 ENTRY AND FIVE MONTH AVXILIARY BUILDING VENTILATION SYSTEM INOPERABILITY DUE TO A CLOGGED AIR FLOW MONITOR CAUSING REDUCED FLOW. EVENT DATE: 111189 REPORT DATE: 011990 NSSS: WE TYPE: PWR

(NSIC 216498) ON 11/11/89, LOW FILTERED EXHAUST FLOW WAS DISCOVERED BY CONTROL ROOM OPERATORS DURING OBSERVATION OF CONTROL ROOM INDICATIONS. UNIT 2 WAS IN MODE 1, POWER OPERATION, AT 98% POWER AT THE TIME OF DISCOVERY. THE UNIT 2 AUX. BLDG. VENTILATION SYSTEM WAS DECLARED INOPERABLE AND UNIT 2 ENTERED TECH SPEC 3.0.3 AT 1740 HOURS. SUBSEQUENT INVESTIGATION FOUND THAT AN ACTUAL LOW FLOW CONDITION EXISTED. A WORK REQUEST WAS ISSUED IMMEDIATELY TO INSPECT AND CLEAN AIR FLOW MONITOR DEVICE 2ABFX-AFMD-1. BY 1812 HOURS, 2ABFX-AFMD-1 HAD BEEN FOUND CLOGGED WITH LINT FROM THE RADIATION PROTECTION (RP) CLOTHES DRYERS AND CLEANED. THE UNIT 2 FILTERED EXHAUST FANS WERE THEN RETURNED TO SERVICE. AT 1825 HOURS, TECH SPEC 3.0.3 WAS EXITED AFTER ALL FLOWS AND INDICATIONS WERE VERIFIED UNKNOWINGLY DEGRADED OVER THE PAST 5 MONTHS. THIS INCIDENT IS ATTRIBUTED TO A DESIGN OVERSIGHT DUE TO GREATER THAN ANTICIPATED INTERACTION OF THE CLOTHES DRYER VINKNOWINGLY DEGRADED OVER THE PAST 5 MONTHS. THIS INCIDENT IS ATTRIBUTED TO A DESIGN OVERSIGHT DUE TO GREATER THAN ANTICIPATED INTERACTION OF THE CLOTHES DRYER EXHAUST LINT WITH THE AIR FLOW MONITOR DEVICE, AND THE INEFFECTIVE ACTIONS WILL THE RP CLOTHES DRYER FILTERS TO PREVENT FILTER BYPASS. CORRECTIVE ACTIONS WILL THE RP CLOTHES DRYER FILTERS TO PREVENT FILTER BYPASS. CORRECTIVE ACTIONS WILL THE RP CLOTHES DRYER FILTERS TO PREVENT FILTER BYPASS. CORRECTIVE ACTIONS WILL THE RP CLOTHES DRYER FILTERS TO PREVENT FILTER BYPASS. CONFRCIENCE ACTIONS WILL TO APPROPRIATE VENTILATION PROCEDURES, AND COMPREHENSIVE REVIEW OF VENTILATION SYSTEM PERFORMANCE.

L 483 CLINTON 1 DOCKET 50-461 LER 89-041 LEAKAGE OF REFRIGERANT FROM CHILLER RESULTS IN INOPERABLE HIGH PRESSURE CORE SPRAY SYSTEM WHILE REACTOR CORE ISOLATION COOLING SYSTEM WAS INOPERABLE. EVENT DATE: 112289 REPORT DATE: 011790 NSSS: GE TYPE: BWR VENDOR: CARRIER CORP.

(NSIC 216502) ON DECEMBER 18, 1989, CLINTON POWER STATION MANAGEMENT DETERMINED THAT AN EVENT REPORTABLE PURSUANT TO 10CFR50.73(A)(2)(I)(B) HAD OCCURRED ON NOVEMBER 22, 1989, WHEN THE PLANT ENTERED TECHNICAL SPECIFICATION (TS) 3.0.3 FOR APPROXIMATELY 37 MINUTES. HOWEVER, DUE TO A PROCEDURAL DEFICIENCY, THE SHIFT SUPERVISOR DID NOT RECOGNIZE THAT ENTRY INTO TS 3.0.3 WAS A REPORTABLE EVENT. THE ENTRY INTO TS 3.0.3 WAS REQUIRED BECAUSE THE REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM AND THE HIGH PRESSURE CORE SPRAY (HPCS) SYSTEM WERE INOPERABLE SIMULTANEOUSLY. THE RCIC SYSTEM WAS INOPERABLE FOR PLANNED MAINTENANCE. THE HPCS SYSTEM BECAME INOPERABLE BECAUSE A CHILLER CONDENSING UNIT ON THE DIVISION III ESSENTIAL SWITCHGEAR HEAT REMOVAL SYSTEM BECAME INOPERABLE. THE CHILLER CONDENSING UNIT TRIPPED DURING CHILLER PERFORMANCE MONITORING AS A RESULT OF LOW REFRIGERANT PRESSURE. FOLLOWING THE TRIP, THE CHILLER WAS RECHARGED WITH REFRIGERANT PRESSURE IS BELIEVED TO BE A RESULT OF LEAKAGE FROM THE SYSTEM. CORRECTIVE ACTIONS INCLUDE DEVELOPING AND INPLEMENTING A PLAN TO INVESTIGATE AND CORRECTIVE ACTIONS INCLUDE DEVELOPING AND INPLEMENTING A PLAN TO INVESTIGATE AND CORRECT THE REFRIGERANT LEAKAGE. BRIEFING SHIFT SUPERVISORS AND TRAINING LICENSED OPERATIONS PRESSURE IS DEFICIENT PROCEDURE.

CLINTON 1 TROUBLESHOOTING SURVEILLANCE FAILURE RESULTS IN OPERATION PROHIBITED BY TECH SPECS DUE TO OPENING TWO DRYWELL VACUUM RELIEF VALVES SIMULTANEOUSLY. EVENT DATE: 112989 REPORT DATE: 122989 NSSS: GE TYPE: BWR VENDOR: GPE CONTROLS

(NSIC 216342) ON NOVEMBER 29, 1989, THE PLANT WAS IN MODE 1 (POWER OPERATION) AT APPROXIMATELY SIXTY-FOUR PERCENT REACTOR POWER. INBOARD DRYWELL POST-LOSS OF COOLANT ACCIDENT (LOCA) VACUUM RELIEF VALVE 1HGO11D FAILED TO INDICATE FULLY OPEN DURING VALVE STROKE TESTING. TROUBLESHOOTING INDICATED THAT THE VALVE POSITION INDICATION WAS OPERATING PROPERLY. THE OUTBOARD VACUUM RELIEF VALVE 1HGO10D AND INBOARD VACUUM RELIEF VALVE 1HGO11D WERE OPENED SIMULTANEOUSLY FOR APPROXIMATELY SEVEN MINUTES TO ALLOW VISUAL OBSERVATION OF VALVE IHGOIDD DISK MOVEMENT. TECHNICAL SPECIFICATIONS (TS) DO NOT ADDRESS CASES IN WHICH MORE THAN ONE OF THESE VALVES IS OPENED SIMULTANEOUSLY. THEREFORE, THIS EVENT IS REPORTABLE IN ACCORDANCE WITH 10CFR50.73(A)(2)(I)(B). THE VALVE DISK WAS NOT OBSTRUCTED, INDICATING THAT THE TEST ACTUATOR WAS NOT OFERATING PROPERLY. THE CAUSE OF THE TEST ACTUATOR FAILURE WAS DETERMINED TO BE WORN 0-RINGS. THE WORN 0-RINGS ALLOWED AIR TO LEAK AROUND THE SOLENOID PISTON OF THE TEST ACTUATOR, RESULTING IN INSUFFICIENT FORCE TO FULLY OPEN THE VALVE DISK. THE TEST ACTUATOR WAS REMOVED AND REWORKED AND THE 0-RINGS WERE REPLACED. PREVENTIVE MAINTENANCE REQUIREMENTS FOR THESE TEST ACTUATORS, AS WELL AS A TS CHANGE, ARE BEING EVALUATED. AT NO TIME WERE THE DRYWELL POST-LOCA VACUUM RELIEF VALVES UNABLE TO PERFORM THEIR REQUIRED SAFETY FUNCTIONS.

[50] CLINTON 1 LICENSED OPERATOR MISINTERPRETING A NOTE IN A SURVEILLANCE PROCEDURE RESULTS IN FAILURE TO DEMONSTRATE OPERABILITY OF HIGH PRESSURE CORE SPRAY SYSTEM SUCTION VALVES. EVENT DATE: 120389 REPORT DATE: 010890 NSSS: GE TYPE: BWR

(NSIC 216460) ON DECEMBER 12, 1989, WITH THE PLANT IN HOT SHUTDOWN, THE OPERATIONS SHIFT SUPERVISOR (SS) WAS NOTIFIED THAT THREE HIGH PRESSURE CORE SPRAY (HPCS) SYSTEM SUCTION VALVES HAD NOT BEEN TESTED WITHIN THE MAXIMUM SURVEILLANCE TIME INTERVAL PERMITTED BY TECHNICAL SPECIFICATION 4.0.2.B TO DEMONSTRATE THAT THE VALVES MET OPERABILITY REQUIREMENTS. IN RESPONSE, THE SS DECLARED THE THREE VALVES AND THE HPCS SYSTEM INOPERABLE AND IMMEDIATELY INITIATED THE SURVEILLANCE TEST TO VERIFY OPERABILITY OF THE THREE VALVES. THE SURVEILLANCE TEST WAS COMPLETED WITH SATISFACTORY RESULTS. THE CAUSE OF THIS EVENT IS ATTRIBUTED TO A UTILITY LICENSED OPERATOR MISINTERPRETING A NOTE IN A SURVEILLANCE PROCEDURE. THIS RESULTED IN THE ASSISTANT SHIFT SUPERVISOR MARKING THE SURVEILLANCE SECTIONS ASSOCIATED WITH THE THREE VALVES AS NOT APPLICABLE. CORRECTIVE ACTION FOR THIS EVENT INCLUDES REVISING APPROPRIATE SURVEILLANCE PROCEDURES TO DELETE THE NOTE THAT WAS MISINTERPRETED, INCLUDING A DESCRIPTION OF THIS EVENT AND THE FINDINGS OF THE ASSOCIATED INVESTIGATION IN THE OPERATIONS "NIGHT ORDERS", BRIEFING OPERATIONS SHIFT CREWS ON THE IMPORTANCE OF REVIEWING COMPLETED SURVEILLANCE PACKAGES THOROUGHLY AND ACCURATELY TO ENSURE THAT APPLICABLE REQUIREMENTS ARE MET, AND ENSURING THAT PROCEDURES ARE REVIEWED FOR PROBLEMS SUCH AS HUMAN FACTORS CONCERNS.

[51] CLINTON 1 DOCKET 50-461 LER 89-040 OMISSION OF MODE LIMITATIONS FROM SURVEILLANCE PROCEDURE RESULTS IN INOPERABLE ANTICIPATED TRANSIENT WITHOUT SCRAM RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION. EVENT DATE: 120689 REPORT DATE: 010890 NSSS: GE TYPE: BWR

(NSIC 216461) ON DECEMBER 6 AND 7, 1989, THE PLANT WAS IN MODE 1 (POWER OPERATION). SURVEILLANCE TESTING WAS PERFORMED ON ANTICIPATED TRANSIENT WITHOUT SCRAM (ATWS) RECIRCULATION PUMP TRIP (RPT) SYSTEM INSTRUMENTATION IN ACCORDANCE WITH SURVEILLANCE 9434.02. DURING THE SURVEILLANCE, A TEST SWITCH ON THE ATWS PANEL WAS PLACED IN THE "TEST" POSITION, BYPASSING ALL FOUR CHANNELS IN THE TRIP SYSTEM. TECHNICAL SPECIFICATION (TS) 3.3.4.1 REQUIRES THAT TWO REACTOR PRESSURE HIGH LEVEL AND TWO REACTOR VESSEL WATER LEVEL LOW CHANNELS PER TRIP SYSTEM BE OPERABLE IN MODE 1. HOWEVER, ONE CHANNEL MAY BE PLACED IN AN INOPERABLE STATUS FOR UP TO TWO HOURS FOR REQUIRED SURVEILLANCES PROVIDED THE REDUNDANT TRIP SYSTEM IS OPERABLE AND MONITORING THAT PARAMETER. WHILE PERFORMING SURVEILLANCE 9434.02. ALL FOUR CHANNELS IN A TRIP SYSTEM ARE BYPASSED, PLACING THEM IN AN INOPERABLE STATUS. ON DECEMBER 9, 1989, THE SHIFT SUPERVISOR IDENTIFIED THAT ON DECEMBER 6 AND 7, 1989, THE REQUIREMENTS OF TS 3.3.4.1 WERE NOT MET. THE CAUSE OF THIS EVENT IS ATTRIBUTED TO AN INADEQUATE PROCEDURE SURVEILLANCE 9434.02 DID NOT IDENTIFY THAT TO COMPLY WITH TS 3.3.4.1 THE SURVEILLANCE 9434.02 DID NOT IDENTIFY THAT TO COMPLY WITH TS 3.3.4.1 THE SURVEILLANCE MUST BE PERFORMED IN OF THIS EVENT IS ATTRIBUTED TO AN INADEQUATE PROCEDURE SURVEILLANCE 9434.02 DID NOT IDENTIFY THAT TO COMPLY WITH TS 3.3.4.1 THE SURVEILLANCE MUST BE PERFORMED IN OF THIS EVENT IS ATTRIBUTED TO AN INADEQUATE PROCEDURE SURVEILLANCE PAGA.02 DID NOT IDENTIFY THAT TO COMPLY WITH TS 3.3.4.1 THE SURVEILLANCE MUST BE PERFORMED IN OF THIS EVENT IS ATTRIBUTED TO AN INADEQUATE PROCEDURE SURVEILLANCE MUST BE PERFORMED IN OF THIS EVENT IS ATTRIBUTED TO AN INADEQUATE PROCEDURE SURVEILLANCE MUST BE PERFORMED IN OF THIS EVENT IS ATTRIBUTED TO AN INADEQUATE TROCEDURE SURVEILLANCE MUST BE PERFORMED IN STRUMENTATIONS OTHER THAN MODE 1. CORRECTIVE ACTIONS INCLUDE REVISING ATWS-RPT SYSTEM INSTRUMENTATION SURVEILLANCES AND EVALUATING A CHANGE TO TS 3.3.4.1. [52] CLINTON 1 DOCKET 50-461 LER 89-038 ERROR IN TRANSCRIBING A DESIGN CALCULATION INTO FIELD DRAWINGS RESULTS IN INOPERABLE NUCLEAR SYSTEM PROTECTION SYSTEM INVERTER. EVENT DATE: 121289 REPORT DATE: 011190 NSSS: GE TYPE: BWR VENDOR: ELGAR, CORP.

(NSIC 216459) ON DECEMBER 12, 1989, IT WAS DISCOVERED THAT ONLY TWO OF THE FOUR CONDUCTORS OF THE CABLE SUPPLYING POWER TO THE DIVISION II NUCLEAR SYSTEM PROTECTION SYSTEM (NSPS) INVERTER FROM ITS ASSOCIATED DC MOTOR CONTROL CENTER WERE CONNECTED. THE DESIGN CALCULATIONS ARE BASED UPON FOUR CONDUCTORS BEING CONNECTED. BECAUSE THE FIELD CONFIGURATION DID NOT MATCH THE DESIGN CALCULATION. THE ABILITY OF THE INVERTER TO SUPPLY ITS LOAD UNDER ACCIDENT CONDITIONS WAS INDETERMINATE. THEREFORE, THE DIVISION II NSPS INVERTER WAS INOPERABLE SINCE INITIAL PLANT OPERATION. THE DISCREPANCY OCCURRED BECAUSE THE REQUIREMENT TO CONNECT ALL FOUR CONDUCTORS WAS NOT TRANSCRIBED ONTO THE DESIGN DRAWINGS DUE TO AN ERROR WHICH OCCURRED DURING THE DRAWING REVISION PROCESS. TECHNICAL SPECIFICATION (TS) 3, 8, 3, 1 REQUIRES THAT AN INOPERABLE NSPS INVERTER BE RESTORED TO AN OPERABLE AND ENERGIZED STATUS WITHIN TWENTY-FOUR HOURS OR THE PLANT MUST EE SHUT DOWN. THE PLANT WAS IN A CONDITION PROHIBITED BY TS 3, 8, 3, 1 FROM INITIAL PLANT OPERATION UNTIL DECEMBER 13, 1989. ON DECEMBER 13, 1989, THE TWO ADDITIONAL CONDUCTORS WERE TERMINATED AND THE DIVISION II INVERTER WAS DECLARED OPERABLE. THE CONFIGURATIONS OF THE POWER SUPPLIES FOR THE OTHER THREE NSPS INVERTER WAS BEEN REVIEWED AND WERE FOUND TO MEET THE DESIGN CALCULATIONS.

[53] CLINTON 1 SENSOR SYSTEM DESIGN CAUSES FALSE REACTOR CORE ISOLATION COOLING (RCIC) STEAM LINE DIFFERENTIAL PRESSURE HIGH SIGNAL AND RCIC ISOLATION. EVENT DATE: 121989 REPORT DATE: 011890 NSSS: GE TYPE: BWR VENDOR: ROSEMOUNT. INC.

(NSIC 216503) ON DECEMBER 19, 1989, AT APPROXIMATELY 1555 HOURS, WITH THE PLANT IN MODE 1 (POWER OPERATION), AT EIGHTY-FOUR PERCENT REACTOR POWER, A FALSE REACTOR CORE ISOLATION COOLING (RCIC) DIVISION I STEAM LINE DIFFERENTIAL PRESSURE HIGH SIGNAL CAUSED VALVE 1E51-F064, THE RCIC TURBINE STEAM SUPPLY CONTAINMENT ISOLATION VALVE, TO SHUT AND THE RCIC TURBINE TO TRIP. THE CAUSE OF THIS EVENT IS ATTRIBUTED TO THE SENSOR SYSTEM DESIGN. THE SYSTEM'S SENSITIVITY TO MINOR CHANGES IN SENSING LINE PRESSURE RESULTED IN THE FALSE RCIC DIVISION I STEAM LINE DIFFERENTIAL PRESSURE HIGH SIGNAL. THE SENSITIVITY OF TRANSMITTER 1E31-NO84A WAS REDUCED BY IMPLEMENTING FIELD ALTERATION C-F031 FOR THAT TRANSMITTER. AT 2235 HOURS, ON DECEMBER 24, 1989, IMPLEMENTATION OF FIELD C-F031 ALTERATION WAS COMPLETED FOR 1E31-N084A, AND RCIC GAS DECLARED OPERABLE. THIS FIELD ALTERATION WILL BE INSTALLED AS NECESSARY ON OTHER TRANSMITTERS WHICH EXHIBIT SIMILAR SENSITIVITY TO MINOR CHANGES IN SENSING LINE PRESSURE.

L 543 CONNECTICUT YANKEE DOCKET 50-213 LER 89-012 REV 01 UPDATE ON SURVEILLANCE FREQUENCY EXCEEDED FOR FIRE SUPPRESSION SYSTEMS. EVENT DATE: 072889 REPORT DATE: 122089 NSSS: WE TYPE: PWR

(NSIC 216255) ON JULY 28, 1989 WITH THE PLANT IN MODE 1 AND OPERATING AT 100% POWER. AN INTERNAL AUDIT DISCLOSED THAT SURVEILLANCE PROCEDURES SUR 5.5-19 AND SUR 5.5-20 DEALING WITH WEIGHING OF THE CO2 BOTTLES FOR THE PRIMARY AUXILIARY BUILDING (PAB) VENTILATION SYSTEM CHARCOAL FILTER FIRE PROTECTION SYSTEM AND CABLE VAULT FIRE PROTECTION SYSTEM, RESPECTIVELY, WERE PERFORMED IN MARCH 1987 AND JANUARY 1988 WHICH EXCEEDS THE TECHNICAL SPECIFICATION INTERVAL OF SIX MONTHS. IN ADDITION SUR 5.5-19 WAS NOT PERFORMED ON THE PAB CO2 FIRE PROTECTION SYSTEM AGAIN UNTIL SEPTEMBER 5, 1989, EXCEEDING ANOTHER INTERVAL. THE ROOT CAUSE OF THE EVENT WAS AN ADMINISTRATIVE BREAKDOWN OF THE SURVEILLANCE TRACKING SYSTEM WITHIN THE MAINTENANCE DEPARTMENT. CORRECTIVE ACTION CONSISTED OF IMPLEMENTING A MONTHLY REVIEW OF SURVEILLANCE PERFORMANCE STATUS. THIS EVENT IS BEING REPORTED UNDER 10CFR50.73(A)(2)(I)(B) SINCE IT IS A CONDITION PROHIBITED BY THE PLANT'S TECHNICAL SPECIFICATIONS. THIS SUPPLEMENT ADDRESSES A SECOND MISSED SURVEILLANCE WHICH WAS IDENTIFIED IN THE ORIGINAL INTERNAL AUDIT AND INADVERTENTLY OMITTED FROM LER 89-012-00. LER 89-022 PRESSURIZER SAFETY VALVES SETPOINTS FOUND HIGH DURING TESTING. EVENT DATE: 121289 REPORT DATE: 010990 NSSS: WE TYPE: PWR VENDOR: CROSBY VALVE & GAGE CO.

(NSIC 216441) ON DECEMBER 12, 1989, AT 1430 HOURS WITH THE PLANT SHUT DOWN IN MODE 6 (REFUELING) A REVIEW OF PRESSURIZER SAFETY VALVE TEST RESULTS DETERMINED THAT THE LIFT SETPOINTS FOR TWO OF THE THREE VALVES WERE HIGH. THE CAUSE OF THIS CONDITION IS ATTRIBUTED TO THE DRIFT OF THE SAFETY VALVE LIFT SETTING OVER THE LAST OPERATING CYCLE. SUBSEQUENT DISASSEMBLY AND INSPECTION OF THE VALVES REVEALED NO CONDITION THAT COULD HAVE AFFECTED THE SETFOINT. BOTH VALVES WERE READJUSTED AND SATISFACTORILY TESTED. THIS EVENT IS BEING REPORTED UNDER 10CFR50.73(A)(2)(I)(B) SINCE IT INVOLVES A CONDITION PROHIBITED BY THE PLANT'S TECHNICAL SPECIFICATIONS.

[56] CONNECTICUT YANKEE DOCKET 50-213 LER 89-023 INOPERABLE FIRE BARRIER LETWEEN SWITCHGEAR KOOM AND CABLE SPREADING AREA. EVENT DATE: 122389 REPORT DATE: 011990 NSSS: WE TYPE: PWR

(NSIC 216576) ON DECEMBER 23, 1989, AT APPROXIMATELY 2200 HOURS WITH THE PLANT SHUT DOWN IN MODE 6 (REFUELING), THE FIRE BARRIER WHICH SEPARATES THE "A" SWITCHGEAR ROOM AND THE CABLE SPREADING AREA IN THE SERVICE BUILDING WAS DECLARED INOPERABLE. THIS WAS A RESULT OF A BREACH IN THE FLOOR/CEILING ASSEMBLY DISCOVERED BY SECURITY DEPARTMENT PERSONNEL ON ROUTINE ROUNDS. THIS BREACH, WHICH OCCURRED DURING A PLANT MODIFICATION PERFORMED SEVERAL YEARS EARLIER, WAS NOT DETECTED UNTIL THIS TIME AS IT WAS CONCEALED BY CONSTRUCTION FEATURES IN THE SWITCHGEAR ROOM WHICH WERE RECENTLY REMOVED AS PART OF THE APPENDIX "R" SWITCHGEAR BUILDING PROJECT. THE CAUSE OF THIS EVENT WAS THE FAILURE TO ADECUATELY RESEAL THE BARRIER FOLLOWING WORK ASSOCIATED WITH STRUCTURAL MODIFICATIONS PERFORMED IN 1982. IMMEDIATE CORRECTIVE ACTION INCLUDED ESTABLISHING AN HOURLY FIRE WATCH PATROL IN ACCORDANCE WITH TECHNICAL SPECIFICATION 3.22F.2 AND TEMPORARILY SEALING THE OPENING WHILE AN ENGINEERING EVALUATION OF THE EREACH WAS CONDUCTED. THIS EVENT IS BEING REPORTED UNDER 10CFR50.73(A)(2)(I)(B) SINCE IT INVOLVES A CONDITION PROHIBITED BY THE PLANT'S TECHNICAL SPECIFICATIONS.

E 573 COOK 1 REQUIRED COMPENSATORY ACTION NOT COMPLETED DUE TO FAILURE TO RECOGNIZE IMPACT OF INOPERABLE ACCESS DOOR DURING A POSTULATED STEAM LINE EREAK. EVENT DATE: 090689 REPORT DATE: 122189 NSSS: WE TYPE: PWR

(NSIC 216313) ON 11/22/89, IT WAS DETERMINED THAT BETWEEN 9/6/89 AND 10/3/89, THE UNIT ONE EAST MOTOR DRIVEN AUXILIARY FEEDWATER PUMP (MDAFP) SHOULD HAVE BEEN DECLARED ADMINISTRATIVELY INOPERABLE WHEN A CONTINUOUS FIREWATCH WAS REPLACED BY A ROVING FIREWATCH. THE FIREWATCH WAS REQUIRED BECAUSE THE EAST MDAFP ROOM DOOR WAS INOPERABLE AND SECURED IN THE OPEN POSITION. DUE TO THE POTENTIAL FOR A HIGH ENERGY LINE BREAK IN THE TURBINE DRIVEN AUX. FEEDWATER PUMP ROOM, THE EAST MDAFP ROOM DOOR IS REQUIRED TO BE MAINTAINED IN THE CLOSED POSITION TO PREVENT MOISTURE ENTRY. AS A RESULT OF NOT CONSIDERING THE MDAFP INOPERABLE DURING THIS EVENT, WE DID NOT MEET THE REQUIREMENTS OF TECH SPEC 3.7.1.2. DURING THIS EVENT, THE EAST MDAFP WAS FUNCTIONALLY OPERABLE. ALSO, A ROVING FIREWATCH PATROL INSPECTED THIS AREA ONCE EVERY 30 MINUTES AND AN OPERATOR INSPECTED THE AREA AT LEAST ONCE PER EIGHT HOUR SHIFT. TO PREVENT RECURRENCE OF SUCH AN EVENT, IN THE FUTURE WHEN THE FIRE DOOR TO EITHER UNIT ONE OR UNIT TWO EAST MDAFP ROOM IS BLOCKED IN THE OPEN POSITION, THE APPROPRIATE MDAFP WILL BE DECLARED INOPERABLE AND THE APPLICABLE TECH SPEC ACTION STATEMENT WILL BE ENTERED.

[58] COOK 1 TECH SPEC SURVEILLANCE REQUIREMENT MISSED DUE TO DEFICIENT ADMINISTRATIVE GUIDANCE. EVENT DATE: 112389 REPORT DATE: 122189 NSSS: WE TYPE: PWR (NSIC 216314) ON 11/27/89, WITH UNIT 1 OPERATING AT 100% REACTOR THERMAL POWER. IT WAS DISCOVERED THAT THE P-250 COMPUTERS ROD SEQUENCE AND DEVIATION MONITORS MAD BEEN INOPERABLE SINCE A COMPUTER BOOTSTRAP ON 11/23/89. THE INOPERABILITY WAS UNKNOWN CAUSING THE REQUIRED TECH SPEC INCREASED SURVEILLANCE TO NOT BE PERFORMED. TECH SPEC 4.1.3.1.1 AND 4.1.3.2 BOTH REQUIRE A FOUR HOUR SURVEILLANCE OF ROD POSITION DETERMINATION IF THE ROD DEVIATION OR SEQUENCE MONITORS ARE INOPERABLE. THE NORMAL OPERATING TWELVE HOUR TECH SPEC SURVEILLANCES WERE COMPLETED WITH NO OUT OF SPECIFICATION ROD POSITIONS DURING THIS EVENT PERIOD. THE P-250 ROD MONITOR PROGRAM DID NOT REACTIVATE AFTER THE COMPUTER BOGTSTRAP BECAUSE AN OPERATOR FAILED TO UPDATE ONE ADDRESS POINT. THE GUIDELINE TO UPDATE THE COMPUTER IS NOT EXPLICIT AND CONTRADICTORY CAUSING THE OPERATOR TO NOT PERFORM THE UPDATE TASK PROPERLY. TO PREVENT THIS EVENT FROM REOCCURRING. A DETAILED PROCEDURE TO PERFORM A POST MAINTENANCE OPERABILITY CHECK OF THE P-250 COMPUTER WILL BE WRITTEN. THE BOOTSTRAP AND UPDATE THE COMPUTER CORRECTLY.

L 593 COOK 1 DOCKET 50-315 LER 89-015 PYRALARM FIRE DETECTION ZONE INOPERABLE WITHOUT REQUIRED ROVING FIRE WATCH DUE TO PERSONNEL ERROR. EVENT DATE: 112889 REPORT DATE: 122889 NSSS: WE TYPE: PWR

(NSIC 216290) ON 11-28-89 AT 1140, THE PYRALARM FIRE DETECTION ZONE 3 FOR THE 609' ELEVATION OF THE AUXILIARY BUILDING WAS MADE INOPERABLE WHEN WELDING IN THE LAUNDRY ROOM CAUSED A STANDING ALARM. DUE TO AN OPERATOR ERROR, A FIRE WATCH PATROL WAS NOT ASSIGNED WITHIN ONE HOUR TO TOUR THE ZONE EACH HOUR WHILE THE ZONE WAS INOPERABLE. AT 1400 ON 11-28-89, THE ZONE 3 PYRALARM FIRE DETECTION BECAME OPERABLE. WHEN THE UNIT SUPERVISOR NOTIFIED THE FIRE WATCH DISPATCH TO RELEASE THE 609' ELEVATION OF THE AUXILIARY BUILDING FROM THE ROVING FIRE WATCH TOUR, THE UNIT SUPERVISOR WAS INFORMED THAT NO FIRE WATCH HAD BEEN ASSIGNED. THIS EVENT WAS DISCUSSED WITH THE INVOLVED CONTROL ROOM OPERATORS. THE OPERATORS ARE FULLY AWARE OF THEIR RESPONSIBILITIES TO CORRECTLY READ COMPONENTS LABELS AND TO MAINTAIN GOOD COMMUNICATIONS IN THE CONTROL ROOM.

[60] COOK 2 DOCKET 50-316 LER 88-003 REV 05 UPDATE ON REPETITIVE VIOLATION OF ESF INSTRUMENTATION LIMITING CONDITIONS FOR OPERATION TOLERANCES DUE TO HIGHLY RESTRICTIVE ALLOWABLE VALUES. EVENT DATE: 011188 REPORT DATE: 122889 NSSS: WE TYPE: PWR OTHER UNITS INVOLVED: COOK 1 (PWR) VENDOR: CENERAL ELECTRIC CO.

(NSIC 216370) THIS REVISION IS BEING SUBMITTED TO REFLECT AN UPDATE ON THE RESULTS OF THE INCREASED FREQUENCY (MONTHLY) CALIBRATION CHECKS PERFORMED TO DATE. ON MARCH 11. 1988 AN EQUIPMENT TREND INVESTIGATION WAS BEING PERFORMED ON 4KV BUS LOSS OF VOLTAGE RELAYS AND THE 4KV BUS DEGRADED VOLTAGE RELAYS (EIIS/EK-27). THE "AS FOUND" CONDITION OF THESE RELAYS DURING PAST CALIBRATION CHECKS HAS GENERALLY BEEN FOUND TO BE BEYOND THE TECHNICAL SPECIFICATION (T.S.) ALLOWABLE VALUES. EACH RELAY WAS ADJUSTED TO WITHIN ALLOWABLE VALUES AT THE TIME IT WAS DISCOVERED OUT OF SPECIFICATION. ALL RELAYS WERE FUNCTIONAL AND WOULD HAVE PERFORMED THE ESF FUNCTION, ALTHOUGH AT A SLIGHTLY DIFFERENT VOLTAGE THAN SPECIFIED IN T.S. AN ENGINEERING REVIEW HAS DETERMINED A PLUS OR MINUS 3 PERCENT TOLERANCE (AS OPPOSED TO THE CURRENT 0.5 PERCENT) TO BE ACCEPTABLE FOR THE LOSS OF VOLTAGE APPLICATION. THE DEGRADED VOLTAGE APPLICATION WILL AGCEPT A PLUS OR MINUS 1.5 PERCENT TOLERANCE AND WILL REQUIRE INSTALLATION OF MORE ACCURATE UNDERVOLTAGE RELAYS (DESIGN CHANGE CURRENTLY UNDERWAY). A T.S. CHANGE REQUEST HAS BEEN SUBMITTED. AS STATED IN THE ORIGINAL LER, WE HAVE INCREASED THE CALIBRATION FREQUENCY FROM EVERY EIGHTEEN MONTHS TO MONTHLY.

L 61] COOK 2 UPDATE ON LOSS OF TURBINE DRIVEN AUXILIARY FEED PUMP FLOW RETENTION DUE TO INACCURATE FLOW MEASUREMENT. EVENT DATE: 101989 REPORT DATE: 122189 NSSS: WE TYPE: PWR VENDOR: VICKERY SIMMS, INC.

(NSIC 216315) THIS REVISION IS BEING SUBMITTED TO PROVIDE ADDITIONAL INFORMATION

REGARDING THE INITIAL DISCOVERY OF THIS DEFICIENCY IN 1978. ON 10/19/89 WITH UNIT 2 IN MODE 1 (POWER OPERATION) AT 100% RATED THERMAL POWER, DURING SURVEILLANCE TESTING, AN NRC INSPECTOR CONDUCTING AN 1ST AUDIT DISCOVERED AN INSTRUMENT DISCREPANCY BETWEEN THE TURBINE DRIVEN AUXILIARY FEEDPUMP (TDAFP) TEST LINE FLOW INDICATION AND THE PROCESS FLOW INDICATION. THE PROCESS FLOW INSTRUMENT INDICATED & FLOW OF 550 GPM WHILE ACTUAL FLOW WAS 700 GPM. THE PROCESS FLOW INSTRUMEN, ATION ACTUATES A FLOW RETENTION SIGNAL WHEN THE TDAFP FLOW REACHES 975 GPM TO PREVANT PUMP RUNOUT. THE FLOW RETENTION FUNCTION WOULD HAVE ACTUATED AT A TDAFP FLOW OF APPROXIMATELY 1225 GPM AND WOULD NOT HAVE PREVENTED PUMP RUNOUT, IN THE EVEN1 OF AN ACCIDENT SUCH AS A FEEDWATER LINE BREAK. THE FLOW AND PROCESS INSTRUMENTATION FOR THE OTHER UNIT 1 AND 2 AUXILIARY FEEDWATER PUMPS WAS CHECKED, NO SIMILAR DE. ICIENCIES EXIST. CAUSE FOR THE FLOW INSTRUMENT ERROR IS ALMOST CERTAINLY AN INCORRECTLY SIZED ORIFICE. THIS HAS NOT BEEN CONFIRMED AS AN EXTENDED OUTAGE WILL BE NEEDED TO REMOVE THE PROCESS INSTRUMENT ORIFICE DUE TO ITS LOCATION. THE FLOW RETENTION ACTUATION SETPOINT WAS RESET TO AN ACCEPTABLE VALUE. THE DEFICIENCY WAS ORISINALLY DISCOVERED IN 1978. IMPACT ON THE FLOW ACCEPTABLE VALUE. THE FLOW RETENTION SETPOINT WAS NOT REALIZED AT THAT TIME.

 1 623
 COOK 2

 VENT CONTINUOUS SAMPLE FLOW NOT OBTAINED FOR TWENTY MINUTES DUE TO FAILURE OF

 BACKUP SAMPLE PUMP.

 EVENT DATE: 113089

 REPORT DATE: 122889

 NSSS: WE

 TYPE: PWR

(NSIC 216397) ON NOVEMBER 30, 1989 DURING PERFORMANCE OF SURVEILLANCE TEST OF VRS 2500. THE UNIT VENT EFFLUENT MONITOR, IT WAS DISCOVERED THAT THE BACKUP SAMPLING PUMP PROVIDING CONTINUOUS SAMPLING HAD STOPPED AT SOME TIME DURING THE SURVEILLANCE. AS PART OF THE SURVEILLANCE PROCEDURE, FOR APPROXIMATELY 10 TO 20 MINUTES, SAMPLE FLOW ON VRS 2500 BYPASSES THE NORMAL IODINE AND PARTICULATE SAMPLERS AND A BACKUP SAMPLE PUMP IS REQUIRED TO MEET THE ACTION STATEMENT OF TECHNICAL SPECIFICATION 3.3.3.10, TABLE 3.3-13. SINCE IT COULD NOT BE DETERMINED WHEN THE BACKUP PUMP HAD STOPPED, THERE WAS NO ASSURANCE THAT A CONTINUOUS SAMPLE WAS TAKEN DURING THE TIME VRS 2500 SAMPLE FLOW WAS BYPASSING THE NORMAL PATH. EXAMINATION OF THE BACKUP SAMPLE PUMP FOUND THAT ONE OF THE WIRE LEADS TO THE PUMP HAD BEEN RUBBING THE PUMP PULLEY AND BECOME DAMAGED. THE WIRE LEADS TO THE PUMP HAD BEEN RUBBING THE PUMP PULLEY AND BECOME DAMAGED. THE WIRE WAS IN A HARNESS WHICH MAY HAVE BECOME DISTURBED DURING WORK ON THE PUMP EARLIER IN THE DAY. TECHNICIANS HAD THE BACKUP SAMPLING SYSTEM RETURNED TO SERVICE WITHIN AN HOUR, DURING WHICH TIME VRS 2500 FROVIDED CONTINUOUS SAMPLE FLOW.

[63] COOPER DOCKET 50-298 LER 89-026 REACTOR SCRAM DUE TO MAIN STEAM ISOLATION VALVE CLOSURE AS A RESULT OF LOW INSTRUMENT AIR PRESSURE CAUSED BY AN AIR DRYER MALFUNCTION. EVENT DATE: 112589 REPORT DATE: 122689 NSSS: GE TYPE: BWR VENDOR: PALL TRINITY MICRO CORP.

(NSIC 216288) ON 11/25/89, AT 10:15 P.M., WITH THE PLANT AT FULL POWER, A REACTOR SCRAM OCCURRED WHEN THE OUTBOARD MAIN STEAM ISOLATION VALVES (MSIVS) CLOSED AS A RESULT OF DEPRESSURIZATION OF THE INSTRUMENT AIR (IA) SYSTEM. THE DECREASE IN IA SYSTEM PRESSURE OCCURRED WHEN THE AIR DRYER POST FILTER ASSEMBLY RUPTURED. INVESTIGATION REVEALED THAT THE POST FILTER MEDIA (PAPER CARTRIDGES) HAD BEEN IGNITED BY EITHER HOLE AIR OR HOT PARTICLES FROM THE DRYER. BURNING CARTRIDGES RESULTED IN OVERHEATING OF THE FILTER ASSEMBLY MOUSING. THE ASSOCIATED HEAT INDUCED STRESS, COUPLED WITH INTERNAL (SYSTEM) A.R PRESSURE, CAUSED THE HOUSING TO DEFORM AND RUPTURE. CORRECTIVE ACTIONS TAKEN INCLUDED COMPLETE DISASSEMBLY, INSPECTION AND REFURBISHMENT OF THE "B" AIR DRYER, INCLUDING REPLACEMENT OF THE POST FILTER ASSEMBLY. AS WELL AS AN EXTENSIVE INSPECTION OF THE "A" AIR DRYER. FILTER CARTRIDGES CAPABLE OF WITHSTANDING HIGH TEMPERATURE CONDITIONS WERE INSTALLED IN BOTH POST FILTER ASSEMBLIES. APPROXIMATELY FIFTEEN FEET OF PIPING DOWNSTREAM OF THE POST FILTER ASSEMBLIES. APPROXIMATELY FIFTEEN FEET OF PIPING DOWNSTREAM OF THE POST FILTER ASSEMBLIES. APPROXIMATELY SIFTEM OF THE POSSIBLE EFFECTS OF OVERHEATING. CHECKS WERE MADE OF THE IA SYSTEM DOWNSTREAM OF THE POST FILTERS TO VERIFY SYSTEM CLEANLINESS. ADDITIONALLY, COMPONENTS IN THE VICINITY OF THE RUPTURED POST FILTER ASSEMBLY WERE INSPECTED TO ENSURE THAT DEBRIS FROM THE EVENT WAS NOT PRESENT. [64] CRYSTAL RIVER 3 UPDATE ON INADEQUATE DESIGN ANALYSIS LEADS TO EXCESSIVE DEMAND ON ENGINEERED SAFEGUARDS BUS ALTERNATE POWER SUPPLY AND DIESEL GENERATOR START. EVENT DATE: 040989 REPORT DATE: 122289 NSSS: BW TYPE: PWR

(NSIC 216264) ON 4/9/89 CRYSTAL RIVER UNIT 3 WAS IN OPERATIONAL MODE 5 FOR REPAIR OF REACTOR GOOLANT PUNPS. MAINTENANCE WAS BEING PERFORMED ON UNIT 3 START-UP TRANSFORMER. THE 4160V ENGINEERED SAFEGUARDS (ES) BUSES WERE BEING SUPPLIED TRANSFORMER. THE 4160V ENGINEERED SAFEGUARDS (ES) BUSES WERE BEING SUPPLIED START-UP TRANSFORMER. VOLTAGE OF THE UNIT 1 AND 2 (COAL FIRED PLANTS) START-UP TRANSFORMER. VOLTAGE OF THE ES BUSES DEGRADED TO THE SETFOINT FOR ACTUATION OF SECOND LEVEL UNDERVOLTAGE RELAYS AND THESE TIME DELAY RELAYS ACTUATED. WHEN THE TIME DELAY WAS SATISFIED AND VOLTACE HAD NOT RECOVERED. AN EMERGENCY DIESEL GENERATOR (EGDG) START SIGNAL WAS INITIATED. THE VOLTAGE REMAINED DEGRADED LONG ENOUGH FOR THE EGDG TO COME UP TO FULL SPEED. HOWEVER, THE VOLTAGE DID NOT STAY DEGRADED LONG ENOUGH TO REQUIRE THE DIESEL TO PICK UP THE ES BUSES. THE OPERATOR VERIFIED AUTOMATIC START OF BOTH EDGS AND RECOVERY OF THE S BUS VOLTAGE TO THE REQUIRED VALUE. THE EGDG WERE RETURNED TO STANDBY STATUS. ADDITION OF THE SECOND LEVEL UNDERVOLTAGE RELAYS TO THE ES BUSES WAS DONE WITHOUT A THOROUGH ENGINEERING EVALUATION OF THE LOADS AND CAPABILITIES OF THE TRANSFORMER TO SUPPLY THE REQUIRED LOADS AT THE REQUIRED VOLTAGES. ADDITION OF THE SECOND LEVEL UNDERVOLTAGE RELAYS TO THE ES BUSES WAS DONE WITHOUT A THOROUGH ENGINEERING EVALUATION OF THE REQUIRED VOLTAGES. ADDITION TO THE ELECTRICAL DISTRIBUTION SYSTEM WILL INSTALL A SEPARATE TRANSFORMER IN THE 230KV YARD.

[65] CRYSTAL RIVER 3 UPDATE ON ADMINISTRATIVE PROBLEMS CAUSED DEFICIENCIES IN THE ENVIRONMENTAL QUALIFICATION PROGRAM RESULTING IN PLANT EQUIPMENT NOT PROPERLY QUALIFIED. EVENT DATE: 042689 REPORT DATE: 011790 NSSS: EW TYPE: PWR

(NSIC 216588) CRYSTAL RIVER UNIT 3 WAS IN MODE 3 (COLD SHUTDOWN) FROM 2/27/89 TO 6/1/89. DURING THIS OUTAGE, NRC INSPECTORS DISCOVERED DEFICIENCIES RELATED TO ENVIRONMENTAL QUALIFICATION OF PLANT EQUIPMENT. SUBSEQUENT INVESTIGATIONS OF ENVIRONMENTAL QUALIFICATION RECORDS HAVE DISCOVERED ADDITIONAL DEFICIENCIES. DEFICIENCIES INCLUDED TNPROPER CABLES AND SPLICES, IMPROPER SILICON OIL LEVEL IN INSTRUMENT JUNCTION BOXES, AND PROBLEMS RELATED TO VALVE MOTOR OPERATORS. PROBLEMS WERE THE RESULT OF DEFICIENCIES IN DETAILED DEVELOPMENT AND IMPLEMENTATION OF THE ENVIRONMENTAL QUALIFICATION PROGRAM. UTILITY PERSONNEL HAVE REPAIRED IDENTIFIED ENVIRONMENTAL QUALIFICATION DEFICIENCIES, OR HAVE JUSTIFIED CONTINUED OPERATION WITH THE DEFICIENCIES UNTIL REPAIRS ARE COMPLETED. THE UTILITY HAS EMBARKED ON A MAJOR VOLUNTARY EFFORT TO REVIEW THE EXISTING ENVIRONMENTAL QUALIFICATION DEFICIENCIES THAT YEE DISCOVERED.

[66] CRYSTAL RIVER 3 DOCKET 50-302 LER 89-026 REV 01 UPDATE ON INABILITY TO REPAIR EMERGENCY DIESEL GENERATOR WITHIN TIME ALLOWED BY ACTION STATEMENT RESULTS IN SHUTDOWN REQUIRED BY TECH SPECS. EVENT DATE: 062989 REPORT DATE: 121589 NSSS: BW TYPE: PWR VENDOR: FAIRBANKS MORSE

(NSIC 216266) ON 6/29/89 CRYSTAL RIVER UNIT 3 WAS IN OPERATIONAL MODE ONE (POWER OPERATION) AT 97% POWER. EMERGENCY DIESEL GENERATOR 1B HAD BEEN OUT OF SERVICE FOR MAINTENANCE SINCE 6/26 AT 0650. TECH SPEC 3.8.1.1 ACTION B HAD BEEN INITIATED AT THAT TIME. AT 0300 PLANT SHUTDOWN WAS JNITIATED BECAUSE EGDG-1B COULD NOT BE REPAIRED IN THE TIME REMAINING IN THE ACTION STATEMENT. AN UNUSUAL EVENT WAS DECLARED BECAUSE THE PLANT WAS CONDUCTING A SHUTDOWN REQUIRED BY TECH SPECS. OPERATIONAL MODE 3 (HOT STANDBY) WAS ENTERED AT 1142 ON 6/29/89. COOLDOWN WAS INTITATED AND OPERATIONAL MODE FIYE (COLD SHUTDOWN) WAS ENTERED AT 1722. THE UNUSUAL EVENT WAS TERMINATED AT 1730. THE DIESEL GENERATOR FAILED THE POST MAINTENANCE TEST DUE TO LOW CRANKCASE VACUUM. INSPECTION OF THE TURBOCHARGERS REVEALED ONE OF THE TURBOCHARGER ROTORS HAD NOT BEEN TURNING. THIS CAUSED THE LOW CRANKCASE VACUUM. THE TURBOCHARGERS HAVE BEEN REPLACED. TURBOCHARGERS ON THE OTHER DIESEL GENERATOR WILL BE REPLACED. PROCEDURES WILL BE REVISED TO PROVIDE FOR PERIODIC INSPECTION AND CLEANING OF TURBOCHARGERS. [67] CRYSTAL RIVER 3 UNPLANNED EMERGENCY DIESEL GENERATOR ACTUATION CAUSED BY DEGRADED VOLTAGE DURING START OF THE "A" CONDENSATE PUMP. EVENT DATE: 120889 REPORT DATE: 010890 NSSS: BW TYPE: PW2

(NSIC 216391) ON 12/8/89 AT 0206, THE CRYSTAL RIVER UNIT 3 (CR-3) "A" AND "B" EMERGENCY DIESEL GENERATORS (EGDG'S) ACTUATED. THE ACTUATION WAS CAUSED BY A DEGRADED VOLTAGE WHICH OCCURRED WHEN OPERATORS STARTED A CONDENSATE PUMP. THE DEGRADED VOLTAGE WAS VERY BRIEF AND SO THE EVENT DID NOT CAUSE THE ENGINEERED SAFEGUARDS (ES) BUSES TO STRIP AND LOAD ONTO THE EGDG'S. AFTER VERIFYING THE VOLTAGE HAD BEEN RESTORED, THE EGDG'S WERE SECURED. OPERATOR GUIDELINES ARE BEING REVISED TO PROVIDE MORE SPECIFIC RECOMMENDATIONS FOR RAISING VOLTAGE AND/OR REALIGNING THE ES BUSES PRIOR TO STARTING THE CR-3 CONDENSATE PUMPS. FLORIDA POWER CORPORATION IS EVALUATING ADDITIONAL LONG TERM ACTIONS TO PREVENT UNNECESSARY EGDG STARTS WHEN STARTING LARGE LOADS SUCH AS THE CONDENSATE PUMPS.

L 68] DAVIS-BESSE 1 UPDATE ON CONTROL ROOM EMERGENCY VENTILATION SYSTEM INOPERABLE DUE TO COMPRESSOR HIGH PRESSURE TRIPS. EVENT DATE: 061289 REPORT DATE: 010290 NSSS: BW TYPE: PWR

(NSIC 216330) ON 6/26/89, DURING THE PERFORMANCE OF THE CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CREVS) MONTHLY TEST. DE-SS-03041 THE COOLING SYSTEM COMPRESSOR WOULD NOT START. THE CREVS TRAIN 1-1 WAS DECLARED INOPERABLE AND THE STATION ENTERED THE SEVEN-DAY ACTION STATEMENT OF TECH SPEC 3.7.6.1. THE CAUSE WAS A REFRIGERANT PRESSURE SWITCH LOCATED INSIDE PANEL C6706 THAT HAD TRIPPED ON HIGH PRESSURE. THE SWITCH WAS RESET AND THE SYSTEM RETESTED SUCCESSFULLY AND WAS DECLARED OPERABLE AT 1730 HOURS ON 6/27/89. FURTHER EVALUATION CONCLUDED THAT THE PRESSURE SWITCH HAD TRIPPED ON 6/12/89, WHEN THE SYSTEM RETESTED SUCCESSFULLY AND WAS DECLARED OPERABLE AT 1730 HOURS ON 6/27/89. FURTHER EVALUATION CONCLUDED THAT THE PRESSURE SWITCH HAD TRIPPED ON 6/12/89, WHEN THE SYSTEM HAD BEEN OPERATED. THE SYSTEM HAD BEEN IN A DEGRADED CONDITION FOR A PERIOD OF TIME LONGER THAN ALLOWED BY THE ACTION STATEMENT. THIS IS REPORTABLE UNDER 10CFR50.73(A)(2)(1)(B) AS A CONDITION PROHIBITED BY THE TECH SPECS. IT IS ALSO RECOGNIZED THAT SINCE CREVS TRAIN 1-2 HAD BEEN DECLARED INOPERABLE ON 6/8/89, TO SUPPORT MAINTENANCE ON THE EACKUP AIR COOLED CONDENSER DAMPER AND NOT DECLARED OPERATED UNTIL 1455 HOURS ON 6/12/89, BOTH CREVS TRAINS WERE INOPERABLE AT THE SAME TIME. THIS IS ALSO A CONDITION PROHIBITED BY THE TECH SPECS. CREVS OPERATING PROCEDURE, SP1104.69 (DB-OP-06505), WAS CHANGED TO ADD THE LOCAL VERIFICATION OF THE COMPRESSOR (DD-OPERATION. SETFOINT CANGE TO ADD THE LOCAL VERIFICATION OF THE COMPRESSOR (DD-OPERSOR ALSO A STATEMENT OF ADD THE LOCAL VERIFICATION OF THE COMPRESSOR (DD-OPERSOR), WAS CHANGED TO ADD THE LOCAL VERIFICATION OF THE COMPRESSOR (DD-OPERSOR), WAS CHANGED TO ADD THE LOCAL VERIFICATION OF THE COMPRESSOR (DD-OPERSOR "TRANSFER" SETPOINT TO 175 PSIG.

LER 89-015 REV 01 UPDATE ON REACTOR COOLANT SYSTEM FLOW TRANSMITTER ERRONEOUSLY DECLARED OPERABLE. EVENT DATE: 092439 REPORT DATE: 010990 NSSS: BW TYPE: PWR

(NSIC 216405) ON OCTOBER 26, 1989, WHILE REVIEWING QUESTIONS RAISED ABOUT ACTIVITIES ASSOCIATED WITH THE CALIBRATION OF FTRC01A2, IT WAS CONCLUDED THAT THE TRANSMITTER WAS OUT OF TOLERANCE WHEN RPS CHANNEL 2 WAS RETURNED TO OPERABLE STATUS ON SEPTEMBER 24, 1989. RPS CHANNEL 2 WAS INOPERABLE FOR ABOUT 38 HOURS WITHOUT SATISFYING THE ACTION STATEMENT OF TECHNICAL SPECIFICATION 3.3.1.1. THE MOST PROBABLE CAUSE OF THE CALIBRATION PROBLEM WAS A LEAK-BY IN THE INSTRUMENT MANIFOLD THAT WAS INCORRECTLY SEEN AS A ZERO SHIFT. CONSEQUENTLY, WHEN THE TRANSMITTER WAS VALVED BACK INTO THE RCS FLOW PROCESS AND THE EQUALIZING VALVE TICHTENED, THE TRANSMITTER OUTPUT WAS ERRONEOUSLY HIGH. ON OCTOBER 3, 1989, THE TRANSMITTER WAS RECALIBRATED SUCCESSFULLY. AN ENGINEERING REVIEW OF THE PROCESS READINGS WAS CONDUCTED AND THE CHANNEL RESTORED TO OPERABLE. INDIVIDUALS INVOLVED HAVE REVIEWED THE INCIDENT AND RESULTS FOR LESSONS LEARNED.

[70] DIABLO CANYON 1 DOCKET 50-275 LER 88-029 REV 01 UPDATE ON ABNORMAL DETERIORATION OF AUXILIARY SALT WATER PUMP IMPELLERS DUE TO INADEQUATE HEAT TREATMENT. EVENT DATE: 101988 REPORT DATE: 011590 NSSS: WE TYPE: PWR OTHER UNITS INVOLVED: DIABLO CANYON 2 (PWR) VENDOR: BINGHAM PUMP CO. (NSIC 216575) ON 10/21/28, PG&E NOTIFIED REGION V. U.S. NUCLEAR REGULATORY CONMISSION, IN ACCORDANCE WITH 10 CFR PART 21.21, REGARDING ABNORMAL DETERIORATION OF AUXILIARY SALT WATER PUMP IMPELLERS DUE TO INADEQUATE HEAT TREATMENT AND FAILURE OF THE VENDOR TO CONTROL SPECIAL PROCESSES. THE COMPONENTS ARE ASTM "A" 296 GRADE CF-8M STAINLESS STELL IMPELLERS PROVIDED BY SULZER BINGHAM INTERNATIONAL, P.O. BOX 10247, PORTLAND, OREGON 97210, FOR USE IN SAFETY RELATED AUXILIARY SALT WATER PUMPS. BASED UPON METALLURGICAL ANALYSIS PERFORMED ON THE IMPELLER MATERIAL, PG&E HAS DETERMINED THAT THE ASTM "A" 296 CAST STAINLESS STEEL DID NOT RECEIVE ADEQUATE SOLUTION HEAT TREATMENT WHICH RESULTED IN ACCELERATED INTERGRANULAR CORROSION. THE AUXILIARY SALT WATER PUMP IMPELLERS HAVE BEEN REPLACED ON BOTH UNITS 1 AND 2. SPECIAL TESTING HAS BEEN PERFORMED TO DETERMINE THE CONDITION OF THE NEAT TREATMENT OF THE REPLACEMENT IMPELLERS. THIS TESTING HAS BEEN INCONCLUSIVE. TO VERIFY SATISFACTORY MATERIAL CONDITION, FURTHER TESTING OR INSPECTION WILL BE PERFORMED EACH REFUELING OUTAGE, UNTIL THESE IMPELLERS ARE REPLACED WITH IMPELLERS WHICH HAVE BEEN VERIFIED TO BE FULLY GUALIFIED FOR USE.

£ 713	DIABLO CANYON 1		DOCKET	50-275	LER 89-014	REV	01
UPDATE ON	POTENTIAL DEGRAD.	ATION OF THE	CONTAINMENT	RECIRCULAT	ION SUMP DUE	TO	
INADEQUATE	PROCEDURES AND	PERSONNEL ERRI	OR.				
EVENT DATE	112189 REPOR	T DATE: 01199	0 NSSSI	WE	TYPE: PWR		
OTHER UNIT	INVOLVED: DIAE	LO CANYON 2 (PWR)				

(NSIC 216487) DURING THE UNIT 1 THIRD REFUELING OUTAGE, AN INSPECTION ON 10/17/89, OF THE CONTAINMENT RECIRCULATION SUMP IDENTIFIED DEERIS IN THE SUMP AND AN AS-BUILT SUMP CONFIGURATION NOT IN ACCORDANCE WITH THE DESIGN DRAWINGS AND UFSAR. AS A RESULT, THE UNIT 2 SUMP WAS INSPECTED. THIS INSPECTION ALSO IDENTIFIED DEERIS IN THE SUMP AND A SCREEN CONFIGURATION DIFFERENT FROM THE UNIT 1 SUMP. UNIT 2 SUMP SCREEN CONFIGURATION WAS IN ACCORDANCE WITH THE DESIGN DRAWINGS AND UFSAR. FURTHER INVESTIGATION IDENTIFIED OTHER PROBLEMS WITH THE SUMPS, WHICH INCLUDED UNIT 1 SUMP SCREEN AS-BUILT CONSTRUCTION DEFICIENCIES, AND OFENING OF SUMP ACCESS HATCH FOR EACH UNIT AT VARIOUS TIMES AT-POWER WITHOUT ADEQUATE CONSIDERATION OF ECCS OPERABILITY. ON 11/21/89, AN EVALUATION OF THE DEERIS IN THE UNIT 1 SUMP DETERMINED THAT THE ECCS COULD POTENTIALLY HAVE BEEN DEGRADED. BASED ON THIS EVALUATION. THE PRESENCE OF THE DEERIS IN THE UNIT 1 SUMP WAS REPORTED AS A FOUR-HOUR. NON-EMERGENCY EVENT IN ACCORDANCE WITH 10 CFR 50.72(B)(2)(I). BASED ON A SUBSEQUENT DETAILED EVALUATION OF THE AS-FOUND CONDITIONS, PGRE BELIEVES THAT THE ECCS SYSTEM WOULD HAVE BEEN CAPABLE OF PERFORMING ITS INTENDED SAFETY FUNCTION IN THE EVENT OF A DESIGN BASIS ACCIDENT REQUIRING CONTAINMENT RECIRCULATION. DETAILED EVALUATIONS OF THE OTHER PROBLEMS REGARDING THE SUMP ALSO LED TO THE SAME CONCLUSION.

[72]DIABLO CANYON 1DOCKET 50-275LER 89-017PERSONNEL PERFORMING SAFETY RELATED ACTIVITIES EXCEEDED TECH SPEC OVERTIME
RESTRICTIONS WITHOUT PROPER AUTHOR.ZATION.
EVENT DATE: 121289REPORT DATE: 011190NSSS: WETYPE: PWROTHER UNITS INVOLVED: DIABLO CANYON 2 (FWR)

(NSIC 216447) ON OCTOBER 25, 1989, A MECHANICAL MAINTENANCE JOURNEYMAN WAS IDENTIFIED AS WORKING IN EXCESS OF TECHNICAL SPECIFICATION (TS) 6.2.2 OVERTIME RESTRICTIONS ON A UNIT 1 SAFETY-RELATED VALVE WITHOUT PROPER AUTHORIZATION. A SUBSEQUENT INVESTIGATION CONCLUDED THAT PLANT PERSONNEL HAD EXCEEDED THE TS 6.2.2 OVERTIME RESTRICTIONS WITHOUT PROPER AUTHORIZATION ON NUMEROUS OCCASIONS. THE ROOT CAUSE OF THIS EVENT WAS PERSONNEL ERROR AND A PROGRAMMATIC BREAKDOWN DUE TO A LACK OF SPECIFIC GUIDANCE IN ADMINISTRATIVE PROCEDURES ON THE APPLICABILITY AND IMPLEMENTATION OF THE TS OVERTIME RESTRICTIONS OF PLANT PERSONNEL. CORRECTIVE ACTIONS INCLUDE REVISING THE APPLICABLE ADMINISTRATIVE PROCEDURE TO CLEARLY INFORM ALL PLANT PERSONNEL OF THE SCOPE OF THE PROCEDURAL REQUIREMENTS.

[73] DIABLO CANYON 1 P-14 TURBINE TRIP ENGINEERED SAFETY FEATURES SIGNAL DUE TO PERSONNEL ERROR. EVENT DATE: 121489 REPORT DATE: 011690 NSSS: WE TYPE: PWR

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(NSIC 216446) ON DECEMBER 14, 1989, AT 0012 PST, WHILE IN MODE 1 AT 7 PERCENT POWER, AN ENGINEERED SAFETY FEATURE (ESF) HIGH-HIGH STEAM GENERATOR (SG) LEVEL P-14 TRIP PERMISSIVE OCCURRED. THE UNIT WAS STABILIZED IN MODE 2 AT 2 PERCENT POWER AND A 4-HOUR, NON-EMERGENCY 10CFR50.72 REPORT WAS MADE AT 0247 PST. OPERATORS HAD PERFORMED A MANUAL MAIN TURBINE TRIP TEST, WHICH RESULTED IN AN UNEXPECTED MAIN FEEDWATER PUMP (MFP) TURBINE SPEED RUNBACK, REDUCING PUMP FLOW DELIVERY. THE MAIN AND EYPASS FEEDWATER VALVES AUTOMATICALLY OPENED IN RESPONSE TO SG LOW WATER LEVEL. WHEN MFP TURBINE SPEED CONTROL WAS RESET, THE MFP SPEED RAPIDLY INCREASED, RESULTING IN HIGH FEED FLOW TO THE SGS THROUGH THE OPEN VALVES. FEEDWATER WAS SECURED. HOWEVER, THE ADDITION OF COLD WATER HAD REDUCED RCS AVERAGE TEMPERATURE TO 522F. THE RCS TEMPERATURE RECOVERY TO GREATER THAN 541F, AS REQUIRED BY TECHNICAL SPECIFICATIONS, CAUSED A THERMAL SWELL IN THE SG, WHICH REACHED THE P-14 SETPOINT AND INITIATED AN ESF. THE CAUSE OF THE EVENT WAS IMPROPER IMPLEMENTATION OF A FIELD CHANGE TO DELETE THE CIRCUITRY PROVIDING MFP TURBINE RUNBACK ON MAIN TURBINE TRIP. THE MFP SPEED CONTROL CIRCUITRY HAS BEEN CORRECTED. PROCEDURES HAVE BEEN ENHANCED TO PROVIDE INDEPENDENT VERIFICATION FOR ELECTRICAL CIRCUITRY CHANGES.

[74]DIABLO CANYON 2DOCKET 50-323LER 89-011MISSED TECH SPEC ACTION STATEMENT REQUIREMENTS FOR THE BORON INJECTION TANK
HEATERS DUE TO PERSONNEL ERROR.
EVENT DATE: 112289REPORT DATE: 122189NSSS: WETYPE: PWR

(NSIC 216242) ON 11/23/89, AT 0914 PST. THE REQUIREMENTS OF TECH SPEC (TS) 3.5.4.2 WERE NOT MET WHEN THE TEMPERATURE VERIFICATION OF THE BORON INJECTION TANK (BIT) FLOWPATH AND TANK WAS NOT PERFORMED IN ACCORDANCE WITH THE ACTION STATEMENT. UPON DISCOVERY OF THE MISSED TS ACTION STATEMENT REQUIREMENTS, A TEMPERATURE VERIFICATION OF THE BIT WAS IMMEDIATELY PERFORMED. THE ROOT CAUSE OF THIS EVENT WAS PERSONNEL ERROR IN THAT LICENSED OPERATORS DID NOT CORRECTLY IMPLEMENT THE ACTION REQUIREMENTS OF TECH SPEC 3.5.4.2. THE WORDING OF TECH SPEC 3.5.4.2 CONTRIBUTED TO THIS MISSED IMPLEMENTATION BY NOT CLEARLY IDENTIFYING THE BIT HEATERS AS PART OF THE HEAT TRACE SYSTEM. AN OPERATIONS INCIDENT SUMMARY REPORT WILL BE ISSUED TO ALL OPERATIONS DEPARTMENT PERSONNEL DESCRIBING THE SEVENT AND EMPHASIZING THAT THE BIT HEATERS ARE CONSIDERED TO BE PART OF THE HEAT TRACING SYSTEM AS REQUIRED BY TECH SPEC 3.5.4.2. PG&E EXPECTS THAT THE NRC WILL APPROVE LICENSE AMENDMENT REQUEST 89-06 FOR BIT ELIMINATION FOR THE NEXT UNITS 1 AND 2 REFUELING OUTAGES. IN THE INTERIM, BEFORE BIT ELIMINATION, AN INTERNAL ADMINISTRATIVE GUIDELINE WILL BE PLACED WITH TECH SPEC 3.5.4.2 TO ENSURE THAT MISINTERPRETATION OF THE ACTION STATEMENT REQUIREMENTS WILL NOT OCCUR PRIOR TO BIT ELIMINATION.

[75] DIABLO CANYON 2 CONTAINMENT VENTILATION ISOLATION DUE TO ACTUATION OF PLANT VENT MONITOR 2-RM-14B. EVENT DATE: 121689 REPORT DATE: 011690 NSSS: WE TYPE: PWR

(NSIC 216596) ON 12/16/29, AT 0411 PST, WITH UNIT 2 IN MODE 1 (POWER OPERATION) AT 100% POWER, A CONTAINMENT VENTILATION ISOLATION (CVI) WAS INITIATED DUE TO ACTUATION OF PLANT VENT RADIATION MONITOR 2-RM-14B. THE VOLUME CONTROL TANK (VCT) GAS SPACE WAS BEING MANUALLY SAMPLED AT THE TIME THE MONITOR ALARMED. THE SAMPLE LINE FURGE WAS DISCHARGING TO THE PLANT VENT VIA THE SAMPLE ROOM HOOD, IN ACCORDANCE WITH CHEMICAL ANALYSIS PROCEDURE (CAP) E-1, "SAMPLING OF PRIMARY SYSTEMS." THE SAMPLING ORDINARILY OCCURS DURING PLANT STARTUP WHEN THE NOBLE CAS SOURCE TERM IS LOW. HOWEVER, IN THIS INSTANCE, THE ACTIVITY LEVEL WAS CLOSA TO EQUILIBRIUM FULL POWER. BOTH MONITORS, 2-RM-14B AND REDUNDANT MONITOR 2-RM-14A, WERE CHECKED AFTER THE CVI AND FOUND TO BE PROPERLY INDICATING. THE CALCULATED RELEASE WAS 1.49 PERCENT OF THE LIMITS OF TECH SPEC (TS) 3.11.2.1.A, "GASEOUS EFFLUENTS DOSE RATES." NO TS LIMITS WERE EXCEEDED. THIS EVENT WAS CAUSED BY AN INADEQUATE PROCEDURE, IN THAT CAP E-1 DID NOT INCLUDE PRECAUTIONS AND GUIDANCE FOR SAMPLE PURGING WHEN SIGNIFICANT NOBLE GAS ACTIVITY PRESENT IN THE VCT GAS SPACE. THE 4-HOUR NON-EMERGENCY REPORT REQUIRED BY 10 CFR 50.72 WAS MADE TO THE NRC ON 12/16/289, AT 0544 PST. PROCEDURE CAP E-1 WILL BE REVISED TO INCLUDE ADEQUATE PRECAUTIONS FOR SAMPLING DURING POWER OPERATION. [76]DRESDEN 2DOCKET 50-237LER 89-028REV 01UPDATE ON CONTAINMENT COOLING SERVICE WATER PUMP SUCTION BAY WATER LEVELREDUCTION DUE TO INTAKE STRUCTURE FLOW BLOCKAGE.EVENT DATE: 090589REPORT DATE: 010390NSSS: GETYPE: BWROTHER UNITS INVOLVED: DRESDEN 3 (BWR)

(NSIC 216376) AT 0910 HOURS ON 9/5/89, WITH UNIT 2 AT 98.6% FOWER AND UNIT 3 AT 88.1% POWER WHILE ATTEMPTING TO RUN THE 2A CONTAINMENT COOLING SERVICE WATER (CCSW) PUMP IN PREPARATION FOR DRESDEN OPERATING SURVEILLANCE (DOS) 1500-6, LOW PRESSURE COOLANT INJECTION (LPCI) SYSTEM PUMP OPERABILITY TEST, CCSW FLOW OSCILLATIONS WERE OBSERVED. IMMEDIATE INVESTIGATION FOUND THAT A LARGE AMOUNT OF DEBRIS HAD ACCUMULATED IN THE CRIBHOUSE INTAKE CANAL, RESULTING IN LOWERING OF THE CCSW SUCTION BAY WATER LEVEL. THE UNIT 2 AND UNIT 3 CCSW PUMPS WERE THEN DECLARED INOPERABLE AS A CONSERVATIVE MEASURE. THE 2A CIRCULATING WATER FUMP WAS SECURED TO REDUCE THE WATER HEAD DIFFERENTIAL ACROSS THE INTAKE STRUCTURE BAR RACKS, AND INTENSIVE EFFORTS WERE INITIATED TO REMOVE THE DEBRIS, WHICH HAD RISULTED FROM HEAVY RAINS AND FLOODING IN THE KANKAKEE RIVER BASIN AREA. THE UNIT 2 CCSW PUMPS WERE FUNCTIONALLY TESTED OPERABLE AT 1325 HOURS, AND THE UNIT 3 CCSW PUMPS WERE TESTED OPERABLE AT 1800 HOURS. SAFETY SIGNIFICANCE WAS MINIMAL DUE TO IMMEDIATE ACTIONS TO ENSURE ADEQUATE CCSW SUCTION BAY WATER LEVEL. THIS WAS THE FIRST OCCURRENCE OF INTAKE CANAL DEBRIS RESULTING IN SIGNIFICANT WAS THE FIRST OCCURRENCE OF INTAKE CANAL DEBRIS RESULTING IN SIGNIFICANT

[77] DRESDEN 2 ADDITIONAL VOLUNES ADDED TO TYPE "B" AND "C" LOCAL LEAK RATE TESTING PROGRAM DUE TO SELF-ASSESSMENT INITIATIVE. EVENT DATE: 120889 REPORT DATE: 010590 NSSS: GE TYPE: BWR OTHER UNITS INVOLVED: DRESDEN 3 (BWR)

(NSIC 216377) AT 1130 HOURS ON 12/8/89, WITH UNIT 2 AT 95% POWER AND UNIT 3 IN A REFUEL OUTAGE, COMPLETION OF A PRIMARY CONTAINMENT TYPE "B" AND "C" LOCAL LEAK RATE TESTING (LLRT) IMPROVEMENT ASSESSMENT CONCLUDED THAT THREE PREVIOUSLY UNTESTED VOLUMES SHOULD BE ADDED TO THE LLRT PROGRAM. THESE TEST VOLUMES INCLUDED SERVICE AIR AND CLEAN DEMINERALIZED WATER PENETRATIONS TO THE PRIMARY CONTAINMENT DRYWELL, AND VARIOUS SMALL DRYWELL AIR SAMPLING PENETRATIONS. CORRECTIVE ACTIONS INCLUDED ADDITION OF THESE VOLUMES INTO THE LLRT PROGRAM, AND SCHEDULING PERFORMANCE OF LLRTS OF THESE VOLUMES ON UNITS 2 AND 3. SAFETY SIGNIFICANCE WAS MINIMAL BECAUSE THESE PENETRATIONS ARE NORMALLY ISOLATED WITH CLOSED MANUAL VALVES AND HAVE DEMONSTRATED SATISFACTORY INTEGRITY DURING PERFORMANCE OF PRIMARY CONTAINMENT INTEGRATED LEAK RATE TESTS, DURING WHICH THE DRYWELL IS PRESSURIZED WITH AIR TO POST ACCIDENT DESIGN CONDITIONS. THIS WAS THE FIRST OCCURRENCE OF THIS TYPE.

[78] DRESDEN 2 LOCAL LEAK RATE TESTING "AS FOUND" LIMIT EXCEEDED DUE TO EXCESSIVE LEAKAGE FROM THE DRYWELL PERSONNEL INTERLOCK. EVENT DATE: 121089 REPORT DATE: 122989 NSSS: GE TYPE: BVR

(NSIC 216361) ON 10/10/89, WITH UNIT 2 AT 0% POWER DURING A SCHEDULED SHUTDOWN. A LOCAL LEAK RATE TEST (LLRT) WAS PERFORMED ON THE PRIMARY CONTAINMENT DRYWELL PERSONNEL INTERLOCK IN ACCORDANCE WITH DRESDEN TECHNICAL STAFF SURVEILLANCE (DTS) 1600-14. AFTER THE REQUIRED ONE HOUR TEST AT 49 PSIG, A LEAK RATE OF 125 STANDARD CUBIC FEET PER HOUR (SCFH) WAS CALCULATED. BECAUSE INCLUSION OF THIS RESULT INTO THE EXISTING TOTAL CONTAINMENT "AS LEFT" TYPE 'B' AND 'C' LLRT DATA EXCEEDED THE TECH SPEC 3.7.4.2.B.(2)(A) LIMIT OF 488.452 SCFH. AN UNUSUAL EVENT WAS DECLARED AT 0505 HOURS. REACTOR WATER TEMPERATURE WAS BROUGHT BELOW 212F, BELOW WHICH PRIMARY CONTAINMENT INTEGRITY IS NOT REQUIRED, BY 0919 HOURS. AFTER AN INVESTIGATION. THE SOURCE OF THE LEAKAGE WAS FOUND TO BE AN ELECTRICAL AND TELEPHONE CONDUIT ADJACENT TO THE OUTER DOOR. THESE PENETRATIONS WERE SEALED, AND ON 12/17/89 AN LLRT WAS PERFORMED RESULTING IN 0 SCFH LEAKAGE. THE SAFETY SIGNIFICANCE OF THIS EVENT IS CONSIDERED TO BE MINIMAL DUE TO THE FACT THAT THE LEAKAGE WAS OCCURRING FROM THE OUTER DOOR CONDUIT AND THE INTEGRITY OF THE INNER DOOR WAS UNAFFECTED. A PREVIOUS FAILURE OF THE INNER DOOR ON UNIT 3 IS DOCUMENTED IN LER 89-007-0, DOCKET 050249. [79] DRESDEN 3 LOCAL LEAK RATE TESTING "AS FOUND" LIMIT EXCEEDED DUE TO EXCESSIVE LEAKAGE FROM PRIMARY CONTAINMENT VALVES. EVENT DATE: 120789 REPORT DATE: 010290 NSSS: GE TYPE: BWR

(NSIC 216305) ON 12/7/89, WITH UNIT 3 IN A REFUELING OUTAGE AND DURING PERFORMANCE OF DRESDEN TECHNICAL STAFF SURVEILLANCE PROCEDURE (DTS) 1600-1, LOCAL LEAK RATE TESTING (LLRT) OF PRIMARY CONTAINMENT ISOLATION VALVES, FEEDWATER CHECK VALVE 3-0220-58A LEAKED 1062.82 STANDARD CUBIC FEET PER HOUR (SCFH). THIS LEAK RATE, ALONG WITH UNSATISFACTORY LEAK RATES FROM REACTOR BUILDING TO PRESSURE SUPPRESSION CHAMBER VACUUM BREAKER CHECK VALVE 3-1601-31B AND HIGH PRESSURE COOLANT INJECTION STEAM EXHAUST TO TORUS CHECK VALVE 3-2301-45, COMBINED TO BRING THE TOTAL AS-FOUND LEAKAGE USING THE MAXIMUM PATHWAY METHOD FOR TYPE 'B' AND 'C' TESTING TO 1510.4526 SCFH, WHICH EXCEEDED 'WE TECH SPEC 3.7.A.2.B.(2)(A) LIMIT OF 488.452 SCFH. CAUSE OF THE EXCESSIVE LEAKAGE IS UNKNOWN. THESE VALVES WILL BE REPAIRED AND TESTED PRIOR TO UNIT STARTUP. A SUPPLEMENT TO THIS REPORT WILL THEN BE SUBMITTED OUTLINING THE CAUSE OF FAILURE, RETEST RESULTS, THE FINAL TYPE B AND C LEAK RATE TEST RESULTS AND ANY ADDITIONAL CORRECTIVE ACTIONS TO PREVENT RECURRENCE. ALSO INCLUDED WITH THE SUPPLEMENT WILL BE A TABULATION OF ALL TESTABLE PENETRATIONS' MAXIMUM AND MINIMUM PATHWAY LEAKAGES. SAFETY SIGNIFICANCE OF THIS EVENT WAS MINIMAL BECAUSE IN LINE VALVES WERE NOT OBSERVED TO BE LEAKING. THEREFORE, THE "THROUGH" LEAKAGE. WHICH REPRESENTS ACTUAL CONTAINMENT LEAKAGE. WAS MINIMAL. SIMILAR EVENT: 249/88-027.

L 80) DRESDEN 3 UNPLANNED PRIMARY CONTAINMENT GROUP II AND GROUP III ISOLATIONS DUE TO A LABELING DEFICIENCY. EVENT DATE: 121689 REPORT DATE: 011190 NSSS: GE TYPE: BWR

(NSIC 216479) ON 12/16/89 AY 0353 HOURS. WITH UNIT 3 SHUTDOWN FOR A REFUELING OUTAGE, WHILE PERFORMING DRESDEN INSTRUMENT SURVEILLANCE (DIS) 7500-1, STANDEY GAS TREATMENT SYSTEM AUTOMATIC ACTUATION, UNPLANNED PRIMARY CONTAINMENT GROUP II AND GROUP III ISOLATIONS OCCURRED. AT THE TIME OF THE EVENT, ALL FUEL WAS REMOVED FROM THE REACTOR VESSEL. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO A LABELING DEFICIENCY. THE LABELS ON THE PANEL DID NOT CLEARLY IDENTIFY A TERMINAL BLOCK RESULTING IN THE WRONG TERMINAL BLOCK BEING JUMPERED. THE ISOLATIONS OCCURRED AS DESIGNED; THEREFORE, THE EVENT WAS DEEMED TO BE OF MINIMAL SAFETY SIGNIFICANCE. SUBSEQUENT ACTIONS CONSISTED OF RELABELING THE TERMINAL BLOCKS WITH THE APPROPRIATE LABELS AND CLEARLY IDENTIFYING THE ACTUAL PHYSICAL LOCATION OF THE TERMINALS. THE LAST UNPLANNED PRIMARY CONTAINMENT GROUP II AND III ISOLATIONS OCCURRED ON 6/8/88 AS REPORTED BY LER 88-014-0 ON DOCKET 050249.

L \$1] FARLEY 2 SURVEILLANCE NOT PERFORMED ON RADIATION MONITOR RE-14 DUE TO PERSONNEL ERROR. EVENT DATE: 122889 REPORT DATE: 012390 NSSS: WE TYPE: PWR (NSIC 216612) AT APPROXIMATELY 1300 ON 12-28-89 IT WAS DISCOVERED THAT THE REQUIRED SURVEILLANCE FOR PLANT VENT STACK RADIOACTIVE GAS MONITOR RE-14 HAD NOT BEEN PERFORMED. THE DUE DATE FOR THE SURVEILLANCE HAD BEEN CALCULATED INCORRECTLY WHEN THE SURVEILLANCE SCHEDULES WERE UPDATED IN JUNE 1989. THE SURVEILLANCE HAD NOT EEEN PERFORMED EECAUSE OF THE INCORRECT DUE DATE. THE SURVEILLANCE HAD NOT DEEN PERFORMED EECAUSE OF THE INCORRECT DUE DATE. THE SURVEILLANCE HAD NOT DEEN PERFORMED EECAUSE OF THE MAXIMUM AVAILABLE EXTENSION OF THE SURVEILLANCE INTERVAL WAS 10-17-89. THIS EVENT WAS CAUSED BY COGNITIVE PERSONNEL ERROR. THE INDIVIDUAL WHO HAD UPDATED THE SURVEILLANCE SCHEDULE IN JUNE 1989 IMPROPERLY SCHEDULED BY TECHNICAL SPECIFICATION 4.0.3 MERE PERFORMED. THIS EVENT HAS BEEN DISCUSSED WITH THE INDIVIDUAL WHO INCORRECTLY UPDATED THE SURVEILLANCE SCHEDULE. PERSONNEL RESPONSIBLE FOR UPDATING THE SURVEILLANCE SCHEDULE HAVE BEEN RE-INSTRUCTED CONCERNING THE IMPORTANCE OF ACCURATE SCHEDULE HAVE BEEN RE-INSTRUCTED CONCERNING THE IMPORTANCE OF ACCURATE SCHEDULE HAVE BEEN RE-INSTRUCTED CONCERNING THE IMPORTANCE OF ACCURATE SCHEDULE MAVE BEEN CHECK OF THE UPDATED SURVEILLANCE SCHEDULE.

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[82] FERMI 2 DOCKET 50-341 LER 89-021 REV 01 UPDATE ON LOCAL/INTEGRATED LEAK RATE TESTING RESULTS. EVENT DATE: 090689 REPORT DATE: 122189 NSSS: GE TYPE: BWR

(NSIC 216244) PERIODIC LEARAGE RATE TESTING OF CONTAINMENT ISOLATION VALVES AND PENETRATIONS IN ACCORDANCE WITH THE REQUIREMENTS CONTAINED IN TECHNICAL SPECIFICATION 3.6.1.2 AND 10 CFR 50 APPENDIX J. HAS BEEN COMPLETED. DURING THE PERFORMANCE OF THIS TESTING, SEVERAL VALVES HAVE EXCEEDED THEIR ADMINISTRATIVE ALLOWABLE LEARAGE RATES AND THEIR CONBINED LEARAGE EXCEEDED THE LIMITS AS DEFINED IN THE SUBJECT TECHNICAL SPECIFICATION LIMITING CONDITION FOR OPERATION. THIRTY-FIVE OUT OF THE 237 CONTAINMENT ISOLATION VALVES EXCEEDED THEIR ADMINISTRATIVE INDIVIDUAL ALLOWABLE LEARAGE RATE. THEY WERE DISASSEMBLED, CLEANED, REPAIRED OR REWORKED, AND RETESTED AS APPROPRIATE. AN INTEGRATED LEARAGE RATE TEST WAS SUCCESSFULLY COMPLETED ON NOVEMBER 21, 1989.

[83] FERMI 2 ENGINEERED SAFETY FEATURE ACTUATIONS WHICH OCCURRED DUE TO A BLOWN FUSE. EVENT DATE: 112989 REPORT DATE: 122889 NSSS: GE TYPE: BWR

(NSIC 216301) ON NOVEMBER 28, 1989, AT 1630 HOURS INSTRUMENT & CONTROLS (I&C) PERSONNEL SIGNED ON TO SURVEILLANCE 44.020.014 "NSSSS-REACTOR VESSEL LOW WATER LEVEL (LEVELS 1 AND 2), DIVISION II, CHANNEL "D" D RESPONSE TIME TEST, PHASE III". DURING SET UP FOR THIS SURVEILLANCE, A FUSE BLEW IN A SAFETY SYSTEM PANEL AND WAS NOT INMEDIATELY IDENTIFIED. ON NOVEMBER 29, AT 0140 HOURS, SEVERAL SAFETY SYSTEMS ACTUATED AND/OR ISOLATED OUT OF SEQUENCE DURING THE PERFORMANCE OF THE SURVEILLANCE. THERE WERE THREE CAUSES FOR THIS EVENT; ALL RELATED TO THE FACT THAT PLANT PERSONNEL DID NOT REALIZE FUSE ATIB-F10 HAD BLOWN IN PANEL H11P611. THE BLOWN FUSE WAS REPLACED. THE AFFECTED SYSTEMS WERE RETURNED TO NORMAL OPERATION, FOLLOWING WHICH THE SURVEILLANCE WAS COMPLETED. AN ACCOUNTABILITY MEETING WAS HELD WITH THE PERSONNEL INVOLVED AND PLANT MANAGEMENT. A CRITIQUE WILL BE WRITTEN FOR THIS EVENT AND GIVEN TO I&C AND OPERATIONS PERSONNEL AS REQUIRED READING. PROCEDURES WILL BE REVIEWED FOR POSSIBLE REVISIONS TO PREVENT RECURRENCE.

L 843 FERMI 2 DOCKET 50-341 LER 89-033 ACTUATION OF EMERGENCY EQUIPMENT COOLING WATER DUE TO PERSONNEL ERROR. EVENT DATE: 120789 REPORT DATE: 010890 NSSS: GE TYPE: BWR

(NSIC 216402) ON 12/7/89 A CHANNEL FUNCTIONAL TEST WAS BEING PERFORMED. DURING THE TEST, AN INSTRUMENTATION AND CONTROL TECHNICIAN CONNECTED HIS VOLT-OHM METER TO AN INCORRECT TERMINAL. HE THEN DISCONNECTED THE LEAD AT THE METER, CHANGED TKE RANGE OF THE METER AND RECONNECTED THE METER, WHICH CAUSED DIVISION II OF THE EMERGENCY EQUIPMENT COOLING WATER SYSTEM TO ACTUATE. THE SYSTEM RESPONDED PER ITS DESIGN. THE OPERATORS SECURED THE SYSTEM AND THE TEST WAS SUCCESSFULLY COMPLETED. A FACT FINDING MEETING WAS HELD FOR THE PERSONNEL INVOLVED IN THIS EVENT. A HUMAN PERFORMANCE EVALUATION SYSTEM (HPES) ANALYSIS IS BEING PERFORMED TO IDENTIFY POTENTIAL ACTIONS TO PREVENT SIMILAR EVENTS IN THE FUTURE. A DESCRIPTION OF THIS EVENT WILL BE GIVEN TO INSTRUMENTATION AND CONTROL SHOP PERSONNEL AS REQUIRED READING.

[85] FERMI 2 LEVEL TRANSMITTER IMPROPERLY INSTALLED AND INCOMPLETE ACTIONS TAKEN WHEN THE CONDITION WAS DISCOVERED. EVENT DATE: 120889 REPORT DATE: 010990 NSSS: GE TYPE: EWR

(NSIC 216468) ON 10/26/89, A CHANNEL "C" LEVEL 1 AND 2 REPLACEMENT TRANSMITTER WAS INSTALLED INCORRECTLY DURING AN OUTAGE. THIS CONDITION WAS NOT RECOGNIZED BY THE INSTRUMENTATION AND CONTROL (I&C) PERSONNEL NOR THE QUALITY ASSURANCE INSPECTOR AT THE TIME. THE PLANT WAS RESTARTED FOLLOWING THE OUTAGE AND WAS INCREASING PRESSURE WHEN IT WAS NOTICED THAT THE CHANNEL "C" TRIP UNIT, WHICH IS FED FROM THE TRANSMITTER, WAS STILL OFFSCALE WHEN THE OTHER THREE TRIP UNITS MONITORING THE SAME PARAMETER WERE BACK ON SCALE. I&C STARTED TO INVESTIGATE THE CAUSE AND THE OPERATORS DECLARED THE TRIP UNIT INOPERABLE. ONCE I&C DETERMINED THE TRANSMITTER WAS INOPERABLE, THE OPERATOR FAILED TO PLACE THE OTHER CHANNEL "C" TRIP UNIT ASSOCIATED WITH THE TRANSMITTER IN THE TRIPPED CONDITION WITHIN ONE HOUR AS REQUIRED BY TECH SPECS. ONCE THE FAILURE TO FOLLOW TECH SPECS WAS DISCOVERED, THE UNIT WAS PLACED IN THE TRIPPED CONDITION. THE TRANSMITTER WAS RESTORED TO SERVICE. ACCOUNTABILITY MEETINGS REGARDING THIS EVENT HAVE BEEN HELD AND REQUIRED READING, TRAINING AND CRITIQUES HAVE OR ARE BEING DEVELOPED AND WILL BE GIVEN TO THE DEPARTMENTS INVOLVED. AN OVERALL ACTION PLAN WHICH INCLUDES GENERIC CONCERNS FROM THIS EVENT HAS BEEN DEVELOPED.

[86] FERMI 2 DOCKET 50-341 LER 89-034 FIRE WATCHES NOT PERFORMED IN COMPLIANCE WITH TECH SPECS. EVENT DATE: 120889 REPORT DATE: 010890 NSSS: GR TYPE: BWR

(NSIC 216469) ON 12/8/69, AT 0730 HOURS, A ROUTINE REVIEW OF KEY CARD TRANSACTIONS SHOWED THAT ONE OF THE ROVING FIRE WATCH PERSONNEL HAD NOT COMPLETED HIS ASSIGNED HOURLY FIPE WATCH ROUNDS. THESE ROUNDS WERE REQUIRED BY THE PLANT TECH SPECS 3.3.7.9 AND 3.7.8. THE REVIEW OF THE RECORDS SHOWED THAT THE INDIVIDUAL HAD MISSED VARIOUS PORTIONS OF HIS ASSIGNED HOURLY FIRE WATCH ROUNDS ON A RANDOM BASIS FROM 10/20/89, TO 12/7/89. THE INDIVIDUAL INVOLVED HAD SIGNED OFF THE SURVEILLANCES AS COMPLETE. THE INDIVIDUAL WAS INTERVIEWED AND OFFERED NO EXPLANATION AS TO WHY HE HAD NOT PERFORMED THE ASSIGNED ROUNDS CORRECTLY. THE INDIVIDUAL INVOLVED WAS AWARE OF THE REQUIREMENTS. THE FIRE WATCH PERSON INVOLVED WAS DISCHARGED. METHODS FOR IMPROVING THE RELIABILITY OF THE FIRE WATCH WILL BE DEVELOPED AND IMPLEMENTED. A PLAN FOR IMPROVING THIS RELIABILITY WILL BE DEVELOPED BY 1/16/90.

[87] FERMI 2 OFF GAS HYDROGEN MONITORING SURVEILLANCE WAS NOT COMPLETED AS REQUIRED BY TECH SPECS. EVENT DATE: 121289 REPORT DATE: 011190 NSSS: GE TYPE: BWR

(NSIC 216470) TECH SPECS REQUIRE THAT GRAB SAMPLES TO DETECT HYDROGEN GAS IN THE OFF GAS STREAM BE TAKEN AND ANALYZED EVERY FOUR HOURS WHEN THE STEAM JET AIR EJECTORS (SJAES) ARE IN SERVICE, AND THE OFF GAS HYDROGEN MONITORS ARE NOT IN SERVICE. ON 12/10/89, AT 1412 HOURS, THE SJAES WERE PLACED IN SERVICE WITHOUT THE REQUIRED SURVEILLANCE COMPLETED. THE REQUIRED CRAB SAMPLING ROUTINE WAS NOT STARTED UNTIL DECENBER 13, AT 0030 HOURS. THIS EVENT WAS DUE TO PERSONNEL ERROR. SEVERAL CORRECTIVE ACTIONS WILL BE TAKEN TO PREVENT RECURRENCE. THE OFF GAS SYSTEM OPERATING PROCEDURE WILL HAVE PRECAUTIONS OR PREREQUISITES PLACED IN IT TO FLAG PERSONNEL OF THE NEED TO PERFORM THIS SURVEILLANCE OR VERIFY ITS CURRENT STATUS BEFORE PLACING THE SYSTEM IN SERVICE. THE CHEMISTRY DEPARTMENT WILL INCORFORATE VERIFICATION OF MODE CHANGE SURVEILLANCE REQUIREMENTS INTO THE SHIFTLY SITUATIONAL SURVEILLANCE CHECKLIST. REQUIRED READING DESCRIBING THIS EVENT WILL BE GIVEN TO THE PERSONNEL INVOLVED.

[88] FERMI 2 REACTOR SCRAM DUE TO AN INADVERTENT MANUALLY INITIATED MAIN STEAM ISOLATION VALVE CLOSURE. EVENT DATE: 121889 REPORT DATE: 011790 NSSS: GE TYPE: BWR (NSIC 216604) ON 12/18/89, INSTRUMENT & CONTROLS (1&C) PERSONNEL SIGNED ON

(NSIC 216604) ON 12/18/89, INSTRUMENT & CONTROLS (18C) PERSONNEL SIGNED ON SURVEILLANCE 44.020.151, "NSSSS - REACTOR WATER CLEANUP DIFFERENTIAL FLOW FUNCTIONAL TEST". AN 18C TECHNICIAN STATIONED IN THE CONTROL ROOM REQUESTED THE CONTROL ROOM OPERATOR TO RESET NUCLEAR STEAM SUPPLY SHUTOFF SYSTEM (NSSSS) DIVISION I AND II MAIN STEAM ISOLATION VALVE (MSIV) LOGIC, AS DIRECTED BY THE PROCEDURE. AT 2230 HOURS, THE CONTROL ROOM OPERATOR INADVERTENTLY DEPRESSED THE CLOSED PUSH EUTTONS ON THE A, B AND C INEOARD MSIV'S AND A REACTOR SCRAM RESULTED. THE IMMEDIATE ACTIONS OF THE REACTOR SCRAM ABNORMAL OPERATING FROCEDURE (20.000.21) NERE PERFORMED AND THE PLANT WAS IN A STABLE CONDITION AT 2240 HOURS. THE CAUSE OF THIS EVENT WAS OPERATOR ERROR. NUCLEAR TRAINING IS REVIENING RESETTING THE NUCLEAR STEAM SUPPLY SYSTEM ISOLATION LOGIC WITH CONTROL ROOM PERSONNEL. THE OPERATOR INVOLVED WAS REMOVED FROM LICENSED DUTIES AND
PARTICIPATED IN AN ACCELERATED REQUALIFICATION TRAINING PROGRAM. A CRITIQUE OF THIS EVENT WILL BE ISSUED AS REQUIRED READING.

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E 893 FERMI 2 DOCKET 50-341 LER 89-037 TESTING REQUIRED BY TECH SPECS FOR THE REACTOR WATER SAMPLE LINE ISOLATION VALVE HAD NOT BEEN COMPLETED DUE TO PERSONNEL ERROR. EVENT DATE: 122089 REPORT DATE: 011990 NSSS: GE TYPE: BWR

(NSIC 216605) ON 12/20/89, IT WAS DETERMINED THAT TECH SPEC STROKE TIME TESTING FOR THE OUTBOARD REACTOR WATER SAMPLE LINE ISOLATION VALVE, B31-F020, HAD NOT BEEN PERFORMED AS REQUIRED PRIOR TO ITS EXPIRATION ON 11/25/89. THE VALVE HAD BEEN FUNCTIONING AS A PROTECTION BOUNDARY FOR MAINTENANCE WORK AT THE TIME THE OTHER VALVES WITHIN THE SAME SYSTEM WERE TESTED. WHEN THE LIMITING CONDITION FOR OPERATION LOG ENTRY FOR B31-F020 WAS COMBINED WITH ANOTHER ENTRY ON 11/23/89, THE REQUIREMENTS AND ACTIONS PER TECH SPEC 3.6.3 WERE NOT CLEARLY INDICATED IN THE NEW ENTRY. THEREFORE, MODES WERE CHANGED WITH THE VALVE NOT HAVING BEEN TESTED AS REQUIRED. ON 12/18/89, B31-F020 WAS USED AS AN ALTERNATE SAMPLE PATH FOR THE REACTOR WATER CLEANUP SYSTEM FOR APPROXIMATELY 18 1/2 HOURS. DURING THIS TIME. BOTH THE OUTBOARD AND THE INBOARD ISOLATION VALVES FOR THIS PENETRATION WERE OPEN.

E 903 FERMI 2 REACTOR SCRAMMED WHEN FIRE OCCURRED IN THE VICINITY OF THE MAIN TURBINE. EVENT DATE: 122389 REPORT DATE: 011290 NSSS: GE TYPE: BWR

(NSIC 216606) CN 12/23/89, SMOKE WAS DISCOVERED IN THE VICINITY OF THE HIGH PRESSURE TURBINE. THE FIRE BRIGADE WAS DISPATCHED, AND REACTOR WAS MANUALLY SCRANMED. THE BRIGADE DISCOVERED THE LAGGING INSULATION PADS WERE BURNING AND EXTINGUISHED THE FIRE. INVESTIGATION HAS DETERMINED THAT THE INSULATION PADS WERE SOAKED WITH OIL AND THE TURBINE CASING MAD HEATED UP TO THE OIL'S FLASH POINT. AN OIL SPILL HAD OCCURRED SEVERAL WEEKS EARLIER DURING A FLUSH OF THE TURBINE LUBE OIL SYSTEM DURING TURBINE REASSEMBLY. APPARENTLY. THE SPILL WAS NOT ADEQUATELY CLEANED UP. THE DAMAGED INSULATION PADS MERE REPLACED AND AN INSPECTION FOR OTHER DAMAGE PERFORMED. NO OTHER DAMAGE WAS NOTED. AN ACCOUNTABILITY MEETING WAS HELD ETWEEN MANAGEMENT AND THE PERSONNEL INVOLVED IN THE MAINTENANCE ON THE TURBINE. IN ORDER TO PREVENT RECURRENCE, DETROIT EDISON HAS DEVELOPED AN ACTION PLAN WHICH INCLUDES A REITERATION OF THE IMPORTANCE OF

[91] FITZPATRICK DOCKET 50-333 LER 89-019 HIGH PRESSURE COOLANT INJECTION TURBINE INOPERABLE DUE TO ELECTRICAL GROUND IN SPEED CONTROL CIRCUIT DUE TO CORROSION PRODUCT BUILDUP. EVENT DATE: 103189 REPORT DATE: 113089 NSSS: GE TYPE: BWR VENDOR: NOODWARD GOVERNOR COMPANY

(NSIC 216080) ON 10/31/89 AT 6:25 A.M., THE HIGH PRESSURE COOLANT INJECTION (HPCI) (EJ) SYSTEM WAS DECLARED INOPERABLE DUE TO AN ELECTRICAL GROUND IN THE SPEED CONTROL CIRCUIT. A BUILDUP OF CONDUCTIVE CORROSION PRODUCTS BETWEEN AN AMPHENOL TYPE CONNECTOR, WHICH WAS IN AN OIL ENVIRONMENT, AND ITS MOUNTING PLATE WAS CONTRIBUTED TO BY MOISTURE IN THE OIL, A CHANGE IN THE CONNECTOR MOUNTING GROMMET CONFIGURATION, AND INADEQUATE SHRINK TUBE INSULATION OVER THE CONDUCTOR CONFECTION TO THE AMPHENOL PINS. THE CONNECTOR WAS CLEANED AND HPCI RESTORED TO SERVICE AT 9:10 P.M. THE SAME DAY. TWO AND ONE HALF DAYS LATER, ON NOVEMBER 3, 1989, AT 3:00 A.M. HPCI WAS AGAIN DECLARED INOFERABLE FOR THE SAME REASON. THE CONNECTOR WAS REMOVED, CLEANED, AND A SILICONE RESIN ON FORMABLE COATING WAS APPLIED TO CONTINUOUSLY SEAL THE PINS, INSULATION, AND THE MOUNTING PLATE. THE SMAFT SEAL LEAK-OFF DRAIN PIPING WAS MODIFIED TC IMPROVE THE MOISTURE REMOVAL CAPABILITY OF THE LAND SEAL EXHAUSTER. TWO SUBSEQUENT AND UNRELATED SCRAMS DURING PLANT START-UP DELAYED COMPLETION OF SURVEILLANCE TESTING UNTIL NOVEMBER 14, 1939, WHEN MERCI WAS RETURNED TO SERVICE. RELATED LERS INCLUDE: LER-89-005 -HPCI INOPERABLE DUE TO ELECTRICAL GROUND AND LER-89-014 - HPCI INOPERABLE DUE TO MOISTURE IN LUBE OIL. [92] FITZPATRICK DOCKET 50-333 LER 89-024 REACTOR CORE ISOLATION COOLING SYSTEM UNAVAILABLE FOR FOURTEEN NINUTES DUE TO PROCEDURE DEFICIENCY AND HUMAN ERROR DURING SURVEILLANCE TESTING. EVENT DATE: 112989 REPORT DATE: 122789 NSSS: GE TYPE: BWR

(NSIC 216299) THE REACTOR CORE ISOLATION COOLING (RCIC)(EN) SYSTEM WAS RENDERED INOPERABLE FOR 14 MINS AT 1:C6 P.M. ON 11/29/89 WITH THE REACTOR OPERATING AT 100% POWER, A MONTHLY SURVEILLANCE TEST REQUIRED BY TECH SPECS IN TABLE 4.2-2 WAS BEING PERFORMED BY AN EXPERIENCED TECHNICIAN. THE TEST FUNCTIONALLY CHECKS PRESSURE SENSORS ON THE RCIC TURBINE EXHAUST LINE DOWNSTREAM FROM THE OVERPRESSURE RUPTURE DIAPHRAGMS. HIGH DIAPHRAGM EXHAUST PRESSURE SENDS A CLOSE SIGNAL TO PRIMARY CONTAINMENT ISOLATION VALVES ON THE RCIC STEAM SUPPLY LINE. WORKING FROM THE PROCEDURE PREREQUISITE SECTION, THE CIRCUIT BREAKER FOR THE INDOARD ISOLATION VALVE (LISTED FIRST) WAS OPENED IN THE MORNING SO THAT TESTING WOULD NOT CLOSE THE VALVE AND ISOLATE RCIC. AFTER A LUNCH BREAK THE TEST WAS CONTINUED USING THE PERFORMANCE SECTION WHICH TESTS THE INSTRUMENTS FOR THE OUTBOARD VALVE FIRST. THE TECHNICIAN SIGNED OFF A VALVE CIRCUIT BREAKER VERIFICATION STEP ASSUMING THAT IT WAS FOR THE BREAKER FOR THE OUTBOARD VALVE FIRST. THE TECHNICIAN SIGNED OFF A VALVE CIRCUIT BREAKER VERIFICATION STEP ASSUMING THAT IT WAS FOR THE STEP WAS FOR THE OUTBOARD VALVE FIRST. HE TECHNICIAN SIGNED OFF A VALVE CIRCUIT BREAKER VERIFICATION STEP ASSUMING THAT IT WAS FOR THE STEP WAS FOR THE OUTBOARD VALVE FIRST. HE TECHNICIAN SIGNED OFF A VALVE CIRCUIT BREAKER VERIFICATION STEP ASSUMING THAT IT WAS FOR THE STEP WAS FOR THE OUTBOARD VALVE. PERFORMING THE TEST CLOSED THE OUTBOARD VALVE BECAUSE THE CIRCUIT LREAKER HAD NOT BEEN OPENED. THE VALVE CLOSING WAS NOTED BY OPERATORS WHO REOPENED IT WITHIN 14 MINUTES. CORRECTIVE ACTION INCLUDED DISCUSSION WITH TECHNICIANS OF THE EVENT AND WAYS TO PREVENT REOCCURRENCE.

[93] FITZPATRICK DOCKET 50-333 LER 89-025 HIGH PRESSURE COOLANT INJECTION TURBINE INOPERABLE DUE TO HIGH STEAM FLOW ISOLATION FROM OVERLY CONSERVATIVE SETPOINT AND PERFORMANCE LIMITS. EVEN: DATE: 113089 REPORT DATE: 010290 NSSS: GE TYPE: BWR

(NSIC 216400) AT 4:46 A.M. ON 11/30/89 WITH THE REACTOR AT FULL POWER, THE MPCI (BJ) SYSTEM ISOLATED ON A HIGH STEAM FLOW SIGNAL DURING A SURVEILLANCE TEST INITIATING A 7-DAY LCO. AN EXTENSIVE TESTING PROGRAM WAS INITIATED TO IDENTIFY THE CAUSE. HFCI WAS REMOVED FRON SERVICE FOR MAINTENANCE AND FURTHER TESTING AT 4:05 P.M. HPCI WAS REMOVED FRON SERVICE FOR MAINTENANCE AND FURTHER TESTING AT 6:10 A.M. ON 12/5/89, INITIATING A SECOND 7-DAY LCO. IT FAILED TO MEET OPERABLLITY TESTING CRITERIA DURING SURVEILLANCE TESTING AT 10:00 P.M. BY REQUIRING MORE THAN 25 SECS TO ACHIEVE FULL FLOW. ADDITIONAL RECORDING INSTRUMENTS WERE CONNECTED, VENDOR FIELD ENGINEERS WERE OBTAINED AND EXTENSIVE TESTING WAS PERFORMED THROUGH 12/11/89 WHEN HPCI WAS DECLARED OPERABLE AT 7:31 P.M. THE NRC GRANTED A TEMPORARY WAIVER OF THE SETPOINT REQUIREMENTS FOR THE HIGH STEAM FLOW ISOLATION FRIOR TO EXPIRATION OF THE 7-DAY LCO AND APPROVED A TECH SPEC AMENDMENT INCREASING THE HIGH STEAM FLOW DIFFERENTIAL PRESSURE SETPOINT. PORC APPROVED INCREASING THE HIGH STEAM PLOW DAS IMPLEMENTED FOR HPCI FROM 25 TO 30 SECS. A 1981 VENDOR RECOMMENDATION WAS IMPLEMENTED INCREASING THE TURBINE START-UP RAMP TIME FROM 9 TO 15 SECS. CAUSES INCLUDED AN OVERLY CONSERVATIVE TECH SPEC LIMIT AND FSAR BASIS FOR MAXIMUM ACTUATION TIME AND IMPLEMENTATION OF A MORE CONSERVATIVE PROCEDURE.

[94] FT. CALHOUN 1 FAILURE TO COMPLY WITH HIGH RADIATION AREA ACCESS REQUIREMENTS. EVENT DATE: 121189 REPORT DATE: 011090 NSSS: CE TYPE: PWR

(NSIC 216385) ON DECEMBER 11, 1989, FORT CALHOUN STATION WAS OPERATING AT 100 PERCENT POWER IN MODE 1. A NUCLEAR SECURITY SERGEANT (NSS) PERFORMING AN HOURLY FIREWATCH PATROL ENTERED A POSTED HIGH RADIATION AREA WITHOUT MEETING THE ENTRY REQUIREMENTS FOR THAT AREA. THE NSS FAILED TO UTILIZE AN INTEGRATED ALARMING DOSIMETER WHILE IN THE HIGH RADIATION AFEA. THE NSS WAS IN THE ROOM FOR LESS THAN A MINUTE; LATER SURVEYS INDICATED THE DOSE RATE IN THE OCCUPIED AREA WAS APPROXIMATELY 0.4 MR/HR. THE CAUSE OF THIS EVENT WAS A COGNITIVE ERROR MADE BY THE NSS IN NOT REALIZING THE AREA ENTERED WAS A HIGH RADIATION AREA EVEN THOUGH THE DOOR WAS PLAINLY POSTED. THE NSS RECEIVED DISCIPLINARY ACTION. THIS REPORT IS BEING SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50.73(A)(2)(I)(E) FOR THE FAILURE TO COMPLY WITH THE REQUIREMENTS OF TECHNICAL SPECIFICATION 5.11.1. L 953 GINNA DOCKET 50-244 LER 89-016 DUE TO A DESIGN DEFICIENCY THE FAILURE OF THE SI BLOCK/UNBLOCK SWITCH COULD RENDER SOME AUTOMATIC ACTUATION FEATURES OF BOTH TRAINS OF SI INOPERABLE. EVENT DATE: 122089 REPORT DATE: 011290 NSSS: WE TYPE: PWR VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 216482) ON 11/17/89, AN INITIAL ENGINEERING EVALUATION WAS COMPLETED, WHICH IDENTIFIED A POTENTIAL PROBLEM WITH THE SAFETY INJECTION (SI) BLOCK/UNBLOCK SWITCH. ON 12/20/89, AT 1630 EST. WITH THE REACTOR AT APPROXIMATELY 99% FULL POWER. THE PLANT OPERATING REVIEW COMMITTEE (PORC) REVIEWED THE ENGINEERING EVALUATION. AND MADE A FINAL DETERMINATION THAT A SINGLE FAILURE OF THE SI ELOCK/UNBLOCK SWITCH COULD RENDER SOME AUTOMATIC ACTUATION FEATURES OF BOTH TRAINS OF SI INOPERABLE. THE PORC, AFTER REVIEWING THE SITUATION THOROUGHLY, CONCLUDED THAT SUFFICIENT JUSTIFICATION EXISTED FOR CONTINUED SAFE PLANT OPERATION. THE UNDERLYING CAUSE OF THE EVENT WAS A DESIGN ERROR WHICH OCCURRED DURING THE ORIGINAL CONSTRUCTION OF THE R.E. GINNA NUCLEAR POWER PLANT. IMMEDIATE CORRECTIVE ACTION WAS TAKEN TO VERIFY THAT THE PLUNGER POSITION OF THE SI BLOCK/UNBLOCK SWITCH CONTACTS WERE IN THE PROPER POSITION.

[96]	GRAND GULF 1	DOCKET 50-41	6 LER 89-007 REV 01
UPDATE EVENT E	ON RWCU ISOLATION DUE ATE: 050889 REPORT D	ATE: 011290 NSSS: GE	TYPE: BWR

(NSIC 216475) ON 5/8/89 THE REACTOR WATER CLEANUP (RWCU) SYSTEM ISOLATED ON A LEAK DETECTION DIFFERENTIAL FLOW SIGNAL WHILE SHIFTING RWCU OPERATION FROM THE PRE-PUMP TO THE POST-PUMP MODE AT A REACTOR PRESSURE OF 27 PSIG. OPERATORS CHECKED INSTRUMENTATION TO ENSURE NO ACTUAL LEAK HAD OCCURRED AND RESTORED RWCU TO SERVICE IN THE POST-PUMP MODE. AN EVALUATION OF THE RWCU SYSTEM OPERATION AND DESIGN WAS PERFORMED. IT WAS DETERMINED THAT A REACTOR PRESSURE OF 27 PSIG MAY NOT SUPPLY SUFFICIENT NET POSITIVE SUCTION HEAD (NPSH) TO FACILITATE SWITCHING RWCU OPERATION TO THE FOST-FUMP MODE. ADDITIONALLY, ERRONEOUS FLOW INDICATIONS MAY RESULT WHEN ESTABLISHING OR CEASING BLOWDOWN DUE TO THE VALVE LINEUP SEQUENCE IN RELATION TO THE LOCATION OF THE FLOW ELEMENT. OPERATING INSTRUCTIONS HAVE BEEN CHANGED TO REQUIRE SHIFTING FROM PRE-PUMP TO POST-PUMP MODES. AND VICE VERSA, AT APPROXIMATELY 100 PSIG REACTCR PRESSURE. VALVE LINEUPS HAVE ALSO BEEN MODIFIED TO PREVENT ERRONEOUS FLOW INDICATIONS DURING FUTURE BLOWDOWN MODES OF OPERATION.

[97] GRAND GULF 1 INSTRUMENTATION DESIGN BASIS REVIEW REVEALS APPARENT NONCONFORMANCES. EVENT DATE: 121589 REPORT DATE: 011290 NSSS: GE TYPE: BWR

(NSIC 216458) A DESIGN BASIS REVIEW OF INSTRUMENTATION REVEALED SEVERAL CASES OF APPARENTLY INAPPROPRIATE QUALITY LEVEL DESIGNATIONS. SPECIFICALLY, 71 DEVICES CLASSIFIED AS NON-SAFETY RELATED WERE IDENTIFIED IN CLASS 1E CIRCUITS. THIS CONDITION DOES NOT APPEAR TO MEET THE REQUIREMENTS OF REGULATORY GUIDE 1.75 FOR SUITABLE ISOLATION FROM CLASS 1E POWER SOURCES. THE CIRCUITS CONTAINING THE SUBJECT DEVICES WERE ROUTED, SEPARATED, AND PROTECTED AS CLASS 1E, THEREFORE, SYSTEM ENERGY DOES NOT EXPECT PHYSICAL SEPARATION OF THE CIRCUITS TO BE A CONCERN. A TEAM OF ENGINEERS REVIEWED THE SPECIFICS OF EACH OF THE IDENTIFIED NON-SAFETY RELATED APPLICATIONS IN CLASS 1E CIRCUITS AND DETERMINED THAT IN EACH CASE REASONABLE ASSURANCE EXISTED THAT THE CONDITIONS WOULD NOT DEGRADE THE INTERFACING SAFETY RELATED CIRCUITS OR FUNCTIONS. SYSTEM ENERGY HAS INITIATED ACTIONS TO REVIEW THE CIRCUIT DEFINITIONS AS THEY PERTAIN TO COMPLIANCE WITH REGULATORY GUIDE 1.75 REQUIREMENTS. THIS REVIEW IS ANTICIPATED TO BE COMPLETED BY FEBRUARY 15, 1990. OF THE 23,000 INSTRUMENTS INCLUDED IN THE INSTRUMENTATION DESIGN BASIS REVIEW, LESS THAN 150 ITEMS REMAIN TO BE RESOLVED.

L 983 HATCH 1 PERSONNEL ERROR RESULTS IN INCORRECT LIQUID RADWASTE DISCHARGE MONITOR SETPOINT. EVENT DATE: 112889 REPORT DATE: 122289 NSSS: GE TYPE: BWR OTHER UNITS INVOLVED: HATCH 2 (BWR) (NSIC 216292) ON 11/28/89 AT APPROX. 1600 CST, UNIT 1 WAS IN THE RUN MODE AT AN APPROX. POWER LEVEL OF 2436 MWT (APPROX. 100% OF RATED THERMAL POWER) AND UNIT 2 WAS IN COLD SKUTDOWN AT AN APPROX. POWER LEVEL OF 0 MWT. AT THAT TIME, PLANT CHEMISTRY PERSONNEL. WHILE DETERMINING EFFICIENCY FACTORS FOR NEWLY INSTALLED LIQUID RADWASTE (LRW) DISCHARGE RADIATION MONITORS (EIIS CODE MON), FOUND THAT THE EFFICIENCY FACTORS WHICH HAD BEEN USED FOR THE OLD MONITORS WERE INCORRECT. THIS DISCREPANCY WAS FOUND TC APPLY TO BOTH UNITS AND RESULTED IN THE ISOLATION SETPCINY OF THE LRW DISCHARGE MONITORING INSTRUMENTATION, WHICH IS A BACKUP TO ISOTOPIC ANALYSIS OF THE DISCHARGE TANK, BEING LESS CONSERVATIVE THAN IS REQUIRED BY UNIT 1 TECH SPECS SECTION 3.14.1 AND UNIT 2 TECH SPECS SECTION 3.3.6.9. ROOT CAUSE OF THIS EVENT IS COGNITIVE PERSONNEL ERROR BY PERSONNEL WHO WERE RESPONSIBLE FOR THE IMPLEMENTATION OF A NEW LRW DISCHARGE MONITOR COMPUTER IN 1985. SPECIFICALLY, AN UPDATED EFFICIENCY FACTOR WAS NOT INCORPORATED; THIS RESULTED IN CALCULATION OF NONCONSERVATIVE SETPOINTS FOR THE LRW DISCHARGE MONITORS. CORPECTIVE ACTIONS FOR THIS EVENT INCLUDED: 1) INSTALLING UPDATED EFFICIENCY FACTORS INTO SYSTEM SOFTWARE, 2) EXAMINING 10% OF PAST LRW DISCHARGE MONITORS. CORPECTIVE ACTIONS FOR THIS EVENT INCLUDED: 1) INSTALLING UPDATED EFFICIENCY FACTORS INTO SYSTEM SOFTWARE, 2) CUMNELING INVOLVED PERSONNEL.

L 993 HATCH 1 COMPONENT FAILURE RESULTS IN INOPERABILITY OF HIGH PRESSURE COOLANT INJECTION SYSTEM. EVENT DATE: 010490 REPORT DATE: 012290 NSSS: GE TYPE: BWR VENDOR: WOODWARD GOVERNOR COMPANY

(NSIC 216619) ON 1/4/90 AT APPROXIMATELY 0739 CST, UNIT 1 WAS IN THE RUN MODE AT AN APPROXIMATE POWER LEVEL OF 2430 CMWT (APPROXIMATELY 100% OF RATED THERMAL POWER). AT THAT TIME, THE HIGH PRESSURE COOLANT INJECTION (HPCI, EIIS CODE BJ) SYSTEM WAS DECLARED INOPERABLE BECAUSE RATED FLOW WAS NOT MAINTAINED DURING THE PERFORMANCE OF NORMAL SURVEILLANCE TESTING. AN INVESTIGATION LATER DISCOVERED THAT A FAILED RESISTOR RESULTED IN A LOSS OF THE POWER SUPPLY TO THE ELECTRONIC GOVERNOR CONTROLLING THE HPCI TURBINE SPEED. THE DEFECTIVE RESISTOR WAS REPLACED, PROCEDURE 34SV-E41-002-1S, "HPCI PUMP OPERABILITY", WAS PERFORMED SUCCESSFULLY, AND HPCI WAS DECLARED OPERABLE ON 1/4/90 AT APPROXIMATELY 1130 CST. THE CAUSE OF THIS EVENT IS COMPONENT FAILURE. A FAILED RESISTOR DE-ENERGIZED THE ELECTRONIC GOVERNOR POWER SUPPLY. THIS COMPONENT FAILURE APPEARS TO BE AN ISOLATED EVENT. THE CORRECTIVE ACTION WAS TO REPLACE THE RESISTOR ASSEMBLY AND VERIFY HPCI PUMP OPERABILITY.

[100] HATCH 2 EQUIPMENT FAILURE RESULTS IN A REACTOR PROTECTION SYSTEM ACTUATION. EVENT DATE: 112989 REPORT DATE: 122789 NSSS: GE TYPE: BWR

(NSIC 216356) ON 11/29/89, AT APPROX. 1220 CST, UNIT 2 WAS IN COLD SHUTDOWN. UNIT 2 STATION SERVICE AIR COMPRESSORS (SSAC) WERE BEING REPLACED WITH SCREW-TYPE AIR COMPRESSORS UNDER DESIGN CHANGE REQUEST (DCR) 86-356 TO IMPROVE THEIR RELIABILITY. SSAC "B" AND "C" HAD BEEN REPLACED WITH SSAC "C" IN SERVICE. MODIFICATION ACTIVITIES WERE STILL IN PROGRESS ON SSAC "A" AND "B". A TEMPORARY AIR COMPRESSOR HAD BEEN INSTALLED AND MAINTAINED IN A STANDEY CONDITION AS A BACKUP TO SSAC "C". AT APPROX. 1155 CST, SSAC "C" TRIPPED ON LOSS OF SYSTEM COOLING. DELAYS WERE ENCOUNTERED IN PLACING THE TEMPORARY COMPRESSOR-IN SERVICE AND LOW SYSTEM AIR PRESSURE RESULTED. LOW SYSTEM AIR PRESSURE ALLOWED THE SCRAM VALVES TO DRIFT OPEN RESULTING IN A DISCHARGE OF REACTOR WATER TO THE SCRAM DISCHARGE VOLUME (SDV). AT APPROX. 1220 CST A REACTOR PROTECTION SYSTEM (RPS) ACTUATION OCCURRED FROM AN SDV HIGH LEVEL CONDITION. COMPRESSOR WAS SUCCESSFULLY PLACED INTO SERVICE AND SSAC "C" RETURNED TO SERVICE SHORTLY THEREAFTER. ROOT CAUSE OF THE EVENT IS EQUIPMENT FAILURE. SSAC "C" TRIPPED DUE TO A MULTIMETER TEST LEAD WHICH DISENGAGED FROM THE MULTIMETER DURING TROUBLESHOOTING ACTIVITIES AND GROUNDED THE COOLING WATER CONTROL CIRCUIT. CORRECTIVE ACTIONS INCLUDE PLACING THE EACKUP TEMPORARY AIR COMPRESSOR INTO SERVICE, REPLACING A BLOWN FUSE IN THE SSAC COOLING WATER SYSTEM CONTROL CIRCUITRY AND RETURNING SSAC "C" TO SERVICE. LIGHT HATCH 2 LESS THAN ADEQUATE PROCEDURE RESULTS IN A MISSED TEC.: SPECS SURVEILLANCE. EVENT DATE: 120489 REPORT DATE: 010290 NSSS: GE TYPE: BWR

(NSIC 216409) ON 12/04/89, UNIT 2 WAS IN THE REFUELING MODE WITH THE FUEL LOADED IN THE CORE. NON-LICENSED PERSONNEL WERE REVIEWING PROCEDURE 57CP-CAL-162-25, "LEEDS AND NORTHRUP SPEEDOMAX 165 AND 250 MULTIPOINT RECORDER." FOR TECHNICAL SPECIFICATIONS COMPLIANCE AS PART OF AN ON-SOING VALIDATION OF THE PLANT'S COMMITMENT TRACKING SYSTEM DATABASE. AT APPROXIMATELY 0900 CST, ON 12/04/89, DURING THE REVIEW, IT WAS DETERMINED THAT THE PLANT WAS NOT FULLY MEETING THE SURVEILLANCE REQUIREMENTS OF UNIT 2 TECHNICAL SPECIFICATIONS TABLE 4.3.6.4-1. ITEM 10.8, CONCERNING CALIBRATION OF INSTRUMENTATION WHICH PROVIDES SECONDARY POSITION INDICATION FOR THE SAFETY RELIEF VALVES (SRV, EIIS CODE IP). SPECIFICALLY, THE ANNUNCIATOR FUNCTION OF THE INSTRUMENTATION WAS NOT BEING TESTED AS REQUIRED BY THE TECHNICAL SPECIFICATIONS; ALL OTHER REQUIRED TESTING WAS BEING PERFORMED FULLY. UPON DISCOVERY OF THE CONDITION, A DEFICIENCY CARD WAS WRITTEN AND LICENSED PERSONNEL WERE NOTIFIED. THE INSTRUMENTATION WAS NOT REQUIRED BY THE TECHNICAL SPECIFICATIONS TO BE OPERABLE AT THE TIME THE CONDITION WAS DISCOVERED. THE ANNUNCIATOR FUNCTION WAS SUBSEQUENTLY TESTED AND PROVEN OPERABLE ON 12/14/89. THE ROOT CAUSE OF THE EVENT IS A LESS THAN ADEQUATE PROCEDURE IN THAT PROCEDURE 57CP-CAL-162-2S DID NOT REQUIRE TESTING OF THE ANNUNCIATOR FUNCTION OF THE SAVE POSITION INDICATION INSTRUMENTATION.

[102] HOPE CREEK 1 DOCKET 50-354 LER 89-021 REV 01 UPDATE ON DEVIATION FROM ELECTRICAL SEPARATION CRITERIA BETWEEN TRANSIENT MONITORING CIRCUITRY AND REACTOR PROTECTION SYSTEM PANEL CIRCUITRY DUE TO INADEQUATE REVIEW OF DESIGN CHANGE PACKAGE. EVENT DATE: 101389 REPORT DATE: 122789 NSSS: GE TYPE: BWR

(NSIC 216333) ON 10/13/89, THE SENIOR NUCLEAR SHIFT SUPERVISOR (SNSS, SRO LICENSED) WAS INFORMED BY IEC SYSTEMS ENGINEERING THAT AN ENGINEERING REVIEW OF A DESIGN CHANGE AFFECTING THE GENERAL ELECTRIC TRANSIENT ANALYSIS RECORDING SYSTEM (GETARS) CONCLUDED THAT CLASS 1E ELECTRICAL SEPARATION CRITERIA HAD NOT BEEN MET IN AN REACTOR PROTECTION SYSTEM (RPS) PANEL. POWER FROM AN EXTERNAL CLASS 1E ENGINEERED SAFETY FEATURES (ESF) UNINTERRUPTABLE POWER SUPPLY (UPS) WAS CONNECTED TO A GETARS MULTIPLEXER WHICH INTERFACED WITH RPS CIRCUITRY, AND ADEQUATE ELECTRICAL SEPARATION WAS NOT PROVIDED. THIS CONFIGURATION WAS IN VIOLATION OF SEPARATION CRITERIA AS ESTABLISHED BY REG GUIDE 1.75. THE ROOT CAUSE OF THIS OCCURRENCE WAS THE INADEQUATE REVIEW OF A 1986 DESIGN CHANGE PACKAGE BY CONSTRUCTION SUPPORT PERSONNEL. ACTIONS WERE IMMEDIATELY TAKEN TO RECTIFY THE ELECTRICAL SEPARATION DEVIATIONS - PRIMARILY, REMOVING THE POWER SUPPLIES WHICH DID NOT CONFORM TO SEPARATION CRITERIA, AND RE-POWER SUPPLIES. OTHER CORRECTIVE ACTION INCLUDE SUBNITIING AN UFSAR CHANGE REQUEST TO REFLECT THE AS-EUILT DESIGN OF THE CURRENT CONFIGURATION AND IMPLEMENTING A DESIGN CHANGE TO RETURN THE GETARS MUXS TO ORIGINAL POWER SURCES.

[103]HOPE CREEK 1DOCKET 50-354LER 89-024FAILURE TO INCREASE SURVEILLANCE FPEQUENCY BASED ON ASME INSERVICE TEST PROCEDURERESULTS DUE TO INACCURATE RECORDING AND INADEQUATE REVIEW OF TEST RESULTS.EVENT DATE: 112989REPORT DATE: 122889NSSS: GETYPE: BWRVENDOR: HILLER, RALPH A., CO.

(NSIC 216353) ON 11/29/89. DURING A TREND ANALYSIS OF PREVIOUS INSERVICE TEST (157) RESULTS, IT WAS DETERMINED THAT THE SURVEILLANCE FREQUENCY FOR SAFETY AUXILIARIES COOLING SYSTEM (SACS) VALVE EG-HV-2302B (COOLING WATER VALVE FOR THE "B" FILTRATION, RECIRCULATION, AND VENTILATION SYSTEM RECIRC UNIT) SHOULD HAVE BEEN INCREASED BASED ON PREVIOUS IST RESULTS. DURING SCHEDULFD QUARTERLY TESTING ON 7/17/89, THE SUBJECT VALVE EXCEEDED ITS MAXIMUM ALLOWABLE STROKE TIME, WHICH EY ASME SECTION XI, IWV-3417, REQUIRED INCREASING THE PERIODICITY OF SURVEILLANCE TO A MONTHLY BASIS. CONTRARY TO THESE REQUIREMENTS (AS REFLECTED IN THE STATION IST PROGRAM), THE SURVEILLANCE FREQUENCY WAS NOT INCREASED. A PERSONNEL ERROR DURING THE IST DATA RECORDING WAS THE ROOT CAUSE OF THIS EVENT. A LESS THAN ADEQUATE REVIEW OF THE TEST RESULTS CONTRIBUTED TO THE FAILURE TO RECOGNIZE THE NEED FOR INCREASING THE SURVEILLANCE FREQUENCY. CORRECTIVE ACTIONS INCLUDE COUNSELLING FOR THE PERSONNEL DIRECTLY INVOLVED IN THIS OCCURRENCE. ADDITIONALLY, A FAILURE ANALYSIS OF THE SUBJECT VALVE WILL BE CONDUCTED, AT THE FIRST AVAILABLE OPPORTUNITY. TO DETERMINE THE CAUSE OF THE VALVE FAILING TO MEET STROKE TIME REQUIREMENTS.

[104]	NUMBOLDT BAY	DOCKET 50-133	LER 89-002
VESTIGIAL	RADIOACTIVE CONTAMINATION DURING	OPERATION.	
EVENT DATI	E: 081689 REPORT DATE: 010490	NSSS: GE	TYPE: EWR

(NSIC 216372) THIS VOLUNTARY LER IS BEING SUBMITTED FOR INFORMATIONAL PURPOSES ONLY. AS DESCRI BED IN ITEM 19 OF SUPPLEMENT 1 TO NUREG 1022. FIXED FADIOACTIVE CONTAMINATION HAS BEEN IDENTIFIED 'ON-SITE' OUTSIDE THE UNIT 3 SAFSTOR LICENSE RESTRICTED AREA, AS DEFINED BY 10 CFR 20.3(A)(14). THE PRESENCE OF DETECTABLE CONTAMINATION OUTSIDE THE RESTRICTED AREA IS NOT ADDRESSED IN THE SAF STOR LICENSE. THE WHOLE BODY RADIATION LEVELS ASSOCIATED WITH THE CONTAMINATION DO NOT EXCEED THE LIMITS OF 10 CFR 20.105(B). THIS AREA IS NOT OPEN TO PUBLIC ACCESS. THE AREA WAS CONTAMINATED DURING OPERATION (SEPTEMBER, 1973). CONTAMINATED GRAVEL AND SOIL WERE SUBSEQUENTLY REMOVED, AND PAVED AREAS WERE DECONTAMINATED WITH DETERGENT. AFTER DECONTAMINATION, RESIDUAL RADIOACTIVITY WAS FIXED BY AFPLYING AN ADDITIONAL LAYER OF PAVEMENT TO THE ROADWAY. BECAUSE THE RADIATION LEVELS FROM THE RESIDUAL CONTAMINATION WERE NOT SIGNIFICANT (COMPARED TO THE THEN EXISTING 'BACKGROUND' RADIATION FROM THE ADJACENT UNIT 3 LIQUID RADWASTE TANKS). THE AREA WAS NOT CONSIDERED TO BE A 'CONTROLLED' AREA. CURRENT MEASUREMENTS HAVE REIDENTIFIED THIS AREA AS CONTAMINATED, AND DECONTAMINATION HAS BEEN PERFORMED.

[105]	INDIAN POI	NT 2		DOCKET	50-247	LER 89-013
REACTOR	TRIP CAUSED	BY LOW TUP	BINE OIL	PRESSURE.		
EVENT DA	ATE: 121389	REPORT DA	TE: 01129	NSSS:	WE	TYPE: PWR
VENDOR:	COPES-VULCAN	. INC.				

(NSIC 216483) ON 12/13/89, WHILE THE PLANT WAS AT 100% POWER, A MOMENTARY DECREASE IN MAIN TURBINE GOVERNOR OIL PRESSURE, EROUGHT ABOUT BY OPERATOR ACTION, ACTUATED THE "TURBINE TRIPPED" LOGIC (TURBINE STILL RESET) WHICH IN TURN GENERATED A REACTOR TRIP SIGNAL. THE SUBSEQUENT REACTOR TRIP GENERATED A TURBINE TRIP SIGNAL CAUSING A TURBINE AND GENERATOR TRIP. FOLLOWING THE TRIP AND DATA REVIEW, IT WAS DETERMINED THAT REACTOR COOLANT SYSTEM LETDOWN ISOLATION DID NOT OCCUR, AND THAT LOOP 23 PRESSURIZER SPRAY FLOW WAS UNEXPECTEDLY REDUCED TO AN INSUFFICIENT AMOUNT DUE TO AN INCORRECT BYPASS VALVE POSITION, CAUSING LOWER THAN EXPECTED TEMPERATURES IN THE ASSOCIATED SPRAY LINE.

[106] LA SALLE 1 DOCKET 50-373 LER 89-028 SHUTDOWN COOLING OUTBOARD ISOLATION VALVE AUTOMATIC CLOSURE DUE TO MISCOMMUNICATION ERROR DURING INSTRUMENT SURVEILLANCE. EVENT DATE: 120489 REPORT DATE: 122289 NSSS: GE TYPE: EWR

(NSIC 216357) ON 12/4/89 WITH UNIT 1 IN THE REFUEL MODE (OPERATIONAL CONDITION 5) THE 1E12-F008 RESIDUAL HEAT REMOVAL SHUTDOWN COOLING SUCTION HEADER OUTBOARD ISOLATION VALVE AUTOMATICALLY ISOLATED DURING THE PERFORMANCE OF LASALLE INSTRUMENT SURVEILLANCE LIS-NE-111, "UNIT 1 REACTOR HIGH PRESSURE SHUTDOWN COOLING ISOLATION CALIBRATION." THE 1E12-F008 VALVE IS NORMALLY DEENERGIZED OR CLOSED TO PREVENT AN AUTOMATIC ISOLATION DURING THE PERFORMANCE OF LIS-NE-111, BUT DUE TO A MISCOMMUNICATION BETWEEN THE INSTRUMENT MAINTENANCE TECHNICIAN REQUESTING THE 1E12-F008 VALVE BREAKER TO EE DE-ENERGIZED AND THE UNIT 1 NUCLEAR STATION OPERATOR (NSO, LICENSED REACTOR OPERATOR), THE BREAKER WAS RE-ENERGIZED PRIOR TO COMPLETING THIS SURVEILLANCE. THIS EVENT HAD NO EFFECT ON SHUTDOWN COOLING BECAUSE DECAY HEAT REMOVAL WAS BEING PROVIDED BY AN ALTERNATE METHOD. AFTER THE AUTOMATIC ISOLATION OF THE 1E12-F008 VALVE, IT WAS LEFT IN THE CLOSED POSITION AND THE SURVEILLANCE WAS COMPLETED WITHOUT ANY FURTHER EVENT. A TASK FORCE WAS DEVELOPED TO REVIEW THIS EVENT AND SIMILAR EVENTS TO DETERMINE WHAT CORRECTIVE ACTIONS WILL BE IMPLEMENTED TO MINIMIZE RECURRENCE OF MISCOMMUNICATION EVENTS. THIS REPORT IS BEING SUBMITTED TO THE REQUIREMENTS OF 10CFR50.73(A)(2)(IV) DUE TO THE ACTUATION OF AN ENGINEERED SAFETY FEATURE SYSTEM.

LA SALLE 2 UPDATE ON SPURIOUS REACTOR PROTECTION SYSTEM ACTUATION DUE TO UNKNOWN CAUSE. EVENT DATE: 082689 REPORT DATE: 010490 NSSS: GE TYPE: BWR VENDOR: GENERAL ELECTRIC CORP. (NUCLEAR ENG DIV)

(NSIC 216358) ON 8/26/89, A CONTROLLED SHUTDOWN WAS IN PROGRESS ON UNIT 2. WHILE CONDUCTING LOS-TG-SA2, "TURBINE VALVE LEAK TIGHTNESS SURVEILLANCE," A REACTOR PROTECTION SYSTEM (RPS) ACTUATION OCCURRED AT 0414 HOURS. WHEN THE ACTUATION SIGNAL WAS RECEIVED, TWO OF THE FOUR SCRAM GROUP LIGHTS OF THE RPS BUS "A" A REMAINED ENERGIZED. THIS PREVENTED SOME OF THE RODS FROM RECEIVING THE NORMAL AUTOMATIC SCRAM ACTUATION. ROD MOTION APPEARS TO HAVE INITIATED FOR THESE RODS DUE TO THE CHANNEL "A" BACKUP SCRAM ACTUATION WHICH OCCURRED AT THE SAME TIME AS THE INITIAL EVENT. THE CONTROL ROOM OPERATOR MANUALLY INITIATED A NORMAL SCRAM SIGNAL A FEW SECONDS LATER USING THE A2 AND B2 SCRAM PUSHBUTTONS. AT THIS TIME ALL THE REMAINING SCRAM VALVES DEENERGIZED, INDICATING THAT THE SCRAM HAD OCCURRED. BEFORE THE TURBINE VALVE TEST WAS STARTED, THE MATHAWAY SEQUENCE OF EVENTS ALARM TYPER WAS TURNED OFF DUE TO ITS CONSTANT PRINTING CAUSED BY ALARM ANALYZING THE REACTOR TRIP WAS NOT AVAILABLE. AT THE TIME OF THE TRIP, NO PLANT PARAMETERS EXCEEDED THEIR TRIP SETPOINTS. AS A RESULT OF THE MISSING INFORMATION, SEVERAL SCENARIOS WERE DEVELOPED USING AVAILABLE INFORMATION IN AN ATTEMPT TO DETERMINE THE RALS OF THE REACTOR TRIP. AT THIS TIME A DEFINITION FOR THEIR REACTOR TRIP WAS NOT AVAILABLE. AT THE TIME OF THE TRIP, NO PLANT PARAMETERS EXCEEDED THEIR TRIP SETPOINTS. AS A RESULT OF THE MISSING INFORMATION, SEVERAL SCENARIOS WERE DEVELOPED USING AVAILABLE INFORMATION IN AN ATTEMPT TO DETERMINE THE CAUSE OF THE REACTOR TRIP. AT THIS TIME A DEFINITE CAUSE FOR THE TRIP HAS NOT BEEN DETERMINED.

[108] LA SALLE 2 REACTOR CORE ISOLATION COOLING SYSTEM INOPFRABLE DUE TO 250 V BATTERY LOW TEMPERATURES CAUSED BY FAILED DAMPER AND LOW OUTSIDE AIR TEMPERATURES. EVENT DATE: 121689 REPORT DATE: 011590 NSSS: GE TYPE: EWR VENDOR: ITT GENERAL CONTROLS

(NSIC 216472) ON 12/16/89, AT 0615 HOURS, WITH UNIT 2 IN OPERATIONAL CONDITION 1 (RUN) AT 99% POWER, THE UNIT 2 250V BATTERY WAS DECLARED INOPERABLE DUE TO LOW BATTERY ELECTROLYTE TEMPERATURES. SINCE THIS BATTERY SERVES AS A POWER SUPPLY TO THE REACTOR CORE ISOLATION COOLING SYSTEM (RCIC), THE RCIC SYSTEM WAS ALSO DECLARED INOPERABLE. PREVIOUS CALCULATIONS ON THIS BATTERY INDICATED IT WOULD NOT MEET ITS LOADING REQUIREMENT AS DEFINED IN THE LASALLE UPDATED FINAL SAFETY ANALYSIS REPORT AT ELECTROLYTE TEMPERATURES BELOW 65F. UPON INSPECTION, THE 250V BATTERY PILOT CELL ELECTROLYTE TEMPERATURES WERE FOUND TO BE 58 AND 60F. CAUSE OF THIS EVENT WAS THE FAILURE OF TWO DIVISION I SWITCHGEAR HEAT REMOVAL SYSTEM DAMPER ACTUATORS COUPLED WITH SUB-ZERO OUTSIDE AIR TEMPERATURES. TWO DAMPERS INVOLVED FAILED TO FULLY CLOSE. RESULTING IN SUB-ZERO OUTSIDE AIR ADMISSION TO THE SWITCHGEAR VENTILATION SYSTEM. THE CONSEQUENCES OF THIS EVENT WERE MINIMAL. THE HIGH PRESSURE CORE SPRAY SYSTEM WAS FULLY OPERABLE THROUGHOUT THIS EVENT. AS WAS THE DIVISION I AND DIVISION II LOW PRESSURE ENERGENCY CORE COOLING SYSTEMS. SHORT TERM CORRECTIVE ACTIONS WERE TO MANUALLY CLOSE THE OUTSIDE AIR INTAKE DAMPERS AND PLACE THE VENTILATION SYSTEM IN THE RECIRCULATION MODE BY OPENING THE RECIRCULATION DAMPER. SATISFACTORY 250V BATTERY ELECTROLYTE TEMPERATURES WERE VERIFIED ON 12/17/89.

[109] LIMERICK 1	DOCKET 50-352	LER 89-049
DIESEL GENERATOR SURVEILLANCE TEST FAILURE.		
EVENT DATE: 081589 REPORT DATE: 091389	NSSS: GE	TYPE: BWR
VENDOR: COLT INDUSTRIES. INC.		

(NSIC 216364) ON AUGUST 15, 1989, THE UNIT 1 D14 DIESEL GENERATOR WAS SHUTDOWN DURING A TECHNICAL SPECIFICATION (TS) OPERABILITY SURVEILLANCE TEST. APPROXIMATELY 45 MINUTES AFTER THE ENGINE START PER THE APPROVED PROCEDURE. A LOCAL OPERATOR VERIFIED A POSITIVE CRANKCASE PRESSURE INDICATION AFTER THE LOW CRANKCASE VACUUM ALARM ANNUNCIATED. THE TERMINATED TEST WAS CLASSIFIED AS AN INVALID TEST FAILURE PER REGULATORY GUIDE 1.108. THE D14 DIESEL GENERATOR WAS DECLARED INOPERABLE AND AN INVESTIGATION INTO THE POSITIVE CRANKCASE PRESSURE WAS INITIATED. ON AUGUST 18, 1989, THE D14 DIESEL GENERATOR WAS RUN SUCCESSFULLY AND DECLARED OPERABLE. THE CAUSE OF THE EVENT WAS MOT DETERMINED AS THE PROBLEM DID NOT OCCUR ON ANY SUBSEQUENT TEST FUNS AND INSPECTIONS DID NOT DISCOVER ANY ABNORMALITIES. THE CONSEQUENCES OF THIS EVENT WERE MINIMAL BECAUSE THE FAILURE WAS DISCOVERED DURING ROUTINE SURVEILLANCE AND THE REMAINING OPERABLE DIESEL GENERATORS COULD HAVE PROVIDED ADERU'ATE POWER TO ENSURE SAFE SHUTDOWN OF THE PLANT IN THE EVENT OF A LOSS OF OFFSITE POWER. THIS SPECIAL REPORT IS BEING SUBMITTED FURSUANT TO TS 6.9.2 AND TS 4.8.1.1.3.

REFUEL FLOOR SECONDARY CONTAINMENT ISOLATION ON LOW DIFFERENTIAL PRESSURE DUE TO SEVERE STORM. EVENT DATE: 112089 REPORT DATE: 121989 NSSS: GE TYPE: BWR OTHER UNITS INVOLVED: LIMERICK 2 (BWR)

(NSIC 216265) ON 11/20/89, AT 2053 HOURS, THE REFUEL FLOOR (RF) SECONDARY CONTAINMENT ISOLATED ON LOW NEGATIVE DIFFERENTIAL PRESSURE BETWEEN THE RF SECONDARY CONTAINMENT AND THE OUTSIDE ENVIRONMENT AND THE STANDBY GAS TREATMENT SYSTEM INITIATED, BOTH ENGINEERED SAFETY FEATURES. BOTH SYSTEMS FUNCTIONED AS DESIGNED. A SEVERE STORM FRONT PASSING THROUGH THE AREA DROPPED THE OUTSIDE AIR TEMPERATURE 15F AND HAD WIND GUSTS UP TO 70 MPH. THE TEMPERATURE DROP CAUSED COLD AIR TO EXPAND AS IT ENTERED THE RF RAISING ITS PRESSURE AND ALSO THE WIND MAY HAVE AFFECTED THE ABILITY OF THE RF VENTILATION WAS RESTORED, AT 2110 HOURS, AFTER THE STORM FRONT HAD PASSED. A NOTE HAS BEEN ADDED TO THE SPECIAL EVENT PROCEDURE ON HIGH WINDS TO IDENTIFY THE POSSIBILITY OF AN ISOLATION IN THESE CIRCUMSTANCES.

 [111]
 LIMERICK 1
 DOCKET 50-352
 LER 89-058

 REACTOR WATER CLEANUP ISOLATION ON HIGH DIFFERENTIAL FLOW DUE TO A FAILURE OF A
 FLOW SUMMER CARD.

 EVENT DATE:
 112389
 REPORT DATE:
 122689
 NSSS: GE
 TYPE: BWR

 VENDOR:
 BAILEY METER COMPANY
 DATE:
 122689
 NSSS: GE
 TYPE:

(NSIC 216331) ON NOVEMBER 23, 1989, AN ACTUATION OF A GROUP III PRIMARY CONTAINMENT AND REACTOR VESSEL ISOLATION CONTROL SYSTEM OCCURRED RESULTING IN AN AUTOMATIC ISOLATION OF THE REACTOR WATER CLEANUP (RWCU) SYSTEM OUTBOARD PRIMARY CONTAINMENT ISOLATION VALVE, HV-44-1F004. THE IBC TECHNICIANS IDENTIFIED THAT A FLOW SUMMER CARD, FY-44-1K604D, WHICH IS A COMPONENT IN THE RWCU ISOLATION INITIATION LOGIC. FAILED, CAUSING A HIGH DIFFERENTIAL FLOW ISOLATION SIGNAL. THE FLOW SUMMER CARD WAS REPLACED AND A CALIBRATION/FUNCTIONAL SURVEILLANCE TEST WAS PERFORMED TO VERIFY CORRECT FUNCTIONING OF THE NEWLY INSTALLED FLOW SUMMER CARD AND LOGIC. THE RWCU SYSTEM WAS RETURNED TO SERVICE ON NOVEMBER 23, 1939, AFTER BEING ISOLATED FOR 10 HOURS AND 36 MINUTES. DURING THIS TIME PERIOD, THE REACTOR WATER CHEMISTRY REMAINED WITHIN THE LIMITS SPECIFIED BY TECHNICAL SPECIFICATIONS AND RETURNED TO PRE-EVENT CONDITIONS EY NOVEMBER 25, 1989. THE ISOL/TION OF THE RWCU SYSTEM DUE TO A FAILED FLOW SUMMER CARD IS A FIRST OCCURRENCE AND THEREFORE IS CONSIDERED TO BE AN ISOLATED OCCURRENCE.

(**e**);

LIMERICK 1 UNIT 1 AND UNIT 2 PRIMARY CONTAINMENT REACTOR VESSEL ISOLATION CONTROL SYSTEM ACTUATIONS DUE TO A PERSONNEL ERROR DURING SURVEILLANCE TESTING. EVENT DATE: 120689 REPORT DATE: 010390 NSSS: GE TYPE: BWR OTHER UNITS INVOLVED: LIMERICK 2 (BWR)

(NSIC 216406) ON 12/6/89, AT 0958 HOURS, WHILE UNIT 1 WAS AT POWER AND UNIT 2 WAS SHUT DOWN FOR AN OUTAGE. AN INSTRUMENTATION AND CONTROLS (I&C) TECHNICIAN INADVERTENTLY GROUNDED A TEST JACK WHICH RESULTED IN A BLOWN FUSE DURING THE PERFORMANCE OF A UNIT 1 SURVEILLANCE TEST. THIS LOSS OF POWER CAUSED BY THE BLOWN FUSE RESULTED IN AUTOMATIC PRIMARY CONTAINMENT REACTOR VESSEL ISOLATION CONTROL SYSTEM (PCRVICS) ACTUATIONS OF UNIT 1 AND UNIT 2 ISOLATION VALVES AND SYSTEMS, ENGINEERED SAFETY FEATURES. THE BLOWN FUSE WAS THEN REPLACED BY THE IBC TECHNICIANS. ALL PCRVICS ISOLATIONS WERE RESET. AND NORMAL SYSTEM OPERATIONS WERE RESTORED BY THE MAIN CONTROL ROOM OPERATORS BY 1030 HOURS. THE CONSEQUENCES OF THIS EVENT WERE MINIMAL. THE UNIT 1 PORVICS ISOLATION VALVES AND SYSTEM ACTUATIONS FUNCTIONED AS DESIGNED. UNIT 2 WAS SHUTDOWN, AND THERE WERE NO ADVERSE CONSEQUENCES ASSOCIATED WITH THE VALVE ACTUATIONS THAT OCCURRED ON UNIT 2. THE CAUSE OF THIS EVENT WAS A PERSONNEL ERROR DUE TO A LACK OF ATTENTION TO DETAIL BY AN ISC TECHNICIAN. THE ISC TECHNICIANS INVOLVED WITH THIS EVENT WERE COUNSELED. SEVERAL CORRECTIVE ACTIONS WILL BE IMPLEMENTED TO MINIMIZE THE POSSIBILITY OF SIMILAR EVENTS.

 [113]
 LIMERICK 1
 DOCKET 50-352
 LER 89-060

 STANDBY GAS TREATMENT SYSTEM IN DEGRADED CONDITION DUE TO WELD FAILURES AND
 LEAKAGE OF CHARCOAL FROM ADSOREER FILTERS.
 EVENT DATE: 121389
 REPORT DATE: 011090
 NSSS: GE
 TYPE: BWR

 OTHER UNITS INVOLVED: LIMERICK 2 (BWR)
 VENDOR: AMERICAN AIR FILTER CO., INC.
 NC.

(NSIC 216454) ON DECEMBER 12, 1989, THE 'A' STANDEY GAS TREATMENT SYSTEM (SGTS) CHARGOAL FILTER WAS DISCOVERED TO BE IN A DEGRADED CONDITION WITH POSSIBLE BYPASS LEAKAGE PATHS THROUGH THE CHARGOAL FILTER BED. THIS CONDITION PROVIDED THE POTENTIAL FOR SGTS FILTER EYPASS LEAKAGE TO BE GREATER THAN THE TECHNICAL SPECIFICATIONS (TS) SURVEILLANCE ALLOWAELE LIMIT OF 0.05% AND COULD HAVE PREVENTED THE SGTS FROM FULFILLING ITS INTENDED SAFETY FUNCTION. SEVERAL CHARCOAL FILTER ASSEMBLY WELDS FAILED. CREATING OPENINGS (HOLES) AT THE BOTTOM OF THE OUTER (DOWNSTREAM) SCREEN OF THE FILTER ASSEMBLY. ON THE 'A' SGTS FILTER. APPROXIMATELY 2.5 CUBIC FEET OF CHARCOAL HAD LEAKED OUT AND THE LEVEL OF CHARCOAL WAS LOWER THAN THE NORMAL FULL CONDITION. ON DECEMBER 18, 1989, A SIMILAR DEGRADED CONDITION OF THE 'S SGTS CHARCOAL HAVING LEAKED OUT, BUT THE LEVEL OF CHARCOAL REMAINED AT THE NORMAL FULL CONDITION. AFTER A THOROUGH INSPECTION, THE DAMAGED FILTER SCREENS WERE REPAIRED, CHARCOAL REPLACED, AND THE SGTS RETURNED TO OPERABLE STATUS. WE ARE CONTINUING TO EVALUATE THE CAUSE OF THE WELD FAILURES. AS AN AUGHENTED SURVEILLANCE ACTIVITY, EACH SGTS CHARCOAL FILTER BED WILL BE INSPECTED MONTHLY, FOLLOWING THE TS REQUIRED SYSTEM FLOW TEST.

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LIMERICK 2 UPDATE ON PREPLANNED REACTOR CORE ISOLATION COOLING SYSTEM INJECTIONS AND HIGH PRESSURE COOLANT INJECTION SYSTEM INJECTIONS. EVENT DATE: 082089 REPORT DATE: 122989 NSSS: GE TYPE: BWR

(NSIC 216332) BETWEEN AUGUST 20, 1989 AND SEPTEMBER 25, 1989, EIGHT REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM INJECTIONS INTO THE REACTOR COOLANT SYSTEM (RCS) OCCURRED UNDER THE PURVIEW OF THE UNIT 2 START-UP TEST PROGRAM (STP). BETWEEN OCTOBER 23, 1989 AND OCTOBER 26, 1989, THREE HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM INJECTIONS INTO THE RCS OCCURRED UNDER THE PURVIEW OF THE UNIT 2 STP. ADDITIONALLY, ON DECEMBER 1, 1989, ONE RCIC AND THREE HPCI SYSTEM INJECTIONS INTO THE RCS OCCURRED UNDER THE PURVIEW OF THE UNIT 2 STP. ADDITIONALLY, ON DECEMBER 1, 1989, ONE RCIC AND THREE HPCI SYSTEM INJECTIONS INTO THE RCS OCCURRED UNDER THE PURVIEW OF THE UNIT 2 STP. THESE RCIC AND HPCI SYSTEM TESTS WERE COMPLETED-SATISFACTORILY. THIS SPECIAL REPORT IS BEING SUBMITTED PURSUANT TO TECHNICAL SPECIFICATIONS (TS) REPORTING REQUIREMENT 6.9.2, AS REQUIRED BY TS ACTIONS 3.7.3.B AND 3.5.1.F. THIS SPECIAL REPORT REVISION REPORTS THE LAST OF ALL EXPECTED RCIC SYSTEM AND HPCI SYSTEM INJECTIONS PLANNED TO BE PERFORMED DURING THE UNIT 2 START-UP TEST PROGRAM.

LIMERICK 2 UNPLANNED ACTUATION OF THE PRIMARY CONTAINMENT AND REACTOR VESSEL ISOLATION CONTROL SYSTEM DUE TO A PLANT OPERATIONS PROCEDURE DEFICIENCY. EVENT DATE: 120289 REPORT DATE: 122989 NSSS: GE TYPE: BWR

(NSIC 216360) ON 12/2/89, WITH THE REACTOR IN COLD SHUTDOWN, AN UNEXPECTED ACTUATION OF THE PRIMARY CONTAINMENT AND REACTOR VESSEL ISOLATION CONTROL SYSTEM (PCRVICS) OCCURRED. THE PRIMARY CONTAINMENT, GROUP IA (MAIN STEAM ISOLATION VALVES AND MAIN STEAM LINE DRAIN VALVES) ISOLATION SIGNAL RESULTED FROM THE 'MAIN TURBINE CONDENSER VACUUM - LOW' ACTUATION LOGIC. THIS EVENT OCCURRED WHILE PLANT OFERATORS WERE IMPLEMENTING GENERAL PLANT PROCEDURE GP-3, "NORMAL PLANT SHUTDOWN, " AND BREAKING THE MAIN CONDENSER VACUUM. ALL GROUP IA VALVES WERE CLOSED PRIOR TO THE ISOLATION SIGNAL, THEREFORE, NO VALVE MOVEMENT OCCURRED AND THERE WERE NO ADVERSE CONSEQUENCES FROM THIS EVENT. THE CONDENSER LOW VACUUM ISOLATION BYPASS SWITCHES WERE PLACED IN BYPASS AND THE PCRVICS GROUP IA ISOLATION SIGNAL WAS RESET. THE CAUSE OF THE EVENT WAS INSUFFICIENT GUIDANCE IN GENERAL PLANT (GP) PROCEDURE EVENT WAS INSUFFICIENT GUIDANCE IN GENERAL PLANT (GP) FROCEDURE EVENT WAS INSUFFICIENT GUIDANCE IN GENERAL PLANT REVISED BY ADDING A STEP TO ENSURE THAT THE LOW CONDENSER VACUUM ACTUATION LOGIC TO PCRVICS IS BYPASSED FRIOR TO BREAKING THE MAIN CONDENSER VACUUM. THE APPROPRIATE GP PROCEDURES WILL BE REVIEWED AND REVISED IF OTHER INSTANCES OF INSUFFICIENT GUIDAWCE EXIST.

 [116]
 LIMERICK 2
 DOCKET 50-353
 LER 89-015

 LOSS OF POWER TO REACTOR PROTECTION SYSTEM PANEL CAUSED BY FAILURE OF STATIC
 INVERTER SWITCH COMPONENT.
 EVENT DATE: 122389
 REPORT DATE: 011990
 NSSS: GE
 TYPE: BWR

 VENDOR:
 EXIDE POWER SYSTEMS
 ONER SYSTEMS
 DOCKET S0-353
 LER 89-015

(NSIC 216608) ON DECEMBER 23, 1989, DURING STARTUP FROM AN OUTAGE AND ON DECEMBER 24, 1989 DURING LOW POWER OPERATION, A PROBLEM WITH THE STATIC INVERTER CAUSED A LOSS OF POWER TO THE '2B' REACTOR PROTECTION SYSTEM (RPS)/UNINTERRUPTABLE POWER SUPPLY STATIC INVERTER CAUSED A LOSS OF POWER TO THE '2B' RPS DISTRIBUTION PANEL, 289160. AS A RESULT, VARIOUS AUTOMATIC PRIMARY CONTAINMENT REACTOR VESSEL ISOLATIOM CONTROL SYSTEM ISOLATIONS. ENGINEERED SAFETY FEATURE (ESF) ACTUATIONS, OCCURRED. IN ADDITION, REACTOR ENCLOSURE AND REFUEL FLOOR VENTILATION SYSTEMS ISOLATED AND THE REACTOR ENCLOSURE-RECIRCULATION SYSTEM AND THE STANDEY GAS TREATMENT SYSTEM STARTED, ALSO ESF ACTUATIONS. BOTH REACTOR RECIRCULATION PUMPS TRIPPED. ALL SYSTEMS RESPONDED AS DESIGNED. ALL ISOLATIONS WERE RESET AND SYSTEMS WERE RETURNED TO SERVICE PRONPTLY AND THERE WAS NO ADVERSE IMPACT ON FLANT OPERATIONS. THE CAUSE OF THE LOSS OF POWER FROM THE INVERTER WAS TRACED TO A FROBLEM IN THE GATE DRIVE BOOST CARD ON THE STATIC INVERTER. THE FAILED CARD WAS REPLACED ON DECEMBER 26, 1989. RELIABILITY OF THE STATIC INVERTERS IS BEING EVALUATED.

 [117]
 MCGUIRE 1
 DOCKET 50-369
 LER 89-028

 CONTROL ROOM VENTILATION WAS TECHNICALLY INOPERABLE DUE TO A GAP AROUND THE
 CONTROL ROOM AIR HANDLING UNIT ACCESS DOOR BECAUSE OF A POSSIBLE INSTALLATION

 DEFICIENCY.
 EVENT DATE: 120489
 REPORT DATE: 012190
 NSSS: WE
 TYPE: PWR

 OTHER UNITS INVOLVED:
 MCGUIRE 2 (PWR)
 CONS
 CONS
 CONS

(NSIC 216613) ON 12/4/89, SELF INITIATED TECHNICAL AUDIT (SITA) TEAM PERSONNEL WERE PERFORMING A VISUAL EVALUATION OF CONTROL ROOM VENTILATION (VC) SYSTEM CONPONENTS AND IDENTIFIED A GAP AROUND THE VC AIR HANDLING UNIT (AHU) ACCESS DOOR. ON 12/5/89, SITA TEAM PERSONNEL DOCUMENTED THEIR CONCERN THAT THE GAP AROUND THE ACCESS DOOR COULD ALLOW AN ADDITIONAL INLEAKAGE OF UNFILTERED AIR INTO THE CONTROL ROOM (CR). THIS LEAKAGE COULD HAVE RESULTED IN THE RADIATION DOSE TO CR PERSONNEL EXCEEDING THAT ASSUMED BY THE DESIGN BASIS ANALYSIS. ON 12/22/89. DESIGN ENGINEERING PERSONNEL PERFORMED A PAST OPERABILITY DETERMINATION THAT CONCLUDED THAT. ALTHOUGH THE CR PORTION OF THE VC SYSTEM WAS TECHNICALLY INOPERABLE. THE INLEAKAGE OF UNFILTERED AIR AND RADIATION DOSE TO THE CR PERSONNEL WOULD HAVE BEEN REDUCED BY FACTORS WHICH ARE NOT CONSIDERED IN THE DESIGN BASIS ANALYSIS. THIS EVENT IS ASSIGNED A CAUSE OF POSSIBLE CONSTRUCTION/INSTALLATION DEFICIENCY BECAUSE THE ACCESS DOOR DOES NOT FIT SUFFICIENTLY FLUSH AROUND THE PERIMETER TO MAINTAIN SEAL CONTACT. A CONTRIBUTING CAUSE OF MANAGEMENT DEFICIENCY IS ASSIGNED BECAUSE OF THE LACK OF DIRECTION IN THE VENTILATION SYSTEM PREVENTATIVE MAINTENANCE PROGRAMS TO VERIFY THAT ACCESS DOORS ARE SEALED. THE ACCESS DOOR CLOSURE SYSTEM WILL BE MODIFIED TO PROVIDE BETTER SEALED.

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LISTONE 1 DOCKET 50-245 LER 89-014 REV 01 UPDATE ON REQUIRED SHUTDOWN DUE TO "A" RECIRCULATION PUMP SEAL FAILURE. EVENT DATE: 052989 REPORT DATE: 011890 NSSS: GE TYPE: BWR

(NSIC 216577) ON 5/29/89 AT 1410 HOURS, WHILE OPERATING AT 100% POWER (530F, 1030 PSIG), THE "A" REACTOR RECIRCULATION PUMP SEAL PRESSURE BECAME ERRATIC AND CONTAINMENT PRESSURE BEGAN TO RAPIDLY INCREASE. THE HI DRYWELL PRESSURE ALARM WAS RECEIVED AT APPROXIMATELY 1.2 PSIG AND DRYWELL PRESSURE REACHED A MAXIMUM OF 1.4 PSIG DURING THIS EVENT. THE CONTAINMENT WAS VENTED THROUGH THE STANDBY GAS TREATMENT SYSTEM, IN ACCORDANCE WITH THE APPLICABLE OFERATING PROCEDURES. AT 1413 HOURS, THE OPERATORS INITIATED AN ORDERLY SHUTDOWN. AT 1422 HOURS THE SEAL PRESSURE STABILIZED, AND CONTAINMENT PRESSURE WAS DECREASING. AT 1430 HOURS CONTAINMENT UNIDENTIFIED LEAKAGE WAS CALCULATED TO BE \$.5 GPM AND THE SHUTDOWN CONTINUED IN ACCORDANCE WITH TECH SPEC 3.6.D. AT 2230 HOURS THE TOTAL LEAKAGE (IDENTIFIED AND UNIDENTIFIED) HAD REACHED A MAXIMUM OF 45.1 GPM. THE UNIT WAS BROUGHT TO COLD SHUTDOWN. AND THE SEAL WAS REPLACED. ALL SYSTEMS FUNCTIONED AS REQUIRED AND NO SAFETY CONSEQUENCES RESULTED FROM THIS EVENT. THIS EVENT IS REPORTABLE PURSUANT TO 100CFR50.73(A)(2)(I).

[119] MILLSTONE 2 SERVICE WATER ISOLATION VALVE DUE TO INCORRECT AIR SUPPLY CHECK VALVE LOCATION. EVENT DATE: 090689 REPORT DATE: 010590 NSSS: CE TYPE: PWR VENDOR: FISHER CONTROLS CO. NUFRO COMPANY

(NSIC 216401) ON 9/6/89 AT 1445 HOURS WHILE OPERATING IN MODE 1 AT 100% POWER, THE CHECK VALVE (BFP) FOR THE INSTRUMENT AIR SUPPLY TO 2-SW-3.2A (ISV) THE SERVICE MATER SUPPLY ISOLATION VALVE TO ONE OF TWO TURBINE BUILDING CLOSED COCLING WATER HEADERS, WAS DISCOVERED TO BE INCORRECTLY LOCATED. ALTHOUGH THE SERVICE WATER VALVE REMAINED OPERATED IN THE AS-FOUND CONFIGURATION, UPON A LOSS OF INSTRUMENT AIR, THE ASSOCIATED INSTRUMENT AIR ACCUMULATOR (ACC) COULD HAVE DISCHARGED. THE VALVE IS DESIGNED TO FAIL AS-IS ON A LOSS OF INSTRUMENT AIR. HOWEVER, ON A SAFETY INJECTION ACTUATION SIGNAL (SIAS) THE VALVE IS REQUIRED TO CLOSE. AN EVALUATION HAS DETERMINED THAT A LOSS OF COOLANT ACCIDENT (LOCA), CONCURRENT WITH A LOSS OF NORMAL POWER (LFP), COULD HAVE RESULTED IN A SIGNIFICANT DIVERSION OF SERVICE WATER FLOW FROM SAFETY RELATED COMPONENTS COOLED BY THIS SERVICE WATER HEADER. THE EVALUATION ASSUMES NO CREDIT FOR THE NON-SAFETY RELATED INSTRUMENT AIR OR FOR OPERATOR ACTION TO MANUALLY RE-POSITION THE VALVE. THE CAUSE OF THIS CONDITION WAS THE INCORRECT RE-ASSEMBLY OF THE INSTRUMENT AIR LINE TO THE SOLENOID VALVES AND ACCUMULATOR DURING THE FEBRUARY 1989 SERVICE WATER PIPE REPLACEMENT EFFORT. THE HEADER WAS PLACED IN SERVICE ON 3/1/89. THE INSTRUMENT AIR CHECK VALVE LOCATION WAS CORRECTED BY 1645 HOURS ON 9/6/89. THE INSTRUMENT AIR CHECK VALVE LOCATION WAS CORRECTED BY 1645 HOURS ON 9/6/89. THE INSTRUMENT AIR CHECK VALVE LOCATION WAS CORRECTED BY 1645 HOURS ON 9/6/89. THE INSTRUMENT AIR CHECK VALVE LOCATION WAS CORRECTED BY 1645 HOURS ON 9/6/89. THE INSTRUMENT AIR CHECK VALVE LOCATION WAS CORRECTED BY 1645 HOURS ON 9/6/89. THE SERVICE WATER PLACEMENT EFFORT. THE HEADER WAS PLACED IN SERVICE ON 3/1/89. THE INSTRUMENT AIR CHECK VALVE LOCATION WAS CORRECTED BY 1645 HOURS ON 9/6/89. THE SERVICE WATER MEADER WAS NOT OUT OF SERVICE BEFORE, DURING OR AFTER THE CHECK VALVE RELOCATION.

[120] MILLSTONE 3 UPDATE ON REACTOR TRIP DUE TO INADEQUATE ROD DROP TIME RECORDING SYSTEM PROCEDURE. EVENT DATE: 051189 REPORT DATE: 122989 NSSS: WE TYPE: PWR VENDOR: FOXBORD CO., THE WESTINGHOUSE ELEC CORP.-NUCLEAR ENERGY SYS

(NSIC 216352) AT 1514 ON 5/11/89 WHILE OPERATING IN MODE 1, 100% REACTOR POWER, 557 DEGREES AND 2250 PSIA, A REACTOR TRIP OCCURRED DUE TO A POWER RANGE NEUTRON FLUX HIGH NEGATIVE RATE SIGNAL. UPON DEENERGIZING A ROD DROP TIME RECORDING SYSTEM CONNECTED TO THE CONTROL ROD DRIVE SYSTEM, THE CONTROL RODS UNLATCHED. THE RECORDING SYSTEM MAD BEEN CONNECTED IN PREPARATION FOR TESTS DURING THE SECOND REFUELING OUTAGE, SCHEDULED TO START 5/12/89, ROOT CAUSE OF THE REACTOR TRIP WAS PROCEDURAL INADEQUACY IN THAT THE PROCEDURE DID NOT SPECIFY THAT CONTROL RODS MUST BE UNLATCHED PRIOR TO CONNECTING THE ROD DROP TIME RECORDING SYSTEM. SPURIOUS ROD DROP SIGNALS WERE GENERATED BY THE ROD DROP TIME RECORDING SYSTEM WHILE BEING DEENERGIZED. THIS CONDITION DOES NOT OCCUR EVERY TIME THE SYSTEM IS DEENRGIZED. TO PREVENT RECURRENCE PLANT PROCEDURES WERE CHANGED TO REQUIRE RODS TO BE UNLATCHED BEFORE CONNECTING THE ROD DROP TIME RECORDING SYSTEM. EVENT OCCURRED WITHIN 48 HOURS OF THE SCHEDULED START OF THE SECOND REFUELING JUTAGE, THE REFUELING OUTAGE COMMENCED IMMEDIATELY AFTER THE TRIP.

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5.7

 [121]
 MILLSTONE 3
 DOCKET 50-423
 LER 89-030

 POTENTIAL DAMAGE TO REDUNDANT SAFETY RELATED MOTORS DUE TO FAST BUS TRANSFER
 DESIGN INADEQUACY.

 EVENT DATE:
 112789
 REPORT DATE:
 122689
 NSSS: NE
 TYPE: PWR

(NSIC 216349) ON 11/27/89 AT 1300 HOURS, IN MODE 1 AT 100% POWER, 2250 PSIA, 586F, ENGINEERING CONCLUDED THAT THE 4160VAC FAST BUS TRANSFER. IF PERFORMED REPEATEDLY, COULD POTENTIALLY DAMAGE SAFETY RELATED MOTORS. ANAYSIS SHOWED THAT A 1.85 VOLTS PER HERTZ TRANSIENT CAN BE EXPERIENCED WHICH EXCEEDS THE 1.33 VOLTS PER HERTZ MAXIMUM TRANSIENT RECOMMENDED BY ANSI STANDARD C50.41-1982 AND NEMA STANDARD MG-1-20. JUSTIFICATION WAS PROVIDED TO LEAVE THE FAST TRANSFER SCHEME OPERATIONAL UNTIL THE NEXT REFUEL OUTAGE OR THE NEXT OCCURRENCE OF FAST TRANSFER (WHICHEVER COMES FIRST). NO IMMEDIATE CORRECTIVE ACTION WAS REQUIRED. THE ROOT CAUSE WAS DESIGN INADEQUACY IN THAT THE FULL RAMIFICATION OF A FAST TRANSFER WAS NOT CONSIDERED GIVEN THE PLANTS POWER SYSTEM CHARACTERISTICS. TWO OPTIONS ARE BEING EVALUATED TO RECTIFY THE PROBLEM. THE FIRST IS INSTALLATION OF PROTECTIVE RELAYS TO PREVENT OUT-OF-PHASE TRANSFERS. THE SECOND IS ELIMINATION OF THE FAST TPAMOFER SCHEME. THE CHANGE WILL BE COMPLETED DURING THE UNIT'S NEXT SCHEDULED STANGE OUTAGE.

 [122]
 MILLSTORE 3
 DOCKET 50-423
 LER 89-031

 PRESSURIZER SAFE 3
 VALVE NOZZLE RING SET SCREW EROSION.
 LER 89-031

 EVENT DATE:
 112883
 REPORT DATE:
 122889
 NSSS: WE
 TYPE:
 TYPE:

 VENDOR:
 CROSBY VALVE
 VALVE
 NSSS: WE
 TYPE:
 TYPE:

(NSIC 216347) ON 11/28/89, AT 1515 HOURS, AT 100% POWER, A LOOSE NOZZLE RING SET SCREW ON THE "D" PRESSURIZER SAFETY VALVE WAS FOUND WITH STEAM DISCHARGING FROM THE SET SCREW LOCATION. THE NOZZLE RING, WHICH IS HELD IN PLACE BY THE SET SCREW, IS ESSENTIAL IN ASSURING THE VALVE POPS FULLY OPEN. SINCE A PROPER NOZZLE RING SETTING WAS NO LONGER ASSURED, THE SAFETY VALVE WAS DECLARED INOPERABLE. WITH ONLY TWO (2) OF THREE (3) PRESSURIZER SAFETIES OPERABLE, THE PLANT WAS IN A CONDITION PROHIBITED BY THE TECH SPECS. THE PLANT WAS THEN PLACED IN COLD SHUTDOWN AT 1450 HOURS ON 11/29/89, FOR VALVE INSPECTION. AN INITIAL INSPECTION OF THE VALVE REVEALED THAT THE SET SCREW THREADS WERE CORRODED OR STEAM CUT TO A POINT WHERE THE SET SCREW BACKED COMPLETELY OUT OF POSITION. HOWEVER, THE ROOT CAUSE HAS NOT YET BEEN DETERMINED, BUT PRELIMINARY ANALYSIS INDICATES THE SET SCREW INSTALLED WAS CARBON STEEL VICE STAINLESS STEEL AS REQUIRED. A SUPPLEMENTAL REPORT WILL BE SUBMITTED BY 3/1/90, INDICATING THE ACTUAL CAUSE. THE VALVE WAS REPLACED WITH A RECENTLY CALIBRATED SPARE SAFETY VALVE, AND THE PLANT WAS RETURNED TO 100% POWER. THE ERODED SET SCREW IS BEING ANALYZED, AND PREPARATIONS ARE BEING MADE TO RETURN THE PROBLEM VALVE TO WYLE LABORATORY FOR INSPECTION AND REFURBISHMENT.

[123] MILLSTONE 3 DOCKET 50-423 LER 89-032 TWO CHANNELS OF HIGH FLUX IN SHUTDOWN INOPERABLE DUE TO PERSONNEL ERROR. EVENT DATE: 120389 REPORT DATE: 122989 NSSS: WE TYPE: PWR

1

(NSIC 216348) ON 12/3/89, AT 0320 HOURS, WITH THE PLANT IN MODE 5, 132F AND 65 PSIA, BOTH CHANNELS OF SOURCE RANGE HI FLUX AT SHUTDOWN ALARM WERE FOUND BLOCKED. OPERATIONS PERSONNEL IMMEDIATELY UNBLOCKED BOTH CHANNELS AND VERIFIED A DILUTION ACCIDENT WAS NOT IN PROGRESS AS REQUIRED BY PLANT TECH SPECS. THE ROOT CAUSE OF THIS EVENT WAS PERSONNEL ERROR. TO PREVENT THIS FROM RECURRING, THE MODES 1 - 4 AND MODES 5-6 CONTROL ROOM LOG SHEETS HAVE BEEN REVISED TO INCLUDE VERIFICATION THAT THE HI FLUX AT SHUTDOWN IS UNBLOCKED IF SOURCE RANGE COUNTS ARE BELOW THE ALARM SETPOINT. IN ADDITION, THIS LER WAS ROUTED TO ALL LICENSED OPERATORS, AND WILL BE INCLUDED IN THE CPERATOR REQUALIFICATION PROGRAM. THE OPERATOR INVOLVED IN INCORRECTLY SIGNING OFF THE STEP HAS BEEN COUNSELED. [124]MILLSTONE 3DOCKET 50-423LER 89-033SAFETY INJECTION ON LOW STEAMLINE PRESSURE DUE TO PROCEDURAL INADEQUACY.EVENT DATE: 120589REPORT DATE: 010490NSSS: WETYPE: PWR

(NSIC 216415) AT 2157 MOURS ON 12/5/89, IN MODE 3 (HOT STANDBY), 557F AND 22% PSIA, A SAFETY INJECTION OCCURRED (SI) ON LOW STEAMLINE PRESSURE (RATE COMPENSATED) WHEN THE "A" STEAM GENERATOR MAIN STEAM ISOLATION VALVE (MSIV) "AS OPENED. A REVIEW OF THE STEAM GENERATOR PRESSURE RECORDER AFTER THE EVENT REVEALED A STEP DROP OF APPROXIMATELY 100 PSI OCCURRED WHEN THE MSIV WAS OPENLS. THIS WAS SUFFICIENT FOR THE RATE COMPENSATED CIRCUIT TO GENERATE A SAFETY INJECTION ACTUATION SIGNAL. IN ADDITION TO THE SI, REACTOR TRIP, FEEDWATER ISOLATION, MAIN STEAM ISOLATION, AND PHASE "A" CONTAINMENT ISOLATION SIGNALS WERE ALSO GENERATED. EQUIPMENT RESPONDED AS REQUIRED FOR THESE SIGNALS. OPERATIONS PERSONNEL PERFORMED THE APPROPRIATE EMERGENCY OPERATING PROCEDURES. THE SI, FEEDWATER ISOLATION, MAIN STEAM ISOLATION, AND PHASE "A" CONTAINMENT ISOLATION SIGNALS WERE ALL RESET, AND THE PLANT WAS STABLIZED IN MODE 3 AT 2217 HOURS. THE ROOT CAUSE OF THIS EVENT WAS PROCEDURAL INADEQUACY. INADEQUATE GUIDANCE WAS GIVEN TO THE OPERATORS ON AVOIDING AN SI WHILE OPENING AN MSIV. TO PREVENT THIS FROM RECURRING, PROCEDURE CHANGES HAVE BEEN PROCESSED TO PROVIDE SPECIFIC PREREQUISITES FOR OPENING AN MSIV. THIS REPORT ALSO FULFILLS THE REPORTING PREREQUIREMENTS OF TECH SPEC 3.5.2 AND 6.9.2.

L125] MILLSTONE 3 PARTIAL CONTAINMENT DEPRESSURIZATION ACTUATION SIGNAL DUE TO OPERATOR ERROR. EVENT DATE: 121189 REPORT DATE: 010990 NSSS: WE TYPE: PWR

(NSIC 216476) AT 2236 HOURS ON 12/11/89 IN MODE 1 AT 100% POWER, 557 DEGREES AND 2250 PSIA, A PARTIAL "B" TRAIN CONTAINMENT DEPRESSURIZATION ACTUATION (CDA) SIGNAL WAS GENERATED BY PERSONNEL ERROR WHILE CONDUCTING SLAVE RELAY TESTING. PROCEDURAL INADEQUACY WAS A CONTRIBUTING FACTOR SINCE THE STEP BEING EXECUTED CONTAINED THREE SPECIFIC ACTIONS NOT DIRECTLY RELATED TO EACH OTHER. THE UPERATOR FAILED TO EXECUTE ONE OF THE ACTIONS IN THE STEP, TO RESET AUTOMATIC TEST CIRCUITS PRIOR TO TESTING THE CONTAINMENT SPRAY ACTUATION CIRCUIT. WHEN THE 1EST WAS INITIATED, THE "B" TRAIN CDA SIGNAL. CONTAINMENT SPRAY ACTUATION CIRCUIT. WHEN THE 1EST WAS INITIATED, THE "B" TRAIN CDA SIGNAL. CONTAINMENT SPRAY ACTUATION CIRCUIT. THE THE TEST WAS INITIATED, THE CONTAINMENT OF A PARTIAL CDA SIGNAL WAS GENERATED. THE OPERATOR CONDUCTING THE TEST INMEDIATELY RESET THE CDA SLAVE RELAY. OPERATORS VERIFIED THAT THE CDA SIGNAL HAD OCCURRED ONLY A PARTIAL CDA SIGNAL WAS GENERATED. THE OPERATOR CONDUCTING THE TEST INMEDIATELY RESET THE CDA SLAVE RELAY. OPERATORS VERIFIED THAT THE CDA SIGNAL HAD OCCURRED ONLY ON THE "B" TRAIN AND THAT THE CDA WAS NOT FEQUIRED. ALL EQUIPMENT FUNCTIONED AS DESIGNED. THE OPERATOR CONDUCTING THE TEST WAS COUNSELLED ON PROPER EXECUTION OF PROCEDURES, AND REVIEWED OPERATION OF THE EGLS. THE "A" AND "B" TRAIN SLAVE RELAY TESTING PROCEDURES WERE REVISED TO SEPARATE THE SINGLE STEP, WHICH REQUIRED THREE UNRELATED ACTIONS, INTO THREE SEPARATE STEPS, AND TO REQUIRE POSITIVE VERIFICATION THAT AUTOMATIC TEST CIRCUITS HAVE BEEN RESET.

[126]MONTICELLODOCKET 50-263LER 89-013 REV 01UPDATE OF FIRE BARRIER PENETRATION INOPERABILITY AS A RESULT OF FAILURE TOADEQUATELY ASSESS ORIGINAL SEAL CONFIGURATION.EVENT DATE: 063089REPORT DATE: 123089NSSC: GETYPE: BWR(NSIC 216381)SEVERAL UNSEALED PENETRATIONS WERE DISCOVERED IN BARRIERSSEPARATING DIVISION I AND DIVISION II FIRE AREAS. THIS IS A CONDITION WHICH ISCONTRARY TO THE REQUIREMENTS OF TECHNICAL SPECIFICATION 3.13.G. TEMPORARY SEALSWERE INSTALLED IMMEDIATELY. DUE TO COGNITIVE PERSONNEL ERROR, INSPECTION BYCONTRACT PERSONNEL OF APPENDIX "R" FIRE AREA BOUNDARY PENETRATIONS FAILED TOIDENTIFY SEVERAL INADEQUATE SEALS. INTERFERENCE FROM PIPE INSULATION JACKETINGAND EXISTING PLANT EQUIPMENT PREVENTED DIRECT VISUAL EXAMINATION OF THEPENETRATIONS RESULTING IN ACCEPTANCE OF AN INADEQUATE SEAL. CORRECTIVE ACTIONSINCLUDED INITIATING A WALKDOWN OF ALL FIRE AREA BARRIERS TO IDENTIFY ANYDEFICIENT FENETRATION SEALS. ALL FIRE AREA BARRIERS HAVE BEEN INSPECTED AS OFAUGUST 21, 1989.

[127] MONTICELLO DOCKET 50-263 LER 89-039 INADEQUATE PROCEDURE CAUSES WIDE RANGE GAS MONITOR TRIP, STANDBY GAS TREATMENT INITIATION AND REACTOR BUILDING ISOLATION. EVENT DATE: 121389 REPORT DATE: 011290 NSSS: GE TYPE: BWR VENDOR: GENERAL ATOMIC CO.

(NSIC 216445) THE CHANNEL "B" REACTOR BUILDING VENT WIDE RANGE GAS MONITOR TRIPPED WHICH ISOLATED THE REACTOR BUILDING VENTILATION AND STARTED THE STANDBY GAS TREATMENT SYSTEM. THIS WAS A RESULT OF A HIGH-HIGH TRIP DURING PERFORMANCE OF PROCEDURE #0389, REACTOR BUILDING VENT NOBLE GAS GRAB SAMFLING. THE TRIP OF THE WIDE RANGE GAS MONITOR WAS RESET. THE REACTOR BUILDING VENTILATION RESET, AND THE STANDEY GAS TREATMENT SYSTEM SHUTDOWN. THE ROOT CAUSE OF THIS EVENT WAS AN INADEQUATE GRAB SAMPLING PROCEDURE. THE WIDE RANGE GAS MONITOR TRIPS WILL BE BYPASSED DURING FUTURE PERFORMANCES OF THIS TEST. ALL OTHER WIDE RANGE GAS MONITOR PROCEDURES HAVE BEEN CHECKED TO VERIFY BYPASSES ARE USED DURING THEIR PERFORMANCE. THIS EVENT WILL BE DISCUSSED IN TECHNICAL STAFF TRAINING. A CHANGE TO THE TECHNICAL SPECIFICATIONS IS BEING FINALIZED THAT WILL ELIMINATE THE TRIP FUNCTION OF THE WIDE RANGE GAS MONITORS.

[128]NINE MILE POINT 1DOCKET 50-220LER 89-017PLANT OPERATED OUTSIDE OF DESIGN BASIS DUE TO DESIGN DEFICIENCY OF 125 VDC MOLDEDCASE CIRCUIT BREAKERS IN BATTERY BOARDS #11 AND #12.EVENT DATE: 120489REPORT DATE: 010290NSSS: GETYPE: BWRVENDOR: GENERAL ELECTRIC CO.

(NSIC 216378) AN OCCURRENCE REPORT WAS GENERATED ON 11/3/89, AFTER REVIEW OF DESIGN DRAWINGS. ORIGINAL DESIGN DRAWINGS REQUIRE GENERAL ELECTRIC (GE) TYPE TEF MOLDED CASE CIRCUIT BREAKERS (MCCB'S) BE INSTALLED IN BATTERY BOARDS 11 AND 12. THE ACTUAL INSTALLATION WAS FOUND TO BE GE TYPE TE MCCB'S. AN ENGINEERING DISPOSITION WAS REQUIRED TO DETERMINE IF THE CONDITION WAS OF A SIGNIFICANT SAFETY CONCERN. ALTHOUGH TEST RESULTS WERE FAVORABLE, ON DECEMBER 4, 1989, ENGINEERING DETERMINED THAT BATTERY BOARD MCCB'S WERE INOPERABLE. THIS DECISION WAS EASED ON THE FACT THAT BREAKERS DID NOT MEET THE REQUIRED ORIGINAL DESIGN BASIS INTERRUPTING RATING AND THE DISCREPANCY BETWEEN OUR ORIGINAL DESIGN DRAWINGS AND THE ACTUAL PLANT CONDITION. THE ROOT CAUSE OF THIS CONDITION IS HUMAN PERFORMANCE PROELEMS, SPECIFICALLY, POLICIES AND ADMINISTRATIVE CONTROLS WERE INADEQUATE. THE CORRECTIVE ACTIONS FOR THIS CONDITION ARE BEING IMPLEMENTED UNDER THE NIAGARA MOHAWK POWER CORPORATION DESIGN CONFIGURATION CONTROL PROGRAM AND MODIFICATION NO. N1-89-215. NINE MILE POINT UNIT 1 WAS SHUTDOWN FOR REFUELING WITH THE CORE OFFLOADED ON THIS DATE.

 [129]
 NINE MILE POINT 1
 DOCKET 50-220
 LER 89-019

 EMERGENCY DIESEL GENERATOR NOT IN COMPLIANCE WITH 10CFR50, APPENDIX "B" RESULTING
 IN TECH SPEC VIOLATION.

 EVENT DATE:
 121489
 REPORT DATE:
 011690
 NSSS: GE
 TYPE: BWR

(NSIC 216481) ON DECEMBER 14, 1989, WITH NINE MILE POINT UNIT 1 IN A COLD SHUTDOWN CONDITION WITH THE CORE OFFLOADED, IT WAS DISCOVERED THAT THE 102 EMERGENCY DIESEL GENERATOR (EDG) WAS NOT IN COMPLIANCE WITH 10CFR50 APPENDIX "B" REQUIREMENTS. IN ORDER TO MAINTAIN DIESEL GENERATOR ROOM TEMPERATURES BELOW THE EQUIPMENT TEMPERATURE QUALIFICATION LEVELS AND SUPPORT THE SAFETY-RELATED FUNCTION OF THE EDGS, IT IS NECESSARY TO CLASSIFY ASSOCIATED COMPONENTS AND EQUIPMENT USED TO MAINTAIN THESE TEMPERATURES AS SAFETY-RELATED. CONTRARY TO THIS, IN 1985, THE POWERFEED AND ITS CONTROL CIRCUITRY TO EDG ROLL-UP DOORS WERE INPROPERLY CLASSIFIED AS NONSAFETY-RELATED. THE MOST PROBABLE CAUSE FOR THIS CONDITION WAS DETERMINED TO BE A HUMAN PERFORMANCE PROBLEM. SPECIFICALLY, THE FUNCTION OF EDG ROOM DOOR MAY NOT HAVE BEEN APPARENT AND THE GOVERNING PROCEDURE DIDN'T REQUIRE THAT THE EASES FOR Q-LIST DETERMINATIONS BE DOCUMENTED. THE IMMEDIATE CORRECTIVE ACTION WAS TO DECLARE THE 102 EDG ADMINISTRATIVELY INOPERABLE SINCE TWO UNQUALIFIED THERMAL OVERLOAD HEATERS WERE DISCOVERED INSTALLED ON THE MOTOR FOR ITS ASSOCIATED ROLLUP DOOR. ADDITIONAL CORRECTIVE ACTIONS INCLUDED REPLACING UNQUALIFIED HEATERS WITH NEW QUALIFIED HEATERS AND CORRECTING THE PARTS Q-LIST. [130] NINE MILE POINT 2 PRIMARY CONTAINMENT VENT AND PURGE VALVE ISOLATION (GROUP 9 ISOLATION) DUE TO LIGHTNING STRIKE. EVENT DATE: 113089 REPORT DATE: 122689 NSSS: GE TYPE: BWR VENDOR: KAMAN SCIENCES CORP.

(NSIC 216337) ON NOVEMBER 30, 1989, AT 1025 HOURS, WITH THE REACTOR AT 90% OF RATED THERMAL POWER AND THE MODE SWITCH IN "RUN", NINE MILE POINT UNIT 2 (NMP2) EXPERIENCED AN ENGINEERED SAFETY FEATURE (ESF) ACTUATION. THIS EVENT CONSISTED OF A PRIMARY CONTAINMENT VENT AND PURGE VALVE ISOLATION (GROUP 9 ISOLATION). IMMEDIATE INVESTIGATION INDICATED THAT THE ISOLATION WAS THE RESULT OF AN ISOLATION SIGNAL FROM THE STANDBY GAS TREATMENT (GTS) RADIATION MONITOR (2GTS-CABI05). THE ROOT CAUSE OF THIS EVENT WAS DETERMINED TO BE A LIGHTNING STRIKE TO THE MAIN STACK TOWER RESULTING IN A POWER TRANSIENT/INTERRUPTION TO RADIATION MONITOR 2GTS-CABI05. CORRECTIVE ACTIONS INCLUDED: RETURNING THE SYSTEM TO NORMAL OPERATIONAL STATUS ONCE THE ISOLATION SIGNAL WAS DETERMINED NOT TO HAVE BEEN INITIATED BY A HIGH RADIATION CONDITION; ISSUING A WORK REQUEST TO TROUBLESHOOT THE SOURCE OF THE FALSE SIGNAL; AND GENERATING A PROBLEM REPORT (PR 08947) REQUESTING AN ENGINEERING EVALUATION OF MAIN STACK GROUNDING DESIGN.

 [131]
 NINE MILE POINT 2
 DOCKET 50-410
 LER 89-040

 REACTOR SCRAM ON HIGH NEUTRON FLUX DUE TO ELECTROHYDRAULIC CONTROL SYSTEM

 MALFUNCTION.

 EVENT DATE:
 120189
 REPORT DATE:
 010290
 NSSS: GE
 TYPE: BWR

(NSIC 216414) ON 12/1/89, NINE MILE POINT UNIT 2 (NMP2) WAS OPERATING AT APPROX. 97% RATED THERMAL POWER WITH THE MODE SWITCH IN THE "RUN" POSITION (OPERATIONAL CONDITION 1). AT 1310 HOURS, NMP2 EXPERIENCED AN AUTOMATIC REACTOR SCRAM CAUSED BY AVERAGE POWER RANGE MONITOR (APRM) HIGH NEUTRON FLUX SIGNALS ON BOTH DIVISIONS OF THE REACTOR PROTECTION SYSTEM (RPS). AT 1313 HOURS, THE TURBINE WAS TRIPPED ON REVERSE POWER BY THE MAIN GENERATOR ANTIMOTORING DEVICE. IMMEDIATE CORRECTIVE ACTIONS WERE TAKEN BY OPERATIONS TO CARRY OUT ALL SCRAM RECOVERY ACTIONS AND TO PLACE THE PLANT IN A STABLE "HOT SHUTDOWN" MODE (OPERATIONAL CONDITION 3). OFERATIONS THEN INITIATED AN INVESTIGATION OF THE EVENT. THE IMMEDIATE CAUSE WAS A MALFUNCTION OF THE ELECTROHYDRAULIC CONTROL SYSTEM (EHC) WHICH RESULTED IN THE POWER TRANSIENT THAT CAUSED THE SCRAM. CORRECTIVE ACTION WAS TO REPLACE 3 RELAY BOARDS IN THE EHC CONTROL CIRCULT AND CORRECT A GROUND LOOP IN THE TURBINE SPFED SENSING CIRCUIT.

[132]NINE MILE POINT 2DOCKET 50-410LER 89-041ESF ACTUATIONS DUE TO TROUBLESHOOTING WITH DEFICIENT DOCUMENTS.
EVENT DATE: 120289REPORT DATE: 010590NSSS: GETYPE: BWRVENDOR: ROSEMOUNT, INC.

(NSIC 216418) ON 12/2/89, AT 0252 HOURS WITH THE REACTOR MODE SWITCH IN "SHUTDOWN" NINE MILE POINT UNIT 2 (NMP2) EXPERIENCED AN ISOLATION OF THE REACTOR WATER CLEANUP SYSTEM (RWCS) AND AT 0253 HOURS AN ACTUATION OF THE REACTOR PROTECTION SYSTEM (RPS). A REACTOR SCRAM OCCURRED WHICH WAS CAUSED BY THE REACTOR WATER LEVEL DROPPING BELOW THE LOW-LEVEL 3 SCRAM TRIP POINT. THIS LEVEL CHANGE WAS A DIRECT RESULT OF CYCLING OF THE FIVE (5) TURBINE BYPASS VALVES. VALVE MOVEMENT OCCURRED DURING INSTRUMENT AND CONTROL (I&C) TECHNICIAN TROUELESHOOTING OF THE ELECTROHYDRAULIC CONTROL (EC) SYSTEM'S LOAD CONTROL UNIT. AT THE TIME OF THE EVENT, THE REACTOR VESSEL PRESSURE WAS 188 LBS. PER SQUARE INCH GAUGE (PSIG); TEMPERATURE WAS 383F. THE ROOT CAUSE OF THE RWCS ISOLATION WAS COMPONENT FAILURE. THE IMMEDIATE CAUSE OF THE RPS ACTUATION WAS TESTING OF THE EHC LOAD CONTROL UNIT. THE ROOT CAUSE OF THE RPS ACTUATION WAS A LACK OF UNDERSTANDING BETWEEN THE EHC SYSTEM VENDOR AND NMP2 ENGINEERING. INITIAL CORRECTIVE ACTION WAS THE RESTORING OF NORMAL REACTOR LEVEL BY NMP2 LICENSED OPERATORS. ADDITIONAL CORRECTIVE ACTIONS ADDRESSED THE CAUSAL FACTORS LEADING TO DEFECTIVE DOCUMENTATION. [133] NINE MILE POINT 2 MANUAL INITIATION OF STANDBY GAS TREATMENT SYSTEM DUE TO LOSS OF REACTOR BUILDING DIFFERENTIAL PRESSURE. EVENT DATE: 121789 REPORT DATE: 011690 NSSS: GE TYPE: BWR

(NSIC 216611) ON 12/17/89, AT 2147 HOURS WITH THE REACTOR IN "RUN" MODE AT 2661 MEGAWATTS (MW) THERMAL (859 MW ELECTRIC), NINE MILE POINT UNIT 2 (NMP2) OPERATIONS DEPARTMENT MANUALLY ISOLATED NORMAL REACTOR BUILDING VENTILATION AND INITIATED THE STANDBY GAS TREATMENT SYSTEM (GTS) AS A RESPONSE TO THE LOSS OF REACTOR BUILDING DIFFERENTIAL PRESSURE. THIS ENGINEERED SAFETY FEATURE (ESF) ACTUATION WAS REQUIRED TO RETURN REACTOR BUILDING DELTA PRESSURE TO NORMAL. TRAIN "A" OF GTS EXPERIENCED A LOW FLOW PROBLEM. TRAIN "B" WAS INITIATED TO MAINTAIN DIFFERENTIAL PRESSURE. THE ROOT CAUSE OF THE EVENT WAS EQUIPMENT MALFUNCTION; SPECIFICALLY, FOULED CONTACT POINTS ON THE CONTROL SWITCH FOR EXTRACTION STEAM SUPPLY VALVE (2ESS-STV105). THE CAUSE FOR THE TRAIN "A" FLOW PROBLEM IS STILL UNDER INVESTIGATION. CORRECTIVE ACTIONS INCLUDED OPENING OF MAIN STEAM TO BUILDING INTERNEDIATE HEAT EXCHANGER ISOLATION VALVE (2ASS-STV143) BY PINNING IT OPEN; GENERATING A WORK REQUEST (NR) TO REPAIR THE CONTROL SWITCH TO ESS-STV105 AND TROUBLESHOOTING OF THE FLOW PROBLEM ON GTS TRAIN "A".

[134] NO	DRTH ANNA 1			DOCKET	50-3	338	LEK 8	9-018
UNCERTAINTY	ASSOCIATED WITH	HARSH	ENVIRONMENT	BELOW	ESF	TRANSMI	TTER	RANGE .
EVENT DATE:	121989 REPORT	DATE :	011190	NSSS:	WE		TYPE :	PWR
OTHER UNITS	INVOLVED: NORTH	ANNA	2 (PWR)					

(NSIC 216467) AT 1430 HOURS ON 12/19/89, WITH UNIT 1 IN COLD SHUTDOWN (MODE 5) AND UNIT 2 AT 100% POWER, ENGINEERING PERSONNEL DETERMINED THAT THE THREE PRESSURIZER (PZR) PRESSURE - SAFETY INJECTION (SI) INSTRUMENTATION CHANNELS MAY NOT HAVE ADEQUATE MARGIN BETWEEN THE SI ACTUATION SETPOINT AND THE BOTTOM OF THE INSTRUMENT SPAN TO ACCOMODATE THE ERRORS ASSOCIATED WITH A HARSH CONTAINMENT ENVIRONMENT. AS A RESULT, THE PZR LOW FRESSURE SI ACTUATION MAY NOT OCCUR BECAUSE OF THE POTENTIAL FOR THE TRANSMITTER TO SATURATE BELOW ITS CALIERATION SPAN. SINCE ALL THREE CHANNELS COULD BE AFFECTED IF A HARSH CONTAINMENT CONDITION EXISTS, THIS EVENT IS REPORTABLE PURSUANT TO 10CFR50.73(A)(2)(VII). FAILURE TO ACCOMODATE THE ERRORS ASSOCIATED WITH A HARSH CONTAINMENT FOLLOWING A SMALL STEAM LINE BREAK (SLB) INSIDE CONTAINMENT IS A RESULT OF ASSUMING A MORE CONSERVATIVE APPROACH WITH RESPECT TO THE ENVIRONMENTAL QUALIFICATION ASSUMPTIONS FOR THE TRANSMITTERS. AN ENGINEERING EVALUATION WAS PERFORMED TO VERIFY ACCEPTABLE FEFORMANCE WITH THE EXISTING CONDITIONS. LICENSE AMENDMENTS WILL BE REQUESTED TO INCORPORATE THE RESPECTIVE ANALYSES WHICH JUSTIFIES ELIMINATION OF THE LOW PRESSURE SI FOR SMALL SLES INTO THE LICENSING EASES. THIS EVENT POSED MINIMAL SAFETY IMPLICATIONS REMAINED VALUD.

 [135]
 NORTH ANNA 1
 DOCKET 50-338
 LER 89-019

 CONTAINMENT EQUIPMENT ESCAPE AIR LOCK LEAKAGE.
 TYPE: PWR

 EVENT DATE:
 122889
 REPORT DATE: 011990
 NSSS: WE
 TYPE: PWR

(NSIC 216603) AT 2230 HOURS ON 12/28/89, WITH UNIT 1 AT 100% POWER (MODE 1), HEALTH PHYSICS PERSONNEL PERFORMING THEIR WEEKLY SURVEY ROUNDS REPORTED THAT THE OUTER DOOR OF THE CONTAINMENT EQUIPMENT ESCAPE AIR LOCK WAS DRAWING IN AIR. PRIOR TO PERFORMING A PERIODIC TEST TO QUANTIFY THE LEAKAGE, THE INNER DOOR WAS NOTED AS NOT BEING IN THE FULLY CLOSED POSITION AND WAS SUBSEQUENTLY CLOSED, THUS RESTORING CONTAINMENT INTEGRITY. THIS EVENT HAS BEEN DETERMINED TO BE REPORTABLE PURSUANT TO 10CFR50.73(A)(2)(II). A ONE HOUR REPORT WAS MADE IN ACCORDANCE WITH 10CFR50.72(B)(II). ADDITIONALLY, AN ENGINEERING CALCULATION HAS DETERMINED THAT THE LEAKAGE FROM THE CONTAINMENT ESCAPE AIR LOCK DOOR DURING THIS EVENT WAS GREATER THAN THE MAXIMUM LEAKAGE ALLOWED BY TECH SPECS 3.6.1.2 AND 3.6.1.3. CONSEQUENTLY, THIS EVENT IS ALSO REPORTABLE PURSUANT TO 10CFR50.73(A)(2)(I)(B). INVESTIGATION COULD NOT IDENTIFY WHY THE INNER DOOR WAS NOT FULLY CLOSED. PROCEDURAL AND SYSTEM ENHANCEMENTS, RECOMMENDED AS A RESULT OF AN EVENT INVESTIGATION, WILL BE EVALUATED AND IMPLEMENTED AS NECESSARY. THIS EVENT POSED MINIMAL SIGNIFICANT SAFETY IMPLICATIONS BECAUSE THE CONTAINMENT REMAINED SUBATHOSPHERIC THROUGHOUT THIS EVENT. THE HEALTH AND SAFETY OF THE GENERAL PUBLIC WERE NOT AFFECTED AT ANY TIME DURING THIS EVENT.

OCONEE 2 DOCKST 50-270 LER 89-007 [136] DESIGN OVERSIGHT RESULTS IN A POTENTIAL FOR OPERATING IN AN UNANALYZED CONDITION DURING A DROPPED ROD EVENT CONCURRENT WITH LARGE TILT AND IMBALANCE. EVENT DATE: 111089 REPORT DATE: 011290 NSSS: BW TYPE: PWR (NSIC 216486) ON 11/10/89, AT 1100 HOURS, UNIT 2 EXPERIENCED A DROPPED ROD FROM 100% FULL POWER WHILE PERFORMING A CONTROL ROD MOVEMENT TEST. REACTOR OPERATORS RETURNED THE UNIT TO AUTOMATIC AND RUNBACK TO 55% FULL POWER WAS COMPLETED. SUBSEQUENT ATTEMPTS TO RECOVER THE DROPPED ROD WERE UNSUCCESSFUL. MANAGEMENT CONSULTED THE NUCLEAR DESIGN GROUP TO DISCUSS THE POSSIBLE EFFECTS OF CONTINUED OPERATION WITH THE DROPPED ROD. IT WAS FIRST THOUGHT THAT THIS WOULD DE ACCEPTABLE BECAUSE THE PRESENT TECH SPEC (TS) LIMITS ON TILT AND IMBALANCE WERE NOT BEING EXCEEDED. LATER, NUCLEAR DESIGN QUESTIONED IF CURRENT TECH SPEC SETPOINTS FOR TILT AND IMBALANCE WERE JUSTIFIABLE IN A DROPPED ROD SITUATION BECAUSE THE COMBINATION OF HIGH TILT AND HIGH IMBALANCE OCCURRING SIMULTANEOUSLY HAD NOT EEEN PREVIOUSLY ANALYZED. THEREFORE, THE UNIT WAS CONSIDERED TO BE OPERATING IN AN UNANALYZED CONDITION. IMMEDIATE CORRECTIVE ACTION WAS TO TAKE THE UNIT TO COLD SHUTDOWN AND REPAIR THE DROPPED ROD. THE ROOT CAUSE OF THIS INCIDENT IS DESIGN DEFICIENCY, DESIGN OVERSIGHT DUE TO FAILURE TO RECOGNIZE THE POTENTIAL FOR OPERATION IN AN UNANALYZED CONDITION DURING TRANSIENTS WITH LARGE TILT AND IMBALANCE, SUCH AS THOSE CAUSED BY A DROPPED ROD. SUBSEQUENT ANALYSIS BY NUCLEAR DESIGN PROVED CONSERVATISM IN TECH SPEC SETPOINTS FOR TILT AND IMBALANCE DURING SUCH TRANSIENTS. IMBALANCE DURING SUCH TRANSIENTS.

LIS7] DCONEE 2 LOW TEMPERATURE OVERPRESSURE PROTECTION COMMITMENTS TO NRC WERE VIOLATED DUE TO MANAGEMENT DEFICIENCY, INADEQUATE POLICY. EVENT DATE: 111189 REPORT DATE: 011590 NSSS: BW TYPE: PWR OTHER UNITS INVOLVED: OCONEE 1 (PWR) OCONEE 3 (PWR) VENDOR: LESLIE CO.

VENDOR: LESLIE CO.

(NSIC 216579) ON 11/11/89, UNIT 2 WAS BEING BROUGHT TO COLD SHUTDOWN FOR REPAIR OF A DROPPED CONTROL ROD. AT 1303 HOURS, THE REACTOR COOLANT SYSTEM (RCS) MAKEUP VALVE, FAILED CLOSED AT A POINT IN THE COOLDOWN PROCEDURE JUST PRIOR TO ENTERING THE LOW TEMPERATURE OVERPRESSURE PROTECTION (LTOP) REGION. OPERATIONS, AFTER REFERENCING TECHNICAL SPECIFICATIONS (TS), MADE A DECISION TO CONTINUE COOLDOWN UTILIZING AN ALTERNATE VALVE TO PROVIDE RCS MAKEUP. TO PERMIT USE OF THIS VALVE, A PROCEDURE STEP WAS PERFORMED OUT-OF-SEQUENCE. UNIT COOLDOWN CONTINUED (BELOW 325 DEGREES F. LTOP REGION) WITH A DEDICATED LTOP OPERATOR MONITORING SPECIFIC PLANT PARAMETERS AND WITH THE POWER OPERATED RELIEF VALVE OPERABLE. UNIT 2 WAS BROUGHT TO COLD SHUTDOWN WITHOUT ANY ADDITIONAL PROBLEMS. DURING A LATER OPERATOR TRAINING SESSION, MANAGEMENT LEARNED OF THE ABOVE COOLDOWN NETHOD AND REALIZED THE ABOVE ACTIONS CONSTITUTED A FAILURE TO COMPLY WITH A COMMITMENT TO THE NRC. THIS EVENT'S ROOT CAUSE IS MANAGEMENT DEFICIENCY, INADEQUATE POLICY. THIS INCIDENT OCCURRED AND ENDED WITHOUT PROMPT RECOGNITION, HOWEVER UPON IDENTIFICATION, MANAGEMENT PROVIDED A TS INTERPRETATION, AND A LTOP TRAINING PACKAGE FOR OPERATORS. THIS REPORT IS SUBMITTED AS A VOLUNTARY LER.

[138] OCONEE 3 DOCKET 50-287 LER 89-006 POLAR CRANE TECH SPEC VIOLATED DUE TO MANAGEMENT DEFICIENCY/INADEQUATE POLICY. EVENT DATE: 112789 REPORT DATE: 122789 NSSS: BW TYPE: PWR NSSS: BW TYPE: PWR

(NSIC 216287) ON NOVEMBER 27, 1989, AT APPROXIMATELY 1530 HOURS, WITH UNIT 3 IN A REFUELING OUTAGE, THE REACTOR BUILDING POLAR CRANE WAS OPERATED WITH THE MAIN HOOK OVER THE FUEL TRANSFER CANAL DURING TENDON SURVEILLANCE WHILE FUEL MOVEMENT WAS IN PROGRESS. THIS WAS 1 VIOLATION OF TECHNICAL SPECIFICATION 3.12. THIS CONDITION WAS IDENTIFIED BY A RESIDENT NRC INSPECTOR DURING A TOUR OF THE REACTOR BUILDING. IMMEDIATE CORRECTIVE ACTIONS WERE TO SUSPEND FUEL MOVEMENT, TERMINATE THE TENDON SURVEILLANCE, AND REMOVE THE POLAR CRANE FROM THE FUEL TRANSFER CANAL

AREA. THE ROOT CAUSE OF THIS INCIDENT IS MANAGEMENT DEFICIENCY, INADEQUATE Policy. After the polar crane was removed from the fuel transfer canal area, fuel movement was resumed.

 [139]
 OYSTER CREEK
 DOCKET 50-219
 LER 89-021 REV 01

 UPDATE ON REACTOR SCRAM DUE TO TURBINE TRIP AS A RESULT OF PERSONNEL ERROR DURING
 SURVEILLANCE TEST.

 EVENT DATE:
 092289
 REPORT DATE:
 011290

NSSS: GE
TYPE: BWR

(NSIC 216642) ON SEPTEMBER 22, 1989, AT APPROXIMATELY 1418 HOURS, MECHANICAL TEST EQUIPMENT MAS INADVERTENTLY LEFT CONNECTED TO ONE OF THE REACTOR PRESSURE VESSEL (RPV) WATER LT." TISTRUMENTS AFTER TESTING WAS COMPLETE. WHILE BEING PLACED BACK IN SERVICE, THE REFERENCE LEG OF THE INSTRUMENT WAS VENTED TO THE TEST EQUIPMENT CAUSING A FALSE HIGH RPV WATER LEVEL SIGNAL TO BE GENERATED IN ALL FIVE LEVEL INSTRUMENTS ATTACHED TO THAT COMMON REFERENCE LEG. THE FALSE HIGH RPV WATER LEVEL CAUSED A TRIP OF THE TURBINE GENERATOR WHICH RESULTED IN A REACTOR SCRAM. THE TECHNICIAN PERFORMING THE VALVE MANIPULATION RECOGNIZED THE PROBLEM AND CLOSED THE ROOT VALVE. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR SINCE THE TEST EQUIPMENT WAS NOT REMOVED AS REQUIRED BY THE SURVEILLANCE PROCEDURE. THIS DESIGNED TO PROTECT THE REACTOR FROM ANY TURBINE TRIP CONDITION, AND THE EXCESS FLOW CHECK VALVES IN THE INSTRUMENT LINE WOULD HAVE PREVENTED ANY SIGNIFICANT LOSS OF COOLANT. ALL ENGINEERED SAFETY FEATURES WOULD HAVE FUNCTIONED NORMALLY DUE TO REDUNDANT RPV LEVEL INSTRUMENTATION. ALL INSTRUMENTS INVOLVED IN THIS EVENT WERE CALIBRATION CHECKED TO ENSURE NO PROBLENS HAD RESULTED FROM THE MOMENTARY DEPRESSURIZATION. THE TECHNICIANS INVOLVED IN THIS EVENT WERE COUNSELED.

[140] PALISADES DOCKET 50-255 LER 89-021 REV 01 UPDATE ON SINGLE FAILURE POTENTIAL WITHIN THE CONTROL ROOM HEATING, VENTILATION AND AIR CONDITIONING CIRCUITRY. EVENT DATE: 091889 REPORT DATE: 122789 NSSS: CE TYPE: PWR

(NSIC 216306) DURING A SENIOR REACTOR OPERATOR (SRO) CLASS WALKDOWN OF THE CONTROL ROOM HEATING, VENTILATION AND AIR CONDITIONING (CR HVAC) SYSTFM (VI) ON 9/18/89 ONE OF THE SRO CANDIDATES IDENTIFIED THE POSSIBILITY FOR A SINGLE RELAY (JM; RLY) FAILURE LEAVING A CR HVAC TRAIN IN THE NORMAL MODE WHEN THE EMERGENCY MODE WOULD BE DESIRED. THE CR HVAC TRAIN IN THE NORMAL MODE WHEN THE EMERGENCY MODE WOULD BE DESIRED. THE CR HVAC SYSTEM WAS SWITCHED INTO THE EMERGENCY MODE AS A PRECAUTIONARY MEASURE WHILE THE DESIGN BASIS FOR THE MODIFIED CR HVAC SYSTEM WAS REVIEWED. THE REACTOR WAS CRITICAL WITH THE PLANT OPERATING AT 80% OF RATED POWER WHEN THIS POTENTIAL CONDITION WAS IDENTIFIED. THE AUTOMATIC SWITCHOVER CIRCUITRY FROM NORMAL TO EMERGENCY MODE IS PROVIDED BY RECEIPT OF A CHP AND/OR CHR SIGNAL TO EITHER OR BOTH OF THESE INSERVICE RELAYS. AS A RESULT OF A SINGLE RELAY FAILURE, AUTOMATIC SWITCHOVER TO THE EMERGENCY MODE MAY NOT RESULT FOR BOTH TRAINS, LEAVING ONE IN THE NORMAL MODE TAKING IN POTENTIALLY CONTAMINATED AIR. IN ADDITION, DURING THE EVALUATION A CONTROL CIRCUIT TIME DELAY WAS DISCOVERED WHICH ALLOWS THE CR HVAC TO BE DEPRESSURIZED WITH NO AIR MAREUP FOR UP TO 2 MINUTES. MODIFICATIONS WERE MADE TO THE CONTROL CIRCUIT TO ELIMINATE THE SINGLE FAILURE POSSIBILITY. THE EQUIPMENT TIME DELAYS WAS DISCOVERED WHICH ALLOWS THE CR HVAC TO BE DEPRESSURIZED WITH NO AIR MAREUP FOR UP TO 2 MINUTES. MODIFICATIONS WERE MADE TO THE CONTROL CIRCUIT TO ELIMINATE THE SINGLE FAILURE POSSIBILITY. THE EQUIPMENT TIME DELAYS WERE REDUCED. A CR HVAC DOSE ANALYSIS WAS CONDUCTED WHICH DEMONSTRATED THE MODIFIED CR HVAC SYSTEM MEETS THE DOSE LIMITS OF CRITERION 19.

[141] PALISADES DOCKET 50-255 LER 89-024 INOPERABLE FIRE BARRIER PENETRATION SEAL BETWEEN 1-1 DIESEL GENERATOR ROOM. EVENT DATE: 112089 REPORT DATE: 122089 NSSS: CE TYPE: PWR

(NSIC 216256) IN SUPPORT OF INFORMATION NOTICE 88-04, FIRE BARRIER PENETRATION SEALS (NO APPLICABLE SYSTEM CODE; SEAL) THROUGHOUT THE PLANT WERE BEING SURVEYED TO CATALOG THE TYPES OF EXISTING SEAL CONFIGURATIONS. DURING THIS WALKDOWN PERSONNEL IDENTIFIED A THREE AND ONE-HALF INCH DIANETER CONDUIT PENETRATION FZ-0040 IN THE CEILING OF THE 1-1 DIESEL GENERATOR ROOM WHICH DID NOT CONTAIN A FIRE SEAL. HOURLY FIRE TOURS WERE INITIATED IN ACCORDANCE WITH PLANT TECHNICAL SPECIFICATION 3.22.5. [142] PALISADES DOCKET 50-255 LER 89-025 POWER OPERATED RELIEF VALVE OPENING AND SAFEGUARDS EQUIPMENT ACTUATION. EVENT DATE: 112189 REPORT DATE: 122189 NSSS: CE TYPE: PWR VENDOR: EDWARDS VALVES DIV TARGET ROCK CORP.

(NSIC 216257) ON 11/21/89 AT 0225 POWER OPERATED RELIEF VALVE (PORV), PRV-10428 (AB;RV) INSTANTANEOUSLY OPENED FOLLOWING THE MANUAL OPENING OF ITS ASSOCIATED MOTOR OPERATED BLOCK VALVE (MOV), M0-10242 (AB;ISV). BOTH MOV AND PORV, AND THE REDUNDANT VALVES M0-1043A AND PRV-1043B, HAD RECENTLY BEEN REPLACED DURING ONGOING MAINTENANCE OUTAGE. THE MOV WAS OPENED WITH THE REACTOR SUBCRITICAL AND THE PRIMARY COOLANT SYSTEM (PCS) AT 2154 PSIA TO PERMIT ASME SECTION XI LEAK TESTING OF THE WELDS MADE DURING VALVE INSTALLATION. APPROX. 24 SECS FOLLOWING THE OPENING OF THE PORV, THE REACTOR AUTOMATICALLY TRIPPED DUE TO THE RECEIPT OF ALL 4 THERMAL MARGIN LOW PRESSURE (TMLP) SIGNALS. APPRCX. 3 MINS LATER A SAFETY INJECTION ACTUATION SIGNAL (SIAS) WAS RECEIVED WHEN PCS PRESSURE DROPPED TO THE SAFETY INJECTION SYSTEM ACTUATION PRESSURE OF 1605 PSIA. ALL SAFETY INJECTION EQUIPMENT THEN STARTED OR OTHERWISE PERFORMED ITS DESIGN FUNCTION. BOTH DIESEL GENERATORS STARTED ON LOW BUS VOLTAGE, BUT NO EQUIPMENT WAS AUTOMATICALLY LOADED ONTO THE DIESEL GENERATORS. WITH THE PCS AT 1565 PSIA THE PORV CLOSED AND THE MOV FULLY CLOSED. AN UNUSUAL EVENT WAS DECLARED DUE TO THE PORV OPENING AT 0256. THE PORV AND THE MOV WHICH OPENED WERE REMOVED FROM 'HE PLANT AND INSPECTED AND TESTED. THE VALVE OPERATING CHARACTERISTICS WERE DETERMINED, AND THE PLANT OPERATORS TRAINED AND OPERATING PROCEDURES MODIFIED TO REFLECT THOSE CHARACTERISTICS.

[143]PALO VERDE 1DOCKET 50-528LER 89-022FUEL BUILDING VENTILATION LOW RANGE EFFLUENT MONITOR ALARM NOTPROPERLYINVESTIGATED.EVENT DATE: 112089REPORT DATE: 121689NSSS: CETYPE: PWRVENDOR: KAMAN SCIENCES CORP.

(NSIC 216252) ON NOVEMBER 20, 1989, AT APPROXIMATELY 0615 MST, PALO VERDE UNIT 1 WAS IN MODE 6 (REFUELING) WHEN A UNIT 1 CHEMISTRY TECHNICIAN NOTED AN EXISTING LOW FLOW ALARM FOR THE FUEL BUILDING VENTILATION LOW RANGE MONITOR (RU-145). INVESTIGATION DETERMINED THAT THE LOW FLOW ALARM HAD OCCURRED AT APPROXIMATELY 0319 MST ON NOVEMBER 20, 1989, AND HAD BEEN ACKNOWLEDGED IN THE CONTROL ROOM. CONTRARY TO PROCEDURAL REQUIREMENTS, THE CAUSE FOR THE ALARM WAS NOT INVESTIGATED, THEREFORE, RESULTING IN A FAILURE TO PERFORM TECHNICAL SPECIFICATION (T.S.) 3.3.8 ACTION 40. THE CAUSE OF THE LOW FLOW ALARM WAS A LOW FLOW LIMIT SWITCH DRIFTING FROM THE DESIRED POSITION. THE CAUSE OF THE MISSED ACTION WAS A COGNITIVE PERSONNEL ERROR BY CONTROL ROOM PERSONNEL. AS CORRECTIVE ACTION, THE PRE-PLANNED ALTERNATE SAMPLING PROGRAM (PASP) WAS IMPLEMENTED BY APPROXIMATELY 0703 MST ON NOVEMBER 20, 1989, FULFILLING T.S.3.3.8 ACTION REQUIREMENTS. AT APPROXIMATELY 1158 ON NOVEMBER 25, 1989, RU-145 WAS RETURNED TO SERVICE. THE INDIVIDUAL WHO FAILED TO FOLLOW PROCEDURAL REQUIREMENTS RECEIVED APPROFRIATE DISCIPLINARY ACTION. THIS REPORT IS ALSO BEING SUEMITTED PURSUANT TO T.S. 3.3.3.8 ACTION 42.B AND T.S. 6.9.2, TO REPORT AN EVENT IN WHICH THE FUEL BUILDING VENTILATION HIGH RANGE MONITOR (RU-146) WAS INOPERABLE FOR GREATER THAN 72 HOURS. A PREVIOUS SIMILAR EVENT WAS REPORTED IN UNIT 3 LER 89-005.

[144] P/	ALO VERDI	E 1		DOCKET 50-528	LER 89-023
VENTILATION	TURNING	VANES NO	T SEISMICALLY	QUALIFIED.	
EVENT DATE:	120889	REPORT I	DATE: 010890	NSSS: CE	TYPE: PWR

(NSIC 216424) ON DECEMBER 8, 1989 AT APPROXIMATELY 1500 MST PALO VERDE UNIT 1 WAS IN MODE 6 (REFUELING) WHEN THE SHIFT SUPERVISOR DECLARED THE ENGINEERED SAFETY FEATURE (ESF) EQUIPMENT ROOM ESSENTIAL VENTILATION FANS INOPERABLE AFTER RECEIVING INFORMATION THAT TURNING VANES IN THE ESF EQUIPMENT ROOM VENTILATION AND THE AUXILIARY BUILDING VENTILATION WERE NOT SEISMICALLY QUALIFIED. THE NORMAL VENTILATION FANS WERE AVAILABLE TO PROVIDE COOLING. THE CONDITION DID NOT EFFECT THE IMMEDIATE OPERABILITY OF ANY PLANT EQUIPMENT. THE CAUSE OF THIS EVENT WAS AN INADEQUATE ADMINISTRATIVE PROGRAM TO ENSURE SIGNIFICANT CONDITIONS WERE ESCALATED TO MANAGEMENT FOR APPROPRIATE DISPOSITION. AS IMMEDIATE CORRECTIVE ACTION. BRACING WAS INSTALLED ON THE ESF EQUIPMENT ROOM VENTILATION DUCT TO PROVIDE REQUIRED STIFFNESS AND THE AIR HANDLING UNITS WERE DECLARED OPERABLE AT APPROXIMATELY 0635 MST ON DECEMBER 14, 1989. BRACING IS BEING INSTALLED ON THE AUXILIARY EUILDING VENTILATION DUCT. THIS WORK WILL BE COMPLETE PRIOR TO ENTRY INTO MODE 4. ALTHOUGH NOT A SPECIFIC CORRECTIVE ACTION FOR THIS REPORT, A MATERIAL NON-CONFORMANCE PROGRAM HAS BEEN IMPLEMENTED WHICH REQUIRES AN ENGINEERING JUSTIFICATION THAT A CONDITION WILL NOT ADVERSELY EFFECT A COMPONENT IN ORDER FOR A SYSTEM TO REMAIN OPERABLE.

[145] PALO VERDE 1 ENGINEERED SAFETY FEATURE ACTUATION DURING REACTOR COOLANT PUMP TEST. EVENT DATE: 121289 REPORT DATE: 011190 NSSS: CE TYPE: PWR

(NSIC 216478) ON 12/12/89 UNIT 1 WAS IN MODE 6 WITH THE REACTOR COOLANT SYSTEM AT ATMOSPHERIC PRESSURE AND APPROXIMATELY 95F. AT APPROXIMATELY 1055 MST, A TEST WAS INITIATED ON REACTOR COOLANT PUMP 2A MOTOR PRIOR TO COUPLING THE IMPELLER. THE MOTOR START CAUSED A VOLTAGE PERTURBATION IN THE ELECTRICAL SYSTEM THAT TRIPPED RADIATION MONITORS AND INITIATED A CONTAINMENT PURGE ISOLATION ACTUATION SIGNAL, A FUEL BUILDING ESSENTIAL VENTILATION ACTUATION SIGNAL, AND A CONTROL ROOM ESSENTIAL FILTRATION ACTUATION SIGNAL. ALL SYSTEMS RESPONDED AS DESIGNED. THE RCP MOTOR WAS IMMEDIATELY STOPPED. ALL ACTUATIONS WERE RESET BY APPROXIMATELY 1300 MST. AN INVESTIGATION INTO THE EVENT IS IN PROGRESS. UPON COMPLETION OF THE INVESTIGATION, A SUPPLEMENTAL REPORT WILL BE ISSUED PROVIDING THE ROOT CAUSE AND ANY CORRECTIVE ACTIONS TO PREVENT RECURRENCE.

[146] PALO VERDE 2 DOCKET 50-529 LER 88-015 REV 02 UPCATE ON ACTION STATEMENT NOT MET FOR INOPERABLE RADIATION MONITOR. EVENT DATE: 120388 REPORT DATE: 012190 NSSS: CE TYPE: PWR VENDOR: KAMAN SCIENCES CORP.

(NSIC 216620) ON DECEMBER, 7, 1988 AT APPROXIMATELY 0942 MST, A UNIT 2 CHEMISTRY TECHNICIAN (CONTRACTOR, NON-LICENSED) DISCOVERED THE NEW FUEL AREA RADIATION MONITOR RU-19 WAS INOPERABLE. RU-19 INDICATED A CONSTANT 0.00E-0 MILLIREM PER HOUR RADIATION LEVEL INSTEAD OF ACTUAL LEVEL. RU-19 MEASURES AREA RADIATION ADJACENT TO THE NEW FUEL STORAGE RACKS. A REVIEW OF PREVIOUS READINGS DETERMINED THAT THE LAST ACCURATE READING OCCURRED ON DECEMBER 3, 1988 AT APPROXIMATELY 0516 MST. ON DECEMBER 4, 1988 AT APPROXIMATELY 0516 NST. AREA SURVEYS WERE NOT PERFORMED WITHIN 24 HOURS AS REQUIRED BY TECHNICAL SPECIFICATIONS 3 3.3.1 ACTION 22. THE CAUSE OF THE INOPERABLE MONITOR IS BELIEVED TO BE A MALFUNCTION OF A CLOCK IN THE COMPUTER INTERNAL TO THE MONITOR. A ROOT CAUSE OF FAILURE WAS UNABLE TO CONFIRM THE CAUSE. THE CAUSE OF THE MISSED ACTION STATEMENT REQUIREMENTS IS A COGNITIVE PERSONNEL ERROR CONTRARY TO AN APPROVED PROCEDURE. AS IMMEDIATE CORRECTIVE ACTION, ON DECEMBER 7, 1988 AT APPROXIMATELY 1030 MST, THE AREA MONITOR RU-19 WAS RESET, TESTED, AND DECLARED OPERABLE.

[147] PALO VERDE 3 MISSED ASME SURVEILLANCE TEST ON GENERATOR AIR START SYSTEM CHECK VALVE. EVENT DATE: 120689 REPORT DATE: 010590 NSSS: CE TYPE: PWR

(NSIC 216394) AT APPROXIMATELY 1715 MST ON DECEMBER 6, 1989, PALO VERDE UNIT 3 WAS IN MODE 6 WHEN APS ENGINEERING PERSONNEL DISCOVERED THAT QUARTERLY ASME SURVEILLANCE TESTING HAD NOT BEEN PERFORMED ON A TRAIN "A" AIR START SYSTEM CHECK VALVE FOR THE TRAIN "B" EMERGENCY DIESEL GENERATOR. THE SURVEILLANCE TESTING SHOULD HAVE BEEN PERFORMED WHEN THE TRAIN "A" AIR START SYSTEM COMPRESSOR WAS RETURNED TO SERVICE ON NOVEMBER 18, 1989. THE SURVEILLANCE TESTING IS REQUIRED PURSUANT TO TECHNICAL SPECIFICATION 4.0.5. THE CAUSE OF THE EVENT WAS INSUFFICIENT PROCEDURAL CONTROLS. AS CORRECTIVE ACTION, THE PROCEDURES ARE BEING REVISED. THERE HAVE BEEN NO PREVIOUS SIMILAR EVENTS REPORTED PURSUANT TO 10CFR50.73. [148] PEACH BOTTOM 2 UPDATE ON MALFUNCTIONING ELECTRO-HYDRAULIC CONTROL SYSTEM COMPONENT CAUSES SCRAM WHEN REMOVED FROM SERVICE. EVENT DATE: 072189 REPORT DATE: 011690 NSSS: GE TYPE: BWR VENDOR: GEN ELEC CO (STEAM TURB/ENGRD PROD)

(NSIC 216581) AT 2231 ON 7/21/29 WITH UNIT 2 AT 79% THERMAL POWER, AN ATTEMPT WAS MADE TO REMOVE A MALFUNCTIONING REACTOR PRESSURE VESSEL (RPV) PRESSURE REGULATOR SET FROM THE ELECTRONIC FORTION OF THE MAIN TURBINE (MT) ELECTRO-HYDRAULIC CONTROL (ENC) PRESSURE REGULATING SYSTEM. IMMEDIATELY, THE MT BYPASS AND CONTROL VALVES OPENED, CAUSING MAIN STEAM LINE PRESSURE TO DECREASE TO APPROXIMATELY 480 PSIG. AT 850 PSIG MAIN STEAM LINE PRESSURE, A GROUP I ISOLATION OCCURRED CAUSING THE MAIN STEAM ISOLATION VALVES (NSIV) TO CLOSE. AS A RESULT, A FULL REACTOR SCRAM OCCURRED. RPV LEVEL DECREASE DUE TO SHRINK FOLLOWING MSIV CLOSURE RESULTED IN A GROUP II AND III ISOLATION AS LEVEL DECREASED BELOW O INCHES. TWO MAIN STEAM RELIEF VALVES (MSRV) LIFTED ONCE AUTOMATICALLY, FOLLOWED BY MANUAL OPERATOR CYCLING OF MSRVS TO CONTROL RPV PRESSURE BETWEEN 930 PSIG AND 1060 PSIG. THE HIGH PRESSURE COOLANT INJECTION (HPCI) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM WERE PLACED IN OPERATION TO CONTROL RPV PRESSURE AND LEVEL. THE ROOT CAUSE OF THIS EVENT WAS A MALFUNCTION OF THE ELECTRONIC PORTION OF THE "A" RPV PRESSURE REGULATOR SET. NO ACTUAL SAFETY CONSEQUENCES OCCURRED AS A RESULT OF THIS EVENT. THE MAJORITY OF THE "A" REGULATOR ELECTRONIC CONPONENTS WERE REPLACED. THIS EVENT HAS BEEN REVIEWED WITH APPROPRIATE PLANT PERSONNEL. ONE PREVIOUS SIMILAR LER WAS IDENTIFIED.

[149] PEACH BOTTOM 2 UPDATE ON LOCAL POWER RANGE MONITOR SPIKING HIGH CAUSES SCRAM WHILE SHUTDOWN. EVENT DATE: 072239 REPORT DATE: 011190 NSSS: GE TYPE: BWR VENDOR: GENERAL ELECTRIC CO.

(NSIC 216448) AT 1110 ON 7/22/89 WITH UNIT 2 IN COLD SHUTDOWN THE REACTOR PROTECTION SYSTEM (RPS) INITIATED A FULL REACTOR SCRAM SIGNAL. THE FULL SCRAM WAS THE RESULT OF A CHANNEL "B" RPS SCRAM SIGNAL BEING RECEIVED IN CONJUNCTION W/ITH A "A" RPS SCRAM SIGNAL ALREADY INSERTED. THE "B" RPS SCRAM SIGNAL WAS THE RESULT OF AN "F" AVERAGE POWER RANGE MONITOR (APRM) HI-HI SIGNAL CAUSED BY LOCAL POWER RANGE MONITOR (LPRM) DETECTOR 4B-40-33 SPIKING UPSCALE. THE "A" RPS SCRAM SIGNAL HAD PREVIOUSLY BEEN MANUALLY INSERTED AS REQUIRED BY TECHNICAL SPECIFICATIONS (LESS THAN THE REQUIRED NUMBER OF INTERMEDIATE RANGE MONITORS (IRM) OPERABLE). IMMEDIATE CORRECTIVE ACTION WAS TO BYPASS LPRM 4B-40-33. THE "B" RPS SCRAM WAS RESET AFTER THE CAUSE OF THE SCRAM SIGNAL WAS DETERMINED. THE ROOT CAUSE OF THIS EVENT APPEARS TO BE RELATED TO DESIGN AND/OR THE MANUFACTURING PROCESS AS IDENTIFIED BY GENERAL ELECTRIC COMPANY IN SERVICES INFORMATION LETTER NUMBER 500. NO ACTUAL SAFETY CONSEQUENCES OCCURRED AS THE RESULT OF THIS EVENT. CORRECTIVE ACTIONS RECOMMENDED BY GENERAL ELECTRIC WILL BE IMPLEMENTED, AS APPROPRIATE, TO REDUCE THE FREQUENCY OF LFRM SPIKES.

[150]PEACH BOTTOM 2DOCKET 50-277LER 89-031INOPERABLE TRAINS OF SAFETY SYSTEMS DUE TO IMPROPER INSTALLATION OF SEISMIC
SUPPORT STRAPS ON AGASTAT RELAYS.
EVENT DATE: 120689REFORT DATE: 010590NSSS: GETYPE: BWROTHER UNITS INVOLVED:PEACH BOTTOM 3 (BWR)VENDOR: AGASTAT RELAY CO.NSSS: GETYPE: BWR

(NSIC 216449) ON DECEMBER 6, 1989 AT 1130 HOURS IT WAS DISCOVERED THAT FOUR AGASTAT RELAYS WERE NOT PROPERLY SECURED BY THEIR SEISMIC SUPPORT STRAPS. THE RELAYS CONTROL THE AUTOMATIC RE-ENERGIZING OF VARIOUS MOTORS AND/OR ELECTRICAL BUSES FOLLOWING A LOSS OF OFFSITE POWER EVENT. ONCE THE IMPROPERLY INSTALLED AGASTAT RELAY SEISMIC SUPPORT STRAPS WERE IDENTIFIED, THEY WERE PROMPTLY RECONNECTED. THE ROOT CAUSE OF THIS EVENT IS UNDER INVESTIGATION AND WILL BE REPORTED IN A REVISION TO THIS LER. NO SAFETY CONSEQUENCES OCCURRED AS A RESULT OF THIS EVENT. INSPECTIONS OF OTHER SEISMIC SUPPORTED RELAYS WILL BE COMPLETED BY JANUARY 19, 1990.

 [151]
 PEACH BOTTOM 2
 DOCKET 50-277
 LER 89-032

 UNTIMELY PERFORMANCE OF A TECH SPEC SURVEILLANCE DUE TO A FAILURE TO FOLLOW AN ADMINISTRATIVE PROCEDURE.
 DOCKET 50-277
 LER 89-032

 EVENT DATE:
 121189
 REPORT DATE:
 011790
 NSSS: GE
 TYPE: BWR

(NSIC 216488) ON DECEMBER 18, 1989, THE OPERATIONS COGNIZANT ENGINEER DISCOVERED THAT THE WEEKLY SURVEILLANCE TEST (ST) 9.2 "CONTROL ROD EXERCISE" HAD NOT BEEN PERFORMED WITHIN THE SURVEILLANCE INTERVAL ESTABLISHED BY TECHNICAL SPECIFICATION (TS) 4.3.A.2.A. THE TEST IS REQUIRED TO BE PERFORMED WEEKLY AFTER ESTABLISHING REACTOR PONER GREATER THAN THE ROD WORTH MINIMIZER LOW POWER SET POINT (25% RATED THERMAL POWER). REACTOR POWER OF GREATER THAN 25% WAS ACHIEVED ON DECEMBER 3, 1959, HOWEVER, THE TEST WAS NOT COMPLETED UNTIL DECEMBER 12, 1989. NO ACTUAL SAFETY CONSEQUENCES OCCURRED AS A RESULT OF THIS EVENT. THE ROOT CAUSE OF THIS EVENT WAS AN INAPPROPRIATE ACTION BASED ON A FAILURE TO FOLLOW A PROCEDURE. A CONTRIBUTING CAUSE WAS THE MISUNDERSTANDING OF VEREAL COMMUNICATIONS RESULTING IN THE ST COORDINATOR PLACING AN ST ON THE OMITTED TEST LIST FOR THE WRONG SURVEILLANCE WEEK. THIS EVENT WILL BE REVIEWED BY APPROPRIATE PERSONNEL TO EMPHASIZE THE IMPORTANCE OF FOLLOWING PROCEDURES. THE ST COORDINATOR WAS COUNSELED ON THE REQUIREMENTS FOR REMOVING AN ST FROM THE WEEKLY TEST SCHEDULE. NO FREVIOUS SIMILAR LERS WERE IDENTIFIED.

[152]	PEACH BOTTOM	2	DOCKET 50-277	LER 89-033
SCRAM	DUE TO PERSONNEL	ERROR DURING TESTING	ACTIVITIES.	
EVENT	DATE: 122089 R	EPORT DATE: 011990	NSSS: GE	TYPE: BWR

(NSIC 216582) ON 12/20/89 AT 1752 HOURS WITH UNIT 2 OPERATING AT 100% POWER, A FULL SCRAM SIGNAL WAS RECEIVED WHEN A TECHNICIAN PERFORMING A SURVEILLANCE ON AVERAGE FOWER RANGE MONITOR (APRM) "D" INADVERTENTLY OPERATED A SWITCH ON APRM "A" (APRM "D" ACTUATES A "B" CHANNEL HALF SCRAM SIGNAL NHILE APRM "A" ACTUATES AN "A" CHANNEL HALF SCRAM SIGNAL). THE REACTOR FEEDWATER PUMPS (RFP) TRIPPED FOLLOWING THE SCRAM. THE HIGH PRESSURE COOLANT INJECTION (HPCI) AND THE REACTOR CORE ISOLATION COOLING (RCIC) SYSTEMS ACTUATED AS DESIGNED TO MAINTAIN REACTOR WATER LEVEL, OTHER SAFETY SYSTEMS OPERATED AS DESIGNED. CONTROL ROD 38-39 SETTLED TO POSITION 02 SHORTLY FOLLOWING THE SCRAM AND WAS LATER RE-INSERTED. THE ROOT CAUSE OF THE EVENT HAS BEEN ATTRIBUTED TO PROCEDURAL DEFICIENCIES AND INATTENTION TO DETAIL BY THE TECHNICIAN PERFORMING THE SURVEILLANCE. THE TECHNICIAN INVOLVED IN THIS EVENT WAS COUNSELED AND DISCIPLINED. APRM SURVEILLANCE PROCEDURES WHICH TEST APRM CHANNELS ADJACENT TO OTHER APRM CHANNELS HAVE BEEN REVISED TO PROVIDE PHYSICAL BARRIERS EETWEEN APRM CHANNELS DURING TESTING AND TO INSTRUCT OPERATORS TO BYPASS ADJACENT APRM CHANNELS WHEN PERMISSIBLE. CURRENT PANEL LABELING WILL BE EVALUATED AND IMPROVED AS APPROPRIATE. THERE WAS ONE PREVIOUS SIMILAR EVENT.

[153]PEACH BOTTOM 3DOCKET 50-278LER 89-009HIGH PRESSURE COOLANT INJECTION RENDERED INOPERABLE DUE TO AN OIL SYSTEM RELIEFVALVE SETPOINT DRIFT.EVENT DATE: 120789REPORT DATE: 010890NSSS: GETYPE: BWR

(NSIC 216383) ON DECEMBER 7, 1989, AT 1715 HOURS THE UNIT 3 HIGH PRESSURE COOLANT INJECTION SYSTEM (HPCI) WAS DECLARED INOPERABLE WHEN IT FAILED TO START DURING A PUMP, VALVE AND FLOW SURVEILLANCE TEST. THE HPCI TURBINE STEAM SUPPLY HYDRAULIC STOP VALVE HAD FAILED TO OPEN DURING THE MANUAL START ATTEMPT. THE CAUSE OF THIS EVENT WAS A LOOSE LOCK NUT OPEN ON THE HPCI OIL SYSTEM RELIEF VALVE RV-9214 WHICH ALLOWED THE OIL PRESSURE SETPOINT TO DRIFT LOW. THEREFORE, THE HYDRAULIC STOP VALVE WAS NOT SUPPLIED WITH SUFFICIENT PRESSURE TO ALLOW IT TO LIFT OPEN TO ADMIT STEAM TO THE HPCI TUREINE. THE CAUSE OF THE RV-9214 LOCK NUT BEING LOOSE IS UNKNOWN. NO ACTUAL SAFETY CONSEQUENCES OCCURRED AS A RESULT OF THIS EVENT. HPCI AND REACTOR CORE ISOLATION COOLING SYSTEM (RCIC) RELIEF VALVES IN UNIT 2 AND UNIT 3 WERE INSPECTED TO ENSURE THIS IS AN ISOLATED OCCURRENCE. SURVEILLANCE TEST ST 21.3 HAS BEEN REVISED TO VERIFY PROPER HPCI AUXILIARY OIL PUMP DISCHARGE PRESSURE PRIOR TO PLANT STARTUP. A LEAD SEAL WIRE WILL BE PLACED ON THE HPCI OIL SYSTEM RELIEF VALVE CAPS TO PREVENT ANY MAINTENANCE ACTIVITIES FROM INADVERTENTLY DISLODGING THE LOCK NUT. NO PREVIOUS SIMILAR LERS WERE IDENTIFIED. [154]PEACH BOTTOM 3DOCKET 50-278LER 89-010LATE PERFORMANCE OF TECHNICAL SPECIFICATION SURVEILLANCE DUE TO PROGRAMMATICDEFICIENCIES.EVENT DATE: 121189REPORT DATE: 011190NSSS: GETYPE: BWR

(NSIC 216583) ON DECEMBER 13, 1989, THE OPERATIONS COGNIZANT ENGINEER DISCOVERED THAT THE MONTHLY SURVEILLANCE TEST ST 9.7 "MSIV PARTIAL CLOSURE AND RPS INPUT FUNCTIONAL TEST" HAD NOT BEEN PERFORMED WITHIN THE SURVEILLANCE INTERVAL ESTABLISHED BY TECHNICAL SPECIFICATION TABLE 4.1.1. THE TEST WAS IDENTIFIED ON THE SURVEILLANCE TEST SCHEDULE AS REQUIRED TO BE PERFORMED BY NOVEMBER 26, 1989. THE TECHNICAL SPECIFICATIONS REQUIRE COMPLETION OF THIS SURVEILLANCE PRIOR TO ENTERING THE RUN MODE, WHICH OCCURRED DECEMBER 8. THIS REQUIREMENT WAS MET BECAUSE AN EQUIVALENT TEST, ST 9.7A WAS PERFORMED PRIOR TO ENTERING THE RUN MODE. THE TEST INTERVAL EXPIRED ON DECEMBER 11 WHILE IN THE RUN MODE WHICH RESULTED TY THE REQUIRED TECHNICAL SPECIFICATION INTERVAL BEING EXCEEDED. NO ACTUAL SAFETY CONSEQUENCES OCCURRED AS A RESULT OF THIS EVENT. THE ROOT CAUSE OF THIS EVENT WAS A COMBINATION OF PROGRAMMATIC WEAKNESSES IN THE COORDINATION OF ST SCHEDULE AND DOCUMENTS. A REVIEW WILL BE PERFORMED IN ORDER TO DETERMINE AN IMPROVED METHOD FOR COORDINATING ST DOCUMENTS IN THE CONTROL ROOM, AND DELINEATION OF THE CONTROLLING RESPONSIBILITY FOR TIMELY ST PERFORMANCE. ST 9.7 WILL BE SPLIT INTO TWO PROCEDURES TO SEPARATELY ADDRESS THE WEEKLY AND MONTHLY SURVEILLANCE REQUIREMENTS. NO PREVIOUS SIMILAR LERS WERE IDENTIFIED.

[155] PEACH BOTTOM 3 MIESED SURVEILLANCES RESULTING IN TECHNICAL SPECIFICATION VIOLATION DUE TO INCORRECT STANDARD PRACTICE OF SURVEILLANCE TIMING. EVENT DATE: 121389 REPORT DATE: 011690 NSSS: GE TYPE: BWR

(NSIC 216584) ON 12/14/39, 1053 HOURS, AN OPERATIONS SUPPORT ENGINEER DISCOVERED THAT TWO SURVEILLANCE TESTS (ST), ST 9.4, "TUREINE STOP VALVE CLOSURE FUNCTIONAL" AND ST 9.14, "TUREINE CONTROL VALVE FAST CLOSURE FUNCTIONAL" WERE NOT PERFORMED AS REQUIRED BY TECHNICAL SPECIFICATIONS. THESE TESTS WERE REQUIRED TO BE PERFORMED PRIOR TO REACHING 30% RATED THERMAL POWER WHICH WAS REACHED 12/13/89. THE SURVEILLANCES WERE PERFORMED SATISFACTORILY ON 12/14/89, 2000 HOURS. THE ROOT CAUSE OF THIS EVENT WAS AN INCORRECT STANDARD PRACTICE OF PERFORMING THESE SURVEILLANCES AFTER REACHING 30% POWER. NO ACTUAL SAFETY CONSEQUENCES OCCURRED AS A RESULT OF THIS EVENT. APPROPRIATE GENERAL PLANT PROCEDURE(S) WILL BE REVISED TO ENSURE ST 9.4 AND ST 9.14 ARE PERFORMED PRIOR TO BEING REQUIRED OPERABLE. ST 9.4 AND ST 9.14 WILL BE REVISED AS NEEDED TO ALLOW PERFORMANCE PRIOR TO 30% POWER. A REVIEW OF SIMILAR SURVEILLANCES ASSOCIATED WITH REACHING OPERATIONAL MILESTONES WILL EE PERFORMED. APPROPRIATE REVISIONS TO THESE SURVEILLANCES WILL BE PERFORMED AND PROGRAMMATIC CONTROLS WILL BE ESTABLISHED TO ENSURE THESE SURVEILLANCES ARE PERFORMED AND PROGRAMMATIC CONTROLS WILL BE ESTABLISHED TO ENSURE THESE SURVEILLANCES ARE PERFORMED PRIOR TO REACHING THE MILESTONES. CORRECTIVE ACTIONS WILL BE COMPLETE BY 6/1/90. THERE WERE NO PREVIOUS SIMILAR LERS.

[156]PEACH BOTTON 3DOCKET 50-278LER 89-012PLANT CONFIGURATION OUTSIDE THE DESIGN BASIS DUE TO A FIRE PROTECTION PROGRAM
ANALYSIS DEFICIENCY.
EVENT DATE: 122289REPORT DATE: 012290NSSS: GETYPE: BWR

(NSIC 216585) ON DECEMBER 22, 1989, AS A RESULT OF A REVIEW OF THE FIRE PROTECTION PROGRAM (FPP) SAFE SHUTDOWN ANALYSIS, IT WAS DETERMINED THAT THE POTENTIAL EXISTED FOR A LOSS OF REACTOR COOLANT INVENTORY IN UNIT 3 BELYOND THE MAKEUP CAPABILITY OF THE REACTOR CORE ISOLATION COOLING SYSTEM RELIED UPON IN THE FPP ANALYSIS FOR A FIRE IN FIRE AREA 13N. A FIRE IN THIS FIRE AREA IS POSTULATED TO CAUSE REACTOR WATER CLEANUP (RWGU) ELECTRICALLY CONTROLLED HIGH/LOW PRESSURE INTERFACE VALVES TO SPURIOUSLY OPEN RESULTING IN LOSS OF REACTOR COOLANT THROUGH THE RWGU REJECT LINE. THE CAUSE OF THIS DESIGN DEFICIENCY WAS THE MISAPPLICATION OF A PREVIOUS ANALYSIS FOR A STUCK OPEN RELIEF VALVE TO THE FPP SAFE SHUTDOWN ANALYSIS. NO ACTUAL SAFETY CONSEQUENCES OCCURRED AS A RESULT OF THIS CONDITION. AN HOURLY ROVING FIREWATCH WAS POSTED FOR THIS AREA. LONG TERM CORRECTIVE ACTIONS ARE UNDER EVALUATION. A REVISION TO THIS REPORT WILL BE SUBMITTED DETAILING THE LONG TERM CORRECTIVE ACTIONS. NO PREVIOUS SIMILAR LICENSEE EVENT REPORTS HAVE BEEN IDENTIFIED.

[157] PERRY 1 DOCKET 50-440 LER 89-030 PLANT ENTERED TECH SPEC 3.0.3 DUE TO TWO UNTRIPPABLE CONTROL RODS. EVENT DATE: 112589 REPORT DATE: 122689 NSSS: GE TYPE: BWR VENDOR: ASCO VALVES

(NSIC 216340) ON 11/25/89 BETWEEN 1413 AND 1815 TWO CONTROL RODS WERE INOPERABLE DUE TO BEING UNTRIPPABLE, REQUIRING ENTRY INTO TECHNICAL SPECIFICATION (TS) 3.0.3. THE ROOT CAUSE OF THE FAILURE OF CONTROL RODS 34-47 AND 34-51 TO SATISFY CRITERIA FOR CRAM-TIMES IS A PROGRAMMATIC BREAKDOWN IN THE PROCUREMENT PROCESS. THE SCRAM PILOT VALVES USED FOR RODS 34-47 AND 34-51 HAD BEEN RECALLED BY THE MANUFACTURER IN 1985 BUT WERE NOT RETURNED TO THE SUPPLIER PRIOR TO THEIR INSTALLATION DURING THE 1989 REFUELING OUTAGE. THE ROOT CAUSE OF THE ENTRY TS 3.0.3 IS PERSONNEL ERROR. DURING SCRAM TIME TESTING, CONTROL ROOM PERSONNEL OBSERVED 2 FAILURES OF ROD 34-47 AND THEN DECLARED THE ROD OPERABLE AFTER 2 SUCCESSFUL RETESTS. IT WAS NOT UNTIL AFTER THE SUBSEQUENT FAILURE OF ROD 34-51 THAT THE OPERABILITY OF ROD 34-47 WAS REEVALUATED. CONTROL ROD 34-47 SHOULD NOT HAVE BEEN DECLARED OPERABLE WITHOUT AN ADEQUATE EVALUATION FOR THE OBSERVED FAILURES. TO PREVENT RECURRENCE, SURVEILLANCE INSTRUCTIONS HAVE BEEN MODIFIED TO ADDRESS ACTIONS TAKEN WHEN RODS FAIL TESTING. THE OPERATORS INVOLVED IN THIS EVENT HAVE BEEN COACHED WITH RESPECT TO EQUIPMENT OPERABILITY AND THE CONDUCT OF TESTING AND TROUBLESHOOTING. THE PROCEDURE FOR SURVEILLANCE TEST CONTROL. WILL BE MODIFIED TO INCLUDE ACTIONS TO BE TAKEN WHEN UNSATISFACTORY TEST RESULTS ARE ENCOUNTERED, AS WELL AS A REQUIREMENT TO ANALYZE AND EVALUATE THE CAUSES FOR THE UNSATISFACTORY RESULTS.

[158] PERRY 1 DESIGN LIMITATIONS RESULT IN HIGH DIFFERENTIAL FLOW AND HIGH DIFFERENTIAL TENPERATURE REACTOR WATER CLEANUP SYSTEM CONTAINMENT ISOLATIONS. EVENT DATE: 120689 REPORT DATE: 010590 NSSS: GE TYPE: EWR

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(NSIC 216419) ON 12/6/89 AND ON 12/15/89, REACTOR WATER CLEANUP (RWCU) SYSTEM CONTAINMENT ISOLATIONS OCCURRED DUE TO HIGH DIFFERENTIAL TEMPERATURE IN THE RWCU PUMP ROOM VENTILATION. ON 12/8/89, AN RWCU SYSTEM ISOLATION OCCURRED DUE TO INDICATED HIGH DIFFERENTIAL FLOW. AFTER ALL THREE EVENTS, OPERATIONS VERIFIED THAT NO ACTUAL RWCU LEAKAGE OCCURRED AND RETURNED THE SYSTEM TO SERVICE. THE CAUSE OF THE 12/6 AND 12/15/89 EVENTS WAS A DESIGN DEFICIENCY. AN ENGINEERING EVALUATION HAS DETERMINED THAT THE LOCATION OF LEAK DETECTION THERMOCOUPLES OUTSIDE OF THE RWCU PUMP ROOMS RESULTED IN EXCESSIVE DIFFERENTIAL TEMPERATURE READINGS DURING NORMAL OPERATION. AS A RESULT, INCREASES IN DIFFERENTIAL TEMPERATURE CAUSED BY MINOR VENTILATION OR SYSTEM FLUCTUATIONS RESULTED IN UNNECESSARY RWCU SYSTEM CONTAINMENT ISOLATIONS. THE CAUSE OF THE 12/8/89 EVENT IS A PREVIOUSLY IDENTIFIED DESIGN DEFICIENCY IN THE LEAK DETECTION/DIFFERENTIAL TO PREVENT RECURRENCE OF THE DIFFERENTIAL TEMPERATURE LOW CIRCUITY SETPOINT AND/OR TIME DELAY DURING RMCU SYSTEM STARTUP. IN ORDER TO PREVENT RECURRENCE OF THE DIFFERENTIAL TEMPERATURE ISOLATIONS, LEAK DETECTION THERMOCOUPLES HAVE BEEN RELOCATED TO ENHANCE THE VALIDITY OF DIFFERENTIAL DESIGN CHANGES AND OPERATING PROCEDURE REVISION IS BEING PERFORMED TO PREVENT UNNECESSARY ISOLATIONS.

[159]PERRY 1DOCKET 50-440LER 89-032DIVISION 3 BATTERY LOW ELECTROLYTE TEMPERATURE CAUSES HIGH PRESSURE CORE SPRAY
SYSTEM INOPERABILITY.
EVENT DATE: 122289REPORT DATE: 011990NSSS: GETYPE: BWROTHER UNITS INVOLVED: PERRY 2 (BWR)
VENDOR: FISHER CONTROLS CO.
GOULD SWITCHGEAR DIVISIONNSSS: GETYPE: BWR

(NSIC 216499) ON DECEMBER 22, 1989, AND ON JANUARY 5, 1990, UNIT 2 DIVISION 3 BATTERY ELECTROLYTE TEMPERATURE WAS DISCOVERED TO BE BELOW TECHNICAL SPECIFICATION LIMITS. BECAUSE UNIT 1 DIVISION 3 BATTERY WAS INOPERABLE DUE TO

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MAINTENANCE BEING PERFORMED, PLANT TECHNICAL SPECIFICATIONS REQUIRED THE HIGH PRESSURE CORE SPRAY (HPCS) SYSTEM TO BE DECLARED INOPERABLE. OPERATORS TOOK ACTIONS TO RAISE BATTERY ROOM TEMPERATURE AND DECLARED THE HPCS SYSTEM OPERABLE WHEN BATTERY ELECTROLYTE TEMPERATURES RETURNED TO ACCEPTABLE LEVELS. THE CAUSE OF THE DECEMBER 22, 1989 EVENT WAS EQUIPMENT FAILURE, SPECIFICALLY, A BLOWN FUSE IN THE BATTERY ROOM VENTILATION DUCT HEATER CIRCUITRY. LOSS OF THE HEATER COMBINED WITH THE LOW HEAT LOAD IN THE UNIT 2 DIVISION 3 BATTERY ROOM RESULTED IN THE BATTERY ELECTROLYTE TEMPERATURE DECREASE. THE JANUARY 5, 1990 EVENT WAS CAUSED BY A TEMPERATURE CONTROL VALVE MALFUNCTION WHICH ALLOWED EXCESS COOLING WATER TO THE BATTERY ROOM VENTILATION SYSTEM AT A TIME WHEN COOLING WATER WAS NOT DESIRED. THIS ALSO RESULTED IN THE DECREASE OF BATTERY ELECTROLYTE TEMPERATURE. TO PREVENT RECURRENCE, THE BLOWN FUSE FOR THE VENTILATION DUCT HEATER WAS REPLACED AND THE HEATER CHECKED TO ENSURE PROPER OPERATION. THE TEMPERATURE CONTROL VALVE ACTUATOR HYDROMOTOR PUMP WAS REPLACED AND THE VALVE CHECKED FOR PROPER OPERATION.

[160] PILGRIM 1 DOCKET 50-293 LER 89-025 HIGH PRESSURE COOLANT INJECTION SYSTEM INOPERABLE DUE TO INOPERABLE GLAND SEAL CONDENSER BLOWER. EVENT DATE: 080589 REPORT DATE: 090589 NSSS: GE TYPE: BWR VENDOR: GENERAL ELECTRIC CO.

(NSIC 216363) ON AUGUST 5, 1989 AT 0100 HOURS, THE HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM WAS DECLARED INOPERABLE AND A 7 (SEVEN) DAY TECHNICAL SPECIFICATION (3.5.C.2) LIMITING CONDITION FOR OPERATION (LCO) WAS ENTERED AT THAT TIME. THE SYSTEM WAS DECLARED INOPERABLE BECAUSE THE HPCI SYSTEM TURBINE GLAND SEAL CONDENSER BLOWER MOTOR DID NOT START WHEN THE BLOWER'S CONTROL SWITCH WAS MOVED TO THE START POSITION IN ACCORDANCE WITH PROCEDURE. THE BLOWER MOTOR DID NOT START BECAUSE OF NORMAL WEAR OF THE MOTOR'S BRUSHES. THE BLOWER MOTOR WAS MANUFACTURED BY THE GENERAL ELECTRIC COMPANY AND IS A 250 VDC MOTOR, MODEL NUMBER SBCJ56EA58. THE BLOWER MOTOR BRUSHES WERE REPLACED AND THE BLOWER WAS SUBSEQUENTLY TESTED WITH SATISFACTORY RESULTS. THE HPCI SYSTEM WAS DECLARED OPERABLE ON AUGUST 5, 1989 AT 1415 HOURS. THIS EVENT OCCURRED DURING POWER OPERABLE ON AUGUST 5, 1989 AT 1445 HOURS. THIS EVENT OCCURRED DURING POWER OPERABLE ON AUGUST 5, 1989 AT 1445 HOURS. THIS EVENT OCCURRED DURING POWER OPERATION WITH THE REACTOR MODE SELECTOR SWITCH IN THE RUN POSITION. THE REACTOR POWER LEVEL WAS 50 PERCENT. THE REACTOR VESSEL (RV) PRESSURE WAS 1000 PSIG WITH THE RV WATER TEMPERATURE AT 544 DEGREES FAHRENHEIT. THIS REPORT IS SUBMITTED IN ACCORDANCE WITH 10 CFR 50.73(A)(2)(V)(D) AND THIS EVENT POSED NO THREAT TO THE PUBLIC HEALTH AND SAFETY.

[161]PILGRIM 1DOCKET 50-293LER 89-036HIGH PRESSURE COOLANT INJECTION SYSTEM INOPERABLE DUE TO INOPERABLE GLAND SEAL
CONDENSER BLOWER MOTOR.
EVENT DATE: 112289REPORT DATE: 122289NSSS: GETYPE: BWRVENDOR: GENERAL ELECTRIC CO.TYPE: DWRTYPE: BWRTYPE: BWR

(NSIC 216262) ON NOVEMBER 22, 1989 AT 0830 HOURS, THE HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM WAS DECLARED INOPERABLE AND A SEVEN DAY TECHNICAL SPECIFICATION (3.5.C.2) LIMITING CONDITION FOR OPERATION (LCO) WAS ENTERED AT THAT TIME. THE SYSTEM WAS DECLARED INOPERABLE BECAUSE THE HPCI SYSTEM TURBINE CLAND SEAL CONDENSER BLOWER MOTOR DID NOT START WHEN THE BLOWER'S CONTROL SWITCH WAS MOVED TO THE START POSITION IN ACCORDANCE WITH PROCEDURE. THE BLOWER MOTOR DID NOT START BECAUSE OF WORN MOTOR BRUSHES. THE BLOWER MOTOR WAS MANUFACTURED BY THE GENERAL ELECTRIC COMPANY AND IS A 250 VDC MOTOR. MODEL NUMBER SECJSGEASB. THE BLOWER MOTOR WAS REPLACED AND THE BLOWER WAS SUBSEQUENTLY TESTED WITH SATISFACTORY RESULTS. THE HPCI SYSTEM WAS DECLARED OPERABLE ON NOVEMBER 26, 1989 1925 HOURS. THIS EVENT OCCURRED DURING POWER OPERATION WITH THE REACTOR MODE SELECTOR SWITCH IN THE RUN POSITION. THE REACTOR POWER LEVEL WAS 94 PERCENT. THE REACTOR VESSEL (RV) PRESSURE WAS 1024 PSIG NITH THE RV WATER TEMPERATURE AT 547 DEGREES FAHRENHEIT. THIS REPORT IS SUBMITTED IN ACCORDANCE WITH 10 CFR 50.73(A)(2)(V)(D) AND THIS EVENT POSED NO THREAT TO THE PUBLIC HEALTH AND SAFETY.

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[162] PILGRIM 1 PRIMARY CONTAINMENT/TRAVERSING IN-CORE PROBE BALL VALVE NOT CLOSED CONTRARY TO TECH SPECS. EVENT DATE: 113089 REPORT DATE: 123089 NSSS: GE TYPE: BWR VENDOR: CONSOLIDATED CONTROLS CORP. GENERAL ELECTRIC CO.

(NSIC 216386) WHILE TROUBLE-SHOOTING THE TRAVERSING IN-CORE PROBE (TIP) BALL VALVE NO. 45-300A ON NOVEMBER 30, 1989 AT APPROXIMATELY 1200 HOURS, IT WAS DISCOVERED THAT THE BALL VALVE WAS PARTIALLY OPEN WHEN IT WAS THOUGHT TO BE IN THE CLOSED POSITION. THE VALVE WAS PARTIALLY OPEN WHEN IT WAS THOUGHT TO BE IN TROUBLE-SHOOTING IN ACCOPDANCE WITH STATION PROCEDURES. THE CAUSE OF THE BALL VALVE BEING PARTIALLY OPEN WAS DAMAGE TO THE VALVE STEM. STEM DAMAGE LIKELY OCCURRED DURING PREVIOUS MANUAL MANIPULATION OF THE VALVE (TO ALLOW TIP REMOVAL FOLLOWING SOLENOID FAILURE AND VALVE PARTIAL CLOSURE ON THE TIP CABLE). CORRECTIVE ACTION INCLUDED REPLACING THE BALL VALVE AND ACTUATOR. THE BALL VALVE SOLENOID ACTUATOR (PLATE NUMBER 112C2391POOL-21) WAS MANUFACTURED BY GENERAL ELECTRIC CO. THE CONDITION WAS DISCOVERED DURING POWER OPERATION WITH THE REACTOR MODE SELECT OR SWITCH IN THE RUN POSITION. THE REACTOR VESSEL (RV) TEMPERATURE WAS APPROXIMATELY 540 DEGREES FAHRENHEIT AND THE RV PRESSURE WAS 1025 PSIG. THE RV POWER LEVEL WAS APPROXIMATELY 94 PERCENT. THIS REPORT IS SUBMITTED IN ACCORDANCE WITH 10CFR50.73 (A)(2)(1)(E) AND THE EVENT POSED NO THREAT TO THE HEALTH AND SAFETY OF THE PUBLIC.

[163] PILGRIM 1 AUTOMATIC SCRAM ON 95% POWER DURING SURVEILLANCE TESTING DUE TO FALSE LOW WATER LEVEL SIGNAL. EVENT DATE: 120889 REPORT DATE: 010890 NSSS: GE TYPE: BWR VENDOR: FLUID COMPONENTS, INC. ITT-BARTON PACIFIC AIR PRODUCTS

(NSIC 216387) ON DECEMBER 8, 1989 AT 0308 HOURS, AN UNPLANNED AUTOMATIC REACTOR PROTECTION SYSTEM (RPS) SCRAM SIGNAL AND REACTOR SCRAM OCCURRED AT 95 PERCENT REACTOR POWER. THE SCRAM SIGNAL RESULTED IN RESPONSES THAT INCLUDED A TURBINE-GENERATOR TRIP. THE DIRECT CAUSE FOR THE SCRAM SIGNAL WAS A (FALSE) LOW REACTOR VESSEL (RV) WATER LEVEL SIGNAL THAT OCCURRED WHILE RETURNING A LOCAL RV WATER LEVEL INDICATOR (DIFFERENTIAL PRESSURE TYPE) TO SERVICE FOLLOWING A SATISFACTORY CALIBRATION PERFORMED BY A QUALIFIED TECHNICIAN. THE CAUSE FOR THE EVENT WAS A MINOR HYDRAULIC TRANSIENT THAT OCCURRED WHILE CAREFULLY AND SLOWLY OPENING A LOW SIDE (ACTIVE LEG) NEEDLE TYPE MANIFOLD VALVE IN ACCORDANCE WITH THE APPROVED PROCEDURE. THE LEVEL INDICATOR SHARES SENSING LINES COMMON TO ADJACENT RES LEVEL TRANSMITTERS. CORRECTIVE ACTIONS TAKEN INCLUDED THE SATISFACTORY CALIBRATION OF THE LOCAL LEVEL INDICATOR(S) WHILE SHUTDOWN ON DECEMBER 8, 1989. CORRECTIVE ACTIONS BEING EXPLORED ARE IMPROVEMENTS FOR CALIBRATING THE LOCAL LEVEL INDICATORS INCLUDING POSSIBLE CHANGE OF THE MANIFOLD VALVE HANDLE(S) OR REPLACEMENT OF THE RELATED NEEDLE TYPE MANIFOLD VALVES WITH METERING TYPE VALVES. THE CALIBRATION PROCEDURE IS EEING REVISED TO BE PERFORMED WHILE SHUTDOWN. THIS EVENT OCCURRED DURING POWER OPERATION WITH THE REACTOR MODE SELECTOR SUCH NO. THE SET OF THE RELATED NEEDLE TYPE MANIFOLD VALVES WITH METERING THE LOCAL LEVEL INDICATORS INCLUDING POSSIBLE CHANGE OF THE MANIFOLD VALVE HANDLE(S) OR THE CALIBRATION PROCEDURE IS EEING REVISED TO BE PERFORMED WHILE SHUTDOWN. THIS EVENT OCCURRED DURING POWER OPERATION WITH THE REACTOR MODE SELECTOR SWITCH IN THE RUN POSITION. THE RV PRESSURE WAS 1027 PSIG WITH THE RV WATER TEMPERATURE AT 547F.

[164]PILGRIM 1DOCKET 50-293LER 89-039AUTOMATIC CLOSING OF THE PRIMARY CONTAINMENT SYSTEM GROUP 3 ISOLATION VALVESWHILE SHUTDOWN.EVENT DATE: 120989REPORT DATE: 010890NSSS: GETYPE: BWR

(NSIC 216462) ON DECEMBER 9, 1989 AT 1245 HOURS, AN AUTOMATIC ACTUATION OF THE RESIDUAL HEAT REMOVAL SYSTEM (RHRS) PORTION OF THE PRIMARY CONTAINMENT ISOLATION CONTROL SYSTEM (PCIS) OCCURRED WHILE SHUTDOWN. THE ACTUATION OCCURRED WHEN THE RHRS WAS BEING STARTED FOR THE SHUTDOWN COOLING (SDC) MODE OF OPERATION IN ACCORDANCE WITH PROCEDURE. THE ACTUATION RESULTED IN THE AUTOMATIC CLOSING OF THE PRIMARY CONTAINMENT SYSTEM GROUP 3 (THREE)/SDC SUCTION PIPING ISOLATION

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VALVES. THE DIRECT CAUSE FOR THE ACTUATION WAS A HYDRODYNAMIC TRANSIENT THAT ACTUATED THE PROTECTIVE HICH PRESSURE (122 PSIG) SWITCHES FOR THE SDC SUCTION PIPING. THE ROOT CAUSE IS BELIEVED TO HAVE BEEN SOME UNVENTED AIR IN THE SDC SUCTION PIPING. THE AIR WAS MOST LIKELY INTRODUCED INTO A SECTION OF THE PIPING. WHILE SHUTDOWN IN OCTOBER 1989, AS A RESULT OF A VALVE BONNET LEAK AND/OR ISOLATION THAT WAS SUBSEQUENTLY CONDUCTED FOR VALVE SEALING. THE RELATED ACCESSIBLE PIPING WAS INSPECTED WITH SATISFACTORY RESULTS. THE PCIS LOGIC CIRCUITRY WAS RESET AND THE RHRS WAS SATISFACTORILY PUT INTO SERVICE IN THE SDC MODE OF OPERATION AT 1501 HOURS. CORRECTIVE ACTIONS BEING PLANNED INCLUDE RECONFIGURING THE EXISTING VENTS IN THE SDC SUCTION PIPING FOR IMPROVED VENTING. THIS EVENT OCCURRED WHILE IN HOT SHUTDOWN WITH THE REACTOR MODE SELECTOR SWITCH IN THE SHUTDOWN POSITION. THE REACTOR POWER LEVEL WAS ZERO PERCENT.

[165]POINT BEACH 1DGCKET 50-266LER 89-010INADVERTENT ISOLATION OF AUXILIARY FEEDWATERFLOW TRANSMITTERS.EVENT DATE: 112089REPORT DATE: 121989NSSS: WETYPE: PWROTHER UNITS INVOLVED: POINT BEACH 2 (PWR)

(NSIC 216277) ON 11/17/89, UNIT 2 WAS IN A SHUTDOWN CONDITION FOR ITS ANNUAL REFUELING AND MAINTENANCE OUTAGE. UNIT 1 WAS AT 100% NORMAL POWER OPERATION. IN PREPARATION FOR A TUBESHEET CREVICE FLUSH OF UNIT 2 SGS. I&C WAS CHARGED WITH ISOLATING THE PROCEDURE-REFERENCED INSTRUMENTATION. USING ATTACHMENT C OF RP-6A, "STEAM GENERATOR CREVICE FLUSH (VACUUM MODE)." THE ASSIGNED I&C TECHNICIAN PROCEEDED TO E1. 26' OF THE PLANT AUX. BLDG (PAB) TO ISOLATE FT-4036, "A SG TOTAL AUXILIARY FEEDWATER FLOW," AND FT-4037, "B SG TOTAL AUXILIARY FEEDWATER FLOW." BELIEVING THESE TRANSMITTERS TO BE COMMON TO EOTH UNITS, AFTER VERIFYING THE LAST 4 CHARACTERS OF THE ALPHANUMERIC IDENTIFIERS, THE TECHNICIAN ISOLATED THESE TRANSMITTERS AT APPROX. 1400 HOURS ON 11/17/89. THE EFFECT OF THIS ACTION WAS TO ISOLATE 1 FT-4036 AND 1 FT-4037, WHICH ARE THE TRANSMITTERS ASSOCIATED WITH UNIT 1. TRANSMITTERS THAT SHOULD HAVE BEEN ISOLATED, 2 FT-4036 AND 2 FT-4037, ARE ACTUALLY ON THE E1. 8' OF THE PAL. IN THE PROCESS OF RESTORING THE ISOLATED INSTRUMENTS TO SERVICE, THE ERROR WAS DISCOVERED, AND 1 FT-4036 AND 1 FT-4037 WERE PROMPTLY RETURNED TO SERVICE AT APPROX. 1300 HOURS ON 11/20/89. 1 FT-4036 AND 1 FT-4037 WERE OUT OF SERVICE AT APPROX. 71 HOURS -A VIOLATION OF TECH SPECS, WHICH STIPULATE THAT IF OPERABILITY OF AFW FLOW RATE INDICATOR CAN'T BE RESTORED IN 48 HOURS, BE IN HOT GHUTDOWN WITHIN 12 HOURS.

[166]PRAIRIE ISLAND 1DOCKET 50-282LER 89-021BOTH CHLORINE MONITORS ON ONE TRAIN OF CONTROL ROOM VENTILATION INOPERABLE FOR
MORE THAN ELEVEN HOURS DUE TO PERSONNEL ERROR.EVENT DATE: 121289REPORT DATE: 011190NSSS: WETYPE: PWROTHER UNITS INVOLVED: PRAIRIE ISLAND 2 (PWR)
VENDOR: M D A SCIENTIFIC, INC.INC.INC.INC.

(NSIC 216450) ON DECEMBER 11, 1989, UNIT 1 WAS AT 83% POWER IN COASTDOWN FOR REFUELING, AND UNIT 2 WAS AT 100% POWER. DUE TO MALFUNCTION, NO. 121 CHLORINE MONITOR HAD BEEN IN BYPASS (A 7-DAY LCO) SINCE DECEMBER 9TH. AT 1900 HOURS ON DECEMBER 11TH, A COMPUTER ALARM INDICATED MALFUNCTION OF NO. 122 CHLORINE MONITOR, SO IT WAS ALSO PLACED IN BYPASS (A 6-HOUR LCO WITH NO. 121 MONITOR OUT OF SERVICE) AND ITS OPERATION WATCHED CAREFULLY. AFTER ABOUT AN HOUR, IT WAS DECIDED TO PUT NO. 122 CHLORINE MONITOR BACK IN SERVICE. TELEPHONE COMMUNICATION WAS ESTABLISHED BETWEEN THE CONTROL ROOM AND THE OUTPLANT OPERATOR AT THE MONITOR. MISCOMMUNICATION CAUSED THE CONTROL ROOM OPERATOR TO THINK THE MONITOR HAD BEEN RETURNED TO SERVICE WHEN IN FACT IT HAD NOT. AT 0615 IT WAS DISCOVERED THAT NO. 122 CHLORINE MONITOR WAS STILL IN BYPASS AND THE MONITOR WAS RETURNED TO NORMAL. BOTH MONITORS WERE INOPERABLE FOR OVER 11 HOURS.

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[167]PRAIRIE ISLAND 2DOCKET 50-306LER 89-003FAILURE OF MAINTENANCE AIRLOCK TO PASS THE VOLUMETRIC LEAKAGE RATE TEST.
EVENT DATE: 102389REPORT DATE: 112289NSSS: WETYPE: PWROTMER UNITS INVOLVED:
VENDOR: CHICAGO BRIDGE AND IRON COMPANY1 (PWR)VENDOR: CHICAGO BRIDGE AND IRON COMPANY

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(NSIC 215954) ON 10/23/89, UNIT 2 WAS OPERATING AT 100% POWER. WHILE PERFORMING THE SURVEILLANCE TEST SP 2136, VOLUMETRIC LEAKAGE RATE TEST OF UNIT 2 MAINTENANCE AIRLOCK, THE MEASURED LEAKAGE RATE EXCEFDED THE TECH SPEC'S LIMIT. THE LEAK WAS DETERMINED TO BE THROUGH THE SEAL OF A HANDWHEEL SHAFT AT THE OUTER DOOR. SOAP TESTING AT THE INNER DOOR REVEALED NO VISIBLE LEAKAGE. THE OUTBOARD GRAFOIL PACKING WAS REPAIRED BY TIGHTENING A LOOSE PACKING NUT. THE SURVEILLANCE TEST SP 2136 WAS THEN SUCCESSFULLY COMPLETED WITH AN ACCEPTABLE LEAKAGE RATE. CAUSE OF THE EVENT WAS THE WEAR OF THE GRAFOIL PACKING DUE TO THE HIGH FREQUENCY OF DOOR USAGE DURING REFUELING SHUTDOWNS FOLLOWED BY RELAXATION OF THE PACKING DURING PERIODS OF NON-USAGE, COUPLED WITH THE INADEQUATE PREVENTIVE MAINTENANCE OF THE PACKING BECAUSE OF INADEQUATE PROCEDURES. THE PREVENTIVE CORRECTIVE ACTION WILL BE TO MODIFY THE CONTAINMENT AIRLOCKS SURVEILLANCE TEST PROCEDURES PRIOR TO THE NEXT REFUELING OUTAGE. THE CONTAINMENT AIRLOCK VOLUMETRIC LEAKAGE RATE SURVEILLANCE TEST PROCEDURES WILL BE REVISED TO REQUIRE INSPECTION FOR PROPER ADJUSTMENT OF PACKING NUTS ON DOOR SHAFT SEALS PRIOR TO STARTUP FOLLOWING AN EXTENDED OUTAGE. REPAIRS WOULD ONLY BE ALLOWED PROVIDED "AS FOUND" TEST DATA IS OBTAINED.

[168] PRAIRIE ISLAND 2	DOCKET 50-306	LER 89-004
REACTOR TRIPS AND LOSS OF POWER TO REACTOR	COOLANT PUMPS.	
EVENT DATE: 122189 REPORT DATE: 012290	NSSS: WE	TYPE: PWR
OTHER UNITS INVOLVED: PRAIRIE ISLAND 1 (PW	R)	
VENDOR: GENERAL ELECTRIC CO.		
WESTINGHOUSE ELECTRIC CORP.		

(NSIC 216589) UNIT 2 TRIPPED ON DECEMBER 21, 1989, FROM WHAT APPEARED TO BE FAULTY VOLTAGE REGULATION BY ONE OF THE CONTROL ROD DRIVE MECHANISM MOTOR-GENERATOR SETS. ONE SUBSTATION CIRCUIT BREAKER DID NOT OPERATE PROPERLY AND POWER WAS LOST TO NON-SAFEGUARDS 4KV BUSES, WHICH SUPPLY THE REACTOR COOLANT PUMPS. THE REACTOR WAS COOLED BY NATURAL CIRCULATION FOR ABOUT 3 HOURS. THE VOLTAGE REGULATOR FOR THE MG SET WAS REPLACED AND TESTED. SINCE THE OUTDOOR TEMPERATURE AT THE TIME OF THE TRIP WAS -22F, THE COLD WAS BLAMED FOR THE BREAKER MALFUNCTION. HEATING WAS APPLIED TO THE SUBSTATION BREAKERS AND TESTING SHOWED PROPER OPERATION. THE UNIT WAS RESTARTED. ON DECEMBER 26, 1989, A NEARLY IDENTICAL TRIP AND LOSS OF NON-SAFEGUARDS 4KV BUSES OCCURRED. EXTENSIVE INVESTIGATION UNCOVERED MALFUNCTIONS IN THE MG SETS, IN THE ROD CONTROL SYSTEM. AND IN THE SUBSTATION BREAKER CONTROL SYSTEM. AFTER REPAIRS AND EXTENSIVE TESTING, UNIT 2 WAS RETURNED TO SERVICE ON JANUARY 10, 1990.

 [169]
 QUAD CITIES 1
 DOCKET 50-254
 LER 89-021

 HPCI FIRE PROTECTION TECH SPEC SURVEILLANCE FUNCTIONAL TEST NOT COMPLETED ON TIME
 DUE TO MANAGEMENT DEFICIENCY AND INSUFFICIENT PROCEDURE.
 EVENT DATE: 112489
 REPORT DATE: 122289
 NSSS: GE
 TYPE: BWR

 OTHER UNITS INVOLVED: QUAD CITIES 2 (BWR)
 OWNER
 CONTACT
 CONTACT
 CONTACT

(NSIC 216285) AT 2330 HOURS ON NOVEMBER 24, 1989, UNIT ONE WAS IN THE SHUTDOWN MODE. AT THIS TIME, THE SHIFT ENGINEER (SE) DISCOVERED THAT THE HIGP PRESSURE COOLANT INJECTION (HPCI) DELUGE SYSTEM FUNCTIONAL TEST, QOS 4100-12, HAD NOT BEEN COMPLETED WITHIN THE TECHNICAL SPECIFICATION SURVEILLANCE INTERVAL. HE ALSO NOTED THAT THE TEST PROCEDURF REQUIRED THAT ONLY ONE OF THE SEVEN DETECTORS BE FUNCTIONALLY TESTED EVERY SIX MONTHS. INSTEAD OF FUNCTIONALLY TESTING ALL SEVEN DETECTORS AS REQUIRED BY TECHNICAL SPECIFICATIONS IT WAS DETERMINED THAT TECHNICAL SPECIFICATION 4.12 HAD NOT BEEN MET. THE SHIFT ENGINEER THEN INSTRUCTED THAT ALL DETECTORS ASSOCIATED WITH THE HPCI DELUGE SYSTEM BE FUNCTIONALLY TESTED. THE TESTING WAS SUCCESSFULLY COMPLETED AT 0230 HOURS ON NOVEMBER 25, 1989, USING TEMPORARY PROCEDURE 5994. THIS EVENT OCCURRED DUE TO MANAGEMENT DEFICIENCY AND AN INSUFFICIENT TEST PROCEDURE. PROCEDURES WILL BE REVISED TO MAINTAIN BETTER CONTROL OF TECHNICAL SPECIFICATION SURVEILLANCES AND THE TEST PROCEDURE WILL BE REVISED TO REFLECT TECHNICAL SPECIFICATION REQUIREMENTS. THIS REPORT IS SUBMITTED IN ACCORDANCE WITH 10CFR50.73(A)(2)(I)(B). L1703 QUAD CITIES 1 HPCI SYSTEM INOPERABLE DUE TO INADVERTENT DELUGE SYSTEM ACTUATION. EVENT DATE: 112889 REPORT DATE: 122889 NSSS: GE TYPE: BWR

10

(NSIC 216286) AT 0910 HOURS ON NOVEMBER 28, 1989, THE UNIT ONE HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM WAS DECLARED INOPERABLE FOLLOWING AN UNEXPECTED ACTUATION OF THE HPCI PUMP ROOM DELUGE SYSTEM. THE ACTUATION CAUSED DC SYSTEM GROUNDS DUE TO MOISTURE INTRUSION IN THE VARIOUS TURBINE AUXILIARY ELECTRICAL EQUIPMENT. THE ACTUATION OCCURRED WHILE OPERATING PERSONNEL WERE IN THE PROCESS OF RETURNING THE DELUGE SYSTEM TO SERVICE. THE ROOT CAUSE OF THE HPCI DELUGE ACTUATION IS NOT KNOWN. THE ELECTRICAL EQUIPMENT AFFECTED BY THE DELUGE ACTUATION WAS TESTED AND DRIED AS NECESSARY TO REMOVE THE DC GROUNDS. THE HPCI SYSTEM WAS SUCCESSFULLY TESTED AND RETURNED TO SERVICE AT 1045 HOURS ON DECEMBER 1, 1989. CORRECTIVE ACTIONS WILL INCLUDE A PROCEDURE REVISION AND OPERATOR TRAINING. THE DELUGE SYSTEM REMAINS OUT OF SERVICE TO ALLOW INSTALLATION OF A PREACTION SYSTEM TO PREVENT ANY FUTURE INADVERTENT ACTUATIONS. FIRE WATCH FREQUENCY WILL BE INCREASED AND A TEMPORARY PROCEDURE WILL BE INITIATED. ON DECEMBER 11, 1989, THE PERIOD OF TIME THAT THE DELUGE SYSTEM WAS INOPERABLE EXCEEDED THE 14-DAY REPORTING REQUIREMENT OF TECHNICAL SPECIFICATION 3.12.C.3. THIS EVENT IS BEING SUBMITTED IN ACCORDANCE WITH 10CFR50.73(A)(2)(V)(D) AND

L1713 QUAD CITIES 1 SEVEN PATHWAYS WERE NOT INCLUDED IN THE TYPE "B" AND "C" LOCAL LEAK RATE TESTING PROGRAM DUE TO A RECENT INTERPRETATION OF 10CFR50 APPENDIX "J". EVENT DATE: 120839 REPORT DATE: 010890 NSSS: GE TYPE: BWR OTHER UNITS INVOLVED: QUAD CITIES 2 (BWR)

(NSIC 216395) ON DECEMBER 8, 1989, AT 1130 HOURS, UNIT ONE WAS AT 95% RATED CORE THERMAL POWER . A STUDY TO IMPROVE THE TYPE "B" AND "C" LOCAL LEAK RATE TESTING (LLRT) PROGRAM AT QUAD CITIES STATION CONCLUDED THAT SEVEN PATHNAYS SHOULD BE ADDED TO THE LLRT PROGRAM . THESE TEST VOLUMES INCLUDED: THE REACTOR BUILDING CLOSED COOLING (RBCCW) INLET/OUTLET; THE CORE SPRAY DISCHARGE LINES; THE INSTRUMENT AIR TO THE DRYWELL; THE SERVICE AIR TO THE DRYWELL; AND THE DRYWELL AIR SAMPLING LINES. THESE PATHWAYS WERE EXCLUDED FROM THE STATIONS LLRT PROGRAM DUE TO AN INTERPRETATION OF 10CFR50 APPENDIX "J" WHICH DID NOT CONSIDER THESE TEST VOLUMES APPLICABLE TO THE TYPE TESTING REQUIREMENTS. DUE TO A RECENT INTERPRETATION OF 10CFR50 APPENDIX "J" WITH RESPECT TO LICENSING DESIGN CRITERIA, THESE VOLUMES SHALL BE ADDED TO THE STATION'S TYPE "B" AND "C" LLRT PROGRAM. MODIFICATION OF THE SYSTEMS WILL BE PERFORMED AS NECESSARY TO INSTALL THE REQUIRED VENTS AND TEST TAPS TO PERFORM THE TYPE "C" TESTING. THIS REPORT IS BEING SUBNITTED AS A VOLUNTARY REPORT.

[172] QUAD CITIES 1 VIOLATION OF TECH SPECS CONCERNING REVIEW OF TEMPORARY PROCEDURES DUE TO MANAGEMENT OVERSIGHT IN THE PREPARATION AND REVIEW OF TECH SPEC CHANGE. EVENT DATE: 121989 REPORT DATE: 011590 NSSS: GE TYPE: EWR OTHER UNITS INVOLVED: QUAD CITIES 2 (EWR)

(NSIC 216484) AT 1200 HOURS, ON 12/19/89, UNIT ONE AND UNIT TWO WERE IN THE RUN MODE AT 90 AND 89% OF RATED CORE THERMAL POWER, RESPECTIVELY. QAP 1100-7, APPROVAL AND AUTHORIZATION OF TEMPORARY PROCEDURES AND TEMPORARY CHANGES TO PERMANENT PROCEDURES, MAS FOUND TO BE IN VIOLATION OF TECH SPEC (TS) 6.2.C.1 FOR TEMPORARY PROCEDURE CHANGES INVOLVING A CHANGE IN INTENT. QAP 1100-7 DID NOT REQUIRE SIGNATURES FROM BOTH THE DEPARTMENT HEAD AND ASSISTANT SUPERINTENDENT AS STATED IN T.S. 6.2.C.1. THE CAUSE OF THIS EVENT WAS MANAGEMENT OVERSIGHT IN THE PREPARATION AND REVIEW OF A PREVIOUS CHANGE TO T.S. 6.2.C.1. THE CHANGE MISTAKENLY ADDED THE ASSISTANT SUPERINTENDENT IN THE REVIEW PROCESS WHEN THE INTENT WAS ONLY TO REPLACE THE DEPARTMENT HEAD REVIEW. QAP 1100-7, T1, AND T6 WERE REVISED TO COMPLY WITH TECH SPEC 6.2.C.1. THIS TECH SPEC WILL BE REVISED TO MATCH THE INTENT OF THE PREVIOUS CHANGE. ALSO, A PROCEDURE WILL BE IMPLEMENTED TO REVIEW PROCEDURES WHEN A TECH SPEC CHANGE IS IMPLEMENTED. THIS REPORT IS SUBMITTED TO COMPLY WITH THE REQUIREMENTS OF 10CFR50.73(A)(2)(I)(B). 1

L1733 QUAD CITIES 1 DOCKET 50-254 LER 89-025 POTENTIAL DAMAGE TO NEW FUEL BUNDLE FROM IMPACT OF REACTOR BUILDING CRANE AUXILIARY HOOK WHEN HOIST INADVERTENTLY LOWERED DUE TO PERSONNEL ERROR. EVENT DATE: 122089 REPORT DATE: 011590 NSSS: GE TYPE: BWR

(NSIC 216485) AT 1230 MOURS, ON 12/20/89, UNIT ONE WAS IN THE RUN MODE AT 89% OF RATED CORE THERMAL POWER. A DETERMINATION WAS MADE AT THIS TIME THAT NEW FUEL BUNDLE LYU325 MAY HAVE EEEN DAMAGED IN EXCESS OF \$2,000.00. THE REACTOR BUILDING OVERHEAD CRANE AUXILIARY HOIST HOOK HAD CONTACTED THE SIDE OF THE BUNDLE DURING FUEL RECEIVING ACTIVITES ON 12/14/89. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR INVOLVING AN INADVERTENT ACTION DUE TO INATTENTION. THE FUEL HANDLER CPERATING THE OVERHEAD CRANE LOWERED THE HOIST WITHOUT A SIGNAL MAN AND INADVERTENTLY CONTINUED TO LOWER THE HOIST UNTIL THE HOOK HAD CONTACTED THE FUEL BUNDLE. CORRECTIVE ACTION INCLUDED TEMPORARILY REMOVING THE FUEL HANDLER FROM OPERATING THE CRANE. THE FUEL BUNDLE WILL BE SHIPPED BACK TO GENERAL ELECTRIC FOR INSPECTION AND REPLACEMENT OF ANY POSSIELY DAMAGED PARTS. THIS REPORT IS SUBMITTED TO COMPLY WITH THE REQUIREMENTS OF 10CFR20.405(A)(1)(IV).

[174] QUAD CITIES 2 UPDATE ON EMERCENCY CORE COOLING SYSTEM INITIATION SIGNAL RECEIVED DURING INPROPER VALVING SEQUENCE ON REACTOR WATER LEVEL INSTRUMENTATION DUE TO AN INADEQUATE PROCEDURE. EVENT DATE: 061988 REPORT DATE: 010290 NSSS: GE TYPE: BWR

(NSIC 216369) ON 6/19/88, QUAD CITIES UNIT TWO WAS AT 0 PERCENT THERMAL POWER DURING A REFUELING OUTAGE. AT 0058 HOURS, WHILE RETURNING-TO-SERVICE REACTOR (RCT) WATER LEVEL INSTRUMENTATION (JB)(IL), AN IMPROPER VALVING (V) SEQUENCE OCCURRED WHICH RESULTED IN VARIOUS ENGINEERED SAFETY FEATURE (ESF) ACTUATIONS, INCLUDING AN EMERGENCY CORE COOLING SYSTEM (ECCS)(JE) INITIATION. NRC NOTIFICATION OF THIS EVENT WAS COMPLETED AT 0440 HOURS TO COMPLY WITH THE REQUIREMENTS OF 10CFR50.72. THE STATION HAS COMPLETED A ROOT CAUSE ANALYSIS. THE CAUSE OF THIS EVENT IS BEING ATTRIBUTED TO AN INADEQUATE EQUIPMENT OUT-OF-SERIVCE PROCEDURE. CORRECTIVE ACTIONS WILL INCLUDE A PROCEDURE REVISION, DEVELOPMENT OF A TRAINING LESSON PLAN, AND AN ENGINEERING STUDY. THIS REPORT IS PROVIDED TO COMPLY WITH THE REQUIREMENTS OF 10CFR50.73(A)(2)(IV).

[175] RANCHO SECO DOCKET 50-312 LER 89-013 RADIOACTIVE CALIBRATION SOURCES NOT LEAK TESTED DUE TO PROCEDURAL DEFICIENCY. EVENT DATE: 120589 REPORT DATE: 122689 NSSS: BN TYPE: PWR VENDOR: ISOTOPE PRODUCTS LABORATORIES

(NSIC 216289) ON 2/2/87, THE DISTRICT RECEIVED 3 SEALED RADIOACTIVE SOURCES FROM ISOTOPE PRODUCTS LABORATORY IN BURBANK, CA. THE SOURCES WERE SURVEYED, LEAK CHECKED, AND STORED IN THE SOURCE STORAGE LOCKER UNTIL REQUIRED FOR USE. ON 3/14/89, RADIATION PROTECTION USED 2 OF THE SOURCES (565 MICRO CI OF THALLIUM-204 AND 2 MCI OF PROMETHIUM-147) TO CHECK THE BETA ATTENUATION CHARACTERISTICS FOR VARIOUS MATERIALS. THE SOURCES WERE USED APPROX. 10 MINUTES, HOWEVER, THEY HAD NOT BEEN LEAK TESTED WITHIN 6 MONTHS PRIOR TO USE. USING THE TWO RADIOACTIVE SOURCES WITHOUT PERFORMING THE REQUIRED LEAK TEST WITHIN THE REQUIRED TIME PERIOD IS A CONDITION PROHIBITED BY TECH SPEC 4.15.2.B AND IS REPORTABLE PURSUANT TO 10 CFR 50.73 A)(2)(1)(B). SURVEILLANCE PROCEDURE SP.1101 "SEMI-ANNUAL RADIOACTIVE SEALED SOURCES LEAKAGE TESTING", DATA SHEET 2 LISTS EACH SOURCE TO BE TESTED AND THE TEST METHOD TO BE USED. WITH REGARDS TO THE 3 SOURCES RECEIVED ON 2/2/87, SP.1101 WAS NOT UPDATED TO INCLUDE THESE SOURCES; THEREFORE, THE ONLY LEAK TEST PERFORMED WAS THE ONE DONE UPON INITIAL RECEIPT. IMMEDIATELY AFTER DISCOVERING THE EVENT, RADIATION PROTECTION LEAK TESTED THE 2 SOURCES. THE LEAK TESTS INDICATED NO DETECTABLE CONTAMINATION (MINIMUM DETECTABLE COUNT RATE = 20.2 CPM). IN ADDITION, RADIATION PROTECTION CONDUCTED AN INVENTORY OF ALL RADIOACTIVE SOURCES TO ENSURE THAT SP.1101 AND SP.1102 WERE CORRECT. [176] RIVERBEND 1 DOCKET 50-458 LER 89-040 SURVEILLANCE TOLERANCE ON PENETRATION VALVE LEAKAGE CONTROL SYSTEM EXCEEDED. EVENT DATE: 111789 REPORT DATE: 121889 NSSS: GE TYPE: BWR

(NSIC 216249) AT 1320 ON 11/17/89 WITH THE UNIT IN OPERATIONAL CONDITION 1 (POWER OPERATION) IT WAS DETERMINED THAT THE SURVEILLANCE TEST PERFORMED ON THE DIVISION II PENETRATION VALVE LEAKAGE CONTROL SYSTEM (PVLCS) AIR SUPPLY MEADER PRESSURE FUNCTIONAL HAD NOT EEEN PERFORMED WITHIN THE ALLOWABLE SURVEILLANCE TOLERANCE. THIS DISCREPANCY WAS DISCOVERED AFTER THE SUCCESSFUL COMPLETION OF THE SURVEILLANCE TIST PROCEDURE (STP) ON 11/17/89 AT 1120. DURING THE INVESTIGATION THAT FOLLOWED COMPLETION OF THE STP, IT WAS DISCOVERED THAT THE CALCULATED TOLERANCE WAS INCORRECT. THE INVESTIGATION REVEALED THAT INSTEAD OF THE REPORTED ALLOWABLE TOLERANCE ENDING ON 11/17/89 AT 1105 THE ACTUAL TOLERANCE ENDED AT 0905. AT THE TIME OF DISCOVERY THE STP HAD BEEN COMPLETED AND BOTH DIVISIONS OF PVLCS WERE OPERAELE. DURING THE PERIOD IN WHICH DIVISION II OF PVLCS WAS INOPERABLE (2 HRS 15 MIN) DIVISION I OF PVLCS REMAINED OPERABLE. SINCE OPERATION WITH ONE TRAIN OF PVLCS INOPERABLE IS PERMITTED BY THE TECHNICAL SPECIFICATIONS, AND THE SEVEN DAY TS ACTION STATEMENT WAS NOT EXCEEDED, THERE WAS NO IMPACT ON THE HEALTH AND SAFETY OF THE PUBLIC OR THE SAFE OPERATION OF THE PLANT.

 [177]
 RIVERBEND 1
 DOCKET 50-458
 LER 89-041

 HIGH PRESSURE CORE SPRAY SUCTION PATH TRANSFER TO SUPPRESSION POOL DUE TO SHORTED
 LEADS.

 EVENT DATE:
 112589
 REPORT DATE:
 122689
 NSSS: GE
 TYPE: BWR

(NSIC 216341) AT 1450 ON 11/25/89 WITH THE UNIT AT 97.5 PERCENT POWER IN OPERATIONAL CONDITION 1 (POWER OPERATION) AN UNPLANNED ENGINEERED SAFETY FEATURE (ESF) ACTUATION OCCURRED AS A RESULT OF TWO LEADS BEING SHORTED TOGETHER DURING SURVEILLANCE TESTING OF ASSOCIATED CONTROL CIRCUITRY. THIS CAUSED THE VALVE ISOLATING THE SUPPRESSION POOL FROM THE HIGH PRESSURE CORE SPRAY (HPCS) SYSTEM SUCTION PATH (122*MOVF015) TO STROKE OPEN. WHEN THIS VALVE WAS FULLY OPEN, THE HPCS SUCTION PATH FROM THE CONDENSATE STORAGE TANK WAS ISOLATED BY THE CLOSURE OF VALVE 1E22*MOVF001. THE HIGH PRESSURE CORE SPRAY (HPCS) SUCTION PATH AUTOMATIC TRANSFER FUNCTION PERFORMED AS DESIGNED. NO OTHER SAFETY SYSTEMS WERE AFFECTED. THEREFORE, THERE WAS NO ADVERSE IMPACT ON THE HEALTH AND SAFETY OF THE PUBLIC AS A RESULT OF THIS EVENT.

[178]RIVERBEND 1DOCKET 50-458LER 89-042REACTOR SCRAM DUE TO A FAULT ON AN OFFSITE TRANSMISSION LINE.
EVENT DATE: 120189REPORT DATE: 010290NSSS: GETYPE: BWRVENDOR: WESTINGHOUSE ELECTRIC CORP.TYPE: DWR

(NSIC 216420) AT 0628 ON 12/1/89 WITH THE UNIT AT 97 PERCENT POWER (OPERATIONAL CONDITION 1), THE MAIN TURBINE GENERATOR TRIPPED, RESULTING IN A REACTOR SCRAM. THE GENERATOR TRIPPED DUE TO THE MAIN GENERATOR PROTECTION BREAKERS TRIPPING AS A RESULT OF SENSING A FAULT ON AN OFFSITE 230KV LINE. THE FAULT FAILED TO CLEAR AT THE 230KV SWITCHYARD DUE TO A FAILED RELAY AND SLOW BREAKER RESPONSE TIME FOLLOWING THE SIGNAL FROM A BACKUP RELAY. IMMEDIATELY FOLLOWING THE GENERATOR TRIP, THE STATION 4.16KV NORMAL SWITCHGEAR (1NNS-SWG1A) FAILED TO SUCCESSFULLY TRANSFER TO OFFSITE POWER. THIS CAUSED AN UNDERVOLTAGE CONDITION WHICH INITIATED AN AUTOMATIC START OF THE DIVISION III HIGH PRESSURE CORE SPRAY (HPCS) EMERGENCY DIESEL GENERATOR. INITIATION OF THE DIVISION III STANDBY SERVICE WATER PUMP 1SWP*P2C ALSO OCCURRED DUE TO A MOMENTARY LOSS OF POWER TO THE INITIATING TRIP UNITS. THE DIVISION III EMERGENCY DIESEL GENERATOR RESTORED POWER TO THE BUS PER DESIGN. THE REACTOR SCRAM PLACED THE UNIT IN THE SAFE SHUTDOWN CONDITION. SINCE ALL SAFETY SYSTEMS FUNCTIONED AS DESIGNED, THERE WAS NO IMPACT ON THE SAFE OPERATION OF THE PLANT OR TO THE HEALTH AND SAFETY OF THE PUBLIC AS A RESULT OF THIS EVENT.

[179]RIVERBEND 1DOCKET 50-458LER 89-043FAILURE OF TWO OUTBOARD MAIN STEAM ISOLATION VALVES.
EVENT DATE: 120189REPORT DATE: 010290NSSS: GETYPE: BWRVENDOR: ASCC VALVESVENDOR: ASCC VALVESTYPE: BWRTYPE: BWR

AUTOMATIC SWITCH COMPANY (ASCO)

(NSIC 216421) AT 2135 ON 12/01/89, WITH THE UNIT IN MODE 4 (COLD SHUTDOWN), MAIN STEAM ISOLATION VALVES (MSIVS) 1821*AOVF028A AND 1821*AOVF028D WERE FOUND TO BE INOPERABLE DUE TO FAILURE OF THE CORRESPONDING FAST CLOSURE SOLENOID OPERATED VALVE (SOV). ALL REMAINING MSIVS WERE CLOSED AND EACH REMAINED IN THE FULL CLOSED POSITION INDICATING PROPER OPERATION OF THE FAST CLOSURE SOLENOID OPERATED VALVE (SOV) AND THE CAPABILITY OF THE MSIVS TO CLOSE ON A VALID ISOLATION SIGNAL. THIS EVENT IS SIMILAR TO THAT PREVIOUSLY REPORTED IN LER 88-023. IN ORDER TO PRECLUDE RECURRENCE OF THE FAILURE OF THE SOVS, ALL EIGHT (8) MSIV FAST CLOSURE SOVS WERE REPLACED WITH NEW SOVS. PRIOR TO INSTALLATION, THE DOW-CORNING 550 LUBRICANT WAS REMOVED FROM ALL COMPONENTS WITHIN THE SOVS. THE CAUSE OF THIS EVENT WAS INCOMPLETE REMOVAL OF THE SILICONE LUBRICANT SUBSEQUENT TO THE FREVIOUSLY REPORTED EVENT. GELLING OF THE LUBRICANT HAS BEEN DETERMINED TO BE THE CAUSE OF THE FAILURE FOR THE FAST CLOSURE SOVS. ONLY TWO OF THE EIGHT MSIVS FAILED TO CLOSE WITH THE REMAINING SIX FUNCTIONING PROPERLY. THE CLOSURE OF A MINIMUM OF ONE MSIV IN EACH OF THE FAST CLOSURE SOVS. ONLY TWO OF THE EIGHT MSIVS FAILED TO CLOSE WITH THE REMAINING SIX FUNCTIONING PROPERLY. THE CLOSURE OF A MINIMUM OF ONE MSIV IN EACH OF THE FAST CLOSURE SOVS. ONLY TWO OF THE EIGHT MSIVS FAILED TO CLOSE WITH THE REMAINING SIX FUNCTIONING PROPERLY. THE CLOSURE OF A MINIMUM OF ONE MSIV IN EACH OF THE FAST CLOSURE SOVS. ONLY TWO OF THE EIGHT MAIN A VALID ISOLATION BEEN REQUIRED, EACH MAIN STEAM LINES DEMONSTRATED THAT HAD A VALID ISOLATION BEEN REQUIRED, EACH MAIN STEAM LINE NOULD HAVE BEEN ISOLATED THEREBY ENSURING ADEQUATE PROTECTION OF THE HEALTH AND SAFETY OF THE PUBLIC.

[180] RIVERBEND 1 DOCKET 50-458 LER 89-044 UNPLANNED ISOLATION OF THE REACTOR CORE ISOLATION COOLING SYSTEM. EVENT DATE: 121189 REPORT DATE: C11090 NSSS: GE TYPE: BWR

(NSIC 216422) AT 0148 ON DECEMBER 11, 1989 WITH THE UNIT IN OPERATIONAL CONDITION 1 AT 100 PERCENT POWER, AN UNPLANNED ENGINEERED SAFETY FEATURE ACTUATION OCCURRED. THE ACTUATION WAS A RESULT OF AN INSTRUMENTATION AND CONTROL TECHNICIAN FAILING TO PERFORM THE STEPS OF A SURVEILLANCE TEST PROCEDURE IN SEQUENCE. THE ACTUATION CAUSED AN ISOLATION OF THE REACTOR CORE ISOLATION COOLING SYSTEM (RCIC). THE ISOLATION SIGNAL WAS RESET AND THE RCIC SYSTEM WAS RESTORED TO STANDBY IN ACCORDANCE WITH SYSTEM OPERATING PROCEDURE SOP-0035. THIS EVENT IS HEREBY REPORTED AS AN ESF ACTUATION PURSUANT TO 10CFR50.73(A)(2)(IV). THE RCIC ISOLATION OCCURRED AS DESIGNED. NO OTHER SAFETY SYSTEMS WERE AFFECTED. THEREFORE, THERE WAS NO ADVERSE IMPACT ON THE HEALTH AND SAFETY OF THE PUBLIC AS A RESULT OF THIS EVENT.

[181] RIVERBEND 1 DOCKET 50-458 LER 39-045 AUTOMATIC START OF THE DIVISION I STANDBY SERVICE WATER PUMPS DUE TO A SPURIOUS LOW PRESSURE SIGNAL. EVENT DATE: 121289 REPORT DATE: 011090 NSSS: GE TYPE: BWR

(NSIC 216423) ON DECEMBER 12, 1989 AT 1205 WITH THE UNIT OPERATING AT 100 PERCENT POWER IN OPERATIONAL CONDITION 1, THE DIVISION I STAMDBY SERVICE WATER PUMPS RECEIVED AN AUTOMATIC START SIGNAL DUE TO A SPURIOUS LOW SERVICE WATER PESSURE SIGNAL WHEN THE NORMAL SERVICE WATER PUMP 1SWP-P1A WAS SECURED. THE SIGNAL WAS CLEARED AND DIVISION I STANDBY SERVICE WATER SYSTEM WAS RESTORED TO A NORMAL LINEUP. THIS EVENT IS REPORTED PER 10CFR50.73 (A) (2) (IV) AS AN EVENT THAT RESULTED IN AN ENGINEERED SAFETY FEATURE (ESF) ACTUATION. THIS EVENT RESULTED IM THE AUTOMATIC INITIATION OF BOTH OF THE DIVISION I STANDBY SERVICE WATER (SSW) PUMPS WHICH WERE NOT REQUIRED SINCE TWO OF THE NORMAL SERVICE WATER PUMPS WERE OPERATING. THE SSW INITIATION PERFORMED AS DESIGNED AND THEREFORE HAD NO EFFECT ON THE HEALTH AND SAFETY OF THE PUBLIC.

[182] ROBINSON 2 LOADING OF SAFETY-RELATED EQUIPMENT COULD EXCEED ASSUMPTIONS OF ACCIDENT ANALYSIS. EVENT DATE: 111689 REPORT DATE: 121889 NSSS: WE TYPE: PWR VENDOR: AGASTAT RELAY CO.

(NSIC 216258) ON NOVEMBER 16, 1989, AT 1200 HOURS A CONDITION WAS CONFIRMED WHEREBY THE EMERGENCY BUSSES COULD UNNECESSARILY SHIFT FROM OFFSITE POWER TO THE EMERGENCY DIESEL GENERATORS DURING THE AUTOMATIC LOADING OF SAFETY-RELATED EQUIPMENT. THIS CONDITION IS THE RESULT OF TIMING RELAY TOLERANCES, LONGER THAN ANTICIPATED MOTOR ACCELERATION TIMES, AND OTHER WORST CASE ASSUMPTIONS REGARDING REDUCED GRID VOLTAGES. THE EXISTING ELECTROPNEUMATIC RELAYS WILL BE REPLACED WITH UPGRADED DIGITAL TIMING RELAYS PRIOR TO UNIT RESTART. THIS CONDITION WAS REPORTED VIA THE EMERGENCY NOTIFICATION SYSTEM ON NOVEMBER 16 AT 1403 HOURS PURSUANT TO 10CFR50.72(B)(2)(I). THIS LICENSEE EVENT REPORT IS SUBMITTED PURSUANT TO 10CFR50.73(A)(2)(II)(A).

[183] ROBINSON 2 BREACH OF CONTAINMENT INTEGRITY QUE TO FAILURE OF AIRLOCK EQUALIZING VALVE. EVENT DATE: 112889 REPORT DATE: 122289 NSSS: WE TYPE: PWR VENDOR: JAMES BURY CORP.

(NSIC 216380) ON NOVEMBER 28, 1989, UNIT NO. 2 WAS IN COLD SHUTDOWN. AS A RESULT OF THE PERFORMANCE OF THE CONTAINMENT PERSONNEL AIRLOCK TEST, IT WAS DETERMINED THAT LEAKAGE EXISTED THROUGH A VALVE USED TO RELIEVE PRESSURE FROM THE AIRLOCK. THIS LEAKAGE, COMBINED WITH OTHER SMALL LEAKAGE PATHS IN THE AIRLOCK, CONSTITUTED A BREACH OF CONTAINMENT INTEGRITY AS DEFINED BY TECHNICAL SPECIFICATIONS. THE CAUSE OF THE PRIMARY LEAKAGE WAS ATTRIBUTED TO EXCESSIVE WEAR ON THE VALVE INTERNALS. REPAIRS TO THE IDENTIFIED LEAKAGE SOURCES WERE MADE, AND THE AIRLOCK TEST WAS SATISFACTORILY COMPLETED. THIS LER IS SUBMITTED PURSUANT TO 10CFR50 73(A)(2)(II).

[184] SALEM 1 DOCKET 50-272 LER 89-033 CONTROLLED SHUTDOWN AS PER TECH SPEC ACTION STATEMENT 3.5.2A DUE TO EQUIPMENT FAILURE. EVENT DATE: 120189 REPORT DATE: 122789 NSSS: WE TYPE: PWR

(NSIC 216309) ON 11/28/89 AT 1544 HOURS, DURING NORMAL POWER OPERATIONS, MAINTENANCE PERSONNEL OBSERVED SMOKE COMING FROM THE SPEED INCREASER FOR NO. 12 CENTRIFUGAL CHARGING PUMP (CCP). THE PUMP WAS DECLARED INOPERABLE AND TECH SPEC ACTION STATEMENT 3.5.2.A WAS ENTERED. THE PUMP SPEED INCREASER REPAIRS WERE NOT COMPLETED WITHIN THE TIME SPECIFIED BY THE ACTION STATEMENT; THEREFORE, A CONTROLLED SHUTDOWN WAS INITIATED. ON 12/1/89 AT 2051 HOURS, THE UNIT ENTERED MODE 3 (HOT STANDBY) AND ON 12/2/89 AT 0243 HOURS, THE UNIT ENTERED MODE 4 (HOT SHUTDOWN) AS REQUIRED BY TECH SPEC ACTION STATEMENT 3.5.2.A. UPON ENTERING MODE 4, THE ACTION STATEMENT WAS EXITED. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO AN EQUIPMENT FAILURE. THE EXTENT OF THE REPAIRS AND TESTING, OF THE NO. 12 CCP FAILED SPEED INCREASER, EXCEEDED THE TIME CONSTRAINTS OF THE TECH SPEC ACTION STATEMENT. THE LUBE OIL COOLER SERVICING NO. 12 CCP AND THE SPEED INCREASER OIL COOLER FOR #22 CCP WERE INSPECTED. NO SIGNIFICANT GRASS OR SILT WAS FOUND. THE CENTRIFUGAL CHARGING PUMP LUBE OIL COOLER'S PREVENTIVE MAINTENANCE PROGRAM WAS REVIEWED. NO PROGRAM MODIFICATIONS ARE REQUIRED. SELECTIVE SPEED INCREASER COMPONENTS AND THE LUBE OIL COOLER WERE REPLACED. UPON COMPLETION OF THE PARTS REPLACEMENTS, THE PUMP WAS RUN FOR AN EXTENDED PERIOD OF TIME WHILE OBSERVING SPEED INCREASER TEMPERATURE.

[185] SALEM 1 DOCKET 50-272 LER 89-034 CONTAINMENT VENTILATION ISOLATION DUE TO FAILURE OF 1R41C RADIATION MONITORING SYSTEM CHANNEL. EVENT DATE: 120189 REPORT DATE: 122789 NSSS: WE TYPE: PWR VENDOR: VICTOREEN INSTRUMENT DIVISION

(NSIC 216310) ON 12/1/89, 1R41C (PLANT VENT NOBLE GAS MONITOR) RADIATION MONITORING SYSTEM (RMS) CHANNEL FAILED LOW. THIS RESULTED IN AN ACTUATION SIGNAL FOR CONTAINMENT PURGE/PRESSURE VACUUM RELIEF SYSTEM (CP/P-VR) ISOLATION AS WFLL AS AUTOMATIC CLOSURE OF THE WASTE GAS DECAY TANK VENT CONTROL VALVE, 1WG41. TS TABLE 3.3-13 ACTION STATEMENT 31 WAS ENTERED. CP/P-VR WAS NOT IN PROGRESS AT THE TIME OF THE EVENT (I.E., APPLICABLE VALVES WERE IN CLOSED POSITION). ALSO, THE 1R41C CHANNEL HAS FAILED LOW SEVERAL TIMES CAUSING CP/P-VR ISOLATION SIGNALS EACH TIME (I.E., 12/9, 14, 15/89). ROOT CAUSE OF THE 1R41C CHANNEL FAILURES HAS BEEN ATTRIBUTED TO A DESIGN/EQUIPMENT PROBLEM. 1R41C IS A VICTOREEN 843-22 BETA SCINTILLATION DETECTOR. INVESTIGATION OF THE 12/1/89 EVENT REVEALED THAT THE CONTROL MODULE HAD A RECESSED PIN. THE PIN WAS REPAIRED AND A CHANNEL FUNCTIONAL PROCEDURE WAS COMPLETED SATISFACTORILY. THE CHANNEL WAS DECLARED OPERABLE ON 12/2/89. INVESTIGATION OF THE 12/9,14,15/89 CHANNEL FAILURES DID NOT IDENTIFY ANY SPECIFIC CAUSE OF FAILURE. AFTER EACH EVENT, THE CHANNEL WAS RESET AND A FUNCTIONAL TEST SATISFACTORILY COMPLETED THE SAME DAY AS FAILURE. THE CHANNEL WAS THEN DECLARED OPERABLE AND THE TECH SPEC ACTION STATEMENT EXITED AFTER EACH EVENT ON THE SAME DAY. VICTOREEN DETECTOR SYSTEMS HAVE BEEN PRONE TO FAILURE DUE TO EQUIPMENT DESIGN.

 [186]
 SALEM 1
 DOCKET 50-272
 LER 89-036

 NO. 13 STEAM GENERATOR BLOWDOWN AUTOMATIC ISOLATION DUE TO FAILURE OF THE 1R19C

 RADIATION MONITORING SYSTEM CHANNEL.

 EVENT DATE: 122089
 REPORT DATE: 011790
 NSSS: WE
 TYPE: PWR

 VENDOR: LFE CORP.

(NSIC 216580) ON DECEMBER 20, 1989 AT 0345 HOURS, THE NO. 13 STEAM GENERATOR (S/G) BLOWDOWN RADIATION MONITORING SYSTEM (RMS) CHANNEL, 1R19C, FAILED HIGH. THE CHANNEL FAILURE CAUSED ISOLATION OF NO. 13 S/G BLOWDOWN. PREVIOUSLY, THE 1R19C CHANNEL HAD BEEN DECLARED INOPERABLE, ON DECEMBER 19, 1989 AT 1150 HOURS, DUE TO ALTERNATING ILLUMINATION/CLEARANCE OF THE CONTROL ROOM 1R19C CHANNEL FAIL LIGHT AND PERIODIC SPIKING OF THE RADIATION INDICATION ABOVE THE WARNING SETPOINT. THE ROOT CAUSE OF THE 1R19C CHANNEL FAILURE HAS BEEN ATTRIBUTED TO AN EQUIPMENT FAILURE. THE CHANNEL'S DETECTOR AND CONNECTOR HAD FAILED. THE 1R19C DETECTOR IS A NAI GAMMA SCINTILLATOR MODEL LFE MD5C. THE 1R19C DETECTOR AND ASSOCIATED CONNECTOR WERE REPLACED AND A CHANNEL CALIBRATION SUCCESSFULLY CONFLETED. THE CHANNEL WAS DECLARED OPERABLE ON DECEMBER 21, 1989 AT 2235 HOURS AND TECHNICAL SPECIFICATION TABLE 3.3-12 ACTION 27 WAS SUBSEQUENTLY EXITED.

CONTAINMENT VENTILATION ISOLATION DUE TO DESIGN/EQUIPMENT CONCERNS. EVENT DATE: 111689 REPORT DATE: 121589 NSSS: WE TYPE: PWR VENDOR: VICTOREEN INSTRUMENT DIVISION

(NSIC 216241) ON 11/16/89, THE 2R12A (CONTAINMENT RADIOACTIVE NOBLE GAS MONITOR) RADIATION MONITORING SYSTEM (RMS) CHANNEL FAILED LOW. THIS RESULTED IN AN ENGINEERED SAFETY FEATURE (ESF) ACTUATION SIGNAL FOR CONTAINMENT PURGE/PRESSURE-VACUUM RELIEF (CP/P-VR) SYSTEM ISOLATION. THE CHANNEL WAS DECLARED INOPERABLE AND TECH SPEC TABLE 3.3-6 ACTION REQUIREMENTS WERE REVIEWED. NO ACTIONS WERE REQUIRED, FOR THE DURATION OF INOPERABILITY OF THE 2R12A CHANNEL, DUE TO OPERABLLITY OF THE CONTAINMENT FAN COOLER CONDENSATE FLOW RATE MONITORS AND THE PLANT VENT NOBLE GAS MONITOR, 2R41C. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO DESIGN/EQUIPMENT CONCERNS. THE TYPE DETECTOR SYSTEM USED FOR THE SALEM UNIT 2 RMS CHANNELS IS MANUFACTURED BY VICTOREEN. PERIODIC PROBLEMS WITH THIS SYSTEM HAVE BEEN EXPERIENCED AS INDICATED IN PRIOR LERS (E.G., 311/89-002-00, 311/89-009-00, AND 311/89-010-00). THE CAUSE OF THE 2R12A CHANNEL MODULE. THE PIN WAS FOUND BENT AND LOOSE. THE 2R12A CHANNEL CONTROL MODULE MODULE. THE PIN WAS FOUND BENT AND LOOSE. THE 2R12A CHANNEL CONTROL MODULE PUSHED PINS WERE REPLACED. ALSO, THE FROM CHIP IN THE REMOTE CONTROL MODULE WAS REPLACED. ON 11/28/89, UPON SUCCESSFUL COMPLETION OF THE CHANNEL FUNCTIONAL TEST PROCEDURE (2PD-4.2.016) THE CHANNEL WAS DECLARED OPERABLE. SEVERAL SYSTEM DESIGN MODIFICATIONS WILL BE IMPLEMENTED.

[188]SALEM 2DOCKET 50-311LER 89-022TECH SPEC ACTION STATEMENT 3.0.3 ENTRY DUE TO SJ49 VALVES NOT MEETING DESIGN
BASIS REQUIREMENTS.
EVENT DATE: 111789REPORT DATE: 121589NSSS: WETYPE: PWROTHER UNITS INVOLVED: SALEM 1 (PWR)

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(NSIC 216240) DURING AN ENGINEERING REVIEW OF THE COMPONENT CLASSIFICATION FOR THE 230 VAC BREAKERS, IT WAS DETERMINED THAT THE CONTROL POWER LOCKOUT CIRCUIT FOR BOTH SALEM UNITS' SJ49 VALVES (RHR PUMP COLD LEG DISCHARGE VALVES) DO NOT MEET SINGLE FAILURE CRITERIA. A SHORT CIRCUIT IN THE CONTROL CIRCUIT COULD POTENTIALLY CAUSE A VALVE TO INADVERTENTLY ENERGIZE AND CLOSE. THE SJ49 VALVES ARE NOT REDUNDANT DURING THE INJECTION PHASE OF ECCS. THE ROOT CAUSE HAS BEEN ATTRIEUTED TO INADEQUATE REVIEW OF DESIGN BASE DOCUMENTATION. THE REVIEW DID NOT IDENTIFY THE SJ49 CONTROL POWER CIRCUIT LOCKOUT DESIGN REQUIREMENT FOR MITIGATING SINGLE FAILURE CRITERION. APPARENTLY, THE UNIQUENESS OF THIS CIRCUIT'S CHARACTERISTIC FOR MITIGATING SINGLE FAILURE CONCERNS WAS NOT COMPLETELY UNDERSTOOD BY THE ENGINEER WHO WORKED ON THE DESIGN CHANGE OR THE DESIGN CHANGE REVIEWERS. THE BREAKERS FOR THE U-1 AND U-2 SJ49 VALVES HAVE BEEN CLEARED AND TAGGED OPEN. EMERGENCY OPERATING PROCEDURES AND PRIMARY PLANT LOGSHEETS HAVE BEEN REVISED. A BRIEFING WAS CONDUCTED WITH ALL SHIFT PERSONNEL, PRIOR TO THEIR ASSUMING THE WATCH. AN ENGINEERING EVALUATION TO STUDY THE SIGNIFICANCE OF THE SINGLE FAILURE OF THE SJ49 VALVE CONTROL CIRCUIT MAS BEEN ISSUED. SJ49 CIRCUITRY DESIGN MODIFICATIONS WILL BE MADE. THE 1987 DESIGN CHANGE PROCEDURE AND CURRENT DESIGN CHANGE PROCEDURE HAVE BEEN REVIEWED.

[189]SALEM 2DOCKET 50-311LER 89-0242C VITAL BUS DE-ENERIGZED DUE TO UNDERVOLTAGE SIGNAL DUE TO PERSONNEL ERROR.
EVENT DATE: 120189DOCKET 50-311LER 89-024EVENT DATE: 120189REPORT DATE: 122789NSSS: WETYPE: PWR

(NSIC 216312) ON 12/1/89, DURING NORMAL POWER OPERATION, 2C VITAL 4 KV BUS DE-ENERGIZED DUE TO ACTIVATION OF THE BUS DIFFERENTIAL RELAY SCHEME. AS A RESULT, THE POWER SOURCE BREAKERS WERE LOCKED OUT CAUSING THE PICK UP OF THE SUSTAINED UNDERVOLTAGE RELAYS. SUBSEQUENTLY, 2C DIESEL GENERATOR (D/G) STARTED BUT DID NOT LOAD DUE TO THE DIFFERENTIAL RELAY SCHEME. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO PERSONNEL ERROR IN REGARD TO INADEQUATE ATTENTION TO DETAIL. SCAFFOLDING WAS BEING ERECTED IN THE SWITCHGEAR ROOMS. DURING THE INSTALLATION, A 7 FOOT SCAFFOLD TUBE SECTION FELL TO THE FLOOR STRIKING, AS IT FELL, THE 2C 4 KV VITAL BUS DOOR. THE MECHANICAL SHOCK CAUSED ALL THREE (3) DIFFERENTIAL RELAYS TO PICK UP AND ACTIVATE THE BUS DIFFERENTIAL MULTI-TRIP RELAY. THE MULTI-TRIP RELAY CAUSED THE TRIP OF ALL LOAD BREAKERS AND THE TRIP AND LOCKOUT OF ALL POWER SOURCE BREAKERS CONNECTED TO THE 2C VITAL BUS. THE SCAFFOLD TUBE SECTION WAS NOT PROPERLY SECURED NOR WERE ADEQUATE PRECAUTIONS TAKEN TO PREVENT THIS TYPE EVENT FROM OCCURRING. THE 2C 4KV VITAL BUS WAS SUCCESSFULLY TESTED (MEGGERED) VERIFYING THAT NO FAULTED CONDITION EXISTED ON THE BUS. REVIEW OF THE ADMINISTRATIVE REQUIREMENTS FOR ERECTING SCAFFOLDING, WITH APPLICABLE PERSONNEL WHO ARE WORKING IN THE VICINITY DF ENERGIZED ELECTRICAL CABINETS, HAS BEEN COMPLETED. A PRELIMINARY REPORT HAS BEEN REVIEWED.

[190]	S	ALEM 2		DOCKET 50-311	LER 89-035
MODE	CHANGE	WITH A	CONTAINMENT ISOLATION	OPEN DUE TO PERSONNE	L ERROR.
EVENT	DATE :	120989	REPORT DATE: 010390	NSSS: WE	TYPE: PWR

(NSIC 216388) ON 12/10/89 AT 1850 HOURS, DURING ROUTINE MODE 3 (HOT STANDBY) STARTUP OPERATIONS, VALVE 1SA118, "CONTAINMENT COMPRESSED AIR SUPPLY VALVE", WAS FOUND UNTAGGED IN THE OPEN POSITION BY OPERATIONS PERSONNEL WHO WERE PREPARING TO PERFORM THE ECCS SUBSYSTEM SURVEILLANCE PROCEDURE. INVESTIGATIONS REVEALED THE VALVE HAD BEEN OPEN DURING RECENT OPERATIONAL MODE CHANGES CONTRARY TO THE REQUIREMENTS OF TECH SPEC 3.0.4. THE UNIT HAD CHANGED OPERATIONAL MODES ON 12/9/89 AT 1816 HOURS, FROM NODE 5 (COLD SHUTDOWN) TO MODE 4 (HOT SHUTDOWN) AND ON 12/10/89 AT 0920 HOURS, FROM MODE 5 (COLD SHUTDOWN) TO MODE 4 (HOT SHUTDOWN) AND ON 12/10/89 AT 0920 HOURS, FROM MODE 5 (COLD SHUTDOWN) TO MODE 4 (HOT SHUTDOWN) AND ON 12/10/89 AT 0920 HOURS, FROM MODE 5 (COLD SHUTDOWN) TO MODE 4 (HOT SHUTDOWN) AND ON 12/10/89 AT 0920 HOURS, FROM MODE 5 (COLD SHUTDOWN) TO MODE 4 (HOT SHUTDOWN) AND ON 12/10/89 AT 0920 HOURS, FROM MODE 5 (COLD SHUTDOWN) TO MODE 4 (HOT SHUTDOWN) AND OPERATION AS SPECIFIED BY TECH SPEC 3.6.3.1. THE 1SA118 VALVE IS A CONTAINMENT ISOLATION VALVE. AS PER UTSAR TABLE 6.2.10 THE VALVE IS KEPT CLOSED DURING NORMAL OPERATION AND ACCIDENT CONDITIONS. TECH SPEC 3.6.3.1 IS APPLICABLE IN MODES 1, 2, 3, AND 4. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO PERSONNEL ERROR. THE 1SA118 VALVE HAD BEEN OPENED ON 12/4/89 TO SUPPORT VARIOUS ON-GOING WORK WITHIN CONTAINMENT. THE TRIS (TAGGING REQUEST INFORMATION SYSTEM) WAS INCORRECTLY UPDATED, I.E., IT WAS IDENTIFIED AS CLOSED. SUBSEQUENTLY WHEN THE "OFF-NORMAL" REPORT WAS REVIEWED PRIOR TO MODE CHANGE, THE 1SA118 VALVE WAS IDENTIFIED AS ELING CLOSED.

[191]SALEM 2DOCKET 50-311LER 89-025AUTOMATIC SWITCH TO EMERGENCY MODE OF OPERATION FOR CONTROL ROOM VENTILATION DUETO DESIGN ERROR.EVENT DATE: 122089REPORT DATE: 011790NSSS: WETYPE: PWRVENDOR: VICTOREEN INSTRUMENT DIVISION

(NSIC 216590) ON 12/20/89 AT 1340 HOURS, THE CONTROL ROOM GENERAL AREA RADIATION MONITORING SYSTEM (RMS)(IL) MONITOR (2R1A) SPIKED INTO ALARM. THIS RESULTED IN AUTOMATIC SWITCHING OF THE CONTROL ROOM VENTILATION FROM NORMAL OPERATION TO ITS ACCIDENT MODE OF OPERATION (100% RECIRCULATION). THE ROOT CAUSE OF THIS EVENT MAS BEEN ATTRIEUTED TO DESIGN/EQUIPMENT CONCERNS. AN ELECTRICAL SPIKE ON THE CHANNEL MICROPROCESSOR'S INPUT CAUSED THE MICROPROCESSOR TO MALFUNCTION. SUBSEQUENTLY, THE CHANNEL MICROPROCESSOR LOCKED ON A FALSE "HIGH" ACTIVITY VALUE RESULTING IN THE ALARM ACTUATION. PRIOR LERS, INVOLVING CONTAINMENT VENTILATION ISOLATION ESF ACTUATION (E.G., 311/89-002-00) HAVE INDICATED THAT THE VICTOREEN BESIGN IS SUSCEPTABLE TO VOLTAGE SPIKES. THE 2R1A DETECTOR IS A VICTOREEN B57-20, GM TUBE. UPON RECEIPT OF THE CHANNEL SPIKE AND SUBSEQUENT ALARM, THE CHANNEL WAS RESET AND WAS DECLARED OPERABLE. AS INDICATED IN PRIOR LERS ASSOCIATED WITH CONTAINMENT VENTILATION ISOLATION ESF ACTUATIONS, ENGINEERING MAS INVESTIGATED THE CONCERNS WITH THE POWER SUPPLY TO THE UNIT 2 RMS CHANNELS. IT IS ANTICIPATED THAT SEVERAL SYSTEM DESIGN MODIFICATIONS WILL ELIMINATE THE SPURIOUS ESF ACTUATION SIGNALS. ONE OF THESE DESIGN MODIFICATIONS IS THE INSTALLATION OF AN UNINTERRUPTABLE POWER SUPPLY (UPS).

[192] SAN ONOFRE 1 UPDATE ON POTENTIAL NON-CONSERVATISM WITH TECH SPEC REQUIREMENT FOR AUXILIARY FEEDWATER STORAGE TANK VOLUME DUE TO CALCULATION OVERSIGHT. EVENT DATE: 120288 REPORT DATE: 121589 NSSS: NE TYPE: PWR

(NSIC 216254) ON 12/2/88, WITH UNIT 1 IN COLD SHUTDOWN FOR THE CYCLE 10 REFUELING, DURING A REVIEW OF A CALCULATION USED FOR DETERMINING MINIMUM AUX. FEEDWATER STORAGE TANK (AFWST) VOLUME REQUIREMENTS ASSOCIATED WITH UPCOMING CHANGES TO THE AFW DESIGN, IT WAS DISCOVERED THAT THE CALCULATION WHICH PROVIDED THE BASIS FOR THE MINIMUM TS VOLUME OF 150,000 GAL DID NOT ACCOUNT FOR PUNP GIOS BEARING COOLING WATER FLOW THAT IS UNAVAILABLE FOR DELIVERY TO THE SGS. ON 1/27/89, THE BEARING COOLING FLOW RATE WAS MEASURED TO BE 10.44 GALS PER MIN. (GPM). WITH THIS FLOW DIVERSION, THE MINIMUM AFWST VOLUNE REQUIRED SHOULD HAVE BEEN 163,045 GALS DURING THE PERIOD (11/7/84 TO 6/25/89) IN WHICH A MINIMUM OF 150,000 GALS WAS SPECIFIED IN THE TS. A REVIEW OF OPERATIONAL RECORDS REVEALED THAT DURING THIS PERIOD THE ACTUAL MINIMUM TANK VOLUME WAS MAINTAINED WELL ABOVE 163,045 GALS. THE ENGINEER RESPONSIBLE FOR PERFORMING THE CALCULATION UPON WHICH THE 150,000 GAL TS REQUIREMENT WAS BASED ERRED IN APPLYING A GENERAL VALUE OF MARGIN TO THE CALCULATION, RATHER THAN IDENTIFYING AND QUANTIFYING ALL SIGNIFICANT UNAVAILABLE FLOWS. ALSO, REVIEW AND APPROVAL PROCESS FOR THE CALCULATION WAS NOT RIGOROUS ENOUGH TO DETECT THE ERROR. ROOT CAUSES OF THIS OCCURRENCE ARE RELATED TO DEFICIENCIES WITH PROGRAMS FOR ESTABLISHING AND CONTROLLING DESIGN BASIS DOCUMENTATION.

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[193]SAN ONOFRE 1DOCKET 50-206LER 89-018REV 01UPDATE ON VOLUNTARY ENTRY INTO TECH SPEC 3.0.3 IN ORDER TO PERFORM A SURVEILLANCEOF CONTAINMENT SPRAY SYSTEM PUMP DUE TO INADEQUATE TECH SPEC.EVENT DATE: 042789REPORT DATE: 010590NSSS: WETYPE: PWRVENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 216374) ON 4/27/89, AT 1139, WHILE UNIT 1 WAS IN HOT SHUTDOWN, THE NORTH REFUELING WATER PUMP (RWP) (G27N) 480V CIRCUIT BREAKER (CB-1119) VAILED TO REMAIN CLOSED WHEN G27N WAS BEING STARTED TO PERFORM A SURVEILLANCE TEST OF THE SAFETY INJECTION AND CONTAINMENT SPRAY SYSTEMS (CSS). RWP G27N WAS SUBSEQUENTLY DECLARED INOPERABLE. IN ORDER TO INITIATE MAINTENANCE ON G27N, TECH SPEC (TS) 3.3.1.C REQUIRES THAT THE SOUTH RWP (G27S) BE TESTED TO DEMONSTRATE ITS AVAILABILITY. IN ORDER TO PERFORM THE TEST WITHOUT INITIATING CONTAINMENT SPRAY, THE FUMP'S MANUAL DISCHARGE ISOLATION VALVE MUST BE CLOSED RENDERING THE SOUTH TRAIN INOPERABLE. SINCE THERE ARE NO ACTION STATEMENTS WHICH ADDRESS THE INOPERABILITY OF BOTH CSS TRAINS, PERFORMANCE OF THE G27S SURVEILLANCE TEST WOULD CONSTITUTE AN ENTRY INTO TS 3.0.3. THE G27S DISCHARGE ISOLATION VALVE WAS CLOSED BETWEEN 1226 AND 1233 WHILE THE PUMP SURVEILLANCE WAS BEING PERFORMED. THE SURVEILLANCE TEST VERIFIED THAT CB-1119 WOULD NOT CONSISTENTLY REMAIN CLOSED. AFTER CE-1119 WAS REPLACED WITH A SPARE CE, RWP G27N WAS SATISFACTORILY TESTED AND DECLARED OPERABLE ON APRIL 28, 1989 AT 2003. THE INOPERABLE BREAKER WOULD

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NOT REMAIN CLOSED BECAUSE THE TRIP LATCH MECHANISM FAILED TO ACHIEVE ITS FULLY RESET POSITION.

1943 SAN ONOFRE 1 TECH SPEC REQUIRED EFFLUENT SAMPLE LOST DUE TO INADEQUATE ADMINISTRATIVE CONTROLS. EVENT DATE: 113089 REPORT DATE: 122989 NSSS: WE TYPE: PWR

(NSIC 216284) TECH SPEC (TS) 4.6.1, TABLE 4.6.1.1, REQUIRES THE PLANT VENT STACK (PVS) TO BE CONTINUOUSLY SAMPLED FOR PARTICULATES. TS 4.6.1, TABLE 4.6.1.1, REQUIRES THAT THE PARTICULATE SAMPLES BE ANALYZED WEEKLY FOR PRINCIPAL GAMMA EMITTERS, AND A COMFOSITE ANALYSIS BE PERFORMED FOR: 1) GROSS ALPHA ISOTOPES ON A MONTHLY BASIS; AND 2) SR-89 AND SR-90 ISOTOPES ON A QUARTERLY BASIS. ON 10/26/89, THE WEEKLY (OCTOBER 17-24) PVS SAMPLE WAS COLLECTED AND SUBSEQUENTLY GAMMA COUNTED. ON 11/21/89, WHEN GATHERING THE WEEKLY FVS SAMPLES FOR THE MONTHLY COMPOSITE ANALYSIS, THE OCTOBER 17-24 SAMPLE COULD NOT BE FOUND IN ITS DESIGNATED STORAGE LOCATION. ON 11/30/89, AFTER PHYSICAL AND RECORD SEARCHES FOR THE SAMPLE, IT WAS CONCLUDED THAT THE SAMPLE HAD BEEN INADVERTENTLY DISCARDED AND THEREFORE COULD NOT BE INCLUDED WITH THE COMPOSITE SAMPLES FOR THE MONTH OF OCTOBER, CONTRARY TO TS 4.6.1, BECAUSE THE SAMPLE CONTAINED NO UNEXPECTED LEVELS OF GANNA ACTIVITY, THE OCTOBER 1989 COMPOSITE SAMPLE FOR THE PVS IS CONSIDERED REPRESENTATIVE AND IS BEING USED FOR REPORTING OF RADIOACTIVE EFFLUENTS. THE ROOT CAUSE OF THIS EVENT IS INADEQUATE ADMINISTRATIVE CONTROLS. WHILE PROCEDURES INCLUDE VERIFICATION OF TS SAMPLE ANALYSES, THERE ARE NO PROVISIONS FOR VERIFYING THAT GASEOUS SAMPLES TO BE USED LATER AS COMPOSITE SAMPLES HAVE BEEN PROPERLY STORED. SIMILAR EVENTS: 361/88-018 AND 362/88-010.

 [195]
 SAN ONOFRE 1
 DOCKET 50-206
 LER 89-028

 PLANT SHUTDOWN REQUIRED BY TECH SPECS DUE TO INOPERABLE BACKUP NITROGEN SYSTEM
 FOR CONTAINMENT ISOLATION VALVE HV-851A.
 DOCKET 50-206
 LER 89-028

 FOR CONTAINMENT ISOLATION VALVE HV-851A.
 EVENT DATE: 120689
 REPORT DATE: 010590
 NSSS: WE
 TYPE: PWR

(NSIC 216375) AT 2349 ON 12/6/89, UNIT 1 COMPLETED A SHUTDOWN FROM 91% POWER WHICH WAS REQUIRED BY TECH SPEC (TS) 3.6.2, "CONTAINMENT ISOLATION VALVES" (CIVS). TS 3.6.2 STATES THAT AN INOPERABLE CIV MUST BE RETURNED TO OPERABLE STATUS WITHIN 4 HOURS, OR A SHUTDOWN MUST BE COMPLETED TO HOT STANDBY WITHIN THE NEXT 6 HOURS. DUE TO CYCLIC LIFTING OF HV-851A BACKUP NITROGEN SYSTEM (BNS) PRESSURE RELIEF VALVE PSV-301, THE LOSS OF NITROGEN FROM THE HV-851A BNS TO ATMOSPHERE EXCEEDED THAT ASSUMED IN THE BNS DESIGN CALCULATION, RENDERING HV-851A INOPERABLE FOR CONTAINMENT ISOLATION. REPAIRS TO THE ENS COULD NOT BE EFFECTED WITHIN THE TIME CONSTRAINTS OF THE ACTION STATEMENT OF TS 3.6.2, REQUIRING THE SHUTDOWN TO BE PERFORMED. THERE IS NO SAFETY SIGNIFICANCE TO THIS EVENT SINCE REDUNDANT CIVS AND DOWNSTREAM CHECK VALVES REMAINED CAPABLE OF PROVIDING EFFECTIVE CONTAINMENT ISOLATION. THE BNS FOR HV-851A IS SUSCEPTIBLE TO FAILURE DUE TO LEAKAGE PAST THE 6000/APPROX. 180 PSIG PRESSURE REGULATING VALVE SEATS. PSV-301 LIFTED AND RESEATED DIRECTLY FOLLOWING REPLACEMENT OF ONE BANK OF NITROGEN CYLINDERS FOR THE HV-851A ENS. AN EVALUATION CONCLUDED THAT THE PRESSURE TRANSIENT CAUSED BY THIS LIFTING OF PSV-301 CHALLENGED ONE OR MORE OF THE BIS 6000/APPROX. 180 PSIG PRESSURE TRANSIENT OF ONE BANK OF NITROGEN CYLINDERS FOR THE HV-851A ENS. AN EVALUATION CONCLUDED THAT THE PRESSURE TRANSIENT CAUSED BY THIS LIFTING OF PSV-301 CHALLENGED ONE OR MORE OF THE BIS 6000/APPROX. 180 PSIG REGULATION CONCLUDED THAT THE PRESSURE TRANSIENT CAUSED BY THIS LIFTING OF PSV-301 CHALLENGED ONE OR MORE OF THE BIS 6000/APPROX. 180 PSIG REGULATION CONCLUDED THAT THE PRESSURE TRANSIENT CAUSED BY THIS LIFTING OF PSV-301 CHALLENGED ONE OR MORE OF THE BIS 6000/APPROX. 180 PSIC REGULATING VALVES SEATS.

[196] SAN ONOFRE 2 UPDATE ON FUEL HANDLING ISOLATION SYSTEM TRAIN A AND B SPURIOUS ACTUATION. EVENT DATE: 102787 REPORT DATE: 121589 VENDOR: DRESSER INDUSTRIES, INC.

(NSIC 216253) AT 1050 ON OCTOBER 27, 1987, WITH UNIT 2 IN MODE 5, FUEL HANDLING ISOLATION SYSTEM (FHIS) MONITORS 2RT-7822 AND 2RT-7823, TRAIN "A" AND "B", RESPECTIVELY, WERE SPURIOUSLY ACTUATED FROM AN APPARENT NOISE SPIKE. AT APPROXIMATELY THE SAME TIME, THE COMPONENT COOLING WATER MONITOR 2RT-7819, WHICH HAS NO CONTROL FUNCTIONS, AND CONTAINMENT AIRBORNE MONITOR (CPIS) 2RT-7804, WHICH HAD BEEN REMOVED FROM SERVICE, ALSO ALARMED. AFTER VERIFYING FUEL HANDLING BUILDING RADIATION LEVELS WERE FELOW THE ACTUATION SETPOINT, THE FHIS WAS RESET/SECURED. EVIDENT ON EACH MONITOR'S RECORDER WAS A LARGE INSTANTANEOUS RISE

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AND DROP OF RECORDED RADIATION LEVELS, INDICATIVE OF A NOISE SPIKE. SUBSEQUENT INVESTIGATIONS INTO THE CAUSE OF THIS AND OTHER SPURIOUS ACTUATIONS DETERMINED THAT THE DESIGN OF THE MONITORS' CIRCUITRY PROVIDED INSUFFICIENT NOISE SUPPRESSION ON RELAYS AND NOISE COUPLING DUE TO CLOSE PROXIMITY OF THE FHIS AND CPIS MONITORS WITHIN EACH TRAIN. CORRECTIVE ACTIONS HAVE BEEN COMPLETED WHICH HAVE ELIMINATED THESE NOISE RELATED PROBLEMS. DURING VERIFICATION THAT ALL FHIS COMPONENTS FUNCTIONED AS DESIGNED, IT WAS DISCOVERED THAT THE NORMALLY RUNNING SAMPLE PUMPS FOR BOTH TRAINS HAD STOPPED, RESULTING IN A LOW SAMPLE FLOW INDICATION. SCE'S INVESTIGATION HAS BEEN UNABLE TO DETERMINE A MECHANISM ASSOCIATED WITH THE SPUPIOUS ACTUATION WHICH COULD CAUSE THE SAMPLE PUMPS TO STOP.

 [197]
 SAN ONOFRE 2
 DOCKET 50-361
 LER 87-023 REV 01

 UPDATE ON SPURIOUS TRAIN "B" TOXIC GAS ISOLATION SYSTEM CHLORINE CHANNEL

 ACTUATION.

 EVENT DATE: 110787
 REPORT DATE: 120189
 NSSS: CE
 TYPE: PWR

 OTHER UNITS INVOLVED: SAN ONOFRE 3 (PWR)

(NSIC 216114) ON NOVEMBER 7, 1987, AT 1055, WITH UNIT 2 IN MODE 5 AND UNIT 3 AT 100% POWER IN MODE 1, TRAIN "B" TGIS INITIATED OPERATION OF BOTH TRAINS OF CREACUS ON RECEIPT OF A HIGH CHLORINE GAS SIGNAL. CREACUS CPERATED IN THE ISOLATION MODE AS DESIGNED, UNTIL IT WAS DETERMINED THAT THE SIGNAL WAS SPURIOUS AND THAT NO CHLORINE GAS WAS PRESENT. FIRE DETECTION AND ACTUATION SUPERVISORY SYSTEM TROUBLE ALARNS (WHICH ARE FED FROM THE SAME ELECTRICAL SOURCE) WERE RECEIVED SIMULTANEOUSLY WITH THE TGIS AND CREACUS ALARMS. A DEFINITE CAUSE FOR THIS ACTUATION HAS NOT BEEN DETERNINED. NO EQUIPMENT DEFICIENCIES WERE FOUND DURING FOST EVENT TESTING AND NO ACTIVITIES WERE IN PROGRESS THAT COULD HAVE INFLUENCED THE EVENT. NO PROCEDURAL DEFICIENCIES HAVE BEEN IDENTIFIED. AN ACTUATION SIMILAR TO THIS HAS NOT SUBSEQUENTLY OCCURRED. THE FACT THAT THE FIRE DETECTION ALARMS OCCURRED SIMULTANEOUSLY WITH THE TGIS ALARM MAKES A VOLTAGE PERTURBATION ON MCC BS THE MOST LIKELY CAUSE FOR THE TGIS ACTUATION. NO FURTHER ACTION IS PLANNED. THERE WAS NO SAFETY SIGNIFICANCE TO THIS EVENT SINCE ALL TGIS AND CREACUS COMPONENTS OPERATED AS DESIGNED.

[198]	SAN	ONOFRE	2				DOCKET	50	-36	1 LER	88-017	REV 01
UPDATE	ON SPEN	T FUEL	POOL	DRAINING	DUE	TO	THE FAILS	JRE	TO :	IMPLEMENT	UPDATED	FINAL
SAFETY	ANALYSI	S REPOI	RT COM	INITMENT.								
EVENT I	DATE: 06	2288	REPOR	T DATE :	01029	0	NSSS:	CE		TYPE	PWR	
OTHER L	JNITS IN	VOLVED	: SAN	ONOFRE 3	(PWF	()		1.0				

(NSIC 216371) ON 6/22/88, FOLLOWING AN EVOLUTION INVOLVING THE DRAIN DOWN OF THE UNIT 3 REACTOR CAVITY, IT WAS NOTICED THAT ABOUT 9000 CALLONS HAD DRAINED FROM THE SPENT FUEL POOL (SFP) INTO THE REACTOR CAVITY. THE DRAIN FLOW PATH WAS IMMEDIATELY SECURED. ON 7/1/88, FOLLOWING REVIEW OF THIS OCCURRENCE, IT WAS DETERMINED THAT A REPORTABLE CONDITION EXISTED FOR UNITS 2 AND 3. SPECIFICALLY, THE DRAINING OF THE SFP WAS CONTRARY TO SECTION 9.1.3.3 OF UNITS 2 AND 3 UFSAR WHICH STATES, "ALL CONNECTIONS TO THE SPENT FUEL STORAGE POOL ARE MADE SO AS TO PRECLUDE THE POSSIBILITY OF SIPHON DRAINING OF THE POOL." CONDITION CAUSING THE LOWERING OF THE SFP WAS DISCOVERED AND CORRECTED BEFORE TH' SFP LOW LEVEL ALARM SETPOINT WAS REACHED. IT WAS THE INTENT OF THE DESIGN TO IMPLEMENT THE UFSAR COMMITMENT BY USE OF SIPHON BREAKERS, CHECK VALVES, LOCKED VALVES, AND ADDINISTRATIVE CONTROLS. ALTHOUGH SIPHON BREAKERS, CHECK VALVES, AND LOCKED VALVES WERE INSTALLED, THE ADMINISTRATIVE CONTROLS WERE NOT ESTABLISHED. TRANSFER OF ADMINISTRATIVE REQUIREMENTS FROM DESIGN ORGANIZATIONS TO STATION WAS INEFFECTIVE IN THIS CASE. CONSEQUENTLY, THE PROCEDURE USED DURING THIS EVENT WAS IMADEQUATE AS IT DID NOT PRECLUDE SIPHONING OR DRAINING HE SFP. PROCEDURE CONTROLLING ALIGNMENT THAT LED TO THE 6/22/88 DRAINING HAS BEEN REVISED TO PRECLUDE SIMILAR SIPHONING OR DRAINING.

[199]	SAN ONOFRE 2	DOCKET 50-361	LER 89-016
DEFICIENT	TECH SPEC FOR MOVEABLE CONTROL	ASSEMBLIES.	
EVENT DATI	: 080789 REPORT DATE: 101889	NSSS: CE	TYPE: PWR
OTHER UNI'	S INVOLVED: SAN ONOFRE 3 (PWR)		

(NSIC 216365) ON 8/7/89, DURING A ROUTINE REVIEW OF A MISALIGNED PART LENGTH CONTROL ELEMENT ASSEMBLY (PLCEA) EVENT THAT OCCURRED ON 8/4/89, IT WAS DETERMINED THAT THE UNIT 2 AND 3 TECH SPECS (TS) 3.1.3.1 FOR MISALIGNED CONTROL ELEMENT ASSEMBLIES (CEA) ARE DEFICIENT. THESE TSS, WHICH REQUIRE A POWER REDUCTION AND REALIGNMENT OF THE MISALIGNED CEA WITH ITS GROUP TO BE PERFORMED WITHIN ON HOUR. ARE FORMATTED SUCH THAT THE "OTHERWISE BE IN AT LEAST HOT STANDBY WITHIN THE NEXT 6 HOURS" ACTION STATEMENT APPLIES TO BOTH THE POWER REDUCTION AND THE CEA REALIGNMENT ACTIONS OF THE TS. IT HAS NOW BEEN DETERMINED THAT THE POWER REDUCTION MUST BE ACCOMPLISHED IN ORDER TO PRECLUDE THE POSSIBILITY FOR POTENTIAL FUEL DAMAGE IN THE WORST CASE MISOPERATION OF A CEA AND THAT THE "OTHERWISE ..." ACTION STATEMENT IS NOT APPLICABLE TO THE POWER REDUCTION ACTION STATEMENT. THE REQUIREMENT TO REDUCE REACTOR POWER WAS ADDED IN 1985 TO PERMIT REMOVAL OF CERTAIN CEA MISALIGNMENT INPUTS TO THE CORE PROTECTION CALCULATORS (CPC). AS PRESENTLY WRITTEN, THIS TS DOES NOT ENSURE THAT REACTOR POWER IS REDUCED CONSISTENT WITH THE SAFETY ANALYSIS BASES FOR LARGE CEA MISALIGNMENTS. THE CAUSE OF THIS EVENT IS THAT, WHEN TS 3.1.3.1 WAS REVISED IN JANUARY 1985 TO ADD THE POWER REDUCTION REQUIREMENT, THE FORMAT OF THE TS WAS NOT CHANGED TO CLEARLY INDICATE THAT THE "OTHERNISE ..." PORTION OF THE ACTION STATEMENTS. THE CAUSE OF THIS EVENT IS THAT, WHEN TS 3.1.3.1 WAS REVISED IN JANUARY 1985 TO ADD THE POWER REDUCTION REQUIREMENT, THE FORMAT OF THE TS WAS NOT CHANGED TO CLEARLY INDICATE THAT THE "OTHERNISE ..." PORTION OF THE ACTION STATEMENT DID NOT APPLY TO THE POWER REDUCTION REQUIREMENT.

[200]	SAN ONOFRE 2		DOCKET 50-361	LER 89-023
DELINQUENT	HOURLY FIREWATCH	DUE TO PERSONNEL	ERROR.	
EVENT DATE	: 092689 REPORT	DATE: 010890	NSSS: CE	TYPE: PWR

(NSIC 216407) AT APPROXIMATELY 0911 ON 9/26/89, THE FIRE DETECTION INSTRUMENTATION IN FIRE AREA 2-AC-50-47, AN ELECTRICAL DISTRIBUTION ROOM LOCATED IN THE AUXILIARY CONTROL BUILDING, WAS DECLARED INOPERABLE DUE TO WELDING BEING PERFORMED TO SUPPORT A DESIGN CHANGE. PER TECHNICAL SPECIFICATION 3.3.3.7 (TS), AN HOURLY FIREWATCH WAS REQUIRED TO BE INITIATED. AT APPROXIMATELY 0900 ON 10/4/89, IT WAS IDENTIFIED THAT NO HOURLY FIREWATCH EXISTED FOR FIRE AREA 2-AC-50-47. AN HOURLY FIREWATCH WAS IMMEDIATELY POSTED HOWEVER, ACTION WAS NOT INITIATED AT THAT TIME TO REPORT THIS DISCREPANT CONDITION TO APPROPRIATE PERSONNEL NOR INITIATE AN INVESTIGATION INTO THE CAUSE OF THE EPROR. THUS, THIS VIOLATION OF TSS REMAINED UNKNOWN TO SCE MANAGEMENT UNTIL IDENTIFIED BY AN ONGOING AUDIT AND SUBSEQUENT REVIEW OF FIREWATCH RECORDS BY SCE ON 12/7/B9. THE ROOT CAUSE OF THIS EVENT IS PERSONNEL ERROR. FIREWATCH OFFICE PERSONNEL (NON-LICENSED, CONTRACTOR), WERE CONFUSED WHEN REQUESTS BOTH TO TERMINATE AND INITIATE AN HOURLY FIREWATCH FOR THE SAME FIRE AREA (2-AC-50-47) WERE RECEIVED WITHIN A SHORT PERIOD OF TIME (APPROXIMATELY 15 MINUTES) ON 9/26/89. THIS CONFUSION RESULTED IN A FAILURE BY THE FIREWATCH OFFICE PERSONNEL TO FOLLOW PROCEDURES WHICH WOULD HAVE REQUIRED THE INITIATION OF THE FIREWATCH. FOR CORFUSION RESULTED IN A FAILURE BY THE FIREWATCH OFFICE PERSONNEL TO FOLLOW PROCEDURES WHICH WOULD HAVE REQUIRED THE INITIATE ON HAS BEEN ADMINISTERED TO THE FIREWATCH OFFICE PERSONNEL WHO FAILED TO INITIATE THE FIREWATCH. FOR FIREWATCH OFFICE PERSONNEL WOO FAILED TO INITIATE THE FIREWATCH. FOR FIREWATCH OFFICE PERSONNEL WHO FAILED TO INITIATE THE FIREWATCH. FOR FIREWATCH OFFICE PERSONNEL WHO FAILED TO INITIATE THE FIREWATCH. FOR FIREWATCH OFFICE PERSONNEL WHO FAILED TO INITIATE THE FIREWATCH.

[201] SAN ONOFRE 2 POST-MAINTENANCE RETEST ON CHARGING PUMP 2P190 NOT PERFORMED DUE TO PERSONNEL OVERSIGHT. EVENT DATE: 110789 REPORT DATE: 122889 NSSS: CE TYPE: PWR

(NSIC 216355) ON 10/25/89, A PUMP REPACK AND ASSOCIATED PUMP MAINTENANCE WAS PERFORMED ON CHARGING PUMP 2P190. PER SECTION XI OF THE ASME BOILER AND PRESSURE VESSEL CODE AND APPLICABLE ADDENDA, AS INVOKED BY TECH SPEC (TS) 4.0.5, THE PERFORMANCE OF SUCH WORK REQUIRED BY INSERVICE TEST (IST) TO BE PERFORMED PRIOR TO, OR WITHIN 96 HRS AFTER RETURNING THE PUMP TO SERVICE. CONTRARY TO PROCEDURAL REQUIREMENTS, THE ASSOCIATED CHARGING SYSTEM WORK AUTHORIZATION RECORD (WAR) DID NOT SPECIFY THAT A POST-MAINTENANCE IST FOR 2P190 WAS REQUIRED. ON 11/7/89, AT 1510, WITH UNIT 2 IN MODE 5, WHEN 2P190 WAS RETURNED TO SERVICE AND THE CHARGING SYSTEM WAR WAS CLOSED, THE NEED FOR PERFORMANCE OF AN IST WAS NOT RECOGNIZED AND NOT PERFORMED. UPON DISCOVERY OF THIS DEFICIENCY, ON 11/28/89, AT 1645, AN IST ON 2P190 WAS PERFORMED SATISFACTORILY. SCE WAS UNAWARE THAT 2P190 WAS INOPERABLE BETWEEN 11/7/89 AND 11/28/89. ON 11/23/89, AT 2130, WITH UNIT 2 IN MODE 4, CHARGING PUMP 2P191 WAS DECLARED INOPERABLE FOR THE PIRFORMANCE OF PUMP MAINTENANCE. THIS WAS FOLLOWED BY UNIT 2 ESCALATING FROM MODE 4 TO MODE 3 ON 11/23/89, AT 2206. SINCE LESS THAN TWO CHARGING PUMPS WERE OPERABLE, THIS REPRESENTED A VIOLATION OF TS 3.0.4. ROOT CAUSE IS OVERSIGHT BY OPERATIONS PERSONNEL DURING WAR PREPARATION AND REVIEW. OPERATIONS PERSONNEL FAILED TO ENSURE THAT PROPER RETEST REQUIREMENTS WERE DOCUMENTED IN WAR.

[202] SAN ONOFRE 2 DIESEL GENERATOR STARTING AIR SYSTEM REQUIREMENTS NOT ADEQUATELY DEMONSTRATED. EVENT DATE: 112189 REPORT DATE: 122189 NSSS: CF TYPE: PWR OTHER UNITS INVOLVED: SAN ONOFRE 3 (PWR)

(NSIC 216354) ON 11/21/69, DURING A REVIEW OF UNITS 2 AND 3 DIESEL GENERATOR (DG) DESIGN BASIS AS PART OF AN ONGOING KRC INSPECTION ACTIVITY, IT WAS DETERMINED THAT THE DESIGN REQUIREMENTS OF THE DG STARTING AIR SYSTEMS (SAS) MAY NOT HAVE BEEN ADEQUATELY DEMONSTRATED DURING STARTUP TESTING. SPECIFICALLY, THE FINAL SAFETY ANALYSIS REPORT (FSAR) STATES THAT "... EACH AIR RECEIVER IS CAPABLE OF CRANKING A COLD DIESEL ENGINE FIVE TIMES WITHOUT RECHARGING THE RECEIVER. EACH CRANKING CYCLE DURATION IS APPROXIMATELY 3 SECONDS, OR CONSISTS OF 2 TO 3 ENGINE REVOLUTIONS." SAS CONTROLS WERE SET TO MAINTAIN A MINIMUM AIR RECEIVER PRESSURE OF 182 PSIG BASED ON INITIAL STARTUP TESTING. WHICH DEMONSTRATED THAT EACH SAS. WITH A STARTING AIR RECEIVER PRESSURE OF 175 PSIG, MET THE CRITERIA OF 3 SECOND CRANKING DURATION ON 5 ATTEMPTS. HOWEVER, UPON REVIEW OF THE BASIS UPON WHICH THE SAS TEST RESULTS WERE ACCEPTED, IT WAS DETERMINED THAT ALTHOUGH CRANKING CYCLES FOR ALL TESTS WERE AT LEAST 3 SECONDS IN DURATION, THE CRANKSHAFT REVOLUTIONS IN SOME TESTS WERE NOT SUFFICIENT TO ENSURE THAT A DG START WOULD OCCUR. THIS HAD EEEN DEMONSTRATED FOR ONLY ONE AIR RECEIVER AT AN INITIAL PRESSURE OF 195 PSIG. THE ROOT CAUSE OF THIS EVENT WAS AN ERROR IN UNDERSTANDING BY RESPONSIBLE SCE PERSONNEL WITH RESPECT TO THE BASIS UPON WHICH THE SAS TEST RESULTS WERE ACCEPTED.

 [203]
 SAN ONOFRE 3
 DOCKET 50-362
 LER 89-001 REV 03

 UPDATE ON REACTOR TRIP ON LOW STEAM GENERATOR LEVEL DUE TO PARTIAL LOSS OF POWER

 TO FEEDWATER CONTROL SYSTEM.

 EVENT DATE: 010689
 REPORT DATE: 121589
 NSSS: CE
 TYPE: PWR

 VENDOR: SOLID STATE CONTROLS, INC.

(NSIC 216246) AT 2335 ON 1/6/89 WITH UNIT 3 AT 98% POWER, REACTOR TRIPPED ON LOW SG LEVEL AFTER A PARTIAL LOSS OF NON-1E UNINTERRUPTIBLE POWER SUPPLY (UPS) POWER OCCURRED WHICH CAUSED FEEDWATER REGULATING VALVES TO REDUCL FLOW TO SG E089 AND RESULTED IN ACTUATION OF EMERGENCY FEEDWATER TO SG E089. EMERGENCY FEEDWATER TO SG 6088 ALSO ACTUATED DUE TO THE RESULTING LEVEL "SHRINK" IN SG E088, WHICH IS EXPECTED FOLLOWING A TRIP FROM HIGH POWER. SINCE STEAM BYPASS CONTROL SYSTEM WAS IN MANUAL TO PERFORM TURBINE VALVE TESTING, MEAT REMOVAL FROM THE SGS WAS GREATER THAN NORMAL. AT 2336, AS A RESULT OF LOWER SG TEMPERATURE, RCS PRESSURE DECREASED BELOW SIAS SETPOINT (1806 PSIA), RESULTING IN AN SIAS ACTUATION. THERE WAS NO SAFETY INJECTION FLOW INTO RCS SINCE RCS PRESSURE REMAINED ABOVE SHUTOFF HEAD OF INJECTION FUMPS. 2 OF 3 NON-1E UPS PHASES WERE LOST BECAUSE OF A COMMON FAULT IN THE ASSOCIATED INVERTER'S CONSTANT VOLTAGE TRANSFORMER (CVT) OUTPUT WINDINGS. A TEMPORARY JUMPER, WHICH HAD NOT BEEN PROPERLY REMOVED DURING PREVIOUS MAINTENANCE, NAS FOUND BETWEEN UPS UNGROUNDED NEUTRAL AND GROUND. THERE WERE 2 PRIOR FAILURES OF A CVT IN THE SAME INVERTER AFTER INSTALLATION OF THE WERE 2 PRIOR FAILURES OF A CVT IN THE SAME INVERTER AFTER INSTALLATION OF THE MAS NO SAFETY JUMPER, BUT NEITHER RESULTED IN A SAFETY SYSTEM ACTUATION. CAUSE OF A COMMON MAINTENANCE, NAS FOUND BETWEEN UPS UNGROUNDED NEUTRAL AND GROUND. THERE WERE 2 PRIOR FAILURES OF A CVT IN THE SAME INVERTER AFTER INSTALLATION OF THE MERE 2 PRIOR FAILURES OF A CVT IN THE SAME INVERTER AFTER INSTALLATION OF THE MERE 2 PRIOR FAILURES OF A CVT IN THE SAME INVERTER AFTER INSTALLATION OF THE MERE 2 PRIOR FAILURES OF A CVT IN THE SAME INVERTER AFTER INSTALLATION. CAUSE OF TRANSFORMER FAILURE WAS THE EREAKDOWN OF INSULATION BETWEEN ENERGIZED WINDINGS AND GROUNDED IRON CORE.

12043 SEABROOK 1 DOCKET 50-443 LER 89-011 REV 01 UPDATE ON UNSEALED PENETRATIONS IN THE CONDENSATE STORAGE TANK ENCLOSURE. EVENT DATE: 090589 REPORT DATE: 121989 NSSS: WE TYPE: PWR

(NSIC 216263) CONTRARY TO TECHNICAL SPECIFICATION 3.7.1.3 IT HAS BEEN DETERMINED THAT THERE ARE THREE UNSEALED PIPING PENETRATIONS IN THE CONDENSATE STORAGE TANK (CST) ENCLOSURE. ON SEPTEMBER 5, 1989, WHILE IN MODE 5, THE QUESTION WAS RAISED AS YO WHETHER THESE PENETRATIONS WERE SEALED. AFTER INVESTIGATING FURTHER, IT WAS DETERMINED THEY ARE NOT SEALED AND THUS THE CST ENCLOSURE 1S INOPERAELE. THE CST ENCLOSURE IS REQUIRED BY TECH SPECS TO BE OPERABLE IN MODES 1, 2, AND 3. SEABROOK STATION HAS ENTERED MODE 3 TWICE AND MODE 2 ONCE WITHOUT THE CST ENCLOSURE BEING OPERABLE. PRIOR TO INITIAL CRITICALITY, AS WAS THE ENTIRETY OF THE FIRST OF THE TWO ENTRIES INTO MODE 3. THERE WAS NO SAFETY SIGNIFICANCE. THE SECOND ENTRY INTO MODE 3 WAS DURING LOW POWER TESTING, WHEN MODE 2 WAS ALSO ENTERED. AT THAT TIME THE SAFETY SIGNIFICANCE WAS MINIMAL. THE CAUSE IS ATTRIBUTED TO HYDROSTATIC PENETRATION SEALING REQUIREMENTS NOT BEING COMPLETELY TRANSFORMED INTO FIELD FAERICATION AND IN TALLATION DETAIL DRAWINGS. CORRECTIVE ACTION FOR THIS INCIDENT INCLUDES SEALING THE UNSEALED PENETRATIONS AND ALSO REVISING THE TECH SPECS SURVEILLANCE LOG TO PROVIDE CLARIFICATION OF THE REQUIREMENT FOR CST ENCLOSURE INTEGRITY. THIS IS THE FIRST EVENT OF THIS TYPE AT SEABROOK STATION.

 [205]
 SEABROOK 1
 DOCKET 50-443
 LER 89-014

 LOSS OF POWER TO VITAL BUS DUE TO PROCEDURE INADEQUACIES.
 EVENT DATE: 112989
 REPORT DATE: 122989
 NSSS: WE
 TYPE: PWR

(NSIC 216346) ON 11/29/89, NITH THE PLANT IN MODE 5, VITAL 125 V DC BUSSES 11A AND 11C MERE CROSS CONNECTED WITH BOTH EATTERY CHARGERS AND EATTERY 1C CONNECTED TO THE BUSSES. OPERATING PROCEDURE 051048.01. *125 VDC VITAL SYSTEM OPERATION.* WAS BEING USED TO TRANSFER 705 11A FROM ITS ALTERNATE PONER SOURCE, BUS 11C, TO ITS NORMAL EATTERY SUPPLY. AT 8:30 A.M., THE ALTERNATE BUS SUPPLY BREAKER WAS OPENED, THE OUTPUT VOLTAGE OF BATTERY CHARGER 1A DROPFED TO A LOW VALUE OF APPROXIMATELY 40 DC VOLTS. WHEN BATTERY CHARGER 1A DROPFED TO A LOW VALUE OF APPROXIMATELY 40 DC VOLTS. WHEN BATTERY CHARGER 1A RECOVERED AND VOLTAGE STARTED TO INCREASE, THE REMOTE MANUAL OVERRIDE (RMO) RELAY ENERGIZED, TRIPPING THE UNIT AUXILIARY TRANSFORMER (UAT) SUPPLY BREAKER TO VITAL BUS ES. DEENERGIZING BUS ES DEENERGIZED MCC 521 AND EUS 11A. THE CONTROL ROOM DISCHARGE DAMPER, CEA-DP-27A, OPENED UPON BEING DERNERGIZED FROM NCC 521. AT 8:39, THE NORMAL SUPPLY BATTERY 1A EREAKER WAS CLOSED WHICH ENERGIZED BUS 11A. WITH THE DC CONTROL VOLTAGE RESTORED, THE RESERVE AUXILIARY TRANSFORMER (RAT) BREAKER COSED, ENERGIZING BUS E5 AND ALL ITS MCCS. THE CONTROL ROOM RECIRCULATION FAN, CEA-FN-16A, STARTED UPON ENERGIZING BUS E5 BECAUSE DAMPER CBA-DP-27A WAS OPEN DUE TO LOSS OF POMER. THE ROOT CAUSE OF THE LOSS OF THE VITAL DC BUS AND BUS E5 NAS DUE TO PROCEDURE INADEQUACIES IN PROCEDURE OS1048.01. CORRECTIVE ACTION INVOLVED REVISING OPERATING PROCEDURE OS1048.01.

[206]SEQUOYAH 1DOCKET 50-327LER 89-029MAIN CONTROL ROOM ISOLATION DURING MAINTENANCE ACTIVITIES DUE TO ACCIDENTAL
EUMPING OF CONTROL ROOM ISOLATION RELAYS.
EVENT DATE: 112189REPORT DATE: 122089NSSS: WETYPE: PWROTHER UNITS INVOLVED: SEQUOYAH 2 (PWR)
VENDOR: LITTLEFUSE INCSEQUOYAH 2 (PWR)SECONDANCESECONDANCE

(NSIC 216295) ON 11/21/89, WITH UNITS 1 AND 2 IN MODE 1 (100% POWER, 2.235 PSIG, AND 578F), A SPURIOUS TRAIN B CONTROL ROOM ISOLATION (CRI) (EIIS VI) OCCURRED. ON 11/21/89, AT 1016 EASTERN STANDARD TIME (EST) A MANUAL TRAIN "E" CRI WAS ATTEMPTED FROM THE MAIN CONTROL ROOM IN CONJUNCTION WITH SURVEILLANCE INSTRUCTION 143, "CONTROL BUILDING EMERGENCY AIR CLEANUF SYSTEM FILTER TRAIN TEST." THE CRI WAS ATTEMPTED FROM BOTH UNITS USING HANDSWITCHES 1-HS-31A-38A AND 2-HS-31A-3BA. THE CRI FAILED TO OCCUR. WORK REQUEST (WR) B792993 WAS INITIATED TO TROUBLESHOOT THE PROBLEM. AT 1450 EST ON 11/21/89, AS THE ELECTRICIANS WERE INSPECTING THE RELAY CABINET TO BEGIN TROUBLESHOOTING. AN UNPLANNED PARTIAL TRAIN "B" CRI OCCURRED. AN INMEDIATE INVESTIGATION REVEALED THAT THIS WAS A SPURIOUS ACTUATION. TROUBLESHOOTING THE CRI UNDER THE WR REVEALED A DEGRADED FUSE WAS IN THE SPURIOUS CRI WAS MOST LIKELY A RESULT OF ACCIDENTAL BUMPING OF THE DELAYS, AND THE DECRADED FUSE PREVENTED THE PLANNED CRI FROM BEING MAMUALLY INITIATED. THE SPURIOUS CRI WAS MOST LIKELY A RESULT OF ACCIDENTAL BUMPING OF THE DELAYS, AND THE DECRADED FUSE PREVENTED THE CONTACTS FROM SEALING IN. RESULTING IN ONLY A PARTIAL CRI. THE IMMEDIATE CORRECTIVE ACTION WAS TO REPLACE THE FUSES, REMOVE THE RELAYS, AND REPLACE THEM WITH NEW RELAYS. AS A POSTMAINTENANCE TEST, THE NEW RELAYS WERE COMPLETELY FUNCTIONALLY CHECKED AFTER INSTALLATION BY INITIATING A CRI AND VERIFYING PROFER COMPONENT OPERATION. [207] SEQUOYAN 1 FAILURE TO PERFORM A SURVEILLANCE REQUIREMENT WITHIN THE SPECIFIED TIME INTERVAL LECAUSE OF INADVERTENT DELETION OF PROCEDURAL STEP DURING PROCEDURE REVISIONS. EVENT DATE: 120189 REPORT DATE: 122289 NSSS: WE TYPE: PWR OTHER UNITS INVOLVED: SEQUOYAH 2 (PWR)

(NSIC 216298) DECEMBER 1, 1989, WITH UNITS 1 AND 2 AT 100 PERCENT POWER, IT WAS DISCOVERED THAT A TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENT HAD NOT BEEN MET EECAUSE OF AN INADEQUATE SURVEILLANCE INSTRUCTION. THE SURVEILLANCE INSTRUCTION HAD RECENTLY BEEN REVISED AND TWO VALVES WERE INADVERTENTLY DELETED. THE ROOT CAUSE OF THIS EVENT HAS BEEN DETERMINED TO BE A CLERICAL PERSONNEL ERROR WITH A CONTRIBUTING CAUSE BEING THAT THE ENGINEER FAILED TO VERIFY THAT THE FINAL PROCEDURE AGREED WITH THE DRAFT VERSION. AS IMMEDIATE CORRECTIVE ACTION, AN INSTRUCTION CHANGE FORM WAS INITIATED TO INCLUDE THE MISSING VALVES, AND THE PROCEDURE WAS COMPLETED ON DECEMBER 3, 1989. AS ADDITIONAL CORRECTIVE ACTION, RESPONSIBLE CLERICAL AND ENGINEERING PERSONNEL HAVE BEEN APPROPRIATELY DISCIPLINED.

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 [208]
 SEQUOYAN 1
 DOCKET \$0-327
 LER \$9-030

 FIRE SUPPRESSION SYSTEM DELUGE VALVE ISOLATED FOR MORE THAN ONE HOUR WITHOUT
 REQUIRED CONTINUOUS FIRE WATCH BEING ESTABLISHED AS A RESULT OF FERSONAL

 COMMUNICATION BREAKDOWN.
 EVENT DATE: 120489
 REPORT DATE: 12289
 NSSS: NE
 TYPE: PWR

 OTHER UNITS INVOLVED: SEQUOYAH 2 (PWR)
 COMR
 Sequence
 Sequence
 Security

(NSIC 216296) ON DECEMBER 4, 1989, WITH UNIT 1 AT 71 PERCENT POWER AND UNIT 2 AT 100 PERCENT POWER, A PORTION OF THE AUTOMATIC FIRE SUPPRESSION SYSTEM WAS INOPERABLE FOR MORE THAN ONE HOUR WITHOUT A CONTINUOUS FIRE WATCH BEING ESTABLISHED IN AREAS IN WHICH REDUNDANT SYSTEMS OR COMPONENTS COULD BE DAMAGED AS REQUIRED BY LIMITING CONDITION FOR OPERATION (LCO) 3.7.11.2 (SPRAY AND/OR SFRINKLER SYSTEMS). DELUGE VALVE 0-FCV-26-183 WAS ISOLATED TO PREVENT ITS ACTUATION VIA SMOKE DETECTORS SENSING EXHAUST FUMES FROM A TRUCK DELIVERING A SPARE REACTOR COOLANT PUMP ROTOR TO THE AUXILIARY BUILDING RAILROAD BAY. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO A PERSONAL COMMUNICATION BREAKDOWN WHEN TRYING TO REOPEN THE DELUGE VALVE AFTER THE TRUCK LEFT. THIS BREAKDOWN WHEN TRYING TO REOPEN THE DELUGE VALVE AFTER THE TRUCK LEFT. THIS ACTION, THE DELUGE VALVE WAS OPENED, THERESULT OF INADEQUATE ATTENTION TO DETAIL BY THE FOREMAN IN CHARGE OF THE TRUCK UNLOADING EVOLUTION. AS IMMEDIATE CORRECTIVE ACTION, THE DELUGE VALVE WAS OPENED, THEREBY RESTORING AUTOMATIC ACTUATION CAPABILITY TO THE FIRE SUPPRESSION STEM. THE FOREMAN IN CHARGE OF THE TRUCK UNLOADING EVOLUTION HAS BEEN COUNSELLED REGARDING HIS FAILURE TO ENSURE THE DELUGE VALVE WAS REOPENED ON TIME.

 [209]
 SEQUOYAN 1
 DOCKET 50-327
 LER 89-031

 INADEQUATE PROGRAM DEVELOPED FOR NRC IE BULLETIN 88-04 ALLOWED DEADMEADING
 CONDITION TO DEVELOP FOR RHR PUMPS RESULTING IN PLANT BEING OUTSIDE ITS DESIGN

 BASIS.
 EVENT DATE: 120589
 REPORT DATE: 122289
 NSSS: WE
 TYPE: PWR

(NSIC 216297) ON 12/5/89, AT 1912 EST WITH UNIT 1 IN MODE 1 (66% POWER, 2,235 PSIG AND 561F) AND UNIT 2 IN MODE 1 (100% POWER, 2,235 PSIG AND 578F), THE UNIT 1 RESIDUAL HEAT REMOVAL (RHR) PUMPS WERE DETERMINED TO HAVE THE DEADHEADING PROBLEM IDENTIFIED BY NRC IE EULLETIN 88-04. OPERATIONS PERSONNEL ENTERED LIMITING CONDITION FOR OPERATION (LCO) 3.5.2 AT THIS TIME, OPERATION OF BOTH PUMPS CONDITION FOR OPERATION (LCO) 3.5.2 AT THIS TIME, OPERATION OF BOTH PUMPS CONDITION FOR OPERATION (LCO) 3.5.2 AT THIS TIME, OPERATION OF BOTH PUMPS CONDITION FOR OPERATION (LCO) 3.5.2 AT THIS TIME, OPERATION OF BOTH PUMPS CONDITION FOR A OPERATION (LCO) THE PUMP OPERATION, THE 18-8 RHR PUMP MOULD SEAT THE 1A-A RHR PUMP'S DISCHARGE CHECK VALVE, LOCATED BETWEEN THE PUMP AND THE MINIFLOW LINE. AS A RESULT, THE 1A-A RHR PUMP WILL BE RUNNING "DEADHEADED," I.E., WITH NO FLOW THROUGH THE PUMP. ANALYSIS SHOMED THAT OPERATION IN THIS CONFIGURATION FOR PERIODS LONGER THAN 11 MINUTES WOULD CAUSE PUMP DAMAGE. OPERATIONS PERSONNEL PLACED THE UNIT 1 "B" TRAIN RHR PUMP IN THE PULL-TO-LOCK POSITION RESULTING IN THE PUMP BEING INOPERABLE. HOWEVER, THIS CONFIGURATION ELIMINATED THE POTENTIAL FOR SIMULTANEOUS PUMP OPERATION AND ALLOWED THE TO INITIATE PROCEDURE REVISIONS AS SHORT-TERM CORRECTIVE ACTION. TVA REVISED THE EMERGENCY OPERATING PROCEDURES TO RESOLVE THE IMMEDIATE OPERABILITY CONCERN AND EXITED LCO 3.5.2 AT 1825 ON

3 19

12/8/89. CAUSE OF THIS EVENT WAS AN INADEQUATE PROGRAM/REVIEW OF DATA IN PREPARING THE RESPONSE TO THE NRC BULLETIN.

[210]	SEQUOYAH 1		DOCKET 50-327	LER 89-035
REACTOR	TRIP BECAUSE	OF A HIGH-HIGH STEAM	GENERATOR LEVEL.	
EVENT DA	ATE: 121089	REPORT DATE: 010990	NSSS: WE	TYPE: PWR

(NSIC 216451) ON DECEMBER 10, 1989, AT 1051 EASTERN STANDARD TIME (EST) WITH UNIT 1 IN MODE 1, A TURBINE TRIP/REACTOR TRIP OCCURRED. THE TRIP RESULTED FROM A MIGH-MIGH FEEDWATER LEVEL OF 75 PERCENT IN THE NO. 3 STEAM GENERATOR (S/G). THE TRIP WAS PRECEDED BY A SECONDARY SIDE TRANSIENT AND TURBINE RUNBACK TO APPROXIMATELY 80-PERCENT LOAD AS A RESULT OF A HIGH LEVEL IN THE NO. 3 HEATER DRAIN TANK (HDT). DURING THE RUNBACK, A LOW FEEDWATER FLOW WAS OBSERVED, AND MAIN FEEDWATER PUMP (MFP) 1A WAS PLACED IN MANUAL TO EODST FEEDWATER FLOW TO MATCH STEAM FLOW. HONEVER, AS THE S/G LEVELS RECOVERED, NO. 3 LOOP DID NOT ISOLATE UNTIL AFTER THE 60-PERCENT SETPOINT, AND THE TURBINE/REACTOR TRIP OCCURRED AS THE NO. 3 S/G LEVEL REACHED 75 PERCENT. PLANT SHUTDOWN PROCEEDED IN AN ORDERLY MANNER CONSISTENT WITH PROCEDURES. A POSTTRIP REVIEW TEAM CONCLUDED THAT THE TRIP WAS CAUSED BY A FAILURE OF S/G LOOP 3 MAIN FEEDWATER REGULATING CAUSE WAS THE INABILITY OF THE MFP 1A TO ADEQUATELY RESPOND TO CHANGING FEEDWATER DEMANDS. THE INITIATING EVENT WAS THE FAILURE OF LEVEL CONTROL VALVES TO MAINTAIN PROPER LEVELS IN THE NO. 3 HDT. CORRECTIVE ACTIONS TAKEN CONSISTED OF TROUBLESHOOTING, REPAIR, AND/OR ADJUSTMENTS TO MALPUNCTIONING EQUIPMENT. LONGER-TERM CORRECTIVE ACTIONS INCLUDE EAGLE 21 INSTALLATION TO IMPROVE OPERATING MARGINS.

[211] SEQUOYAH 1 INCREASED AIRBORNE ACTIVITY IN THE AUXILIARY BUILDING RESULTED IN THE SUSPENSION OF FIRE WATCH PATROLS AND SUBSEQUENT NONCOMPLIANCE WITH TECH SPEC 3.7.12. EVENT DATE: 121589 REPORT DATE: 011690 NSSS: WE TYPE: PWR OTHER UNITS INVOLVED: SEQUOYAH 2 (PWR)

(NSIC 216493) AT 1533 EASTERN STANDARD TIME (EST) ON DECEMBER 15. 1989, WITH UNIT 1 AT 100 PERCENT POWER AND UNIT 2 AT 80 PERCENT POWER. THE HOURLY FIRE WATCH PATROL THROUGH THE AUXILIARY BUILDING COULD NOT BE COMPLETED BECAUSE OF INCREASED LEVELS OF AIRBORNE RADICACTIVITY. AT 1430 EST A LEAK WAS IDENTIFIED FROM A FITTING ON A UNIT 1 VOLUME CONTROL TANK (VCT) LEVEL TRANSMITTER. AT 1500 EST ENTRY INTO THE AUXILIARY BUILDING WAS RESTRICTED, AND AT 1525 EST. THE AUXILIARY BUILDING WAS EVACUATED. AS A RESULT, THE FIRE WATCH PATROL WAS NOT ALLOWED TO ENTER THE AUXILIARY BUILDING FOR THE HOURLY ROUNDS REQUIRED BY ACTION STATEMENT (A) OF LIMITING CONDITION FOR OPERATION 3.7.12. PERSONNEL WERE ALLOWED TO RETURN TO THE AUXILIARY BUILDING AT 1800 EST WHEN AIR SAMPLES SHOWED AIRBORNE ACTIVITY HAD RETURNED TO AN ACCEPTABLE LEVEL, AND THE HOURLY FIRE WATCH PATROL WAS RESUMED. THE ROOT CAUSE OF THIS EVENT WAS THE VCT LEVEL TRANSMITTER LEAK, WHICH WAS THE SOURCE OF THE AIRBORNE ACTIVITY. THE CORRECTIVE ACTION TAKEN TO ELIMINATE THE SOURCE OF THE AIRBORNE ACTIVITY ANS TO ISOLATE THE VCT LEVEL TRANSHITTER AND TIGHTEN THE LEAKING FITTING. A WORK REQUEST WAS WRITTEN TO REPLACE THE FITTING.

 [212]
 SEQUOYAH 1
 DOCKET 50-327
 LER 89-033

 LIMITING CONDITION FOR OPERATION 3.0.3 ENTERED WHEN THE REFUELING WATER STORAGE

 TANK LEVEL TRANSMITTERS FAILED BECAUSE OF FREEZING DURING COLD WEATHER.

 EVENT DATE:
 121689
 REPORT DATE:
 011690
 NSSS: WE
 TYPE:
 PWR

 OTHER UNITS INVOLVED:
 SEQUOYAH 2 (PWR)

(NSIC 216492) AT 0357 EST ON 12/16/89, WITH UNIT 1 IN MODE 1. THE REFUELING WATER STORAGE TANK (RWST) LEVEL TRANSMITTERS 1-LT-63-50 AND 51 HAD FAILED HIGH. AT 0828 EST WITH UNIT 2 IN MODE 1. RWST LEVEL TRANSMITTERS 2-LT-63-50, 52 HAD FAILED HIGH. AS A RESULT, BOTH UNITS ENTERED LIMITING CONDITION FOR OPERATION (LCO) 3.0.3 AT 0357 AND 0828 RESPECTIVELY. THE FAILURES WERE BECAUSE OF FREEZING FROM EXTREME COLD WEATHER. ADDITIONAL TRANSMITTER FAILURES OCCURRED IN THE EAST MAIN STEAM VALVE VAULT AND OUTSIDE THE AUX. BLDG. ROOT CAUSE OF THE FREEZING OF THE • 2

54

RWST SENSE LINES WAS PRIOR REMOVAL OF POWER TO HEATERS AND THERMOSTATS INSTALLED IN THE TRANSMITTER ENCLOSURES DUE TO AN INAPPROPRIATE USE OF CALCULATIONS. THE ROOT CAUSE OF THE FREEZING SENSE LINES IN THE MAIN STEAM VALVE VAULT WAS INADEQUATE CONSIDERATION OF FREEZE PROTECTION REQUIREMENTS DURING DESIGN CHANGES TO INCREASE VENTILATION FLOW. THE ROOT CAUSE OF TRANSMITTER SENSE LINES FREEZING ON THE OUTSIDE OF THE AUX. BLDG. WAS INSULATION NOT IN ACCORDANCE WITH DESIGN REQUIREMENTS. IMMEDIATE CORRECTIVE ACTIONS CONSISTED OF OBTAINING DISCRETIONARY ENFORCEMENT TO EXTEND OPERATION IN LCO 3.0.3. ISSUING NIGHT ORDERS TO ENSURE ADEQUATE RNST WATER LEVELS EXISTED. AND PROVIDING GUIDANCE TO OPERATORS FOR PERFORMING RWST TO CONTAINMENT SUMP SWAPOVER WITH THE LEVEL TRANSMITTERS INOPERABLE/UNRELIABLE.

 [213]
 SEQUOYAH 1
 DOCKET 50-327
 LER 89-036

 DIESEL GENERATOR INOPERABLE BECAUSE OF A SURVEILLANCE RUN TIME LESS THAN THE
 REQUIRED 60 MINUTES.
 EVENT DATE: 122189
 REPORT DATE: 012290
 NSSS: WE
 TYPE: PWR

 OTHER UNITS INVOLVED:
 SEQUOYAH 2 (PWR)
 OTHER
 DOCKET 50-327
 LER 89-036

(NSIC 216595) ON 12/21/89, WITH UNIT 1 AT 100% POWER AND UNIT 2 AT 75% POWER, IT WAS DISCOVERED THAT SURVEILLANCE TEST RESULTS THAT HAD BEEN USED AS THE BASIS FOR DECLARING THE 18-B DIESEL GENERATOR (D/G) OPERABLE FOLLOWING A PREVENTATIVE MAINTENANCE (PM) OUTAGE, WERE DEFICIENT. THE SURVEILLANCE REQUIREMENT OF LIMITING CONDITION FOR OPERATION (LCO) 3.8.1.1 CALLED FOR AT LEAST 60 MINUTES OF D/G OPERATION WITH A LOAD OF 4400 KILOWATT (KW) OR GREATER. THE D/G HAD BEEN OPERATED FOR 63 MINUTES TOTAL BUT, BECAUSE OF GRADUAL LOADING, FOR ONLY 52 MINUTES WITH A LOAD OF 4400 KW OR GREATER. THE D/G WAS DECLARED INOPERABLE RETROACTIVE TO THE BEGINNING OF THE PM OUTAGE, AND THE DEFICIENT SURVEILLANCE TEST WAS REPERFORMED. BECAUSE MORE THAN 24 HOURS HAD ELAPSED SINCE THE BEGINNING OF THE D/G FM OUTAGE AND THE REMAINING D/GS HAD NOT BEEN DEMONSTRATED OPERABLE IN ACCORDANCE WITH SURVEILLANCE REQUIREMENT 4.8.1.1.2.A.4 AS REQUIRED BY ACTION STATEMENT (A) OF LCO 3.8.1.1, LCO 3.0.3 WAS ENTERED UNTIL THE D/GS WERE DEMONSTRATED OPERABLE. THE ROOT CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO AN INADEQUATE SURVEILLANCE INSTRUCTION (SI) THAT DID NOT CLEARLY EXCLUDE GRADUAL LOADING TIME FROM THE REQUIRED 60-MINUTE D/G RUN TIME. AS CORRECTIVE ACTION, THE SI MAS BEEN CLARIFIED, AND THE EVENT WILL BE REVIEWED WITH SHIFT OPERATION, THE SI MAS BEEN CLARIFIED, AND THE EVENT WILL BE REVIEWED WITH SHIFT OPERATION, THE SI MAS BEEN CLARIFIED, AND THE EVENT WILL BE REVIEWED WITH SHIFT OPERATION.

[214] SHEARON HARRIS 1 DOCKET 50-400 LER 89-020 LIMITORQUE OPERATOR GEAR BOXES WERE OVERFILLED WITH GREASE RESULTING IN CONTAMINATION AND DEGRADATION TO ELECTRICAL COMPONENTS. EVENT DATE: 103189 REPORT DATE: 012290 NSSS: WE TYPE: WR VENDOR: LIMITORQUE CORP.

(NSIC 216610) PLANT WAS AT 0% REACTOR POWER IN MODE 5, COLD SHUTDOWN, ON 10/31/89. PLANT PERSONNEL WERE PREPARING FOR REFUELING ACTIVITIES DURING OUTAGE. 3 JUMPER WIRES IN A LIMITORQUE OPERATOR FOR PRESSURIZER POWER OPERATED RELIEF VALVE ELOCK VALVE 1RC-117 WERE FOUND CONTAMINATED WITH GREASE WHICH WAS LEAKING FROM THE LIMIT SWITCH GEAR BOX. THIS WAS DISCOVERED DURING A ROUTINE PERIODIC INSPECTION. A SIMILAR CONDITION WAS DISCOVERED ON 2 LIMITORQUE OPERATORS FOR AFW VALVES 1AF-55 AND 1AF-93. THESE OPERATORS WERE BEING INSPECTED FOR DEGRADED CONAX CONNECTORS AS RECOMMENDED BY IE NOTICE 88-89. EVALUATION OF THE CONDITION OF OPERATORS DETERMINED THAT THEY WERE NOT ENVIRONMENTALLY QUALIFIED (EQ), AND IT COULD NOT BE ENSURED THAT THEY WOULD PERFORM THEIR SAFETY FUNCTION UNDER A DESIGN LIMIT SWITCH GEAR BOX WITH GREASE. OVERFILLING GEAR BOX PROVIDES NO ROOM FOR THERMAL EXPANSION OF GREASE DUE TO HIGH AMBIENT TEMPS. OR LOCAL STEAM LEAKS AND RESULTS IN EXCESSIVE WEEPAGE THROUGH THE SEALS. THIS WEEPAGE ALLOWS CONTAMINATION AND DEGRADATION OF ELECTRICAL COMPONENTS WHICH COULD RESULT IN A MALFUNCTION OF THE VALVE. SUBSEQUENT INSPECTIONS OF CONTAINMENT AND MAIN STEAM TUNNEL REVEALED NO OTHER GREASE CONTAMINATION AND ALL GEAR BOXES WERE INSPECTED TO ENSURE PROPER GREASE LEVELS. [215] SHEARON HARRIS 1 MANUAL REACTOR TRIP DUE TO CABLE FAILURE ON DIGITAL ROD POSITION INDICATOR. EVENT DATE: 120789 REPORT DATE: 010890 NSSS: WE TYPE: PWR VENDOR: ROWE INDUSTRIES DIVISION

(NSIC 216413) THE PLANT WAS IN COLD SHUTDOWN, MODE 5. ON 12/7/89. CONTROL ROD BANK "A" WAS BEING WITHDRAWN FOR SURVEILLANCE TESTING OF THE DIGITAL ROD POSITION INDICATOR (DRPI) PER PROCEDURE OST-1112 AND ROD DROP TESTS PER PROCEDURE EST-704 TO SATISFY TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENTS 4.1.3.3 AND 4.1.3.4 MESPECTIVELY. AN OPERATOR MONITORING THE DRPI NOTICED THAT ROD B-10 WAS INDICATING 6 STEPS WITHDRAWN WHEN THE REST OF CONTROL BANK "A" INDICATED 12 STEPS WITHDRAWN. THE CONTROL BANK WAS WITHDRAWN A FEW NORE STEPS AND THIS SAME OPERATOR NOTICED THAT ROD B-10 INDICATED IT WAS AT THE BOTTOM, WHILE THE REST OF THE CONTROL BANK INDICATED 18 STEPS ON DRPI. THE OPERATOR INFORMED THE REACTOR OFERATOR WHO IMMEDIATELY OPENED THE REACTOR TRIP BREAKERS AS REQUIRED PER OST-1112 FOR ABNORMAL ROD MOVEMENT. ALL RODS INSERTED AND ALL SYSTEMS RESPONDED AS REQUIRED. THE CAUSE OF THE EVENT WAS DUE TO A CABLE FAILURE ON DRPI DATA TRAIN "B" FOR ROD B-10.

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[216]SHEARON HARRIS 1DOCKET 50-400LER 89-022LOSS OF OPERATING RESIDUAL HEAT REMOVAL TRAIN DUE TO SPURIOUS CLOSURE OF SUCTIONVALVE DURING TESTING OF INTERLOCKS.EVENT DATE: 121089REPORT DATE: 010990NSSS: WETYPE: PWRVENDOR: RONAN ENGINEERING COMPANY

(NSIC 216455) DECEMBER 10, 1989, AT 0058, WITH THE REACTOR COOLANT SYSTEM (RCS) IN COLD SHUTDOWN AND DEPRESSURIZED FOLLOWING REFUELING, A HOTLEG SUCTION VALVE FOR THE "B" TRAIN OF THE RESIDUAL HEAT REMOVAL SYSTEM (RHR) SPURIOUSLY CLOSED. ISOLATING THE SYSTEM FROM THE RCS. TESTING WAS IN PROGRESS ON THE RCS HIGH PRESSURE INTERLOCKS FOR THE RHR SUCTION VALVES AT THE TIME OF THE EVENT. TESTING HAD BEEN COMPLETED ON THE "A" RHR TRAIN. WHICH WAS SHUT DOWN, AND PERSONNEL WERE DISCONNECTING THE TEST EQUIPMENT FROM THE PROCESS INSTRUMENT CABINET (PIC) TO ALLOW TIME FOR CHANGING THE OPERATING TRAIN OF RHR PRIOR TO CONTINUING WITH THE TEST ON THE "B" TRAIN. THE OPERATING TRAIN OF RHR PRIOR TO CONTINUING WITH THE CONFIGURATION AND THE RHR SUCTION VALVE WAS REOPENED AT 011. BECAUSE THE RHR PUMP HAD OPERATED FOR A SHORT PERIOD OF TIME ON RECIRCULATION FLOW WITH THE SUCTION ISOLATED, THE PUMP WAS INSPECTED PRIOR TO RESTART, WHICH OCCURRED AT 0114, WHEN RHR OPERATION WAS RESTORED. RCS AVERAGE TEMPERATURE INCREASED ONLY SF DURING THE EVENT. THE TEST EQUIPMENT THE ISOLATION SIGNAL. THE CAUSE OF THE EVENT HAS DEEN ATTRIBUTED TO A SPURIOUS SPIKE FROM THE TEST EQUIPMENT DURING DISCONNECTION.

 [217]
 SHEARON HARRIS 1
 DOCKET 50-400
 LER 89-019

 AUXILIARY FEEDWATER ACTUATIONS CAUSED BY A MAIN FEEDWATER PUMP PRESSURE SWITCH
 DELING OUT OF CALIERATION.
 EVENT DATE: 122089
 REPORT DATE: 011990
 NSSS: WE
 TYPE: PWR

 VENDOR:
 SQUARE D COMPANY
 OMPANY
 DOCKET 50-400
 LER 89-019

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(NSIC 216496) THE PLANT WAS IN MODE 2, STARTUP, AT 0% REACTOR POWER ON 12/20/89. THE PLANT WAS IN THE PROCESS OF STARTING UP FOLLOWING A SCHEDULED REFUELING OUTAGE. STEAM GENERATOR (SG) WATER LEVELS WERE BEING MAINTAINED BY THE AUXILIARY FEEDWATER (AFW) SYSTEM. THE 1A-NNS MAIN FEEDWATER (MFW) SYSTEM WAS EEING PREPARED FOR SERVICE AND THE 1B-NNS MFW SYSTEM MAS UNDER CLEARANCE FOR MAINTENANCE ACTIVITIES. AN ATTEMPT TO START THE 1A-NNS MFW PUMP WAS UNSUCCESSFUL AND AT 2035 HOURS RESULTED IN THE GENERATION OF AN AUTOMATIC START SIGNAL FOR THE MOTOR DRIVEN AFW PUMPS. THE AFW PUMPS STARTED AS REQUIRED SUPPLYING WATER TO THE SGS. DURING THE COURSE OF TROUBLESHOOTING, SEVERAL MORE ATTEMPTS TO START THE 1A-NNS NFW PUMP RESULTED IN AFW ACTUATIONS. THE CAUSE OF THE PUMP START FAILURES WAS AN OUT OF CALIBRATION PRESSURE SWITCH FOR THE PUMP'S LUBE OIL PERMISSIVE AND TRIP. THE SWITCH SETPOINT IS 9.0 +/- 0.5 PSIG AND WAS JJUND TO BE 12.2 PSIG AFTER THE EVENT. THE CORRECTIVE ACTION WAS TO RECALIBRATE THE PRESSURE SWITCH. THIS WAS COMPLETED AT 1830 HOURS ON 12/21/89. ALSO, A REVIEW OF THESE SWITCHES WILL BE COMPLETED. THERE WERE NO SAFETY CONSEQUENCES AS A RESULT OF THIS EVENT AS THE AFW SYSTEM WAS AVAILABLE AND SUPPLYING WATER TO THE SGS. THIS EVENT IS BEING REPORTED IN ACCORDANCE WITH 10CFR50.73(A)(2)(IV) AS AN ACTUATION OF AN ENGINEERED SAFETY SYSTEM FEATURE.

 12183
 SHOREHAM
 DOCKET 50-322
 LER 89-010

 UNPLANNED ACTUATION OF CONTROL ROOM AIR CONDITIONING SYSTEM DURING I&C

 SURVEILLANCE PROCEDURE.

 EVENT DATE:
 121289
 REPORT DATE:
 011190
 NSSS:
 GE
 TYPE:
 EWR

(NSIC 216465) ON 12/12/89 AT 1032 HRS. AN UNPLANNED ACTUATION OF THE "A" TRAIN OF THE ENGINEERED SAFETY FEATURE CONTROL ROOM AIR CONDITIONING (CRAC) OCCURRED. THIS ACTUATION OCCURRED DURING THE PERFORMANCE OF A SURVEILLANCE PROCEDURE IN WHICH LEADS WERE REMOVED FROM A RELAY DURING THE TEST IN ORDER TO PREVENT ESF SYSTEM ACTUATIONS. WHILE REPLACING THE LEADS. THE ISC TECHNICIAN INADVERTENTLY MADE CONTACT WITH OR CAUSED MOVEMENT OF THE RELAY ARMATURE, CAUSING THE ACTUATION. THE CRAC SYSTEM WAS RESET AT 1115 AND PLANT MANAGEMENT PERSONNEL WERE NOTIFIED. THIS EVENT WAS DETERMINED TO BE REPORTABLE PER 10CFR50.72(B)(2)(II) AND THE NRC WAS NOTIFIED AT 1218 HRS. THIS LICENSEE EVENT REPORT IS EEING SUBMITTED PER 10CFR50.73(A)(2)(IV). CORRECTIVE ACTIONS INCLUDE REPLACEMENT OF THE ELECTRICAL RELAY AND A WIRING MODIFICATION TO ALLOW TEST PERFORMANCE BY REMOVING LEADS FROM A TERMINAL STRIP RATHER THAN THE RELAY.

 [219]
 SHOREHAM
 DOCKET 50-322
 LER 89-011

 RNCU ISOLATION DUE TO PROCEDURAL ERROR WHEN PERFORMING SYSTEM LAYUP
 IMPLENENTATION PACKAGE FOR HPCI.
 DOCKET 50-322
 LER 89-011

 IMPLENENTATION PACKAGE FOR HPCI.
 EVENT DATE: 122289
 REPORT DATE: 011290
 NSSS: GE
 TYPE: BWR

(NSIC 216466) ON 12/22/89 AT 1117 HOURS, AN UNPLANNED ACTUATION OF THE ENGINEERED SAFETY FEATURE PRIMARY CONTAINMENT ISOLATION SYSTEM OCCURRED. THIS EVENT OCCURRED WHEN A SYSTEM LAYUP IMPLEMENTATION PACKAGE (SLIP) FOR THE HIGH PRESSURE COOLANT INJECTION (MPCI) SYSTEM WAS BEING IMPLEMENTED. THIS SLIP REQUIRED TWO EREAKERS TO BE OPENED TO DEENERGIZE AREA TEMPERATURE MONITORING ELEMENTS IN THE MPCI SYSTEM. THESE TWO BREAKERS ALSO SUPPLIED POWER TO THE REACTOR WATER CLEANUP (RWCU) SYSTEM ISOLATION LOGIC SO WHEN THESE BREAKERS WERE OPENED. THIS SYSTEM ISOLATED. THE TWO BREAKERS WERE RECLOSED. THE RWCU SYSTEM WAS RETURNED TO ITS NORMAL LINEUP AT 1125 AND PLANT MANAGEMENT PERSONNEL WERE INFORMED. THIS ISOLATION OF THE RWCU SYSTEM WAS DETERMINED TO BE REPORTABLE PER IOCFRS0.72(B)(2)(II) AND THE NRC WAS NOTIFIED AT 1214. THIS LICENSEE EVENT REPORT IS EEING SUBMITTED PER 10CFRS0.73(A)(2)(IV). THE CAUSE OF THIS EVENT WAS AN INADEQUATE PROCEDURE. ONE CORRECTIVE ACTION WAS TO CHANGE THE REQUIRED FOSITIONS OF THE 2 BREAKERS IN THE HPCI SLIP. ANOTHER WAS TO MODIFY THE SLIPS FOR THE NUCLEAR STEAM SUFPLY SHUTOFF SYSTEM AND THE STEAM LEAK DETECTION SYSTEM TO ALLOW COMPONENTS IN LAID-UP SYSTEMS SUCH AS HPCI TO BE DEENERGIZED BY REMOVING THEIR FUSES AND STILL LEAVE POWER TO COMPONENTS IN OPERABLE SYSTEMS.

 [220]
 SOUTH TEXAS 2
 DOCKET 50-499
 LER 89-019

 REACTOR TRIP DUE TO FULL CLOSURE OF A FEEDWATER ISOLATION VALVE DURING PARTIAL
 STROKE TESTING.

 EVENT DATE: 082389
 REPORT DATE: 092289
 NSSS: WE
 TYPE: PWR

 (NSIC 216367)
 ON 8/23/89, UNIT 2 WAS IN MODE 1 AT 100% POWER. AT 0119 HOURS.

(NSIC 216367) ON 8/23/89, UNIT 2 WAS IN MODE 1 AT 100% POWER. AT 0119 HOURS, FEEDWATER ISOLATION VALVE C CLOSED FULLY DURING A PARTIAL STROKE SURVEILLANCE TEST. THE RESULTANT LOSS OF FEEDWATER FLOW AND DECREASE IN STEAM GENERATOR LEVEL CAUSED A REACTOR TRIP. THE UNIT WAS STABILIZED IN MODE 3 WITH NO UNEXPECTED POST TRIP TRANSIENTS. THE CAUSE OF THIS EVENT WAS A FAILURE IN THE FEEDWATER ISOLATION VALVE CONTROL CIRCUIT WHICH ALLOWED IT TO STROKE FULLY CLOSED. THE SPECIFIC COMPONENT WHICH FAILED IS UNKNOWN AT THIS TIME. THE FAILURE DID NOT AFFECT THE ABILITY OF THE VALVE TO PERFORM ITS SAFETY FUNCTION. FURTHER TROUBLESHOOTING OF THE VALVE TO PERFORM ITS SAFETY FUNCTION. FURTHER SCHEDULED MAINTENANCE OUTAGE. THE FEEDWATER VALVE CONTROL CIRCUITS ARE BEING REVIEWED TO DETERMINE IF MODIFICATIONS CAN BE PERFORMED TO REDUCE THE POTENTIAL FOR FULL CLOSURE OF THE VALVES DURING TESTING.

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 L221]
 SOUTH TEXAS 2
 DOCKET 50-499
 LER 89-028

 CONTROL ROOM VENTILATION ACTUATION TO RECIRCULATION MODE DUE TO A SPURIOUS SIGNAL

 FROM A TOXIC CAS ANALYZER.

 EVENT DATE:
 113089
 REPORT DATE:
 122989
 NSSS: WE
 TTPE:
 PWR

 VENDOR:
 FOXBORO CO., THE
 THE
 122989
 NSSS:
 NE
 TTPE:
 PWR

(NSIC 216344) ON NOVEMBER 30, 1989, UNIT 2 WAS IN MODE 5. AT 1411 HOURS, THE CONTROL ROOM VENTILATION SYSTEM ACTUATED TO THE RECIRCULATION MODE AS A RESULT OF A SPURIOUS SIGNAL FROM A TOXIC GAS ANALYZER. THE REDUNDANT ANALYZER DID NOT ACTUATE. THE CAUSE OF THE SIGNAL, HAS BEEN ATTRIBUTED TO A MEMORY ERROR WHICH CAUSED THE MIRCOPROCESSOR TO INCORRECTLY ENERGIZE THE HIGH-CONCENTRATION RELAY. THE MOST LIKELY CAUSE OF THIS CONDITION IS THE FLUCTUATIONS IN THE AC POWER SUPPLIED TO THE ANALYZER. ADDITIONAL TROUBLESHOOTING IS PLANNED TO ATTEMPT TO LOCATE THE PROBLEM. CORRECTIVE ACTIONS WILL BE ESTABLISHED BASED ON THE RESULTS OF THE TROUBLESHOOTING ACTIVITIES.

12223 ST. LUCIE 1 183 4160V BUS UNDERVOLTAGE RELAY FAILS SURVEILLANCE DUE TO EQUIPMENT MALFUNCTION. EVENT DATE: 121489 REPORT DATE: 011390 NSSS: CE TYPE: PWR VENDOR: AMERACE CORP.

(NSIC 216602) ON 12/14/89 AT 0155 WITH UNIT 1 AT 100% POWER. THE 183 4160V UNDERVOLTAGE RELAY FAILED ITS MONTHLY SURVEILLANCE DUE TO A FAULTED TIME DELAY UNIT. TECH SPEC 3.3.2.1 ACTION 12 REQUIRES THAT THE INOPERABLE UNDERVOLTAGE RELAY CHANNEL BE PLACED IN THE TRIPPED CONDITION NITHIN ONE HOUR FOR CONTINUED OPERATION. SINCE THIS REQUIRED CALLING IN A SYSTEM FROTECTION REPRESENTATIVE TO PERFORM A JUMPER/LIFTED LEAD, IT TOOK LONGER THAN ONE HOUR TO PLACE THE CHANNEL IN TRIP. HOMEVER, A SHUTDOWN WAS NOT REQUIRED SINCE TECH SPEC 3.0.3 ALLOWED ANOTHER HOUR PRIOR TO SHUTDOWN AND IT TOOK LESS THAN TWO HOURS TO INSTALL THE JUMPER AND CONFIRM THAT THE INOPERABLE CHANNEL WAS IN THE TRIPPED CONDITION. THE ROOT CAUSE OF THE EVENT WAS EQUIPMENT FAILURE IN THAT THE TIME DELAY UNIT FAILED TO OPERATE. LACK OF PROCEDURAL GUIDANCE FOR AN ACTION STATEMENT WITH A CRITICAL TIME LIMIT COMPOUNDED THE EVENT. CORRECTIVE ACTIONS ARE AS FOLLOWS. OPERATIONS PLACED THE INOPERATIONAL UNDERVOLTAGE RELAY IN THE TRIPPED CONDITION. ELECTRICAL MAINTENANCE REPLACED THE FAULTED TIME DELAY UNIT. ELECTRICAL MAINTENANCE AND OPERATIONS WILL COORDINATE TO ADD PROCEDURAL GUIDANCE FOR INSTALLING A JUMPER TO PLACE A FAILED UNDERVOLTAGE CHANNEL IN THE TRIPPED CONDITION. THECTRICAL MAINTENANCE REPLACED THE FAULTED TIME DELAY UNIT. ELECTRICAL MAINTENANCE AND OPERATIONS WILL COORDINATE TO ADD PROCEDURAL GUIDANCE FOR INSTALLING A JUMPER TO PLACE A FAILED UNDERVOLTAGE CHANNEL IN THE TRIPPED CONDITION. TECHNICAL STAFF WILL REVIEW THE FEASIBILITY OF CHANGING TECH SPEC ACTION STATEMENTS WITH CRITICAL TIME LIMITS.

[223] ST. LUCIE 2 CONTAINMENT LOCAL LEAK RATE EXCEEDS TECH SPECS DUE TO VALVE CLOSURE STOP OUT OF ADJUSTMENT. EVENT DATE: 112889 REPORT DATE: 122089 NSSS: CE TYPE: PWR VENDOR: PRATT, HENRY COMPANY

(NSIC 216335) ON NOVEMBER 28, 1989 AT 1345, WITH UNIT 2 IN MODE 1 AT 100% POWER, A ROUTINE LOCAL LEAK RATE SURVEILLANCE TEST ON CONTAINMENT PENETRATION 10 REVEALED AN "AS FOUND" LEAKAGE RATE ACROSS FCV-25-5 OF 908,970 STANDARD CUBIC CENTIMETERS PER MINUTE. THIS PENETRATION CONTAINS THE EXHAUST LINE FOR THE CONTAINMENT PURGE SYSTEM, AND IS SUBJECT TO TYPE C TESTING AS PER 10CFR50 APPENDIX J. THIS "AS FOUND" LEAKAGE RATE WAS IN EXCESS OF THE ALLOWABLE LEAKAGE PER TECHNICAL SPECIFICATION 4.6.1.7.3. THE ROOT CAUSE OF THIS EVENT IS INDETERMINATE AT THIS TIME. THE VALVE WILL BE DISASSEMBLED AND INSPECTED AT THE NEXT UNIT 2 REFUELING OUTAGE TO DETERMINE THE REASON FOR THE FAILURE OF THE LOCAL LEAK RATE TEST ON THIS VALVE. A REVISION TO THE LICENSEE EVENT REPORT WILL BE SUEMITTED WHEN THE ROOT CAUSE OF THIS EVENT IS DETERMINED. THIS LICENSEE EVENT REPORT IS BEING SUBMITTED ON A VOLUNTARY BASIS. THE CORRECTIVE ACTIONS WERE: 1) TO VERIFY OTHER IN-LINE VALVES FCV-25-4 AND FCV-25-6 WERE CLOSED AND DE-ENERGIZED: 2) TO ADJUST THE VALVE SEAT TRAVEL STOP ADJUSTMENT SCREW SO THE VALVE WOULD SEAT MORE TIGHTLY: 3) TO SUCCESSFULLY RETEST FCV-25-5 AND DECLARE IT OPERABLE: 4) TO INCREASE THE TEST FREQUENCY ON THIS VALVE TO ENSURE CONTINUED TIGHTHESS.

 [224]
 SUMMER 1
 DOCKET 50-395
 LER 88-008 REV 01

 UPDATE ON STEAM PATH YIELDING POTENTIAL FOR AFFECTING UNQUALIFIED EQUIPMENT.
 EVENT DATE: 060788
 REPORT DATE: 010890
 NSSS: WE
 TYPE: PWR

(NSIC 216440) ON 6/7/88, WITH THE PLANT AT MODE 3. SOUTH CAROLINA ELECTRIC & GAS COMPANY (SCERG) WAS NOTIFIED BY GILBERT ASSOCIATES. THE ARCHITECT ENGINEER FOR THE VIRGIL C. SUMMER NUCLEAR STATION, OF A DESIGN DEFECT YIELDING THE POTENTIAL FOR A STEAM PROPAGATION PATH WHICH COULD AFFECT SAFE SHUTDOWN EQUIPMENT. BOTH A DIRECT STEAM PATH THROUGH FLOOR PENETRATICNS AND A MORE TORTUOUS PROPAGATIONAL PATH WERE IDENTIFIED. THE TORTUOUS STEAM PATH IS THE RESULT OF A STEAM BREAK RELEASING STEAM WHICH TRAVELS THROUGH SEVERAL FIRE DOORS, UP ONE ELEVATION IN A STAIRWELL, AND THROUGH SEVERAL FLOOR PENETRATIONS LEADING BACK DOWN TO THE ORIGINAL ELEVATION BEFORE ARRIVING AT THE SAFE SHUTDOWN EQUIPMENT. UPON VERIFICATION OF THE POTENTIAL PROBLEM BY SCERG PERSONNEL, OPERATIONS PERSONNEL INITIATED TAKING THE PLANT FROM MODE 3 TO MODE 4. VARIOUS INTERIOR PLANT DOORS WERE OPENED TO ALLON THE RELIEF OF PRESSURE EUILD-UPS AND ANOTHER DOOR WAS SEALED TO PREVENT MOISTURE INTRUSION IN THE EVENT OF THE POSTULATED STEAM BREAK. ULTIMATELY SEVERAL DOORS WERE STRUCTURALLY REINFORCED, SEVERAL DOORS HAD SEALING MATERIALS ADDED TO PREVENT STEAM FLOW OR MOISTURE INTRUSION AND EVALUATIONS WERE PERFORMED TO VERIFY THAT THE IN-PLACE FIRE BARRIER PENETRATION SEALS WOULD ALSO SERVE AS PRESSURE RETAINING BARRIERS. OTHER ACTIONS INCLUDED MODIFICATION TO DRAIN LINES, DUCTWORK, CONDUIT AND WALL SPACES TO PREVENT STEAM INTRUSION.

 [225]
 SUMMER 1
 DOCKET 50-395
 LER 89-022

 INADEQUATE POST MAINTENANCE OPERABILITY VERIFICATION DUE TO PERSONNEL ERROR.

 EVENT DATE: 082489
 REPORT DATE: 012690
 NSSS: WE
 TYPE: PWR

(NSIC 216616) ON 9/13/89 WHILE PERFORMING A PAPERWORK CLOSEOUT REVIEW OF A MAINTENANCE WORK REQUEST (NNR) IT WAS DISCOVERED THAT THE "B" CHILLED WATER PUMP (XPP-488-VU; HAD BEEN RETURNED TO SERVICE WITHOUT PERFORMING AN ADEQUATE SECTION XI OF THE ASME BOILER AND PRESSURE VESSEL CODE REQUIRED POST MAINTENANCE OPERABILITY VERIFICATION TEST. TECH SPEC SURVEILLANCE REQUIREMENT 4.0.5 REQUIRES THAT ALL INSERVICE TESTING OF ASME CODE CLASS 1,2, AND 3 FUMPS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION XI. CONTRARY TO THIS REQUIREMENT XPP-488-VU WAS RETURNED TO SERVICE ON 9/4/89 AFTER THE PUMP WAS TORN DOWN AND REASSEMBLED FOR MECHANICAL SEAL REPLACEMENT WITHOUT VERIFYING ITS OPERABILITY THROUGH ADEQUATE TESTING. UPON DISCOVERING THAT AN INADEQUATE POST MAINTENANCE OPERABILITY VERIFICATION TESTING HAD BEEN PERFORMED ON THE "B" CHILLED WATER PUMP, THE PUMP WAS DECLARED INOPERABLE AND AN OFF-NORMAL OCCURRENCE REPORT WAS GENERATED. PUMP WAS THEN TESTED TO CONFIRM OPERABILITY AND WAS RETURNED TO SERVICE. THERE IS NO ADVERSE CONSEQUENCE DUE TO THIS EVENT BECAUSE TESTING DID CONFIRM THAT THE PUMP WAS OPERABLE WHEN IT WAS INITIALLY RETURNED TO SERVICE ON 9/4/89. MISSED POST MAINTENANCE OPERABLE INT WAS INITIALLY RETURNED TO SERVICE ON 9/4/89. MISSED POST MAINTENANCE OPERABLE WHEN IT WAS UNITIALLY RETURNED TO SERVICE ON SERVICE. THERE IS NO ADVERSE CONSEQUENCE DUE TO THIS EVENT BECAUSE TESTING DID CONFIRM THAT THE PUMP WAS OPERABLE WHEN IT WAS INITIALLY RETURNED TO SERVICE ON 9/4/89. MISSED POST MAINTENANCE OPERABLE WHEN IF WAS INITIALLY RETURNED TO SERVICE ON SERVICE. THERE IS NO ADVERSE OPERABLE WHEN IT WAS INITIALLY RETURNED TO SERVICE ON SERVICE. THERE REAR. THERE WAS INADEQUATE REVIEW OF THE SCOPE OF THE MAINTENANCE ACTIVITY WHICH RESULTED IN NOT IDENTIFYING THE REQUIRED TESTING TO RETURN THE FUMP TO SERVICE.

[226] SUMMER 1 DOCKET 50-395 LER 89-020 REACTOR TRIP ON LOW-LOW STEAM GENERATOR LEVEL FOLLOWING TURBINE TRIP. EVENT DATE: 120289 REPORT DATE: 010290 NSSS: WE TYPE: PWR VENDOR: GENERAL ELECTRIC CO.

(NSIC 216412) ON 12/2/89, AT APPROX. 2202 HOURS, OPERATIONS PERSONNEL STARTED A LOAD REDUCTION TO 90% POWER FOR THE MONTHLY TURBINE CONTROL VALVE TESTING. WHEN THE OPERATOR PUSHED THE LOAD SELECTOR DECREASE BUTTON FOR THE SECOND 2% REDUCTION IN POWER THE TURBINE CONMENCED A RAPID POWER DECREASE (2209 HOURS). OPERATIONS PERSONNEL ATTEMPTED TO COUNTER LOSS OF-LOAD BY SELECTING MANUAL INCREASE; HOWEVER, TURBINE CONTROLS FAILED TO RESPOND AND THE TURBINE WAS MANUALLY TRIPPED WHEN TURBINE POWER DECREASED BELOW P-9 (POWER PERMISSIVE < 50% RATED THERMAL POWER). THE EXCITER FIELD BREAKER INITIALLY FAILED TO OPEN FROM THE MAIN CONTROL BOARD (NCB). AN OPERATOR WAS INMEDIATELY DISPATCHED TO LOCALLY OPEN THE BREAKER . THE BREAKER FINALLY OPENED AFTER SEVERAL ATTEMPTS TO CYCLE THE BREAKER FROM THE MCB. MAIN FLEDWATER WAS MANUALLY SECURED AT 2220 HOURS WHEN THE TURBINE RUNBACK TRANS IENT CAUSED A HIGH LEVEL IN THE DEAREATER. WHEN MAIN FEEDWATER WAS RESTORED AT 2221 HOURS, THE ADDITION OF COOLER (280F) WATER CAUSED A RAPID RCS COOLDOWN AND STEAM GENERATOR LEVELS TO SHRINK TO BELOW THE LOW-LOW STEAM GENERATOR LEVEL REACTOR TRIP SETPOINTS. A REACTOR TRIP OCCURRED AT 2222 HOURS ON "C" STEAM GENERATOR LOW-LOW LEVEL. WITH THE EXCEPTION OF THE PREVIOUSLY MENTIONED PROBLEMS THE PLANT RESPONSE WAS NORMAL. A FAILED TURBINE CONTROL CIRCUIT BOARD WAS REPLACED AND THE EXCITER FIELD BREAKER PM'D PRIOR TO AUTHORIZING THE PLANT RESTART.

1227] SUMMER 1 PERSONNEL ERROR LEADS TO MISSED SURVEILLANCE OF "SPECIFIC ACTIVITY". EVENT DATE: 120389 REPORT DATE: 010290 NSSS: WE TYPE: PWR

(NSIC 216411) AS A RESULT OF A PLANT TRIP THAT OCCURRED AT 2223 ON 12/2/89 THE REACTOR COOLANT WAS SAMPLED AT 0145 ON 12/3/89 TO COMPLY WITH TABLE 4.4-4. ITEM 4B OF TECH SPEC 3/4.4.8 "SPECIFIC ACTIVITY." HOWEVER, THE RESULTS OF THE SAMPLE WERE NOT REVIEWED BY CHEMISTRY PERSONNEL UNTIL 0615 AND WERE NOT RECOGNIZED AS BEING OUT OF TOLERANCE UNTIL 1330. BASED ON THESE OCCURRENCES. IT WAS DETERMINED THAT A VIGLATION OF THE LIMITING CONDITION FOR OPERATION (LCO) OF SPECIFICATION 3/4.4.8 HAD OCCURRED DUE TO PERSONNEL FAILING TO RECOGNIZE AN OUT OF TOLERANCE VALUE AND CONSEQUENTIALLY FAILING TO MEET THE REQUIREMENTS OF THE TECH SPEC ACTION STATEMENT. THIS EVENT TOOK PLACE DUE TO THE FAILURE OF A CHEMISTRY SPECIALIST TO REVIEW THE RESULTS OF THE SAMPLE ANALYSIS IN A TIMELY MANNER AND, FURTHERMORE, UPON PERFORMING THE REVIEW, FAILURE TO PROPERLY EVALUATE THE RESULT WITH RESPECT TO GUIDANCE GIVEN IN CHEMISTRY PROCEDURES. THE FOLLOWING CORRECTIVE WITH RESPECT TO GUIDANCE GIVEN IN CHEMISTRY PROCEDURES. THE FOLLOWING CORRECTIVE ACTIONS WERE TAKEN; ANOTHER SAMPLE OF THE REACTOR COOLANT SYSTEM WAS TAKEN AND ANALYZED AS PRESCRIBED BY SPECIFICAITON 3/4.4.8. THIS SAMPLE YIELDED SATISFACTORY RESULIS AND VERIFIED COMPLIANCE WITH THE LCO. CHEMISTRY PERSONNEL WILL RECEIVE SPECIALIZED TRAINING WITH RESPECT TO UNDERSTANDING THE LIMITS AND ACTIONS OF TECH MADE TO CORRECT PROCEDURES INVOLVING SIMILAR TECH SPEC REQUIREMENTS.

[228]	SUMMER 1				DOCKET 50-395	LER 89-021
FAILED	CIRCUIT BOARD	CAUSES	ESF ACTUATION	OF	SERVICE WATER	PUMP.
EVENT I	DATE: 121889	REPORT	DATE: 011790		NSSS: WE	TYPE: PWR

(NSIC 216615) DURING SURVEILLANCE TESTING ON DECEMBER 18, 1989, SURVEILLANCE TEST PROCEDURE (STP) 123.003A, "TRAIN A SERVICE WATER SYSTEM VALVE OPERABILITY TEST." WAS BEING PERFORMED. DURING THE PERFORMANCE OF THE PROCEDURE, THE OPERATOR WAS DIRECTED TO STOP THE "C" SERVICE WATER PUMP. HOMEVER, WHEN THE OPERATOR STOPPED THE PUMP BY POSITIONING THE HANDSWITCH TO THE "AUTO-AFTER-STOP" POSITION, THE PUMP RESTARTED FOR NO OBSERVALE REASON. IT WAS DETERMINED THAT THE RESTART OF THE "C" SERVICE WATER PUMP COULD BE CONSIDERED AS AN INADVERTENT ESF ACTUATION. A MAINTENANCE WORK REQUEST (NWR) RESULTED IN THE DISCOVERY OF A FAILED CIRCUIT BOARD WHICH SEALED IN AN AUTOMATIC START SIGNAL TO THE "C" SERVICE WATER PUMP. THE FOLLOWING CORRECTIVE ACTIONS WERE TAKEN: THE NRC WAS NOTIFIED WITHIN FOUR HOURS PER 10CFR30.72(B)(2)(II). THE "C" SERVICE WATER PUMP WAS RETURNED TO ITS NORMAL "OUT OF SERVICE" CONDITION. THE FAILED CIRCUIT BOARD WAS REPLACED AND THE LOW DISCHARGE PRESSURE EISTABLE WAS CALIBRATED.

[229] SURRY 1 UPDATE ON PRESSURIZER SAFETY VALVE SETPOINTS OUTSIDE OF ALLOWABLE LIMITS. EVENT DATE: 051088 REPORT DATE: 122889 NSSS: WE TYPE: PWR VENDOR: CROSBY VALVE & GAGE CO.

(NSIC 216281) ON MAY 10, 1988, WITH UNIT 1 IN REFUELING SHUTDOWN, THE UNIT 1 PRESSURIZER SAFETY VALVES WERE FOUND TO HAVE LIFT SETPOINTS OUTSIDE ALLOWABLE LIMITS DURING REFUELING SURVEILLANCE TESTING. THREE (3) SAFETY VALVE SETPOINTS WERE HIGHER THAN ALLOWABLE. THE SAFETY VALVE SETPOINTS WERE RESET TO WITHIN ALLOWAPLE LIMITS AND THE SAFETIES WERE REINSTALLED IN THE SYSTEM. THIS REFORT IS SUBMITTED PURSUANT TO 10CFR50.73(A)(2)(I). AN ENGINEERING EVALUATION WAS INC(NCLUSIVE IN DETERMINING THE CAUSE OF THE SETPOINT DRIFT. A TECHNICAL SPF JIFICATION CHANGE REQUEST WAS SUBMITTED TO THE NUCLEAR REGULATORY COMMISSION TO ALLOW AN AS FOUND SETPOINT DRIFT OF +/- 3%.

 [230]
 SURRY 1
 DOCKET S0-280
 LER 89-941

 AUXILIARY VENT FAN TAKEN OUT OF SERVICE WITHOUT IMPLEMENTING TECH SPEC ACTION
 STATEMENT DUE TO PERSONNEL ERROR.
 EVENT DATE: 120689
 REPORT DATE: 010390
 NSSS: WE
 TYPE: PWR

 OTHER UNITS INVOLVED: SURRY 2 (PWR)
 OWR
 SSS: WE
 TYPE: PWR

(NSIC 216384) ON DECEMBER 6, 1989, THE "A" TRAIN OF AUXILIARY VENTILATION WAS REMOVED FROM SERVICE BY PLACING THE FAN CONTROL SWITCH IN THE PULL-TO-LOCK (PTL) POSITION. THIS REMOVED THE AUTOMATIC START FEATURE OF THE FAN RENDERING THE FAN TECHNICALLY INOPERABLE AND THE APPROPRIATE TECHNICAL SPECIFICATION ACTION STATEMENT WAS NOT INFLEMENTED. THE CAUSE OF THE EVENT WAS PERSONNEL ERROR. THE SHIFT SUPERVISOR INVOLVED FAILED TO CONSIDER THAT PLACING THE SWITCH IN PTL WOULD RENDER THE FAN INOPERABLE. THE FAN WAS RETURNED TO AUTOMATIC CONTROL WHEN THE SWITCH WAS PLACED IN THE AUTOMATIC POSITION 30 MINUTES AFTER THE EVENT. ALL OPERATIONS PERSONNEL HAVE BEEN DIRECTED TO CONSIDER SAFETY RELATED EQUIPMENT INOPERABLE WHENEVER PLACING THE CONTROLS IN THE PTL POSITION.

[231]SURRY 1DOCKET 50-280LER 89-043LOW PRESSURE SAFETY INJECTION MAY NOT ACTUATE DURING A HARSH ENVIRONMENT IN
CONTAINMENT DUE TO INSTRUMENT LOOP INACCURACIES.
EVENT DATE: 121509REPORT DATE: 011290NSSS: WETYPE: PWROTHER UNITS INVOLVED: SURRY 2 (PWR)

(NSIC 216586) ON DECEMBER 15, 1989 WITH UNIT 1 AND UNIT 2 AT 100% POWER, IT WAS IDENTIFIED THAT THE INSTRUMENT LOOP UNCERTAINTY ASSOCIATED WITH THE LOW PRESSURIZER PRESSURE SAFETY INJECTION SETPOINT UNDER AN ADVERSE ENVIRONMENT MAY EXCEED THE MARGIN BETWEEN THE SETPOINT ASSUMED IN THE ACCIDENT ANALYSIS AND THE ACTUAL SETFOINT VALUE. IF THIS LOOP INACCURACY IS ASSUMED DURING A SMALL STEAM LINE BREAK INSIDE CONTAINMENT, SAFETY INJECTION MAY OCCUR AT A LOWER REACTOR COOLANT SYSTEM (RCS) PRESSURE THAN ASSUMED IN THE EXISTING STEAM LINE BREAK ANALYSIS OR MAY NOT OCCUR AT ALL. A PRELIMINARY EVALUATION CONCLUDED THAT THE INCREASED LOOP INACCURACY SHOULD NOT RESULT IN CONSEQUENCES BEYOND THOSE OF THE CURRENT ANALYSES. A ONE HOUR NON-EMERGENCY REPORT WAS MADE TO THE NUCLEAR REGULATORY COMMISSION PER 10CFR50.72. INSTRUMENT LOOP IMACCURACIES UNDER ADVERSE CONDITIONS WERE NOT CONSIDERED FOR THIS SETFOINT DURING THE INITIAL DESIGN AND LICENSING OF THE UNITS. MORE FORMAL AND DETAILED ANALYSES WERE PERFORMED THAT SUBSTANTIATED THE CONCLUSIONS OF THE PRELIMINARY EVALUATION. THE SURRY UPDATED FINAL SAFETY ANALYSIS REPORT (UFSAR) WILL BE REVISED TO REFLECT THE NEW ANALYSES.

12323 SURRY 1 MANUAL REACTOR TRIP/TUREINE TRIP INITIATED FOLLOWING LOSS OF POWER TO SEMI-VITAL BUS CAUSED BY A FAULT ON "A" RESERVE STATION SERVICE TRANSFORMER. EVENT DATE: 122189 REPORT DATE: 011990 NSSS: WE TYPE: PWR VENDOR: GENERAL ELECTRIC CO.

(NSIC 216587) ON DECEMBER 21, 1989 AT 2156 HOURS WITH UNIT 1 AT 100% POWER, A MANUAL REACTOR TRIP WAS INITIATED BY THE UNIT 1 LICENSED CONTROL ROOM OPERATOR (CRO). LOSS OF POWER TO A SEMI-VITAL EUS CAUSED NUMEROUS CONTROL ROOM ALARMS TO ANNUNCIATE AND DE-ENERGIZED THE CONTROL ROD POSITION INDICATION SYSTEM WHICH RESULTED IN ERRONEOUS INDICATIONS OF CONTROL RODS INSERTING INTO THE REACTOR. THESE INDICATIONS FROMPTED THE OPERATOR TO IMMEDIATELY INITIATE A MANUAL REACTOR TRIP/TUREINE TRIP PER APPROVED PROCEDURES. OPERATORS PERFORMED THE APPROPRIATE PLANT PROCEDURES AND QUICKLY STABILIZED THE PLANT FOLLOWING THE TRIP. THE LOSS OF POWER TO THE SEMI-VITAL BUS WAS CAUSED BY A FAULT ON THE "A" RESERVE STATION SERVICE TRANSFORMER THAT ISOLATED THE TRANSFORMER FROM THE SIATION'S POWER DISTRIBUTION SYSTEM. THE TRANSFORMER SUPPLIED THE SEMI-VITAL BUS THROUGH THE 1J 4160V EMERGENCY BUS. THE FAULT WAS CAUSED BY MATERIAL BLOWN FROM THE TURBINE BUILDING ROOF STRIKING THE PRIMARY LEADS TO THE TRANSFORMER. THE #3 EMERGENCY DIESEL GENERATOR AUTOMATICALLY RESTORED POWER TO THE EMERGENCY BUS SECONDS AFTER THE BUS WAS DE-ENERGIZED. A FOUR HOUR NON-EMERGENCY REPORT WAS MADE TO THE NUCLEAR REGULATORY COMMISSION PER 10CFR 50.72.

 L233]
 SURRY 2
 DOCKET 50-281
 LER 88-001 REV 02

 UPDATE ON IMPROPER ADMINISTRATIVE CONTROL OF CONTAINMENT ISOLATION VALVES DUE TO

 PERSONNEL ERROR.

 EVENT DATE:
 012788
 REPORT DATE:
 122889
 NSSS: WE
 TYPE:
 PWR

 VENDOR:
 ASCO VALVES

 TARGET ROCK CORP.

(NSIC 216252) ON JANUARY 27, 1958, WITH UNIT 2 AT 100% POWER, IT WAS DETERMINED AT 1944 HOURS THAT LEAKAGE THROUGH CONTAINMENT ISOLATION VALVES TV-SS-201A AND TV-SS-201B (PRESSURIZER VAPOR SPACE SAMPLE) (EIIS-JM ISV) WAS GREATER THAN THE ASME SECTION XI SPECIFICATION. THE VALVES WERE DECLARED INOPERABLE AT THAT TIME. THE VALVES MERE MAINTAINED CLOSED AND PLACED UNDER ADMINISTRATIVE CONTROL AT 2241 HOURS BY LIFTING A LEAD ON TV-SS-201A (A SOLENOID OPERATED VALVE) AND BY LIFTING A LEAD AND ISOLATING INSTRUMENT AIR TO TV-SS-201B (AN AIR OPERATED VALVE). HOWEVER, ON FEBRUARY 2, 1988 AT 2225 HOURS, IT WAS DISCOVERED THAT THE WRONG LEADS HAD BEEN LIFTED FOR THE TRIP VALVES, AND THAT TV-SS-201A HAD NOT BEEN PROPERLY ADMINISTRATIVELY CONTROLLED. THE CORRECT LEADS WERE LIFTED AT 2324 HOURS, AND THE TRIP VALVES WERE VERIFIED TO BE PROPERLY CONTROLLED. ELECTRICIANS HAVE BEEN INSTRUCTED AS TO WHICH ARE THE PROPER LEADS TO LIFT TO DISABLE THESE VALVES. THE LEAKAGE THROUGH THE VALVES HAS BEEN ATTRIBUTED TO IMPURITIES IN THE SYSTEM. TV-SS-201A WAS REPLACED AND TV-SS-201B WAS REPAIRED.

 [234]
 SURRY 2
 DOCKET 50-281
 LER 88-002 REV 01

 UPDATE ON INOPERABLE CONTAINMENT ISOLATION VALVES DUE TO EXCESSIVE LEAKAGE.
 EVENT DATE: 020288
 REPORT DATE: 122889
 NSSS: WE
 TYPE: PWR

 VENDOR: VALCOR ENGINEERING CORP.
 VALCOR ENGINEERING CORP.
 SURRY 2
 DOCKET 50-281
 LER 88-002 REV 01

(NSIC 216283) ON FEBRUARY 2, 1988, UNIT 2 WAS AT 100% POWER. AT 1715 HOURS, IT WAS DETERMINED THAT THE INDIVIDUAL VALVE LEAKAGE THROUGH THE REACTOR COOLANT COLD LEG SAMPLE ISOLATION VALVES (EIIS-JM ISV) (TV-SS-202A AND TV-SS-202B) WAS GREATER THAN THE ASME SECTION XI SPECIFICATION. THEY WERE THEN DECLARED INOPERABLE. TECHNICAL SPECIFICATIONS REQUIRE ADMINISTRATIVE CONTROL FOR INOPERABLE AUTOMATIC CONTAINMENT ISOLATION VALVES. THE VALVES WERE MAINTAINED CLOSED AND PLACED UNDER ADMINISTRATIVE CONTROL AT 2244 HOURS BY LIFTING A LEAD ON BOTH SOLENOID VALVES. THE LEAKAGE THROUGH THE VALVES HAS BEEN ATTRIBUTED TO IMPURITIES IN THE SYSTEM. THE VALVES WERE REPLACED.

 [235]
 SURRY 2
 DOCKET 50-221
 LER 89-008

 CLOSURE OF CONTAINMENT INSTRUMENT AIR OUTSIDE TRIP VALVE DUE TO LOOSE CONTROL
 FOWER FUSE.

 EVENT DATE: 091689
 REPORT DATE: 101389
 NSSS: WE
 TYPE: PWR

 VENDOR: MARATHON FLEC MFG
 VENDOR
 MARATHON FLEC MFG

(NSIC 216368) ON 9/16/89 AT 0154 HOURS, WITH UNIT 2 AT HOT SHUTDOWN, CONTROL ROOM OPERATORS NOTED THAT THE POSITION INDICATING LIGHTS FOR THE CONTAINMENT INSTRUMENT AIR (IA) OUTSIDE TRIP VALVE WERE NOT LIT. FURTHER INVESTIGATION REVEALED THAT THE TRIP VALVE HAD FAILED TO THE CLOSED POSITION. THIS VALVE IS DESIGNED TO CLOSE UPON AN ENGINEERED SAFETY FEATURES (ESF) ACTUATION. HOMEVER, NO ACTUAL ESF SIGNAL WAS PRESENT. THE EVENT IS BEING REPORTED AS AN UNPLANNED ESF ACTUATION. A FOUR HOUR NON-EMERGENCY REPORT WAS MADE TO THE NRC PER 10CFR50.72. THE VALVE FAILED CLOSED WHEN A FUSE IN THE CONTROL POWER CIRCUIT LOOSENED FROM ITS FUSE BLOCK RESULTING IN A LOSS OF ELECTRICAL CONTINUITY BETWEEN THE FUSE AND CLIPS CAUSING THE VALVE TO FAIL CLOSED. AS AN INTERIM MEASURE, A CLAMPING DEVICE WAS INSTALLED ON THE FUSE BLOCK TO HOLD THE CLIPS SECURELY AGAINST THE FUSE. THE VALVE WAS SATISFACTORILY TESTED AND RETURNED TO SERVICE. A NEW FUSE BLOCK HAS BEEN ORDERED AND WILL BE INSTALLED DURING THE NEXT SCHEDULED OUTAGE.

[236]SUSQUEHANNA 1DOCKET 50-387LER 89-027GENERATOR LOAD REJECT CAUSED BY SWITCHYARD PROBLEMS RESULTS IN AUTOMATIC REACTOR
SCRAM.
EVENT DATE: 122489REPORT DATE: 011990NSSS: GETYPE: BWR(NSIC 216614) AT 0824 HOURS ON 12/24/89. UNIT 1 EXPERIENCED A REACTOR PROTECTION

SYSTEM (RPS) ACTUATION RESULTING IN AN AUTOMATIC SCRAM FROM 100% POWER. A LOSS OF ELECTRICAL POWER SUPPLY (PRIMARY AND BACKUP) TO THE 230KV SWITCHYARD SERVICES RESULTED IN TRIPPING OF MAIN DISTRIBUTION SYSTEM SWITCHYARD BREAKERS AND SUBSEQUENT MAIN GENERATOR LOAD REJECT/MAIN TURBINE TRIP. THE RPS ACTUATION WAS THE RESULT OF MAIN TURBINE CONTROL VALVE FAST CLOSURE AS PER DESIGN. ALL MAJOR EQUIPMENT OPERATED DURING THE TRANSIENT PER DESIGN AND NO ADDITIONAL ENGINEERED SAFETY FEATURE (ESF) SYSTEMS WERE CHALLENGED. THIS EVENT HAS BEEN DETERMINED TO BE REPORTABLE PER 10CFR50.73(A)(2)(IV), IN THAT AN UNPLANNED ESF ACTUATION OCCURRED. BOTH POWER SUPPLIES TO THE 230KV SWITCHYARD WERE LOST DUE TO UNRELATED EVENTS. THE PRIMARY SOURCE WAS LOST BY A VEHICLE HITTING A POWER LINE POLE. THE BACKUP SOURCE WAS LOST DUE TO AN ELECTRICAL COMPONENT FAILURE IN THE BACKUP GENERATOR EXCITER FIELD CIRCUIT. BOTH POWER SUPPLIES WERE RESTORED TO SERVICE. A TASK FORCE IS EVALUATING THE EXISTING 230KV SWITCHYARD STATION SERVICES POWER SUPPLIES FOR RELIABILITY AND FOR CONSIDERATION OF POSSIBLE IMPROVEMENTS.

 12373
 SUSQUEHANNA 2
 DOCKET 50-388
 LER 88-015 REV 01

 UPDATE ON PLANT OPERATIONS WITH SURVEILLANCE REQUIREMENTS NOT PERFORMED WITHIN
 THEIR ALLOWED INTERVALS.
 EVENT DATE: 091988
 FEPORT DATE: 122989
 NSSS: GE
 TYPE: EWR

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(NSIC 216303) WHILE LINED UP TO THE OFF-GAS SYSTEM COMMON HYDROGEN RECOMBINER. UNIT 2 WAS OPERATED AT POWER FROM 1840 ON 9/17/88 TO 1300 ON 9/19/88 WITH THE RECOMBINER'S HYDROGEN ANALYZERS PROCEDURALLY INOPERABLE. THIS WAS CAUSED BY INSUFFICIENT PROCEDURAL REQUIREMENTS FOR DOCUMENTATION AND SYSTEM STATUS CONTROL WHICH RESULTED IN THE HYDROGEN ANALYZERS BEING DECLARED OPERABLE WITH REQUIRED SURVEILLANCES NOT BEING PERFORMED WITHIN THEIR SPECIFIED INTERVALS PER THE PLANT'S TEC'. SPECS SURVEILLANCE REQUIREMENTS SECTION 4.0.3. WHEN THE SITUATION WAS DISCOVIRED BY SITE I&C PERSONNEL AND REPORTED TO OPERATIONS. THE APPLICABLE LIMITING CONDITION FOR OPERATION (LCO) WAS ENTERED AT 1300 ON 9/19 AND THE REQUIRED SURVEILLANCE ACTIVITIES WERE COMMENCED. HYDROGEN ANALYZER CHANNEL "B" SURVEILLANCES WERE COMPLETED AT 1550 ON 9/21 AND THE LCO, WHICH ONLY REQUIRES ONE OPERABLE CHANNEL, WAS CLEARED. A SUSPECTED PROBLEM WITH CHANNEL "A" WAS RESOLVED AND ITS SURVEILLANCES SUBSEQUENTLY COMPLETED AT 1450 ON 9/23. THE ADMINISTRATIVE PROCEDURE FOR THE PLANT'S SURVEILLANCE TESTING PROGRAM HAS BEEN REVISED TO REINFORCE THE PROCEDURAL MECHANISMS USED FOR SYSTEM STATUS CONTROL. BASED ON A REVIEW OF ALL PERTINENT DATA. IT WAS CONCLUDED THAT BOTH CHANNELS, ALTHOUGH PROCEDURAL FOR THE PLANT'S SURVEILLANCE TESTING PROGRAM HAS BEEN REVISED TO REVIEW OF ALL PERTINENT DATA. IT WAS CONCLUDED THAT BOTH CHANNELS, ALTHOUGH PROCEDURAL FOR THE PLANT'S SURVEILLANCE TESTING PROGRAM HAS BEEN REVISED TO REVIEW OF ALL PERTINENT DATA. IT WAS CONCLUDED THAT BOTH CHANNELS, ALTHOUGH PROCEDURALLY OF ALL PERTINENT DATA. IT WAS CONCLUDED THAT BOTH CHANNELS, ALTHOUGH FUNCTIONS DURING THE EVENT BEING REPORTED.

 [238]
 SUSQUEHANNA 2
 DOCKET 50-388
 LER 89-010 REV 01

 UPDATE ON MAIN STEAM LINE PENETRATIONS EXCEED MAXIMUM ALLOWABLE LEAK RATE DURING
 REGULARLY SCHEDULED LOCAL LEAK RATE TESTING.

 EVENT DATE: 092089
 REPORT DATE: 010490
 NSSS: GE
 TYPE: BWR

 VENDOR: ATWOOD & MORRILL CO., INC.
 INC.

(NSIC 216410) ON 9/20/E9, WITH UNIT 2 IN ITS THIRD REFUELING AND INSPECTION OUTAGE, EVALUATION OF THE DATA FROM REGULARLY SCHEDULED LOCAL LEAK RATE TESTS (LLRTS) CONCLUDED THAT THE ESTIMATED LEAKAGE FOR THE "A" AND "B" MAIN STEAM LINE (MSL) CONTAINMENT PENETRATIONS WERE IN EXCESS OF THE TECHNICAL SPECIFICATION LIMIT FOR TOTAL MSL PENETRATION LEAKAGE OF 46 STANDARD CUBIC FEET PEP. HOUR (SCFH). FURTHER TESTING DETERMINED THE LEAK RATES TO BE 356 SCFH AND 635 SCFH, RESPECTIVELY. SEVERAL MAIN STEAM LINE ISOLATIONS VALVES (MSIVS) WERE REWORKED AND POST MAINTENANCE ILRTS WERE PERFORMED ON THE APPLICABLE MSL PENETRATIONS WITH SATISFACTORY RESULTS. TOTAL MSL PENETRATION LEAKAGE WAS REDUCED TO 32.6 SCFH. THIS EVENT WAS DETERMINED TO BE REPORTABLE UNDER 10CFR50.73(A)(2)(I)(I) IN THAT SPECIFICATION LIMIT. NO DEFINITIVE CAUSE(S) COULD BE ASCERTAINED FOR THE HIGH INITIAL LEAK RATES. AN ASSESSMENT OF THE SAFETY CONSEQUENCES ASSOCIATED WITH THIS EVENT IS BEING PERFORMED BY NUCLEAR PLANT ENGINEERING. BASED ON CONCLUSIONS IN NUREG 1169 (AN EVALUATION OF BWR MSIV LEAKAGE AND THE EFFECTIVENESS OF LEAKAGE IN SURE 1169 (AN EVALUATION OF BWR MSIV LEAKAGE AND THE EFFECTIVENESS OF LEAKAGE THIS ASSESSMENT WILL CONCLUDE IT WAS MINIMAL.

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[239] SUSQUEHANNA 2 UNPLANNED ESF OCCURFED DURING SURVEILLANCE TESTING DUE TO FAILED RELAY. EVENT DATE: 121489 REPORT DATE: 011290 NSSS: GE TYPE: BWR VENDOR: AGASTAT RELAY CO.

(NSIC 216473) AT 0854 HOURS ON 12/14/89 WITH UNIT 2 OPERATING IN CONDITION 1, AT 100% POWER, AN UNPLANNED ENGINEERED SAFETY FEATURE (ESF) ACTUATION OCCURRED WHEN THE REACTOR WATER CLEANUP (RNCU) SYSTEM'S INBOARD CONTAINMENT ISOLATION VALVE AUTOMATICALLY CLOSED. I&C TECHNICIANS WERE PERFORMING AN 18 MONTH CHANNEL CALIERATICN SURVEILLANCE ON THE "A" MAIN STEAM LINE (MSL) RADIATION MONITOR. PER THE FROCEDURE A DIVISION I MSL ISOLATION SIGNAL WAS ESTABLISHED. THE PROCEDURE THEN DIRECTS OPERATIONS PERSONNEL TO RESET THE ISOLATION SIGNAL. WHEN THIS WAS DONE, THE RWCU INBOARD CONTAINMENT ISOLATION VALVE, HV-244-F001, UNEXPECTEDLY CLOSED. SURVEILLANC! TESTING WAS HALTED AND INVESTIGATIONS WERE INITIATED. INVESTIGATIONS BY THE IEC TECHNICIANS FOUND A FAILED RELAY IN THE RWCU SYSTEM'S DIVISION I ISOLATION LOGIC. SINCE THE DIVISION I MSL RESET LOGIC AND THE DIVISION I ISOLATION LOGIC RECEIVE POWER FROM THE SAME BUS, IT IS BELIEVED THAT WHEN THE RESET LOGIC WAS INITIATED THE RESULTANT VOLTAGE PERTURBATION CAUSED THE RELAY'S COIL TO SHORT. THERE WERE NO SAFETY CONSEQUENCES OR COMPROMISE TO PUBLIC HEALTH OR SAFETY AS A RESULT OF THIS EVENT. THE SUBJECT RELAY AND FUSE WERE REPLACED AND THE SYSTEM WAS RETURNED TO SERVICE AT 1312 HOURS.

[240]	THREE MI	LE ISLAND 1			DOCKET	50-289	LER B	9-003
HIGH RCS	PRESSURE	REACTOR TRIP	DUE	TO MAIN	TURBINE	ELECTRO.	-HYDRAULIC	CONTROL
MALFUNCTI	ION.							
EVENT DAT	E: 112989	REPORT DA	TEI	122189	NSSS:	BW	TYPE	PWR

(NSIC 216261) AT APPROXIMATELY 0806 HOURS ON NOVEMBER 29, 1989, A RAPID REDUCTION IN TURBINE LOAD OCCURRED. THIS RAPID REDUCTION IN LOAD RESULTED IN INCREASING TEMPERATURE AND PRESSURE IN THE REACTOR COOLANT SYSTEM CAUSING THE REACTOR TO TRIP ON HIGH RCS PRESSURE NITHIN ABOUT 4 SECONDS. THE REACTOR PROTECTION SYSTEM FUNCTIONED CORRECTLY AND OPERATOR RESPONSE WAS APPROPRIATE. THE POST TRIP RESPONSE WAS NORMAL. MAIN STEAM HEADER FRESSURE WAS REDUCED TO RESEAT A MAIN STEAM SAFETY VALVE (MS-V-21A). LEVEL CONTROL FOR B OTSG WAS CONSIDERED SLUGGISH AND THE FEEDWATER VALVE WAS CONTROLLED MANUALLY. THESE ACTIONS ARE IN ACCORDANCE WITH PROCEDURES AND TRAINING. THE RAPID LOAD REDUCTION WAS THE RESULT OF EHC ACTION. THE POWER LOAD UNBALANCE CIRCUIT THAT PROTECTS THE TURBINE FROM OVERSPEED AND THE SPEED ERROR CIRCUIT WERE SUSPECTED SINCE EITHER OF THESE CIRCUITS CAN RESULT IN RAPID CONTROL VALVE CLOSURE. THE FUNCTION AND CALIBRATION OF THESE CIRCUITS WERE CHECKED. MINOR CALIBRATION DRIFT WAS FOUND. THE DRIFT WAS FOUND ON THE INPUT TO THE SPEED ERROR CIRCUIT FROM THE TURBINE FROM OVERSPEED AND THE INPUT TO THE SPEED ERROR CIRCUIT FROM THE TURBINE PRIMARY SPEED SENSOR. IT IS POSTULATED THAT THE LOOSE CONNECTION WAS DISTURBED BY OPENING AND CLOSING THE CABINET DOORS. THIS WAS DETERMINED TO BE THE PROBABLE CAUSE.

 [241]
 TROJAN
 DOCKET 50-344
 LER 88-039 REV 01

 UPDATE ON INCOMPLETE CALIBRATION OF RESISTANCE TEMPERATURE DETECTORS DUE TO
 ASSUMED DRIFT VALUE OF ZERO.
 EVENT DATE: 101488
 REPORT DATE: 122689
 NSSS: WE
 TYPE: PWR

(NSIC 216302) DURING THE PERIOD OF JULY 25, 1988 THROUGH 10/14/88. AN EXTENSIVE REVIEW OF REACTOR COOLANT SYSTEM (RCS) NARROW RANGE RESISTANCE TEMPERATURE DETECTOR (RTD) CALIERATION WAS PERFORMED. THIS REVIEW CULMINATED WITH THE COMPLETION OF AN INTERNAL EVENT REPORT (88-131) WHICH CONCLUDED THAT THE NARROW RANGE RTDS WERE NOT BEING CALIERATED, AS REQUIRED. ON 2/21/89 A SECOND INTERNAL EVENT REPORT WAS GENERATED TO ADDRESS WIDE RANGE RTD CALIERATION. TROJAN TECH SPECS (TTS) REQUIRE THAT THE RTDS BE CALIERATED ONCE EVERY 18 MONTHS. IN THE PAST, THE RTDS WERE JUDGED TO BE SUFFICIENTLY STABLE OVER TIME TO ASSUME A DRIFT VALUE OF ZERO. HOWEVER, RECENT TECHNICAL INFORMATION HAS BEEN DEVELOPED THAT SUGGESTS THAT A SNALL AMOUNT OF RTD DRIFT MAY OCCUR OVER TIME. THE CAUSE OF THIS EVENT WAS A FAIURE TO IMPLEMENT A TTS SURVEILLANCE BASED ON AN ASSUMPTION THAT RTDS DO NOT DRIFT. THE IMMEDIATE CORRECTIVE ACTION WAS TO PERFORM A COMPARATIVE CHECK OF SPARE AND ACTIVE NARROW RANGE RTDS IN EACH RCS LOOP WHICH CONFIRMED AGREEMENT BETWEEN MEASURED TEMPERATURES AMONG THE NARROW RANGE RTDS IN EACH LOOP. DATA FOR A CROSS CHANNEL CALIBRATION CHECK WAS TAKEN FOR RCS NARROW RANGE AND WIDE RANGE RTDS DURING THE 1989 REFUELING OUTAGE. MEANS FOR CALIBRATING THE STRAP-ON WIDE RANGE RTDS FOR REACTOR VESSEL LEVEL INDICATING SYSTEM REFERENCE LEG COMPENSATION ARE BEING EVALUATED.

12423 TROJAN DOCKET 50-344 LER 89-018 'E' 01 UPDATE ON TRAINS OF RESIDUAL HEAT REMOVAL SYSTEM NOT KNOWN TO BE OPERABLE AS A RESULT OF MAINTENANCE WORK ON A FLOW INDICATING SWITCH FOR THE 'B' TRAIN PUMP. EVENT DATE: 090889 REPORT DATE: 010490 NSSS: WE TYPE: FWR

(NSIC 216329) ON SEPTEMEER 8, 1989, THE PLANT WAS IN MODE 1 AT 99 PERCENT POWER WITH REACTOR COOLANT SYSTEM (RCS) CONDITIONS OF 585F DEGREES AND 2242 PSIG. AT APPROXIMATELY 0945, WORK WAS INITIATED TO CHANGE THE SETPOINTS FOR THE 'B' TRAIN RESIDUAL HEAT REMOVAL (RHR) PUMP'S FLOW INDICATING SWITCH. OPERATIONS PERSONNEL REVIEWED THE WORK TO BE DONE. BUT CONSIDERED THE 'B' TRAIN RHR PUMP OPERABLE AS IT WOULD AUTOMATICALLY START AND THE RECIRCULATION FLOW CONTROL VALVE COULD BE OPENED FROM THE CONTROL ROOM WHILE WORK WAS IN PROGRESS. THE SETPOINTS HAD BEEN ADJUSTED, BUT FUNCTIONAL TESTING WAS DELAYED WHILE CHANGES TO THE TESTING METHODS, DESIRED BY OPERATIONS PERSONNEL, WERE REVIEWED. AT 1250, THE 'A' TRAIN COMPONENT COOLING WATER (CCW) SYSTEM WAS DECLARED INOPERABLE AND CROSS-CONNECTED TO THE 'B' TRAIN OF CCW PER THE CONTROLLING PROCEDURE FOR A SERVICE WATER SYSTEM (SWS) BIOCIDE TREATMENT. SYSTEMS COOLED BY 'A' TRAIN CCW, SPECIFICALLY THE 'A' TRAIN RHR PUMP, WERE THEREFORE ALSO INOPERABLE. THE ON-COMING SWING SHIFT WAS BRIEFED ON BOTH EVOLUTIONS BUT THE TRAIN OF RHR BEING WORKED WAS NOT ADEQUATELY COMMUNICATED. WHEN THE REVISED FUNCTIONAL TEST WAS PRESENTED TO THE SHIFT SUPERVISOR AT 1520 IT WAS REALIZED THAT BOTH TRAINS OF RHR WERE INOPERABLE. IMMEDIATE ACTION WAS TO RESTORE THE 'A' TRAIN OF CCW (AND RHR) TO SERVICE.

TROJAN DOCKET 50-344 LER 89-029 REV 02 UPDATE ON FIRE DAMPERS, PENETRATIONS AND SPRINKLER/DELUGE SURVEILLANCES NOT PERFORMED WITHIN REQUIRED TIME FRAMES DUE TO COGNITIVE PERSONNEL ERRORS. EVENT DATE: 111589 REPORT DATE: 011590 NSSS: WE TYPE: PWR

(NSIC 216607) DURING AN EVALUATION ON 11/15/89, IT WAS DETERMINED THAT SEVEN SURVEILLANCES REQUIRED BY TROJAN TECH SPEC (TTS) 3.7.9, "PENETRATION FIRE BARRIERS" FOR FIRE DAMPERS HAD NOT BEEN PERFORMED. THE PROCEDURES FOR CONDUCTING THE SURVEILLANCES HAD RECENTLY BEEN CHANGED TO REQUIRE TESTING THE DAMPERS UNDER FLOW CONDITIONS. THE DAMPERS OF CONCERN COULD NOT BE TESTED IN THIS MANNER, WHICH WAS RECOGNIZED AT THE TIME THE SURVEILLANCES WERE DUE. BUT WAS NOT PROPERLY RESOLVED. DURING A REVIEW OF THE CHRONOLOGY FOR THIS EVENT IT WAS DETERMINED THE SURVEILLANCE PERIODICITY TIME REQUIREMENTS FOR MOST FIRE DAMPERS AND PENETRATIONS HAD NOT EVEN MET SINCE AT LEAST 1986. COMPENSATORY NEASURES OF TTS 3.7.9 (CHECKING LOCAL SMOKE DETECTORS AND ESTABLISHING AN HOURLY FIRE PATROL) HAVE BEEN ESTABLISHED FOR EACH OF TWESS DAMPERS/PENETRATIONS. THE ISSUE CONCERNING TESTING UNDER FLOW CONDITIONS HAS BEEN RESOLVED AND ALL DAMPER AND PENETRATION INSPECTIONS WERE COMPLETED EY 11/30/89. A TASK GROUP EVALUATED THE TTS SURVEILLANCE PROGRAM TO ENSURE PAST SURVEILLANCE PERIODICITIES MAVE NOT BEEN ESTABLISHED FOR THIS TASK GROUP IS UNDER REVIEW, BUT IT HAS IDENTIFIED AN ADDITIONAL MISSED SURVEILLANCE OF FOUR SPRINKLER SYSTEMS. FIRE WATCHES WERE ESTABLISHED AND THE REQUIRE PAST SURVEILLANCE PERIODICITIES MAVE NOT BEEN ADDITIONAL MISSED SURVEILLANCE OF FOUR SPRINKLER SYSTEMS. FIRE WATCHES WERE ESTABLISHED AND THE REQUIRED SURVEILLANCE PERFORMED AS IMMEDIATE CORRECTIVE ACTIONS FOR THIS ADDITIONAL EVENT.

12443TROJANDOCKET 50-344LER 89-032INCOMPLETE SURVEILLANCE OF POWER OPERATED RELIEF VALVE DUE TO AN INADEQUATE
PROCEDURE REVIEW UPON ISSUANCE OF A LICENSE AMENDMENT.
EVENT DATE: 120589REPORT DATE: 010490NSSS: WETYPE: PWR

(NSIC 216404) ON 12/5/89, DURING A REVIEW OF A DESIGN CHANGE. A DESIGN ENGINEER DISCOVERED THAT THE PRESSURIZER POWER OPERATED RELIEF VALVE (PORV) SURVEILLANCE TESTING HAD NOT INCLUDED RELAYS IN THE AUTOMATIC ACTUATION CIRCUITY FOR EITHER OF THE TWO VALVES. THE SURVEILLANCE TEST IS PERFORMED TO SATISFY THE REQUIREMENT OF TECH SPEC (TS) 4.4.3.2.1, "RELIEF VALVES", TS 4.4.9.3.1, "OVERPRESSURE PROTECTION SYSTEMS." THE CONTROL CIRCUITRY FOR THE PORV USES AN AUXILIARY RELAY AS AN INTERFACE BETWEEN THE CONTROL AND PROTECTION SYSTEM. (AC OUTPUT), AND THE SOLENOID VALVE FOR THE PORV. (A DC OPERATED SYSTEM). DRAWINGS NORMALLY USED IN THE PREPARATION OF INSTRUMENTATION AND CONTROL SURVEILLANCE PROCEDURES (PROCESS CONTROL BLOCK DIAGRAMS AND INTERCONNECTION WIRING DIAGRAM) DO NOT SHOW THE AUXILIARY RELAY. THE SCHEMATIC FOR THE VALVE DOES SHOW THE RELAY. AS DOES THE WIRING-DIAGRAM FOR THE AUXILIARY RELAY RACK FOR THE CONTROL AND PROTECTION SYSTEM. THE CAUSE OF THIS EVENT WAS AN INADEQUATE REVIEW OF PROCEDURES TO DETERMINE WHAT CHANGES WERE NEEDED WHEN A TS AMENDMENT WAS ISSUED. THE BLOCK VALVES WERE CLOSED FOR BOTH OF THE PORVS UNTIL THE SURVEILLANCE WAS PERFORMED ON THE PORTION OF THE YIRCUIT WITH THE AUXILIARY RELAY ON DECEMBER 15, 1989.

 [245]
 TROJAN
 DOCKET 50-344
 LER 89-030

 CHLORINE DETECTOR RESPONSE TIME GREATER THAN THAT USED IN THE TOXIC GAS ANALYSIS
 DUE TO NOT SPECIFYING A RESPONSE TIME IN THE DESIGN SPECIFICATION FOR THE

 DUE TO NOT SPECIFYING A RESPONSE TIME IN THE DESIGN SPECIFICATION FOR THE
 DETECTOR.

 EVENT DATE:
 121289
 REPORT DATE:
 011290
 NSSS:
 WE
 TYPE:
 PWR

(NSIC 216471) WHILE VERIFYING RESPONSE TIME OF THE CHLORINE DETECTORS WITH THE MANUFACTURER, THE DESIGN ENGINEERING GROUP DETERMINED THAT THE RESPONSE TIME OF THE INSTALLED CHLORINE DETECTORS WAS GREATER THAN THE TIME ASSUMED IN THE TOXIC GAS ANALYSIS. BOTH TRAINS OF CHLORINE DETECTORS WERE DECLARED INOPERABLE ON 12/12/99 AT 1708, AND THE CONTROL ROOM EMERGENCY VENTILATION SYSTEM (CB-1) WAS PLACED IN THE RECIRCULATION MODE OF OPERATION AS REQUIRED BY THE TECH SPECS (TS). PARALLEL EFFORTS ARE BEING PURSUED TO RESTORE THE DETECTORS TO OPERATION OR INSTALL NEW DETECTORS. WHILE ACTIONS WERE IN PROGRESS TO RESTORE THE CHLORINE DETECTORS TO OPERATION, IT WAS NECESSARY TO VENTILATE THE CONTROL ROOM TO MAINTAIN THE AIR QUALITY. THIS WAS DONE BY OPENING OUTSIDE AIR DAMPERS REQUIRED TO BE CLOSED WITH INOPERABLE CHLORINE DETECTORS, THUS ENTERING TECH SPEC 3.0.3. "APPLICABILITY". NINE ENTRIES WERE MADE INTO TECH SPEC 3.0.3 FOR THIS PURPOSE BETWEEN DECEMBER 15. AND DECEMBER 28, 1969, WHEN A TEMPORARY TECH SPEC AMENDMENT WAS ISSUED TO ALLOW VENTILATION OF THE CONTROL ROOM AND PERFORMANCE OF THE CONTROL ROOM FRESSURIZATION SURVEILLANCE TEST WITH BOTH TRAINS OF CHLORINE DETECTORS INOPERABLE. TO RESTORE CB-1 TO OPERATION A CHANGE WAS MADE TO THE TS BASES REDEFINING THE PHRASE, "RECIRCULATION MODE".

[246]TURKEY POINT 3DOCKET 50-250LER 89-018PLANT CPERATING OUTSIDE OF ITS DESIGN BASIS DUE TO A DESIGN INADEQUACY OF THE
SAFETY INJECTION BLOCK SWITCH.
EVENT DATE: 121289REPORT DATE: 011190NSSS: WETYPE: PWROTHER UNITS INVOLVED: TURKEY POINT 4 (PWR)
VENDOR: WESTINGHOUSE ELECTRIC CORP.NSSS: WETYPE: PWR

(NSIC 216463) ON 12/12/89, WITH TURKEY POINT UNIT 3 IN MODE 1 (POWER OPERATION) AT 100% POWER AND UNIT 4 IN MODE 1 AT 40% POWER, THE PLANT NUCLEAR SAFETY COMMITTEE (PNSC) DETERMINED THAT THE USE OF A SINGLE MANUAL SAFETY INJECTION (SI) BLOCK/UNBLOCK SWITCH (WESTINGHOUSE 0T2 SWITCH USING A STACK OF FOUR OT2A CONTACT BLOCKS) FOR BOTH TRAINS OF SI WAS OUTSIDE THE DESIGN BASIS FOR BOTH UNITS. DURING A CONTROL ROOM DESIGN REVIEW CONCERNING PLACEMENT OF CONTROLS ON THE CONTROL ROOM CONTROL BOARDS AT THE POINT BEACH NUCLEAR POWER PLANT, THE USE OF A SINGLE MANUAL SI BLOCK/UNBLOCK SWITCH FOR BOTH SAFETY INJECTION TRAINS WAS QUESTIONED. A SUBSEQUENT REVIEW BY WISCONSIN ELECTRIC ENGINEERING DETERMINED THAT A SINGLE MECHANICAL FAILURE OF THIS SWITCH COULD BLOCK BOTH TRAINS OF SI. ON 9/16/88, POINT BEACH ISSUED LICENSEE EVENT REPORT 88-07 DESCRIBING IN DETAIL THEIR REVIEW AND CONCLUSIONS. AFTER BEING CONTACTED BY THE NRC. NESTINGHOUSE NOTIFIED TURKEY POINT AND OTHER APPLICAELE WESTINGHOUSE FACILITIES. PROCEDURE OOS2. 2. "PLANT STARTUP SURVEILLANCES" WILL BE REVISED TO REQUIRE AN ELECTRICAL CHECK OF THE BLOCK SWITCHES.

[247]TURKEY POINT 3DOCKET 50-250LER 89-019FAILURE TO RE-ESTABLISH A ROVING FIRE WATCH IN THE AUXILIARY BUILDING PER TECHSPEC 3.14.5 DUE TO PERSONNEL ERROR.EVENT DATE: 121889REPORT DATE: 011290NSSS: WETYPE: PWROTHER UNITS INVOLVED: TURKEY POINT 4 (PWR)

(NSIC 216443) AT 1640. ON DECEMBER 18. 1989. WITH UNITS 3 AND 4 IN MODE 1 AT 100 PERCENT POWER. IT WAS DETERMINED THAT TECHNICAL SPECIFICATION (TS) 3.14.3 LIMITING CONDITION FOR OPERATION (LCO) ACTION STATEMENT REQUIREMENTS WERE NOT MET ON DECEMBER 1. 1989. A PRECAUTIONARY EVACUATION OF THE COMMON AUXILIARY BUILDING (AUX. OLDG.) REQUIRED SUSPENSION OF A ROVING FIRE WATCH AND AN EXISTING CONTINUOUS FIRE WATCH. TO MEET THE REQUIREMENTS OF TS 3.14.5. THESE FIRE WATCHES MAD TO BE RE-ESTABLISHED WITHIN ONE HOUR OF SUSPENSION. THE EVACUATION OF THE AUX. BLDG., EXCEPT FOR THE CHEMISTRY LAB. LASTED FIFTEEN MINUTES. DUE TO A COGNITIVE ERROR BY LICENSED AND NON-LICENSED UTILITY PERSONNEL. THE ROVING FIRE WATCH WAS NOT RE-ESTABLISHED IN THE AUX. BLDG. UNTIL TWO HOURS AFTER THE EVACUATION. THE REGULATORY IMPACT OF THE CONDITION WAS NOT DETELMINED UNTIL DECEMBER 18. 1989. THE PLANT SUPERVISOR-NUCLEAR (PSN)/ASSISTANT PLANT SUFERVISOR-NUCLEAR (APSN) DID NOT VERIFY THAT THE AUX. BLDG. FIRE WATCHES MAD BEEN RE-ESTABLISHED WITHIN ONE HOUR OF THE EVACUATION. THE FIRE PROTECTION SHIFT SUPERVISOR DID NOT RE-ESTABLISH THE AUX. BLDG. FIRE WATCHES MAD BEEN RE-ESTABLISHED WITHIN ONE HOUR OF THE AUX. BLDG. FIRE WATCHES MAD BEEN RE-ESTABLISHED THE NOR OF THE AUX. BLDG. FIRE WATCHES MAD BEEN RE-ESTABLISHED WITHIN ONE HOUR OF THE EVACUATION. THE FIRE PROTECTION SHIFT SUPERVISOR DID NOT RE-ESTABLISH THE AUX. BLDG. FIRE WATCHES MAD BEEN RE-ESTABLISHED WITHIN ONE HOUR OF THE AUX. BLDG. DUAING THE TIME FIRE WATCHES WERE SUSPENDED. THE FIRES OCCURRED IN THE AUX. BLDG. DUAING THE TIME FIRE SUPERVISOR DID NOT RE-ESTABLISH THE AUX. BLDG. DUAING THE TIME FIRE SUPERVISOR DID NOT RE-ESTABLISH THE AUX. BLDG. DUAING THE TIME FIRE SUPERVISOR DID NOT RE PENDED. THE PIRE OCCURRED IN THE AUX. BLDG. DUAING THE TIME FIRE SUPERVISOR DID NOT RE PERTARDISH THE AUX. BLDG. DUAING THE TIME FIRE SUPERVISOR DID NOT THE FIRES OCCURRED IN THE AUX. BLDG. DUAING THE TIME FIRE SUPERVISOR DID NOT THE FIRES OCCURRED IN THE AUX. BLDG. DUAING THE TIME FIRE

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 [248]
 TURKEY POINT 3
 DOCKET 50-250
 LER 89-020

 UNIT 4 REACTOR TRIP AND UNIT 3 REACTOR SHUTDOWN REQUIRED BY TECHNICAL

 SPECIFICATIONS DUE TO CORROSION IN ELECTRICAL TERMINAL BOXES FOR MAIN STEAM

 ISOLATION VALVES.

 EVENT DATE:
 122389
 REPORT DATE: 011890
 NSSS: WE
 TYPE: PWR

 OTHER UNITS INVOLVED:
 TURKEY POINT 4 (PWR)

 VENDOR:
 GENERAL ELECTRIC CO.

(NSIC 216578) AT 2314, ON 12/23/89, WITH UNIT 4 IN MODE 1 AT 94% POWER, A REACTOR TRIP OCCURRED DUE TO CLOSURE OF THE 4A MAIN STEAM ISOLATION VALVE (NSIV). THE SUDDEN LOSS OF STEAM FLOW FROM THE 4A STEAM GENERATOR CAUSED AN INCREASE IN PRESSURE IN THAT STEAM GENERATOR. THE PRESSURE INCREASE CAUSED THE STEAM GENERATOR LEVEL TO "SHRINK" TO THE LOW-LOW LEVEL SETPOINT OF 15%. THE AUXILIARY FEEDWATER SYSTEM RESPONDED AS DESIGNED. CORROSION ACOSS TERMINAL BLOCK CONTACTS SUPPLYING VITAL 125 VDC POWER TO ONE OF TWO 4A MSIV OPENING SOLENOID VALVES CAUSED A FUSE TO ELOW. UPON DE-ENERGIZATION, THE OPENING SOLENOID FAILED TO THE WENT POSITION. THIS ALLOWED AIR TO BLEED FROM THE BOTTOM OF THE MSIV PISTON. THE MSIV. DISC DROPPED DOWN INTO THE STEAM FLOW, RESULTING IN RAPID CLOSURE OF THE MSIV. THE CAUSE OF THE ACCELERATED CORROSION IS BEING EVALUATED. UPON INSPECTION OF THE TERMINAL BLOCKS SUPPLYING VITAL 125 VDC POWER TO THE OPENING AND CLOSING SOLENOID VALVES FOR THE 3A, 3B AND 3C MSIVS. CORROSION WAS IDENTIFIED ON ONE OF THE TWO TERMINAL BLOCKS FOR EACH OF THE 3 AND 3C MSIVS. THE 3B AND 3C MSIVS WERE DECLARED INOPERABLE AND UNIT 3 ENTERED TECH SPEC (TS) 3.0.1 AT 2300 ON 12/24/89. THE TWO TERMINAL BLOCKS WERE REPLACED, THE 3B AND 3C MSIVS WERE DECLARED OPERABLE, AND UNIT 3 EXITED TS 3.0.1 AT 0455 ON 12/25/89.

12493 VERMONT YANKEE DOCKET 50-271 LER 89-024 REV 01 UPDATE ON MISSED RESIDUAL HEAT REMOVAL SYSTEM VALVE LEAKAGE SURVEILLANCE DUE TO INCOMPLETE PROCEDURE REVIEW. EVENT DATE: 091389 REPORT DATE: 122089 NSSS: GE TYPE: BWR

(NSIC 216260) IN ORDER TO IMPLEMENT THE RECENTLY DEVELOPED REVISION 10 OF THE VERMONT YANKEE SERVICE TESTING (IST) PROGRAM, VARIOUS SYSTEM SURVEILLANCE PROCEDURES WERE BEING REVISED TO INCORPORATE PROGRAM CHANGES. ON 9/13/89, WHILE REVIEWING THE RESIDUAL HEAT REMOVAL (RHR) (EIIS=BO) SYSTEM SURVEILLANCE PROCEDURE. IT WAS NOTED THAT A REQUIREMENT FROM PREVIOUS IST PROGRAM REVISION 9 CONCERNING LEAK TESTING OF RHR VALVE V10-18 HAD NOT BEEN INCORPORATED AND IMPLEMENTED. THE ROOT CAUSE OF THIS EVENT HAS BEEN DETERMINED TO BE INCOMPLETE REVIEW AND OMISSION OF THE V10-18 LEAK TEST REQUIREMENT DURING RHR SYSTEM IMPLEMENTING PROCEDURE DEVELOPMENT. VERMONT YANKEE'S SUBSEQUENT DOCUMENTATION REVIEW AND GENERIC LETTER 89-04. THAT RHR-18 DID NOT REQUIRE IST TESTING. BASED ON THIS INVESTIGATION THE IST PROGRAM REQUIREMENT TO LEAK TEST RHR-18 WILL BE REMOVED FROM THE PROGRAM. TO PRECLUDE RECURRENCE OF A SIMILAR EVENT, FUTURE CHANGES TO IMPLEMENTING PROCEDURES INVOLVING IST PROGRAM TESTING WILL BE ROUTED TO THE IST PROGRAM COORDINATOR FOR A COMPLETE REVIEW. PREVIOUS SIMILAR EVENTS HAVE BEEN REPORTED TO THE COMMISSION, IN THE LAST FIVE YEARS, AS LER 87-04 AND LER 89-20.

[250] VERMONT YANKEE DOCKET 50-271 LER 89-025 INADVERTENT FRIMARY CONTAINMENT ISOLATION SYSTEM ACTUATION DUE TO A FAILURE OF A REACTOR EUILDING VENTILATION RADIATION MONITOR SENSOR/CONVERTER. EVENT DATE: 112889 REPORT DATE: 122689 NSSS: GE TYPE: BWR VENDOR: GENERAL ELECTRIC CO.

(NSIC 216308) AT APPROX. 0719 HOURS ON 11/28/89, WITH THE REACTOR OPERATING AT APPROX. 100% POWER. A PRIMARY CONTAINMENT ISOLATION SYSTEM GROUP III AND SUBSEQUENT STANDEY GAS TREATMENT SYSTEM (SEGTS) INITIATION OCCURRED. THE PCIS ISOLATION, WHICH ISOLATES THE PRIMARY AND SECONDARY CONTAINMENT VENTILATION, INITIATED WHEN THE REACTOR EUILDING VENTILATION RADIATION MONITOR ("B" (EIIS=MON) FAILED UPSCALE. AFTER VERIFICATION OF NORMAL AREA RADIATION LEVELS, CONTROL ROCM PERSONNEL RESET THE ISOLATION AND RETURNED ALL SYSTEMS TO NORMAL OPERATION. TECH SPEC 3.2.C LCO OPERABILITY REQUIREMENTS WERE SATISFIED AT ALL TIMES. THE ISC DEPARTMENT INVESTIGATED THE PROBLEM AND REPLACED THE SENSOR/CONVERTER (115-TET) AND THE MONITOR WAS DECLARED OPERABLE AT 1120 HOURS ON 11/29/89. THE ROOT CAUSE OF THE EVENT IS EVALUATED TO BE THE LACK OF AN APPROPRIATE SHELF/SERVICE LIFE SPECIFICATION ON THE SENSOR/CONVERTER.

[251] VOGTLE 1 FAILED VIBRATION MONITORING CARD GAUSES MAIN FEED PUMP TRIP AND REACTOR TRIP. EVENT DATE: 050989 REPORT DATE: 060689 NSSS: WE TYPE: FWR VENDOR: GENERAL ELECTRIC CO. WESTINGHOUSE ELECTRIC CORP.

(NSIC 216366) ON 5/9/89. AT APPROX. 0905 CDT, THE UNIT BEGAN EXPERIENCING MAIN FEEDWATER PUNP (MFP) 'E' HIGH VIBRATION ALARMS (6 ALARMS IN 15 SECONDS), WHICH WOULD IMMEDIATELY CLEAR. THE TURBINE BUILDING OPERATOR (TBO) REPORTED NO UNUSUAL NOISE AT THE PUMP. THE ADVANCED TURBINE SUPERVISORY INSTRUMENTATION (ATSI) WAS CHECKED AND READINGS WERE FOUND TO BE BELOW ALARM LEVELS. AT THIS TIME IT WAS THOUGHT THAT PAINTERS, WORKING IN THE AREA, HAD MOVED CABLES CAUSING THE ALARM. ALARMS WERE AGAIN RECEIVED AT 1013 CDT AND A CHECK OF THE ATSI AND A REPORT FROM THE TBO DID NOT INDICATE ANYTHING ABNORMAL. BEARING METAL AND LUBE OIL TEMPERATURES WERE CHECKED ON THE MAIN COMPUTER, AND THE READINGS WERE ACCEPTABLE. ASSISTANCE WAS REQUESTED FROM MAINTENANCE AND ENGINEERING. ADDITIONAL ALARMS WERE RECEIVED BETWEEN 1028 AND 1040 CDT. THE INDIVIDUALS INVESTIGATING THE PROBLEM DID NOT DETECT ANY UNUSUAL VIERATION OF THE MFP. AT 1040 CDT, MFP 'E' TRIPPED ON MIGH VIERATION. CONTROL ROOM OPERATORS ATTEMPTED RECOVERY FROM THE PUMP TRIP, BUT WERE NOT ABLE TO PREVENT A REACTOR TRIP AT 1042 CDT DUE TO STEAM GENERATOR \$4 LOW-LOW LEVEL. THE CAUSE OF THE FEEDWATER PUMP TRIP WAS A BROKEN SOLDER CONNECTION ON A TEST JACK IN THE ATSI VIBRATION CARD FOR THE LOW PRESSURE BEARING. A CONTRIBUTING CAUSE TO THE REACTOR TRIP WAS A FAILED BISTABLE IN THE CONTROL ROD DRIVE CIRCUITRY.

 [252]
 VOGTLE 1
 DOCKET 50-424
 LER 89-019

 PROCEDURE INADEQUACY LEADS TO TECH SPEC VIOLATION.
 DOCKET 50-424
 LER 89-019

 EVENT DATE: 912289
 REPORT DATE: 010290
 NSSS: WE
 TYPE: PWR

(NSIC 216339) ON 11-22-89, AN ELECTRICIAN WAS PERFORMING MONTHLY PREVENTIVE MAINTENANCE (PM) ON A CLASS 1E BATTERY BANK. SEVERAL PARAMETERS ON EACH BATTERY CELL WERE MEASURED AND RECORDED ON A DATA SHEET AND ATTACHED TO THE PM WORK ORDER. THE PM WAS COMPLETED AND SIGNED-OFF AS APPROVED BY THE ELECTRICIAN'S FOREMAN. ON 12-06-89, THE SYSTEM ENGINEER WAS REVIEWING THE WORK ORDER AND FOUND THAT THE MEASURED VOLTAGE OF ONE CELL WAS RECORDED AS 2.10 VOLTS. TECHNICAL SPECIFICATIONS (TS) REQUIRE ENTRY INTO A LIMITING CONDITION FOR OPERATION (LCO) WHEN THE VOLTAGE IS NOT GREATER THAN 2.10 VOLTS. THEREFORE, A TS VIOLATION CCCURRED BECAUSE A LCO ACTION STATEMENT WAS NOT COMPLETED WITHIN THE ALLOWABLE TIME. THE CAUSES OF THIS EVENT WERE A COGNITIVE PERSONNEL ERROR AND AN INADEQUATE PROCEDURE. ALTHOUGH THE VOLTAGE LIMIT IDENTIFIED IN THE PROCEDURE WAS NOT MET. THE MAINTENANCE FOREMAN ERRONEOUSLY APPROVED THE MEASUREMENTS AND FAILED TO ALERT THE SHIFT SUPERVISOR OF THE ADNORMAL PARAMETER. THE FOREMAN HAS BEEN COUNSELED AND A MEMO WILL BE SENT TO OTHER APPROPRIATE PERSONNEL DESCRIBING THIS EVENT AND THE NEED FOR ADEQUATE REVIEWS OF DOCUMENTATION. SECONDLY, THE PROCEDURE USED DID NOT INDICATE THAT CELL VOLTAGE LIMITS WERE TIED TO TS REQUIREMENTS. THIS PROCEDURE WILL BE CHANGED.

(253)VOGTLE 1DOCKET 50-424LER 89-020PERSONNEL ERROR LEADS TO CONTAINMENT VENTILATION ISOLATION.
EVENT DATE: 121189REPORT DATE: 122189NSSS: WETYPE: PWR

(NSIC 216248) ON 12-11-89, AN INSTRUMENT AND CONTROLS (I&C) TECHNICIAN WAS PREPARING TO CHECK THE FUSES IN CONTAINMENT LOW RANGE AREA RADIATION MONITOR TRE-0003. AT 1034 CST, HE REMOVED POWER FROM THE MONITOR PRIOR TO LIFTING THE LEADS TO THE ENGINEERED SAFETY FEATURES (ESF) ACTUATION CIRCUITS. THE LOSS OF POWER CAUSED THE MONITOR TC REVERT TO ITS FAILED OR SAFE CONDITION WHICH SENT A HIGH ALARM SIGNAL TO ESF ACTUATION CIRCUITS. INITIATING A CONTAINMENT VENTILATION ISOLATION. THE ROOT CAUSE OF THIS EVENT WAS COGNITIVE PERSONNEL ERROR ON THE PART OF THE TECHNICIAN IN NOT ADEQUATELY FOLLOWING PROCEDURE. THE TECHNICIAN WILL BE DISCIPLINED AND PROVISIONS FOR BLOCKING THE ESF ACTUATION SIGNAL DURING MAINTENANCE AND TESTING ARE CURRENTLY PLANNED FOR INSTALLATION IN 1990.

[254]	VOGTLE 2		DOCKET 50-425	LER 89-030
PERSONNEL	ERROR LEADS	TO CONTAINMENT	VENTILATION ISOLATION.	
EVENT DATI	E: 112689	REPORT DATE: 12	1989 NSSS: WE	TYPE : PWR

(NSIC 216250) ON 11-26-89, AN INSTRUMENT & CONTROLS (I&C) TECHNICIAN WAS PERFORMING THE 18-MONTH ANALOG CHANNEL OPERATIONAL TEST (ACOT) ON CONTAINMENT LOW RANGE AREA RADIATION MONITOR 2RE-0003. THE MONITOR'S REMOTE/EYPASS SWITCH WAS IN THE "BYPASS" POSITION AS THE TECHNICIAN INTRODUCED A TEST SIGNAL TO SIMULATE A HIGH RADIATION READING. THE MONITOR'S PROCESSING UNIT TOOK APPROXIMATELY FOUR MINUTES TO PROCESS THE SIGNAL. HOWEVER, THE TECHNICIAN DID NOT UNDERSTAND THE DELAY AND PROCEEDED TO CHECK THE GAIN AND BACKGROUND SIGNAL TO ENSURE THEY WERE CORRECT. AT 1510 CST, HE MOVED THE REMOTE/EYPASS SWITCH TO THE "REMOTE" POSITION WHICH ALLOWED THE TEST SIGNAL TO INITIATE A CONTAINMENT VENTILATION ISOLATION (CVI). THE ROOT CAUSE OF THIS EVENT WAS COGNITIVE PERSONNEL ERROR ON THE PART OF THE TECHNICIAN. THE PROCEDURE WHICH WAS BEING EMPLOYED TO CONDUCT THE TEST DID NOT ADDRESS MOVEMENT OF THE REMOTE/EYPASS SWITCH AT THE TIME WHEN THE TECHNICIAN MOVED IT TO THE REMOTE POSITION. THE TECHNICIAN HAS BEEN COUNSELED REGARDING THE IMPORTANCE OF COMPLIANCE WITH PROCEDURES 750 SEEKING GUIDANCE WHEN EXPECTED TEST RESULTS ARE NOT ACHIEVED.

[255] VOGTLE 2 HEATER DRAIN TANK VALVE REASSEMBLY ERROR LEADS TO TURBINE/REACTOR TRIP. EVENT DATE: 120209 REPORT DATE: 122289 NSSS: WE TYPE: PWR VENDOR: FISHER CONTROLS CO.

(NSIC 216251) ON 12-2-89, PLANT PERSONNEL WERE RELEASING A CLEARANCE ON HEATER DRAIN TANK (HDT) HIGH LEVEL DUMP VALVE 2LV-4334. THE HIGH LEVEL DUMP VALVE FOR MOISTURE SEPARATOR REHEATER (MSR)"D", 2LV-4525, WAS IN A 50% JACKED-OPENED POSITION DUE TO 2LV-4334 GEING ISOLATED. UPON OFENING THE VALVE WHICH ISOLATED 2LV-4334, IT BECAME EVIDENT THAT 2LV-4334 WAS NOT CLOSED. THE HDT LEVEL DECREASED AND THE NORMAL LEVEL CONTROL VALVE, 2LV-4332, CLOSED. THE ISOLATION VALVE WAS RECLOSED AND HDT LEVEL ROSE; HOWEVER, 2LV-4332, FAILED TO REOPEN RESULTING IN RISING FEEDWATER HEATER LEVELS AND, DUE TO THE CONFIGURATION OF 2LV-4525, MSR D LEVEL ROSE AS WELL. AT 0341 CST, MSR D LEVEL REACHED THE HIGH LEVEL SETPOINT GIVING A TURBINE/REACTOR TRIP. THE ROOT CAUSE FOR THE EVENT WAS COGNITIVE PERSONNEL ERROR INVOLVING REASSEMELY OF 2LV-4334. THE VALVE WAS REASSEMBLED SUCH THAT ITS POSITION INDICATION SHOWED CLOSED WHEN IT WAS ACTUALLY FULL OPEN. FOR 2LV-4332, THE LEVEL CONTROL SENSING LINES WERE DISCOVERED TO BE CLOGGED WHICH RESULTED IN TS MALFUNCTION. ACTYONS YO PREVENT RECURRENCE INCLUDE DISCUSSING THIS EVENT IN MAINTENANCE SHOP MEETINGS, IMPLEMENTATION OF A PERIODIC TASK TO PLONCOWN THE LEVEL CONTROL SENSING LINES ASSOCIATED WITH 2LV-4332, AND INCLUSION OF THIS EVENT IN OPERATOR CONTINUING TRAINING.

 [256]
 WATERFORD 3
 DOCKET 50-382
 LER 89-017 REV 01

 UPDATE ON REACTOR TRIP DUE TO COMPLICATIONS ASSOCIATED WITH CONTROL ELEMENT

 ASSEMBLY MALFUNCTION.

 EVENT DATE:
 081989
 REPORT DATE:
 122989
 NSSS: CE
 TYPE:
 PWR

 VENDOR:
 ELECTRO - MOTIVE DIV. OF GM
 OF GM
 MOTIVE DIV.
 OF GM

(NSIC 216334) AT 1319 HOURS ON AUGUST 19, 1989, AN AUTOMATIC REACTOR TRIP OF WATERFORD STEAN ELECTRIC STATION UNIT 3 OCCURRED WHILE OPERATING AT 23% POWER. THE TRIP WAS INITIATED BY THE PLANT PROTECTION SYSTEM (PPS) IN RESPONSE TO VARIATIONS IN CORE AXIAL SHAPE INDEX (ASI), A MEASURE OF CORE POWER DISTRIBUTION. INDUCED BY THE DOWN POWER REQUIRED FOR AN ABNORMAL CONTROL ELEMENT ASSEMBLY (CEA) CONFIGURATION. THIS EVENT IS REPORTABLE AS AN AUTOMATIC REACTOR PROTECTION. DURING ROUTINE CEA OPERABILITY TESTING, CEA 18 WOULD NOT MOVE IN EITHER DIRECTION. AFTER REPAIRS WERE MADE TO CEA CONTROL CIRCUITRY, CEA 18 WAS INSERTED BELOW THE TECHNICAL SPECIFICATION (TS) LIMIT OF 145 INCHES WHILE VERIFYING RESPONSE. CEA 18 WOULD NOT WITHDRAW, NECESSITATING A REACTOR POWER REDUCTION PER TSS. WHILE ATTEMPTING TO CONTROL ASI SUBSEQUENT TO THE POWER REDUCTION. THE REACTOR TRIPPED. THE DEFECTIVE EQUIPMENT HAS BEEN REPLACED AND TESTED SATISFACTORILY. BECAUSE PROTECTIVE FEATURES FUNCTIONED AS DESIGNED. THE MEALTH AND SAFETY OF THE GENERAL PUBLIC OR PLANT PERSONNEL WAS NOT ADVERSELY AFFECTED BY THIS EVENT.

FATIGUE FAILURE OF THE MAIN STEAN ISOLATION VALVE STEM DUE TO CYCLIC STRESS. EVENT DATE: 092789 REPORT DATE: 011990 NSSS: CE TYPE: PWR VENDOR: WKM VALVE DIVISION

(NSIC 216494) ON SEPTEMBER 27, 1989, WITH WATERFORD STEAM ELECTRIC STATION UNIT 3 SHUTDOWN FOR A REFUELING OUTAGE. MAIN STEAM ISOLATION VALVE 2 (MSIV) MS-124B, WAS DETERMINED TO HAVE A BROKEN STEM. MSIV 1, MS-124A, WAS DISASSEMBLED AND A CRACK WAS IDENTIFIED AT THE SAME LOCATION AS THAT FOUND IN MSIV 2. THE ROOT CAUSE OF THIS EVENT IS FATIGUE FAILURE OF THE STEM. THE MSIVS HAVE BEEN SUBSEQUENTLY REPAIRED. MSIV 1 AND 2 PREVIOUSLY EXPERIENCED GUIDE RAIL FAILURES IN APRIL OF 1988. OTHER DESIGN PROBLEMS HAVE BEEN NOTED ON W-K-M POWER-SEAL GATE VALVES AT WATERFORD 3. AN EVALUATION OF SIMILAR VALVES MANUFACTURED BY W-K-M IS BEING CONDUCTED TO DETERMINE THE NEED FOR FURTHER REPLACEMENT. ALTHOUGH THESE EVENTS APPEARED TO BE INDIVIDUAL ISOLATED CASES AND DO NOT MEET THE REPORTING CRITERIA OF 10CFR50.73(A), THE COMEINED PROBLEMS ARE BEING REPORTED AS A VOLUNTARY LER WHICH MAY BE OF GENERIC INTEREST TO THE NUCLEAR INDUSTRY. THE MSIVS WOULD HAVE CLOSED IN LESS THAN THREE SECONDS ON A MAIN STEAM ISOLATION SIGNAL, FOR BOTH FAILURES, THUS THE NUCLEAR SAFETY FUNCTION OF THIS VALVE WAS NOT IMPACTED AND NO THREAT TO THE HEALTH AND SAFETY OF THE PUBLIC OR PLANT STAFF EXISTED.

1258] WATERFORD 3 REACTOR TRIP DUE TO LOSS OF FEEDWATER FLOW TO STEAM GENERATOR #1. EVENT DATE: 122389 REPORT DATE: 012290 NSSS: CE TYPE: PWR

(NSIC 216495) AT 1109 HOURS ON DECEMBER 23, 1989, CONTROL ROOM OPERATORS INITIATED A MANUAL REACTOR TRIP OF WATERFORD STEAM ELECTRIC STATION UNIT 3 WHILE OPERATING AT 100% POWER. THE TRIP WAS INITIATED IN RESPONSE TO DECREASING LEVEL IN STEAM GENERATOR (SG) #1 AFTER MAIN FEED REGULATING VALVE (MFRV) #1 UNEXPECTEDLY FAILED SHUT. SHORTLY AFTER THE REACTOR TRIP MFRV #1 OPENED INADVERTENTLY. A REACTOR COOLANT SYSTEM (RCS) COOLDOWN AND A CORRESPONDING RCS PRESSURE DROP TO APPROXIMATELY 1640 PSIA RESULTED, GENERATING A SAFETY INJECTION ACTUATION SIGNAL (SIAS). AN EMERGENCY FEEDWATER ACTUATION SIGNAL (EFAS) WAS ALSO GENERATED DURING THE POST-TRIP TRANSIENT. THE ROOT CAUSE OF THIS EVENT APPEARS TO BE AN ANOMALY IN THE MFRV PNEUMATIC CONTROL SYSTEM BROUGHT ABOUT BY COLD WEATHER EFFECTS ON SYSTEM COMPONENTS. A VENDOR DIAGNOSTIC TEAM WILL BE CONTRACTED TO PROVIDE AN INDEPTH INVESTIGATION TO AID IN ROOT CAUSE DETERMINATION. IF THE ROOT CAUSE CAN BE POSITIVELY IDENTIFIED IT WILL BE DESCRIBED IN A REVISION TO THIS REPORT. ALL SAFETY SYSTEMS FUNCTIONED AS Designed; Therefore, This event did not threaten the health and safety of the general public or plant personnel.

[259] WOLF CREEK 1 SEISMIC ANALYSIS DISCREPANCIES AFFECTING CONTAINMENT COOLING FAN SYSTEM HOUSING. EVENT DATE: 111789 REPORT DATE: 121889 NSSS: NE TYPE: PWR VENDOR: AMERICAN AIR FILTER CO., INC.

(NSIC 216278) ON 11/17/89, IT WAS DETERMINED BY A CALCULATION THAT THE AS-BUILT CONFIGURATION OF THE HOUSING FOR BOTH TRAINS OF CONTAINMENT COOLING FAN HEAT EXCHANGERS WAS NOT SEISMICALLY QUALIFIED TO WITHSTAND A SAFE SHUTDOWN EARTHQUAKE. IT WAS FURTHER DETERMINED THAT THIS SITUATION PLACED THE WOLF CREEK GENERATING STATION IN A CONDITION OUTSIDE THE DESIGN BASIS OF THE PLANT. THIS CALCULATION WAS PERFORMED IN RESPONSE TO A NOTIFICATION BY THE ARCHITECT/ENGINEER (BECHTEL POWER CORPORATION) OF GENERIC ERRORS/DISCREPANCIES IN THE ORIGINAL SEISMIC QUALIFICATION REPORT. UPON COMPLETION OF THE CALCULATION, BOTH TRAINS OF CONTAINMENT COOLING FANS WERE DECLARED INOPERABLE. A PLANT MODIFICATION PACKAGE WAS DEVELOPED TO INSTALL ADDITIONAL SEISMIC RESTRAINTS. THE INSTALLATION OF THE RESTRAINTS WAS COMPLETED ON 11/19/89 ON THE 'B' TRAIN AND ON 11/20/99, ON THE 'A' TRAIN, THEREBY RESTORING BOTH TRAINS OF CONTAINMENT COOLING FANS TO OPERABLE STATUS. A DETAILED REVIEW AND EVALUATION OF THE ORIGINAL SEISMIC ANALYSIS METHODOLOGY IN CONPARISON TO THE CONSERVATIVE METHODOLOGY UTILIZED IN NOVEMBER, 1989, IS BEING PERFORMED. THE CONSERVATIVE METHODOLOGY UTILIZED IN NOVEMBER, 1989, IS BEING PERFORMED. THE CONCLUSIONS REACHED WILL BE PROVIDED IN A SUPPLEMENT TO THIS REPORT.

[260] WPPSS 2 DOCKET 50-397 LER 89-043 INOPERABILITY OF THE HIGH PRESSURE CORE SPRAY SYSTEM CAUSED BY EQUIPMENT FAILURE. EVENT DATE: 112089 REPORT DATE: 122089 NSSS: GE TYPE: BWR VENDOR: ANCHOR/DARLING VALVE CO.

(NSIC 216247) AT 0524 HOURS ON 11/21/89, DURING PERFORMANCE OF THE HIGH RESSURE CORE SPRAY (HPCS) SYSTEM OPERABILITY SURVEILLANCE TEST, THE HPCS MININUM FLOW VALVE (HPCS-V-12) APPARENTLY WOULD NOT OPEN PROPERLY TO MAINTAIN MINIMUM FLOW DECLARED INOPERABLE AND TROUBLESHOOTING WAS INITIATED BY THE FLANT OPERATIONS STAFF. INITIAL TROUBLESHOOTING SHOWED THAT HPCS-V-12 WAS NOT MALFUNCTIONING. THE PROBLEM WAS ISOLATED TO HPCS-V-23, THE TEST RETURN VALVE TO THE SUPPRESSION POOL. IT WAS FOUND TO BE APPROX. 10% OPEN. THIS ALLOWED SUFFICIENT FLOW TO CAUSE HPCS-V-12 TO CLOSE. THE LCO ACTION REQUIREMENT OF TECH SPEC 3.5.1 WAS IMPOSED UNTIL THE RETURN OF THE NPCS SYSTEM TO OPERABLE STATUS. AT 2150 HOURS THAT EVENING, TEST FETURN VALVE TO THE SUPPRESSION POOL (HPCS-V-23), WAS FOUND TO BE APPROX. 10% OPEN, EVEN THOUGH IT WAS INDICATING CLOSED IN THE CONTROL ROOM. AFTER ATTEMPTS TO MANUALLY CLOSE THE VALVE FAILED, THE MANUAL BLOCK VALVE FOR THE TEST RETURN LINE (HPCS-V-64) WAS CLOSED TO ISOLATE THE FAULTY VALVE. AT 2230 HOURS AFTER SUCCESSFUL COMPLETION OF THE SYSTEM OPERABILITY SURVEILLANCE, THE HPCS SYSTEM WAS DECLARED OPERABLE. THE PRELIMINARY CAUSE OF THIS EVENT IS EQUIPMENT FAILURE IN THAT HPCS-V-23, WAS NOT ABLE TO BE CLOSED BY MOTOR OPERATOR OR BY MAND TO PREVENT UNDESIRED DIVISION OF SYSTEM FLOW.

[261]WPPSS 2DOCKET 50-397LER 89-044HIGH PRESSURE CORE SPRAY SYSTEM POTENTIALLY INOPERABLE DURING A DESIGN BASISACCIDENT DUE TO UNDERSIZED THERMAL OVERLOADS.EVENT DATE: 112889REFORT DATE: 12889VENDOR: GENERAL ELECTRIC CO.

(NSIC 216359) ON 11/28/89, AN ELECTRICAL DESIGN ENGINEER IDENTIFIED 6 INCORRECTLY SIZED THERMAL OVERLOAD HEATERS THAT COULD HAVE PREVENTED THE HIGH PRESSURF CORE SPRAY (HPCS) FROM PERFORMING ITS SAFETY FUNCTION UNDER DESIGN BASIS CONDITIONS. THIS CONDITION WAS DISCOVERED BY THE ENGINEER DURING PERFORMANCE OF THE SUPPLY SYSTEM INITIATED AC ELECTRICAL DISTRIBUTION SYSTEM SAFETY SYSTEM FUNCTIONAL INSPECTION (SSFI) EFFORT. CORRECTIVE ACTIONS INCLUDE: 1) THE HPCS SYSTEM AND HPCS DIESEL-GENERATOR WERE DECLARED INOPERABLE, 2) THE NRC WAS NOTIFIED OF HPCS INOPERABILITY, 3) THE UNDERSIZED OVERLOAD MEATERS WERE REPLACED WITH THE CORRECTLY SIZED MEATERS, AND 4) THE MPCS SYSTEM AND DIESEL-GENERATOR WERE SUBSEQUENTLY RETURNED TO OPERABLE STATUS. THE PRIMARY ROOT CAUSE OF UNDERSIZED MEATERS WAS THE DESIGN SELECTION WAS LESS THAN SPECIFIED IN THE FSAR AND THE ARCHITECT/ENGINEER'S (A/E) SELECTION PROCEDURE. CONTRIBUTING CAUSES INCLUDE PERSONNEL ACCOUNTABILITY WAS NOT CLEARLY DEFINED, THE ENGINEERING CRITERIA IN THE PROCEDURE DID NOT COVER THE SITUATION, A/E SPECIFICATIONS WERE NOT FULLY DEFINITIVE FOR PROPER SELECTION OF THE PARTICULAR THERMAL OVERLOADS, AND REVIEW OF THE MEATER SELECTION DID NOT DETECT THE ERRORS. FURTHER CORRECTIVE ACTION INCLUDES REVISING THE THERMAL OVERLOAD SELECTION PROCEDURES TO REMOVE AMBIGUITY.

[262] WPPSS 2 TEST CONNECTIONS NOT ON PRIMARY CONTAINMENT INTEGRITY VERIFICATION SURVEILLANCE. EVENT DATE: 120189 REPORT DATE: 122989 NSSS: GE TYPE: EWR

(NSIC 216336) ON DECEMBER 1, 1989 TWO 3/4 INCH TEST CONNECTION VALVES LOCATED BETWEEN THE CONTAINNENT AND THE OUTBOARD ISOLATION VALVE ON THE 1 INCH PRIMARY COOLANT SAMPLE LINE WERE DISCOVERED THAT SHOULD HAVE EEEN INCLUDED ON THE PRIMARY CONTAINMENT INTEGRITY VERIFICATION SURVEILLANCE. IMMEDIATE CORRECTIVE ACTION VERIFIED THE VALVES WERE CLOSED AND PLACED THE VALVES ON THE SURVEILLANCE TO ALLOW VERIFICATION OF THEIR CLOSED CONDITION TO OCCUR ON A MONTHLY FREQUENCY. THE ROOT CAUSE OF THIS EVENT WAS PERSONNEL RELATED AS PROCEDURES WERE NOT BEING FOLLOWED BY THE PROJECT ENGINEER WHEN THE TWO VALVES WERE INSTALLED DURING THE REFUELING OUTAGE IN MAY 1989. FURTHER CORRECTIVE ACTION WILL INCLUDE ADDITIONAL INSTRUCTION TO PROJECT ENGINEERS TO ASSURE PROCEDURES ARE UPDATED WHEN THE PLANT IS MODIFIED. IN ADDITION, A PHYSICAL WALK-DOWN OF ALL CONTAINMENT PENETRATIONS WILL BE PERFORMED TO PROVIDE ASSURANCE THAT ALL ITEMS ARE NOW CONTAINED ON THE CHECKLIST. THIS EVENT POSED NO THREAT TO THE HEALTH AND SAFETY OF EITHER THE PUELIC OR PLANT PERSONNEL.

12633 YANKEE ROWE DOCKET 50-029 LER 89-015 TECH SPEC VIOLATION CONCERNING PERFORMANCE OF SAMPLE ANALYSIS. EVENT DATE: 112689 REPORT DATE: 122289 NSSS: WE TYPE: PWR

(NSIC 216304) ON 11/25/89, AT 1650 HOURS, WHILE IN MODE 1 AT 100% POWER, THE STEAM GENERATOR BLONDOWN CONTINUOUS COMPOSITE SAMPLER WAS DECLARED INOPERABLE. TECH SPEC 3.3.3.6, ACTION B. ALLOWS FOR CONTINUED RELEASES, PROVIDED THAT SAMPLES ARE ANAYZED FOR CROSS RADIOACTIVITY. AN INVESTIGATION WAS CONDUCTED AND THE DETERMINATION WAS MADE THAT THE SAMPLE HAD BEEN COLLECTED BUT THE ANALYSIS HAD NOT BEEN CONPLETED WITHIN THE TS REQUIRED 24 HOUR PERIOD. THE ANALYSIS WAS COMPLETED AT 1900 HRS ON 11/26/89, AND THE RESULTS INDICATED RELEASES COULD CONTINUE. SUBSEQUENT SAMPLING AND ANALYSES WERE CONDUCTED UNTIL THE MONITOR WAS DECLARED OPERABLE ON 11/30/89. THE ROOT CAUSE OF THIS EVENT WAS ATTRIBUTED TO PERSONNEL ERROR IN THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED CORRECTLY. A CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED THE SAMPLE CONTRIBUTING CAUSE WAS THAT CHEMISTRY PROCEDURES WERE NOT FOLLOWED THE SAMPLE CONTRIBUTING CONSTRUCTION OF A SPECIAL ORDER TO OPERATIONS PERSONNEL ON

[264]ZION 1DOCKET 50-295LER 89-019MISSED FIREWATCH SURVEILLANCE ON VOLUME CONTROL TANK ROOM DUE TO PERSONNEL ERROR.EVENT DATE: 102689REPORT DATE: 112789NSSS: WETYPE: PWR

(NSIC 216060) UNIT 1 WAS DEFUELED. AN HOURLY FIREWATCH WAS IN EFFECT FOR THE UNIT 1 VOLUME CONTROL TANK (VCT) ROOM BECAUSE OF A DEGRADED FIRE BARRIER. THE 0300 SURVEILLANCE WAS MISSED BECAUSE OF THE FAILURE OF THE RESPONSIBLE SECURITY GUARD TO OBTAIN A R-KEY. A R-KEY IS REQUIRED TO OBTAIN ENTRY INTO THIS ROOM TO PERFORM THE SURVEILLANCE. THE CAUSE OF THE EVENT IS PERSONNEL ERROR IN THAT THE SECURITY GUARD DID NOT AGGRESSIVELY PURSUE OBTAINING THE REQUIRED R-KEY. THE SAFETY SIGNIFICANCE WAS MINIMAL IN THAT THE UNIT WAS DEFUELED, AND THUS THE CHARGING SYSTEM IS NOT REQUIRED FOR ANY SAFEGUARDS FUNCTION. THE AREA OUTSIDE THE VCT ROOM IS MONITORED BY FIRE DETECTORS, AND VERY WELL TRAVELLED. THUS A FIRE IN THIS AREA GOING UNDETECTED IS VERY UNLIKELY. A MEMO WAS ISSUED ON 10/27/39 TO THE SECURITY FORCE REQUIRING THAT THE FIREMATCH SECURITY GUARD REPORT VIA RADIO THAT THE FIREMATCH HAS BEEN PERFORMED. ALSO, THE OFFGOING FIREMATCH GUARD WILL NOT TURN IN THE R-KEY UNTIL RELIEVED BY ANOTHER FIREWATCH GUARD WITH AN R-KEY.

 [265]
 ZION 1
 DOCKET 50-295
 LER 89-022

 SERVICE WATER AREA VENT FAN AIRCRAFT CRASH DAMPER FOUND OPEN DUE TO SOLENOID
 VALVE FAILURE.

 EVENT DATE:
 112289
 REPORT DATE:
 122289
 NSSS: WE
 TYPE:
 PWR

(NSIC 216311) ON 11/22/89 AT 1445 HOURS THE OEN SERVICE WATER AREA VENT FAN AIRCRAFT CRASH DAMPER WAS FOUND OPEN WITH ITS FAN OFF BY A TECHNICAL STAFF ENGINEER INVESTIGATING OTHER ITEMS IN THE CRIEHOUSE. THE OPEN AIRCRAFT CRASH DAMPER VIOLATES TECH SPEC 3.17.2 WHICH REQUIRES THAT THE AIRCRAFT CRASH DAMPER BE CLOSED (ITS ACCIDENT POSITION) UNLESS ITS FAN IS RUNNING. UNIT 1 WAS IN THE REFUELING MODE AT THIS TIME. INVESTIGATION REVEALED THAT THE DAMPER CONTROL AIR SOLENOID VALVE HAD FAILED CLOSED AND CAUSED THE DAMPER TO FAIL OPEN. ELECTRICAL MAINTENANCE (EM) PERSONNEL REPLACED THE DEFECTIVE SOLENOID VALVE BY 1800 HOURS ON 11/22/89 AND CLOSED THE DAMPER (CONFIRMED BY TECHNICAL STAFF ENGINEER). THE OBN FAN WAS CAUTION-CARDED NOT TO RUN UNTIL THE DAMPER WAS CONFIRMED FULLY OPERATIONAL ON 12/7/89 BY PT-210 (AIRCRAFT CRASH FIRE DETECTION SYSTEM TEST). THERE WAS MINIMAL SAFETY SIGNIFICANCE DUE TO THIS EVENT SINCE THERE WERE NO AIRCRAFT CRASH INCIDENTS DURING THE TIME THE DAMPER WAS OPEN. THE EXACT TIME THAT THE DAMPER WAS OPEN IS UNDETERMINED BUT THE DAMPER WAS SUCCESSFULLY TESTED PER PT-210 ON 10/25/89 WHICH CONFIRMED THE DAMPER CLOSED. THIS IS THE LAST WRITTEN RECORD OF THIS DAMPER'S POSITION PRIOR TO THE 11/22/89 DISCOVERY.

[266]	ZION 1	and the second terminal second	DOCKET 50-295	LER 89-026
MISSED FI	IREWATCH IN	CRIB HOUSE SERVICE WATER	PUMP AREA.	
OTHER UNI	TS INVOLVE	D. ZTON 2 (PWP)	N5551 WL	TIPE: PWK

(NSIC 216489) ON 12/14/89. A SECURITY OFFICER FAILED TO PERFORM THE 2400 FIREWATCH SURVEILLANCE ON THE SERVICE WATER PUMP AREA OF THE CRIB HOUSE. ONE HOUR AND FIFTY MINUTES ELAPSED BETWEEN FIRE WATCHES. THE CAUSE OF THE EVENT WAS A MISUNDERSTANDING BETWEEN THE OFFGOING AND ONCOMING SECURITY OFFICERS. THE ONCOMING SECURITY OFFICER THOUGHT THAT THE OFFGOING SECURITY OFFICER HAD PERFORMED THE FIREWATCH. AND ALSO MISREAD THE LOG. THINKING THAT THE 2300 ENTRY WAS THE 2400 ENTRY. THERE WAS NO SAFETY SIGNIFICANCE BECAUSE THE AREA WAS MONITORED AT ALL TIMES BY FIRE DETECTORS THAT WOULD ALARM IN THE CONTROL ROOM. THE EMPLOYEE WAS COUNSELLED, AND DISCIPLINARY ACTION WAS TAKEN. THIS EVENT WILL BE REVIEWED WITH ALL PERSONNEL ASSIGNED TO FIREWATCHES. FOR LONGTERM CORRECTIVE ACTION, A FULL TIME FIREWATCH FORCE HAS BEEN ESTABLISHED.

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