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# Licensee Event Report (LER) Compilation

For month of February 1985

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Oak Ridge National Laboratory

Prepared for  
U.S. Nuclear Regulatory  
Commission

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For month of February 1985

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Oak Ridge National Laboratory  
Nuclear Safety Information 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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[ 1] ARKANSAS NUCLEAR 2 DOCKET 50-368 LER 84-024  
 REACTOR TRIP CAUSED BY A DROPPED CONTROL ELEMENT ASSEMBLY.  
 EVENT DATE: 082884 REPORT DATE: 092684 NSSS: CE TYPE: PWR  
 VENDOR: COMBUSTION ENGINEERING, INC.  
 GENERAL ELECTRIC CO.

(NSIC 191829) ON 8-28-84, AT 0842 HRS WHILE IN MODE 1 AT 100% FULL POWER A REACTOR TRIP OCCURRED AS A RESULT OF A DROPPED CONTROL ELEMENT ASSEMBLY. PENALTIES GENERATED BY THE CONTROL ELEMENT ASSEMBLY CALCULATORS DUE TO THE MISALIGNED SHUTDOWN GROUP CEA AND SUPPLIED TO THE CORE PROTECTION CALCULATORS RESULTED IN A CALCULATED LOW DNRR LEADING TO A REACTOR TRIP. INVESTIGATION REVEALED THAT THE POWER SUPPLY BREAKER FOR THE CEA WAS OPEN AND THAT A SINGLE PHASE POWER SUPPLY FUSE FOR THE DROPPED CEA'S SUBGROUP AND ONE OTHER CEA SUBGROUP WAS OPEN. A SILICON CONTROLLED RECTIFIER WAS REPLACED FOR THE DROPPED CEA. THE POWER SUPPLY FUSES, OPTO-ISOLATOR CARDS AND COIL DRIVER CARDS WERE REPLACED FOR THE CEA SUBGROUPS. THE SUBGROUPS OPERATION WAS NORMAL DURING TESTING FOLLOWING REPAIRS. DURING AUTOMATIC TRANSFER OF AUX LOADS AFTER THE TRIP, THE 6.9 KV BUS 2H2 LOCKOUT RELAY TRIPPED. AS A RESULT, REACTOR COOLANT PUMPS 2P-32B AND 2P-32C TRIPPED. FORCED CIRCULATION WAS MAINTAINED WITH ONE PUMP PER LOOP BY RCPS 2P-32A AND 2P-32D. BUS 2H2 LOCKOUT RELAY TRIP WAS APPARENTLY DUE TO SLOW OPENING OF THE UNIT AUX TRANSFORMER FEEDER BREAKER FOR BUS 2H2. THE BREAKER WAS REPLACED. SIMILAR OCCURRENCES WERE REPORTED IN LER'S 50-368/82-004, 81-031, 79-084, 79-083, AND 78-023.

[ 2] ARKANSAS NUCLEAR 2 DOCKET 50-368 LER 84-023  
 TEMPORARY LOSS OF SHUTDOWN COOLING PUMP SUCTION DUE TO ERRONEOUS RCS LEVEL INDICATION.  
 EVENT DATE: 082984 REPORT DATE: 100184 NSSS: CE TYPE: PWR

(NSIC 191777) ON 8-29-84, THE PLANT WAS IN MODE 5 AND THE RCS LEVEL WAS BEING MONITORED BY A TEMPORARY LEVEL INDICATOR CONNECTED TO THE BOTTOM OF THE RCS HOT LEG AND VENTED TO ATMOSPHERE. A NITROGEN PURGE OF THE RCS WAS IN PROGRESS TO "SWEEP" HYDROGEN FROM THE SYSTEM PRIOR TO MAINTENANCE. THE RCS WAS BEING VENTED VIA THE UPPER VESSEL HEAD VENT AND DUE TO NITROGEN FLOW EXCEEDING VENT FLOW CAPACITY THE RCS BECAME SLIGHTLY PRESSURIZED. THIS RESULTED IN A MANOMETER EFFECT AND INACCURATE INDICATION OF RCS LEVEL. THE LEVEL INDICATION INACCURACY LED TO DRAINING OF THE WATER IN THE RCS HOT LEG BELOW THE MINIMUM LEVEL FOR ADEQUATE SHUTDOWN COOLING PUMP SUCTION. SDC LOOP FLOW INDICATION BEGAN OSCILLATING BETWEEN 2000 AND 4000 GPM INDICATING CAVITATION OF THE SDC PUMP. CONSEQUENTLY THE "B" SDC PUMP AND NITROGEN PURGE WERE SECURED. DECAY HEAT REMOVAL ALIGNMENT WAS SHIFTED TO THE "A" SDC LOOP AND NORMAL FLOW OF APPROX 3000 GPM WAS ESTABLISHED. DURING THE PERIOD SDC FLOW WAS OFF, RCS BULK AVERAGE TEMPERATURE INCREASED FROM APPROX 140 TO 205 DEGREES F RESULTING IN A CHANGE FROM MODE 5 TO MODE 4. TO PREVENT RECURRENCE THE TEMPORARY LEVEL SYSTEM REFERENCE LEG HAS BEEN CHANGED FROM VENTING TO ATMOSPHERE TO VENTING TO THE PRESSURIZER STEAM SPACE. CHANGES HAVE BEEN MADE TO NORMAL AND ABNORMAL OPERATING PROCEDURES TO IMPROVE SYSTEM AND OPERATOR RESPONSE TO SIMILAR EVENTS.

[ 3] ARNOLD DOCKET 50-331 LER 84-036  
 UNPLANNED RWCU ISOLATIONS.  
 EVENT DATE: 092584 REPORT DATE: 102584 NSSS: GE TYPE: BWR

(NSIC 192050) ON SEPTEMBER 25, 1984 DURING NORMAL POWER OPERATION, AND ON SEPTEMBER 30, 1984 AND OCTOBER 20, 1984 WITH THE REACTOR SHUT DOWN, THE REACTOR WATER CLEANUP SYSTEM ISOLATED AS A RESULT OF MOMENTARY SPURIOUS SIGNALS IN THE REACTOR WATER CLEANUP LEAK DETECTION LOGIC. IN EACH CASE THE SYSTEM WAS VERIFIED TO BE FREE OF ACTUAL LEAKAGE AND RETURNED TO NORMAL SERVICE.



LEVEL. AT THE TIME, THE UNIT WAS OPERATING AT 95% POWER WITH A GRADUAL INCREASE TO RATED POWER IN PROGRESS. A SCRAM RECOVERY WAS CARRIED OUT. THE REACTOR LEVEL DECREASED SUCH THAT REACTOR LOW LEVEL NO. 2 INSTRUMENTATION ACTUATED. A GROUP 1 ISOLATION ALONG WITH AUTOMATIC STARTING OF THE HIGH PRESSURE COOLANT INJECTION (HPCI) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEMS AND TRIPPING OF THE REACTOR RECIRCULATION PUMPS OCCURRED. THE HPCI SYSTEM ISOLATED SHORTLY AFTER STARTING AND THE RCIC SYSTEM WAS UTILIZED TO RESTORE AND MAINTAIN REACTOR LEVEL. REACTOR PRESSURE, WHICH PEAKED AT 1040 PSIG, WAS CONTROLLED BY MANUAL OPENING OF REACTOR SAFETY-RELIEF VALVES 1-B21-F013A AND E. THE EVENT WOULD NOT HAVE BEEN MORE SEVERE UNDER OTHER PLANT CONDITIONS SPECIFIC TO UNIT 1. THE EVENT RESULTED FROM AN INTERRUPTION OF CONDENSATE FLOW TO THE REACTOR FEED PUMPS, WHICH TRIPPED THE B REACTOR FEED PUMP AND CAUSED A DECREASE IN FEEDWATER FLOW TO THE REACTOR. WHILE SHIFTING THE INSTRUMENT AIR SUPPLY TO THE PLANT RADWASTE SYSTEM FROM UNIT 1 TO UNIT 2, A CLOSED UNIT 2 INSTRUMENT AIR SUPPLY VALVE RESULTED IN THE UNIT 1 CONDENSATE FILTER DEMINERALIZERS' OUTLET VALVES CLOSING DUE TO LACK OF ACTUATION SUPPLY PRESSURE. INVOLVED PERSONNEL WERE COUNSELED AND APPROPRIATELY DISCIPLINED CONCERNING THEIR ACTIONS AND HAVE RECEIVED REAL-TIME TRAINING.

[ 9] BRUNSWICK 1 DOCKET 50-325 LER 84-007  
 AUTOMATIC ISOLATION OF HIGH PRESSURE COOLANT INJECTION SYSTEM.  
 EVENT DATE: 033184 REPORT DATE: 043084 NSSS: GE TYPE: BWR  
 VENDOR: AMPHENOL

(NSIC 191760) ON 3-31-84, AT 2308, THE UNIT 1 HIGH PRESSURE COOLANT INJECTION SYSTEM AUTOMATICALLY INITIATED ON DECREASING REACTOR LEVEL FOLLOWING A REACTOR SCRAM. SHORTLY THEREAFTER, THE HPCI SYSTEM ISOLATED ON B ISOLATION LOGIC CONCURRENT WITH A HPCI STEAM LINE HIGH FLOW ANNUNCIATION. ATTEMPTS TO RESET THE ISOLATION SIGNAL AND MANUALLY RESTART THE HPCI SYSTEM WERE UNSUCCESSFUL. THE REACTOR CORE ISOLATION COOLING SYSTEM WAS UTILIZED TO RESTORE AND MAINTAIN REACTOR LEVEL. THE HPCI SYSTEM ISOLATED AND TRIPPED DUE TO A LOSS OF TURBINE SPEED CONTROL RESULTING FROM A BROKEN WIRE AT THE TURBINE SPEED CONTROL AND INDICATION MAGNETIC PICKUP AMPHENOL CONNECTOR. THE SUBJECT WIRE WAS REPLACED AND THE HPCI SYSTEM WAS SATISFACTORILY TESTED AND RETURNED TO SERVICE. WORK REQUESTS WERE INITIATED TO INSTALL SIGNS ON BOTH UNITS WARNING PERSONNEL NOT TO PULL OR STEP ON EXPOSED INSTRUMENTATION OR ELECTRICAL CABLES ON OR IN THE VICINITY OF THE HPCI SYSTEM TURBINE/PUMP ASSEMBLY. SAFETY OF THE UNIT WAS NOT IMPACTED BY THE FAILURE OF THE HPCI SYSTEM.

[ 10] BRUNSWICK 1 DOCKET 50-325 LER 84-012  
 AUTOMATIC ACTUATION OF CONTROL BLDG EMERGENCY AIR FILTRATION TRAIN A.  
 EVENT DATE: 072884 REPORT DATE: 082784 NSSS: GE TYPE: BWR  
 OTHER UNITS INVOLVED: BRUNSWICK 2 (BWR)  
 VENDOR: GENERAL ELECTRIC CO.

(NSIC 191761) ON 7-28-84 AT 0852, CONTROL BLDG EMERGENCY AIR FILTRATION (CBEAF) SYSTEM TRAIN A AUTOMATICALLY STARTED DUE TO AN INSTRUMENT DOWNSCALE FAILURE OF CONTROL BLDG AREA RADIATION MONITOR TRIP MODULE 1-D22-RM-K600 1-3. THIS RESULTED FROM A FAILURE OF THE HIGH VOLTAGE TRANSFORMER, T2, IN THE MODULE'S POWER SUPPLY, 1-D22-ES-K603A. AT THE TIME, UNIT 1 WAS AT 97% POWER AND UNIT 2 WAS IN A REFUEL/MAINTENANCE OUTAGE. THE REDUNDANT CBEAF TRAIN B WAS IN STANDBY. REPAIRS TO K603A, INCLUDING REPLACEMENT OF T2, WERE PERFORMED, AND THE MONITOR WAS RETURNED TO SERVICE. CBEAF TRAIN A WAS SECURED AND RETURNED TO STANDBY WITHIN 70 HRS OF THE EVENT. THE 7-28-84 FAILURE OF T2 IS ATTRIBUTED TO SUSPECTED WEAKENING OF THE TRANSFORMER, WHICH OCCURRED DURING PREPLANNED ROUTINE MAINTENANCE TO K600 1-3 ON 7-23-84. PRIOR TO THE MAINTENANCE, BOTH CBEAF SYSTEM TRAINS HAD BEEN MANUALLY PLACED INTO SERVICE. ON 7-23-84, INPUT POWER TO K600 1-3 AND K603A WAS LOST DUE TO ELECTRICAL SHORTING OF THE SIGNAL INPUT/POWER SUPPLY LEAD TO K600 1-3. THE WEAKENING OF T2 WAS NOT EVIDENT DURING REPAIRS TO K603A FOLLOWING THE 7-23-84 EVENT. AS A RESULT OF THE 7-23-84 EVENT, A MEMO WAS DISTRIBUTED TO PLANT



I&C MAINTENANCE FOREMAN ON 8-22-84. THIS MEMO REQUESTS INSTRUCTING PLANT I&C PERSONNEL TO ENSURE COMPONENT TIGHTNESS INTEGRITY OF MODULE HARDWARE PRIOR TO RETURNING INVOLVED EQUIPMENT TO SERVICE AFTER CORRECTIVE OR PREVENTIVE MAINTENANCE.

[ 11] BRUNSWICK 1 DOCKET 50-325 LER 84-019  
 INOPERABILITY OF THE UNIT 1 REACTOR BLDG ROOF VENTILATION MONITOR.  
 EVENT DATE: 090184 REPORT DATE: 110184 NSSS: GE TYPE: BWR  
 VENDOR: BETA CORP.  
 NUCLEAR MEASUREMENTS CORP.

(NSIC 191813) DURING AN EVALUATION OF THE REACTOR/TURBINE GAUGE BOARD (RTGB) ALARM ANNUNCIATORS ASSOCIATED WITH THE UNIT 1 REACTOR BLDG ROOF VENTILATION RADIATION MONITOR, 1-CAC-AQH-1264, IT WAS DETERMINED THAT FROM 1-1-84 THROUGH 3-5-84 THE MONITOR HAD BEEN INOPERABLE AS DEFINED BY TECH SPEC 3.3.5.9. ON 9-15-83 THE ANNUNCIATOR POINT CARD FOR THE MONITOR PX BLDG VENT DOWN-INOPER (RTGB) ALARM ANNUNCIATOR CIRCUITRY WAS REMOVED TO ELIMINATE A CONTINUOUS ACTUATION OF THE ANNUNCIATOR. AT THAT TIME, REMOVAL OF THE ANNUNCIATOR POINT CARD DID NOT AFFECT OPERABILITY OF THE MONITOR, AS DEFINED BY THE APPLICABLE TECH SPEC. TECH SPEC 3.3.5.9 BECAME EFFECTIVE ON 1-1-84. NOTATION (D).3 OF TECH SPEC TABLE 4.3.5.9-1 SPECIFIES A CONTROL ROOM ALARM ANNUNCIATION UPON AN INSTRUMENT DOWNSCALE FAILURE OF THE MONITOR. AS A RESULT, WHEN TECH SPEC 3.3.5.9 BECAME EFFECTIVE, THE MONITOR WAS INOPERABLE DUE TO THE REMOVED ANNUNCIATOR POINT CARD. ON 3-5-84 THE SUBJECT ANNUNCIATOR POINT CARD WAS REINSTALLED, THEREBY REESTABLISHING OPERABILITY OF THE MONITOR. APPROPRIATE PLANT PERSONNEL WILL REVIEW THIS REPORT.

[ 12] BRUNSWICK 1 DOCKET 50-325 LER 84-025  
 LIGHTNING STRIKES DURING HURRICANE DIANA CAUSING REACTOR SCRAMS.  
 EVENT DATE: 091084 REPORT DATE: 101084 NSSS: GE TYPE: BWR  
 OTHER UNITS INVOLVED: BRUNSWICK 2 (BWR)  
 VENDOR: WATSON-STILLMAN COMPANY

(NSIC 191814) ON 9-10-84, AT 0909, A UNIT 1 AUTOMATIC REACTOR SCRAM AND A PRIMARY CONTAINMENT GROUP 1 ISOLATION OCCURRED DUE TO AN INSTRUMENT UPSCALE ACTUATION OF UNIT 1 REACTOR MAIN STEAM LINE RADIATION HIGH MONITORS 1-D12-RM-K603C AND D. AT THE TIME, UNIT 1 WAS AT 99% POWER. AT 0915, ON 9-10-84, THE UNIT 2 RPS AUTOMATICALLY INITIATED DUE TO A NEUTRON FLUX HIGH SIGNAL TO THE REACTOR AVERAGE POWER RANGE MONITORING SYSTEM. AT THE TIME, UNIT 2 WAS IN A REFUEL/MAINTENANCE OUTAGE. THE EVENTS RESULTED FROM LIGHTNING STRIKING THE UNITS' COMMON TURBINE BLDG STRUCTURE HEATER BAY SEMIGANTRY CRANE AND COMMON ELECTRICAL SWITCHYARD AREA, WHICH INDUCED ELECTRICAL IMPULSES INTO EACH UNIT'S SUBJECT INSTRUMENTATION. AFTER THE UNIT 2 EVENT, THE RPS TRIP SIGNAL WAS RESET. DURING THE UNIT 1 SCRAM RECOVERY, REACTOR LEVEL BRIEFLY DECREASED TO LOW LEVEL NO. 1. THE UNIT HIGH PRESSURE COOLANT INJECTION AND REACTOR CORE ISOLATION COOLING SYSTEMS AUTOMATICALLY STARTED BUT DID NOT INJECT. REACTOR SAFETY RELIEF VALVE (SRV) F013G AUTOMATICALLY LIFTED AT THE HIGHEST REACTOR PRESSURE OF 1105 PSIG, AND SRVS F013A AND E WERE MANUALLY OPENED TO CONTROL REACTOR PRESSURE. NO SONIC INDICATION OF SRV POSITIONS WAS AVAILABLE, ALTHOUGH THE SRV TAILPIPE TEMPERATURE INDICATORS WERE FUNCTIONING PROPERLY. FOLLOWING PASSAGE OF HURRICANE DIANA, SUBSEQUENT REACTOR CRITICALITY ON UNIT 1 WAS ESTABLISHED ON 9-15-84.

[ 13] BRUNSWICK 1 DOCKET 50-325 LER 84-027  
 AUTOMATIC ISOLATIONS OF THE UNIT 1 REACTOR CORE ISOLATION COOLING SYSTEM.  
 EVENT DATE: 093084 REPORT DATE: 103084 NSSS: GE TYPE: BWR  
 VENDOR: VELAN VALVE CORP.

(NSIC 191762) ON 9-30-84, AT 0920 AND 0926, THE UNIT 1 REACTOR CORE ISOLATION





CABLES TO SE-N44 WERE RECONNECTED A SPIKE WAS GENERATED WHICH CAUSED A REACTOR TRIP AND FWIS. ALL CONTROL RODS AND SHUTDOWN BANKS WERE VERIFIED TO BE FULLY INSERTED INTO THE CORE, NE-N43 AND SE-N44 WERE RETURNED TO NORMAL AND BY 0825 THE FWIS WAS RESET. CORRECTIVE ACTIONS INCLUDE CHANGING THE POWER RANGE CABINET LOCKS TO BE SPECIFIC FOR EACH CHANNEL. ALSO, SUPERVISORY PERSONNEL HAVE MET WITH THE TECHNICIAN AND STRESSED THAT THE UTMOST OF CAUTION MUST BE UTILIZED WHEN TESTING TO AVOID INADVERTENTLY UPSETTING PLANT EQUIPMENT. NO RADIATION ABOVE NORMAL BACKGROUND WAS PRESENT.

[ 20] CALLAWAY 1 DOCKET 50-483 LER 84-043  
STEAMLINE LOW PRESSURE CHANNELS INCORRECTLY CALIBRATED.  
EVENT DATE: 092584 REPORT DATE: 102584 NSSS: WE TYPE: PWR

(NSIC 192074) ON 9/25/84 IT WAS DETERMINED THAT THE LEAD-LAG CONTROLLERS IN THE STEAMLINE PRESSURE INSTRUMENTATION LOOPS HAD BEEN INCORRECTLY CALIBRATED. THE FOUR STEAMLINE LOW PRESSURE-SAFETY INJECTION TRIPS WERE THEN DECLARED INOPERABLE PER TECH SPEC 3.3.2. THESE TRIPS HAD BEEN REQUIRED TO BE OPERABLE SINCE 9/6/84 WHEN RCS PRESSURE WENT ABOVE 1970 PSIG. IT WAS FOUND THAT INCORRECT NOMENCLATURE HAD BEEN USED IN A GENERIC CALIBRATION PROCEDURE, CAUSING SETPOINTS ON EACH LEAD-LAG CONTROLLER TO BE INCORRECTLY CALIBRATED. TO COMPLY WITH TECH SPEC 3.3.2, RCS PRESSURE WAS REDUCED TO 1800 PSIG. THE INCORRECT PROCEDURE WAS REVISED AND THE AFFECTED LOOPS RECALIBRATED. ADDITIONALLY, ALL INSTRUMENTATION LOOPS WHICH HAD BEEN REQUIRED TO BE OPERABLE WERE EXAMINED FOR SIMILAR ERRORS. NO OTHER INSTRUMENTATION LOOPS WERE AFFECTED BY THIS INCIDENT.

[ 21] CALLAWAY 1 DOCKET 50-483 LER 84-047  
UNPLANNED REACTOR TRIP DUE TO PERSONNEL REMOVING CONTROL POWER FUSES.  
EVENT DATE: 100684 REPORT DATE: 110284 NSSS: WE TYPE: PWR

(NSIC 192075) ON 10/6/84 A TECHNICIAN WAS PERFORMING MAINTENANCE ON THE SOURCE RANGE NUCLEAR INSTRUMENTATION POWER SUPPLY CABLES. FOR SAFETY REASONS, THE TECHNICIAN REMOVED BOTH THE INSTRUMENT POWER AND CONTROL POWER FUSES TO THE SOURCE RANGE HIGH VOLTAGE POWER SUPPLY, UNAWARE THAT THE REACTOR TRIP BREAKERS WERE CLOSED. AS DESIGNED, REMOVAL OF THE CONTROL POWER FUSES INITIATED A SOURCE RANGE HI FLUX SIGNAL WHICH IN TURN CAUSED A REACTOR TRIP AND FEEDWATER ISOLATION. ALL EQUIPMENT AND PERSONNEL PERFORMED AS EXPECTED. THE PLANT WAS RESTORED FROM THE TRIP USING PLANT OPERATING PROCEDURES. THE CAUSE OF THIS EVENT WAS DETERMINED TO BE MISCOMMUNICATION ON CURRENT PLANT STATUS BETWEEN THE TECHNICIAN AND OPERATIONS PERSONNEL. TO PREVENT RECURRENCE, THE ADMINISTRATIVE PROCEDURE WHICH CONTROLS THE INITIATION AND PROCESSING OF WORK REQUESTS IS BEING REVIEWED FOR REVISION TO BETTER INFORM THE WORK GROUPS AND OPERATIONS PERSONNEL AS TO THE CONSEQUENCE OF A WORK ACTIVITY. THIS REVIEW IS EXPECTED TO BE COMPLETE BY 11/16/84.

[ 22] CALLAWAY 1 DOCKET 50-483 LER 84-049  
TWO PRESSURE INDICATORS FOUND OUT OF CALIBRATION.  
EVENT DATE: 100984 REPORT DATE: 110884 NSSS: WE TYPE: PWR

(NSIC 192076) ON 10/9/84 AT 0700 CDT THE STEAM GENERATOR 'B' MAIN STEAM OUTLET PRESSURE INDICATOR WAS FOUND TO BE OUT OF SPECIFICATION DURING ROUTINE COMPLETION OF CONTROL ROOM LOGS. A REVIEW OF THE LOGS REVEALED THAT THIS CHANNEL HAD BEEN OUT OF SPECIFICATION SINCE 0100. ON 10/25/84 AT 1030 CDT THE CONDENSATE STORAGE TANK TO AUXILIARY FEEDWATER PUMP SUCTION HEADER PRESSURE INDICATOR WAS FOUND TO BE OUT OF SPECIFICATION DURING ROUTINE COMPLETION OF CONTROL ROOM LOGS. A REVIEW OF THE LOGS REVEALED THAT THIS CHANNEL HAD BEEN OUT OF SPECIFICATION SINCE 0032. TECH SPECS 3.3.2 ACTION 15 STATES "WITH THE NUMBER OF OPERABLE CHANNELS ONE LESS THAN THE TOTAL NUMBER OF CHANNELS, OPERATION MAY PROCEED UNTIL PERFORMANCE OF THE NEXT REQUIRED ANALOG CHANNEL OPERATIONAL TEST PROVIDED THE INOPERABLE CHANNEL IS



[ 26] CALVERT CLIFFS 1 DOCKET 50-317 LER 84-012  
 WASTE GAS DECAY TANK RELEASE WITH MAIN VENT PARTICULATE MONITOR OUT OF SERVICE.  
 EVENT DATE: 092384 REPORT DATE: 102284 NSSS: CE TYPE: PWR

(NSIC 191809) ON 9-22-84, 12 WASTE GAS DECAY TANK WAS PRESSURIZED TO 50 PSI WITH NITROGEN FOR PURGING. 12 WASTE GAS DECAY TANK WAS THEN RELEASED THROUGH THE UNIT I MAIN VENT FROM 1810 UNTIL 2155. AT 0315 ON 9-23-84 IN PREPARATION TO PURGE 12 WASTE GAS DECAY TANK IT WAS DETERMINED THAT THE UNIT I MAIN VENT PARTICULATE MONITOR WAS OUT OF SERVICE DUE TO AN INOPERABLE PAPER DRIVE. FURTHER INVESTIGATION REVEALED THE DETECTOR WAS ALSO OUT OF SERVICE DURING THE WASTE GAS DECAY TANK RELEASE ON 9-22-84. ENV TECH SPEC 2.3.B.4 REQUIRES THE MAIN VENT PARTICULATE MONITOR BE OPERABLE DURING RELEASES OF GASEOUS WASTES FROM THE WASTE GAS DECAY TANKS. OPERATING INSTRUCTION 17B, WASTE GAS SYSTEM, AND THE DISCHARGE PERMIT ALSO REQUIRE THE MAIN VENT PARTICULATE MONITOR TO BE OPERABLE. THE CONTROL ROOM OPERATOR PERFORMING THE WASTE GAS DECAY TANK PURGE OPERATION ON 9-22-84 MISTAKENLY ASSUMED THE MAIN VENT PARTICULATE MONITOR WAS OPERABLE EVEN THOUGH THE PAPER DRIVE WAS INOPERABLE. THE WASTE GAS DISCHARGE RADIATION MONITOR AND THE MAIN VENT GASEOUS DETECTOR WERE OPERABLE THROUGHOUT THE EVENT. OPERATORS HAVE BEEN INSTRUCTED IN THE OPERATION OF THE MAIN VENT PARTICULATE MONITOR VIA THE GENERAL SUPERVISOR-OPERATIONS NOTES AND INSTRUCTIONS. THE TECH SPEC WILL BE REPLACED WITH RADIOLOGICAL EFFLUENT TECH SPECS AND THE REQUIREMENT FOR THE MAIN VENT PARTICULATE MONITOR TO BE OPERABLE DURING WASTE GAS DECAY TANK RELEASES WILL BE DELETED.

[ 27] CALVERT CLIFFS 1 DOCKET 50-317 LER 84-013  
 LOSS OF CIRCULATING WATER CAUSED BY SEA NETTLE IMPINGEMENT.  
 EVENT DATE: 100284 REPORT DATE: 102684 NSSS: CE TYPE: PWR  
 VENDOR: ASHCROFT SWITCH

(NSIC 191810) AT 1606, ON 10-2-84, UNIT 1 WAS MANUALLY TRIPPED WHILE OPERATING IN MODE 1 AT 92% POWER. THIS TRIP WAS CAUSED BY AN IMMINENT LOSS OF CIRCULATING WATER DUE TO THE CLOGGING OF SEVERAL OF THE UNIT 1 TRAVELING WATER SCREENS WITH SEA NETTLES (JELLY FISH). A LARGE NUMBER OF SEA NETTLES IN THE CHESAPEAKE BAY, THE ULTIMATE HEAT SINK, DRIFTED INTO THE PLANT INTAKE AND CLOGGED SEVERAL TRAVELING WATER SCREENS. CIRCULATING WATER PUMP NOS. 11, 12, AND 13 WERE STOPPED, IN ACCORDANCE WITH ESTABLISHED PROCEDURE, TO PREVENT DAMAGE TO THEIR ASSOCIATED TRAVELING WATER SCREENS. THE UNIT WAS MANUALLY TRIPPED, BY PROCEDURE FOR OPERATION OF THE MAIN CONDENSER, WHEN IT WAS KNOWN THAT THE SECOND CIRCULATING WATER PUMP WOULD BE STOPPED. AN EVALUATION OF ALTERNATIVE TRAVELING WATER SCREENS, BETTER ABLE TO PERMIT FLOW DURING SEVERE IMPINGEMENT EPISODES, IS BEING ACTIVELY PURSUED.

[ 28] CALVERT CLIFFS 2 DOCKET 50-318 LER 84-007  
 POWER OPERATED RELIEF VALVE OVERRIDE HANDSWITCHES LEFT IN OVERRIDE POSITION.  
 EVENT DATE: 082484 REPORT DATE: 092084 NSSS: CE TYPE: PWR

(NSIC 191756) AT 0530 ON 8-24-84, THE POWER OPERATED RELIEF VALVE (PORV) OVERRIDE HANDSWITCHES WERE DISCOVERED TO BE IN THE 'OVERRIDE' POSITION. WITH THE HANDSWITCH IN THE 'OVERRIDE' POSITION, THE PORV VALVES WILL NOT OPEN RENDERING THEM INOPERABLE. THE OVERRIDE HANDSWITCHES WERE IMMEDIATELY PLACED IN THE 'AUTO' POSITION. TECH SPECS REQUIRE THE BLOCK VALVES ASSOCIATED WITH EACH INOPERABLE PORV BE SHUT AND POWER REMOVED WITHIN 1 HR. THE PORV OVERRIDE HANDSWITCHES WERE PLACED IN THE 'OVERRIDE' POSITION, AS PERMITTED BY OPERATING PROCEDURES, DURING THE LAST REACTOR COOLDOWN ON 8-8-84. ON 8-12-84, AT 1750, THE REACTOR ENTERED MODE 3 WITH THE PORV OVERRIDE HANDSWITCHES IN THE 'OVERRIDE' POSITION. THE HANDSWITCHES REMAINING IN THE 'OVERRIDE' POSITION AS THE REACTOR ENTERED MODE 3 WAS DUE IN PART TO A PROCEDURAL INADEQUACY AS THE OPERATING PROCEDURE IN USE DID NOT REQUIRE THE OPERATOR TO VERIFY THE HANDSWITCHES IN THE 'AUTO' POSITION. THE PROCEDURE CONTAINED A 'NOTE,' WHICH WAS OVERLOOKED BY THE CONTROL ROOM OPERATOR,

TO ENSURE THE OVERRIDE HANDSWITCHES ARE IN THE 'AUTO' POSITION. THE PROCEDURE HAS BEEN CHANGED TO REQUIRE OPERATOR VERIFICATION.

[ 29] CALVERT CLIFFS 2 DOCKET 50-318 LER 84-008  
 SPURIOUS TRIP OF STEAM GENERATOR FEED PUMP.  
 EVENT DATE: 100384 REPORT DATE: 110284 NSSS: CE TYPE: PWR

(NSIC 192045) AT 1948 ON 10-3-84, CALVERT CLIFFS UNIT 2 REACTOR TRIPPED FROM 92% POWER ON LOW STEAM GENERATOR WATER LEVEL CAUSED BY THE LOSS OF #22 STEAM GENERATOR FEED PUMP (SGFP). THE REASON #22 SGFP TRIPPED COULD NOT BE POSITIVELY IDENTIFIED. COMPLETED CORRECTIVE ACTIONS INCLUDE SATISFACTORY CHECKS OF THE SGFP CONTROL OIL AND LUBE OIL SYSTEMS. STRIP CHART RECORDERS HAVE BEEN INSTALLED TO MONITOR THE SGFP SPEED CONTROL OIL SYSTEM. THE SGFPs HAVE BEEN OPERATED IN MANUAL SINCE THE TRIP AND NO RECURRENCE OF THE PROBLEM HAS BEEN DETECTED. CURRENT PLANS ARE TO EVALUATE THE FEED CONTROLS WITH ONE SGFP IN AUTOMATIC AND ONE SGFP IN MANUAL. IF PERFORMANCE IS SATISFACTORY, BOTH SGFPs WILL BE RETURNED TO AUTOMATIC OPERATION.

[ 30] CATAWBA 1 DOCKET 50-413 LER 84-009  
 FAILURE TO MONITOR BORON CONCENTRATION.  
 EVENT DATE: 082784 REPORT DATE: 092684 NSSS: VE TYPE: PWR

(NSIC 191786) TO SATISFY CONDITION 11 SPECIFIED IN THE CATAWBA FACILITY OPERATING LICENSE NPF-24, BORON CONCENTRATION OF THE REACTOR COOLANT MUST BE MONITORED HOURLY WHILE IN MODES 3, 4 AND 5. PRIOR TO THE INCIDENT OF THIS INVESTIGATION, THE RESIDUAL HEAT REMOVAL (ND) SYSTEM TRAIN A WAS IN SERVICE, AND THE PRIMARY SAMPLING (NM) SYSTEM WAS BEING USED TO OBTAIN SAMPLES FROM THE ND SYSTEM. WHEN CHEMISTRY ATTEMPTED TO OBTAIN A SAMPLE AT 2330 HRS (8-27-84) FROM THE ND SYSTEM, SAMPLE FLOW WAS NOT OBTAINED. CHEMISTRY WAS INSTRUCTED TO OBTAIN SAMPLES FROM THE REACTOR COOLANT (NC) SYSTEM LOOP C. TWO HOURLY SAMPLES WERE MISSED BEFORE SAMPLING BEGAN ON LOOP C. AFTER 5 HOURLY SAMPLES WERE OBTAINED FROM LOOP C, IT WAS DISCOVERED THAT THESE SAMPLES WERE BEING OBTAINED FROM A NON-CIRCULATING LEG OF THE NC SYSTEM PIPING AND WERE THEREFORE NOT REPRESENTATIVE OF THE REACTOR COOLANT. CATAWBA UNIT 1 WAS IN MODE 5 (COLD SHUTDOWN) AT THE TIME OF THE INCIDENT.

[ 31] CATAWBA 1 DOCKET 50-413 LER 84-010  
 MORE THAN ONE SHUTDOWN/CONTROL BANK WITHDRAWN DURING ONE TIME.  
 EVENT DATE: 090184 REPORT DATE: 100184 NSSS: WE TYPE: PWR

(NSIC 191787) ON 9-1-84, AT 2351 HRS, REACTOR CONTROL RODS FROM MORE THAN 1 CONTROL ROD BANK WERE IN A WITHDRAWN POSITION AT THE SAME TIME DURING THE PERFORMANCE OF ROD DROP TIMING TESTS. THIS VIOLATES TECH SPEC 3.10.5 WHICH STATES THAT ONLY ONE SHUTDOWN OR CONTROL BANK CAN BE WITHDRAWN FROM THE FULLY INSERTED POSITION AT ANY ONE TIME. THIS INCIDENT IS CLASSIFIED AS AN ADMINISTRATIVE/PROCEDURAL DEFICIENCY. THE ROD DROP TIMING PROCEDURES DID NOT TAKE INTO ACCOUNT TECH SPEC 3.10.5. THIS TECH SPEC VIOLATION WAS DISCOVERED ON 9-2-84, AT 1030 HRS. UNIT 1 WAS IN MODE 5 AT THE TIME. THIS INCIDENT IS REPORTABLE PURSUANT TO 10CFR50.73(A)(2)(I).

[ 32] CATAWBA 1 DOCKET 50-413 LER 84-011  
 RADIATION MONITOR INOPERABLE DURING EFFLUENT RELEASE.  
 EVENT DATE: 090584 REPORT DATE: 100484 NSSS: WE TYPE: PWR

(NSIC 191788) ON 9-5-84, AT 0050 HRS, A LIQUID WASTE RELEASE WAS MADE FROM WASTE MONITOR TANK B OF THE LIQUID RADWASTE (WL) SYSTEM INTO LAKE WYLIE. THE WASTE LIQUID DISCHARGE MONITOR (EMP-49) HAD BEEN INOPERABLE FOR THE PREVIOUS 14 DAYS.





(NSIC 191741) WHILE IN THE REFUELING MODE A TOTAL LOSS OF NORMAL (PFSITE POWER WAS INITIATED BY STARTING A LARGE PUMP. POWER WAS BEING SUPPLIED BY ONE OFFSITE LINE AND STATION SERVICE TRANSFORMER. AUTOMATICALLY, BOTH DIESEL GENERATORS STARTED AND UNNECESSARY LOADS WERE SHED. THE AUTOMATIC CLOSURE OF ONE DG OUTPUT CIRCUIT BREAKER WAS DELAYED APPROX 20 MINS. CAUSES OF BOTH ANOMALIES: (1) A DIFFERENTIAL RELAY CURRENT TRANSFORMER WIRE WAS FOUND PULLED FROM ITS TERMINAL LUG. INRUSH CURRENT OF STARTING THE PUMP APPEARED AS AN INTERNAL TRANSFORMER FAULT CAUSING ISOLATION OF THE STATION SERVICE TRANSFORMER. THE WIRE PULL OCCURRED EARLIER THE SAME DAY WHEN MAINTENANCE ACTIVITIES WERE PERFORMED IN CLOSE PROXIMITY, (2) DIESEL VOLTAGE REGULATOR WAS LEFT SLIGHTLY BELOW THE BREAKER VOLTAGE PERMISSIVE RELAY SETPOINT WHEN IT HAD BEEN PREVIOUSLY SHUTDOWN. THE RELAY EVENTUALLY CLOSED DUE TO VIBRATION OF RESETTING NEARBY RELAYS AND/OR VOLTAGE AND FREQUENCY OPERATING VARIATIONS. CORRECTIVE ACTIONS: (1) A STATION DIRECTIVE TO LIMIT ACCESS NEAR ELECTRICAL EQUIPMENT PANELS, (2) REVISION OF OPERATING PROCEDURES TO ADJUST DIESEL VOLTAGE REGULATOR WELL ABOVE THE PERMISSIVE SETPOINT PRIOR TO SHUTDOWN, (3) INSPECTIONS FOR OTHER OPEN TERMINATIONS, (4) INITIATION OF PROCEDURE AND TRAINING ENHANCEMENTS, (5) INITIATION OF PERMISSIVE SETPOINT EVALUATIONS.

[ 36] CONNECTICUT YANKEE DOCKET 50-213 LER 84-017  
 DEGRADED WIRING OF REACTOR PROTECTION AND CONTROL INSTRUMENTATION.  
 EVENT DATE: 100484 REPORT DATE: 110184 NSSS: WE TYPE: PWR  
 VENDOR: FOXBORO CO., THE

(NSIC 192019) WHILE PERFORMING ROUTINE SURVEILLANCE AND CALIBRATION OF REACTOR CONTROL INSTRUMENTATION MOUNTED IN THE MAIN CONTROL BOARD, A 15-CONDUCTOR INTERCONNECTION CABLE WAS FOUND TO BE IN DEGRADED CONDITION. THE DEGRADATION CONSISTED OF INSULATION WHICH HAD BECOME DRIED OUT AND SLIGHTLY HARDENED. IT WAS DETERMINED THAT THE WIRE INSULATION COULD BE CHIPPED OFF IF THE CABLING WAS NOT HANDLED PROPERLY. AN INSPECTION OF THE REMAINING SIMILAR TYPE CABLES IN THE FOXBORO REACTOR PROTECTION SYSTEM REVEALED THAT MOST OF THE SIMILAR CABLES HAD THE SAME SIGNS OF DEGRADATION. IT WAS DECIDED THAT ALL CABLES OF THIS TYPE WOULD BE REPLACED (21 TOTAL) WITH VENDOR SUPPLIED DIRECT REPLACEMENTS. THIS WAS DONE TO PREVENT FURTHER DEGRADATION FROM POTENTIALLY IMPACTING THE ABILITY OF THE REACTOR PROTECTION SYSTEM FUNCTIONING AS DESIGNED. THE CAUSE OF THE DEGRADATION WAS AGING, AS THE EQUIPMENT HAS BEEN IN SERVICE FOR OVER 19 YEARS. AN INSPECTION FOR SIMILAR PROBLEMS IN OTHER EQUIPMENT CONCLUDED THAT THIS WAS AN ISOLATED PROBLEM.

[ 37] CONNECTICUT YANKEE DOCKET 50-213 LER 84-018  
 FIRE DOOR FOUND INOPERABLE.  
 EVENT DATE: 100884 REPORT DATE: 110584 NSSS: WE TYPE: PWR

(NSIC 192020) WITH THE PLANT IN THE REFUELING MODE, A FIRE DOOR, SEPARATING A SAFETY RELATED FROM A NON-SAFETY RELATED AREA, WAS DISCOVERED PROPPED OPEN WITH A SMALL HOSE RUNNING THROUGH THE OPENING. THE HOSE WAS IMMEDIATELY REMOVED AND THE DOOR CLOSED RETURNING IT TO ITS OPERABLE CONDITION. SINCE IT IS BELIEVED THAT THIS CONDITION HAD EXISTED FOR A PERIOD OF TIME GREATER THAN THAT ALLOWED BY TECH SPEC 3.22.F (ONE HOUR), THIS INCIDENT IS REPORTABLE UNDER 10CFR50.73(A)(2)(I).

[ 38] COOK 1 DOCKET 50-315 LER 84-024  
 INOPERABILITY OF SPENT FUEL POOL EXHAUST FANS.  
 EVENT DATE: 100284 REPORT DATE: 110184 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: COOK 2 (PWR)  
 VENDOR: AMERICAN AIR FILTER CO., INC.

(NSIC 192044) THIS EVENT OCCURRED ON 10-2-84 WITH UNIT 1 IN MODE 1 AT 100% POWER AND UNIT 2 IN MODE 1 AT 96% POWER. IT WAS OBSERVED DURING THE PERFORMANCE OF A







(NSIC 191766) WHILE SHUTDOWN FOR A SCHEDULED MAINTENANCE OUTAGE, WITH ALL RODS INSERTED, 2 INADVERTENT REACTOR SCRAMS OCCURRED WITHIN A PERIOD OF APPROX 7 HRS. AT THE TIME OF THE FIRST EVENT, INDUCTION HEAT STRESS IMPROVEMENT (IHSI) ELECTRICAL DISTURBANCES HAD CAUSED A SCRAM SIGNAL IN 1 OF THE SCRAM CHANNELS. CONCURRENT TO THIS, AN ADDITIONAL SIGNAL WAS RECEIVED IN THE OTHER SCRAM CHANNEL, CAUSING THE SCRAM, WHEN AN UNDER VESSEL NEUTRON INSTRUMENTATION CONNECTOR WAS BUMPED DURING CONTROL ROD DRIVE MECHANISM MAINTENANCE IN THE SAME AREA. DURING THE SECOND EVENT, A HALF-SCRAM SIGNAL WAS IN PLACE DUE TO SURVEILLANCE TESTING. CONCURRENT TO THIS, THE SECOND CHANNEL TRIP OCCURRED, CAUSING THE SCRAM, WHEN ANOTHER UNDER VESSEL INSTRUMENTATION CONNECTOR WAS BUMPED DURING CONTROL ROD DRIVE MECHANISM MAINTENANCE. INITIAL ACTIONS WERE TO RESET THE SCRAMS.

[ 50] FT. CALHOUN 1 DOCKET 50-285 LER 84-019  
VENTILATION ISOLATION ACTUATION SYSTEM IS ACTUATED.  
EVENT DATE: 090284 REPORT DATE: 100284 NSSS: CE TYPE: PWR

(NSIC 191751) DURING NORMAL PLANT OPERATION AT 100% POWER WITH A CONTAINMENT PRESSURE REDUCTION IN PROGRESS, AN UNPLANNED ACTUATION OF THE VENTILATION ISOLATION ACTUATION SYSTEM OCCURRED AT 0442 ON 9-2-84. THE ACTUATION OF THE VIAS SIGNAL (AN ESP) WAS CAUSED BY OPERATOR ERROR. THE ACTUATION OCCURRED WHILE THE OPERATOR WAS CHANGING THE VENTILATION DISCHARGE DUCT MONITOR, RM-061, TO THE HIGH ALERT/ALARM SETPOINTS DURING A CONFIRMED TEMPERATURE INVERSION. THE OPERATOR DEPRESSED THE GREEN 'RESET' PUSHBUTTON LIGHT FOR RM-062 INSTEAD OF RM-061. BOTH MONITORS HAVE THE SAME PANEL FACE AND THE SELECTOR SWITCHES FOR HIGH AND LOW SETPOINTS FOR RM-061 ARE ON THE SAME LEVEL AS RM-062. WHEN THE LOW/HIGH SETPOINT SWITCH WAS REPOSITIONED FROM THE LOW SETPOINT TO THE HIGH SETPOINT, RM-061 MOMENTARILY WENT INTO HIGH ALARM AND INITIATED VIAS. AS SOON AS THE VIAS ACTUATION OCCURRED, THE MONITORS WERE RETURNED TO NORMAL, VIAS WAS RESET, AND THE CONTAINMENT PRESSURE REDUCTION WAS RESTARTED. ALL ESP'S INVOLVED IN THIS INCIDENT FUNCTIONED AS DESIGNED. NO EQUIPMENT MALFUNCTIONS AND NO RADIOACTIVE RELEASE OCCURRED. TO PREVENT FUTURE UNPLANNED VIAS ACTUATIONS OF THIS NATURE, PLANT PROCEDURES WILL BE REVIEWED AND CHANGED. THE PLANT WILL ALSO INVESTIGATE THE FEASIBILITY OF PLACING RM-061'S HIGH/LOW SETPOINT SELECTOR SWITCH DIRECTLY ON THE FACE OF THE PANEL. THIS INCIDENT HAS BEEN DISCUSSED WITH THE INDIVIDUAL, AND HE PREPARED THIS REPORT.

[ 51] FT. CALHOUN 1 DOCKET 50-285 LER 84-020  
CONTAINMENT HYDROGEN ANALYZER NOT PROPERLY CONNECTED.  
EVENT DATE: 091484 REPORT DATE: 102284 NSSS: CE TYPE: PWR  
VENDOR: COMSIP DELPHI INC.

(NSIC 191801) ON 9-4-84, HYDROGEN ANALYZER VA-81B WAS REMOVED FROM SERVICE IN ORDER TO REPLACE ITS CATALYST BED/CELL. ON 9-14-84, DURING THE PERFORMANCE OF THE MONTHLY CALIBRATION, IT WAS OBSERVED BY THE TECHNICIAN THAT VA-81A DID NOT INDICATE THE PROPER CONCENTRATION OF HYDROGEN IN THE CALIBRATION GAS. MAINTENANCE ORDER 843061 WAS IMMEDIATELY INITIATED UPON DISCOVERY TO INVESTIGATE THE SFAN READING DISCREPANCY. THIS INVESTIGATION REVEALED THAT THE LEAD WIRES EXTENDING FROM THE CATALYST BED/CELL OF ANALYZER VA-81A HAD NOT BEEN PROPERLY LANDED. THIS PROBLEM WAS IMMEDIATELY CORRECTED. SUBSEQUENTLY, CALIBRATION PROCEDURE CP-VA-81A-M WAS SATISFACTORILY PERFORMED, AND HYDROGEN ANALYZER VA-81A WAS RETURNED TO SERVICE. ONE CHANNEL OF THE HYDROGEN MONITORING SYSTEM WAS RETURNED TO SERVICE WITHIN THE 72 HR TIME PERIOD ALLOWED AFTER DISCOVERY BY THE TECH SPECS.

[ 52] FT. CALHOUN 1 DOCKET 50-285 LER 84-010  
ACTUATION OF VENTILATION ISOLATION ACTUATION SYSTEM.  
EVENT DATE: 092184 REPORT DATE: 101984 NSSS: CE TYPE: PWR



[ 56] GRAND GULF 1 DOCKET 50-416 LER 84-044  
 REACTOR WATER CLEANUP SYSTEM ISOLATES.  
 EVENT DATE: 100684 REPORT DATE: 110284 NSSS: GE TYPE: BWR

(NSIC 191844) ON 10-6-84, AT 0440 HRS, A 5-AMP FUSE SUPPLYING POWER TO A MAIN STEAM LINE TEMPERATURE SWITCH BLEW CAUSING A DIV 1 REACTOR WATER CLEANUP (RWCU) SYSTEM CONTAINMENT ISOLATION. THE BLOWN FUSE ALSO PRODUCED A HALF ISOLATION SIGNAL IN THE LOGIC FOR THE MAIN STEAM LINE ISOLATION VALVES. THE FUSE WAS REPLACED AND THE RWCU SYSTEM WAS RESTORED TO SERVICE 1.5 HRS AFTER THE ISOLATION. THE ISOLATION VALVES PERFORMED THEIR INTENDED SAFETY FUNCTION BY CLOSING.

[ 57] HATCH 1 DOCKET 50-321 LER 84-016  
 ERRATIC LEVEL INDICATION CAUSES RPS LOGIC ACTUATION.  
 EVENT DATE: 092984 REPORT DATE: 102584 NSSS: GE TYPE: BWR

(NSIC 191811) ON 9-29-84, AT 0836 CDT WITH UNIT 1 IN HOT SHUTDOWN AT LESS THAN 1% POWER, PROCEEDING TO COLD SHUTDOWN FOR A REFUELING OUTAGE, AN RPS LOGIC ACTUATION OCCURRED FROM ERRATIC 'A' REACTOR WATER LEVEL INSTRUMENTS, 1B21-N017A&B. ON 9-30-84, AT 0100 CDT AND 0315 CDT WITH UNIT 1 IN COLD SHUTDOWN, ERRATIC INDICATION ON 'A' REACTOR WATER LEVEL INSTRUMENT CAUSED RPS LOGIC ACTUATIONS AGAIN. THE CAUSE OF THESE EVENTS WAS POSTULATED AS AIR TRAPPED IN THE INSTRUMENT LINES RESULTING IN ERRATIC INDICATION ON THE 'A' LEVEL INSTRUMENTS. EACH TIME FOLLOWING THE ERRATIC INDICATION ON 'A' LEVEL INSTRUMENTS, THE VARIABLE LEG (I.E., HIGH SIDE) WAS BACKFILLED WITH WATER TO RESOLVE THE PROBLEM. BACKFILLING THE VARIABLE LEG MORE THAN ONCE TO CORRECT AIR TRAPPED IN THE VARIABLE LEG IS THE ONLY CORRECTIVE ACTION NECESSARY.

[ 58] HATCH 2 DOCKET 50-366 LER 84-021  
 UNPLANNED REACTOR SCRAM.  
 EVENT DATE: 092184 REPORT DATE: 101284 NSSS: GE TYPE: BWR  
 VENDOR: ASCO VALVES

(NSIC 191776) ON 9-21-84, AT 1701 CDT, WITH THE REACTOR MODE SWITCH IN THE RUN POSITION AND REACTOR POWER AT 2440 MWT (100% POWER), UNIT 2 RECEIVED A REACTOR SCRAM ON MSIV'S NOT FULLY OPEN SUBSEQUENT TO THE DRYWELL PNEUMATIC SYSTEM'S NITROGEN INLET VALVE (2P70-F005) CLOSING ON A HIGH SYSTEM FLOW ISOLATION SIGNAL DUE TO A NITROGEN LEAK ON THE PNEUMATIC SYSTEM SOLENOID VALVE FOR THE INBOARD MSIV 2B21-F022D. NO ACTUAL OR POTENTIAL SAFETY CONSEQUENCES OR IMPLICATIONS RESULTED FROM THIS EVENT. THIS EVENT HAD NO IMPACT ON ANY OTHER UNIT 1 SYSTEM OR ON UNIT 2. THIS IS A NON-REPETITIVE EVENT; HOWEVER THE LAST REACTOR SCRAM IS REFERENCED IN LER 50-366/1984-020. THIS EVENT WAS THE RESULT OF A NITROGEN LEAK ON THE PNEUMATIC SYSTEM'S SOLENOID VALVE FOR INBOARD MSIV 2V21-F022D.

[ 59] HATCH 2 DOCKET 50-366 LER 84-010  
 ESF ACTUATION DUE TO HIGH DIFFERENTIAL FLOW.  
 EVENT DATE: 092484 REPORT DATE: 102484 NSSS: GE TYPE: BWR

(NSIC 191775) ON 9-8-84, AT 1500 CDT, WITH THE REACTOR MODE SWITCH IN THE RUN POSITION AND REACTOR POWER AT 1745 MWT (72% POWER), THE REACTOR WATER CLEAN-UP (RWCU) INBOARD AND OUTBOARD ISOLATION VALVES (2G31-F001 AND 2G31-F004, RESPECTIVELY) ISOLATED DUE TO A HIGH DIFFERENTIAL FLOW SIGNAL. NO ACTUAL OR POTENTIAL SAFETY CONSEQUENCES OR IMPLICATIONS RESULTED FROM THIS EVENT. THIS EVENT HAD NO IMPACT ON ANY OTHER UNIT 2 SYSTEMS OR ON UNIT 1. THIS IS A NON-REPETITIVE EVENT.

[ 60] HATCH 2 DOCKET 50-366 LER 84-018  
 DESIGN ERROR ON STANDBY DIESEL SERVICE WATER PUMP SUPPORT.  
 EVENT DATE: 100284 REPORT DATE: 102584 NSSS: GE TYPE: BWR  
 VENDOR: JOHNSTON PUMP CO.

(NSIC 191827) ON 10-2-84 THE JOHNSTON PUMP CO. INFORMED SOUTHERN CO. SERVICES THAT STANDBY SERVICE WATER PUMP 2P41-C002 MIGHT NOT WITHSTAND A DESIGN BASIS EARTHQUAKE BECAUSE OF AN INCORRECT ASSUMPTION IN CALCULATING THE STRESS ANALYSIS PRIOR TO INSTALLING A PUMP COLUMN SUPPORT ON 5-31-82. AN LCO WAS INITIATED ON 10-2-84, AND DG R43-S001B WAS REMOVED FROM SERVICE. FOLLOWING AN ENGINEERING REVIEW BY THE BECHTEL POWER CORP, THE STANDBY SERVICE WATER PUMP'S RESTRAINT SPLIT RING WAS REMOVED, THUS RETURNING THE PUMP TO ITS ORIGINAL DESIGN CONFIGURATION. THE 60 DAY LCO WAS TERMINATED AND DG R43-S001B RETURNED TO SERVICE ON 10-22-84. THIS EVENT IS REPORTABLE PER 10CFR50.73(A)(2)(VI).

[ 61] HATCH 2 DOCKET 50-366 LER 84-024  
 RPS POWER SUPPLY BREAKER SPURIOUSLY TRIPS.  
 EVENT DATE: 101184 REPORT DATE: 110284 NSSS: GE TYPE: BWR

(NSIC 191828) ON 10-11-84, WITH THE REACTOR MODE SWITCH IN THE RUN POSITION AND REACTOR POWER AT 2428 MWT (APPROX 100% POWER), THE REACTOR WATER CLEAN-UP OUTBOARD ISOLATION VALVE (2G31-F004) ISOLATED DUE TO A 1/2 GROUP ISOLATION FROM CHANNEL 'B' OF RPS. THIS EVENT IS THE RESULT OF AN RPS MG SET POWER SUPPLY BREAKER TRIPPING DUE TO A LOOSE TERMINAL CONNECTION. THE POWER SUPPLY BREAKER FOR 'B' RPS MG SET WAS RESET AND REACTOR WATER CLEAN-UP WAS RETURNED TO SERVICE ON 10-11-84 AT 1725 CDT.

[ 62] INDIAN POINT 2 DOCKET 50-247 LER 84-014  
 480 VOLT BREAKER UNDERVOLTAGE RELAYS MISSED.  
 EVENT DATE: 100784 REPORT DATE: 110784 NSSS: WE TYPE: PWR  
 VENDOR: NKG INSULATOR

(NSIC 192022) WHILE AT COLD SHUTDOWN FOR A REFUELING MAINTENANCE OUTAGE IT WAS FOUND THAT THE UNDERVOLTAGE RELAY SETPOINT FOR THE 480 V BUSES WERE NOT IN COMPLIANCE WITH THE TECH SPEC. THIS OBSERVATION WAS MADE DURING A ROUTINE SURVEILLANCE TEST. THE CAUSE OF THE DEFICIENCY WAS AN ERROR ON THE DATA SHEET. THERE WAS NO SAFETY HAZARD AS THE DEVIATION WAS SO SLIGHT THAT NO EQUIPMENT DAMAGE WOULD HAVE OCCURRED.

[ 63] INDIAN POINT 3 DOCKET 50-286 LER 84-014  
 UNIT TRIP SIGNAL RECEIVED WHILE SUBCRITICAL.  
 EVENT DATE: 101384 REPORT DATE: 110984 NSSS: WE TYPE: PWR  
 VENDOR: BUSSMANN MFG (DIV OF MCGRAW-EDISON)

(NSIC 192034) ON OCTOBER 13, 1984, WITH THE REACTOR SUBCRITICAL AT HOT ZERO POWER (H&P), A TRIP SIGNAL WAS INITIATED AT 0136 HOURS, AS THE RESULT OF A BLOWN CONTROL POWER FUSE ON CHANNEL 35 INTERMEDIATE RANGE. THE PLANT HAD RECENTLY BEEN BROUGHT TO H&P MAINTENANCE/INSPECTION OUTAGE. THE TRIP SIGNAL RESULTED IN THE AUTOMATIC INSERTION OF THE SHUTDOWN AND CONTROL ROD BANKS, WHICH WERE BEING GRADUALLY INSERTED AS PART OF THE SHUTDOWN/COOLDOWN PROCEDURES. THE FUSE (BUSSMAN, 5 AMP, SLOW BLOW) ON INTERMEDIATE RANGE 35 WAS REPLACED BY 0143 HOURS.

[ 64] KEWAUNEE DOCKET 50-305 LER 84-016  
 INADVERTENT ACTUATION OF AUX BLDG SPECIAL VENTILATION SYSTEM.  
 EVENT DATE: 091484 REPORT DATE: 101284 NSSS: WE TYPE: PWR

(NSIC 191753) ON 9-14-84, WITH THE PLANT AT 100% POWER OPERATION, TRAIN 'B' OF



THE AUX BLDG SPECIAL VENTILATION SYSTEM (ABSV) WAS INADVERTENTLY STARTED BY AN INSTRUMENT AND CONTROLS PERSON PERFORMING A WORK REQUEST ON RM-14, THE AUX BLDG VENT RADIATION MONITOR. INVESTIGATION OF THE WORK REQUEST LED HIM TO BELIEVE THAT THERE WAS A LOOSE CONNECTION IN THE CONTROL ROOM INSTRUMENT DRAWER. IN ORDER TO EXAMINE THE CONNECTION, HE PULLED THE CONTROL AND POWER CABLE OUT OF THE INSTRUMENT DRAWER. THIS ACTION, UNKNOWN TO HIM AT THE TIME, GENERATED A TRIP SIGNAL ON THE RADIATION MONITOR WHICH AUTOMATICALLY STARTED TRAIN 'B' OF THE ABSV SYSTEM. THE CONTROL ROOM OPERATORS, AFTER VERIFYING THE CAUSE OF THE START, SECURED THE SYSTEM AND REALIGNED IT FOR NORMAL OPERATION. A COPY OF THIS EVENT HAS BEEN ROUTED TO THE DIFFERENT WORK GROUPS IN THE PLANT TO STRESS THE IMPORTANCE OF PROPER COMMUNICATIONS BEFORE WORK IS PERFORMED. THE VENTILATION SYSTEM PERFORMED AS DESIGNED.

[ 65] KEWAUNEE DOCKET 50-305 LER 84-017  
 BOTH FIRE PUMPS OUT OF SERVICE FOR APPROXIMATELY TWO MINUTES.  
 EVENT DATE: 100284 REPORT DATE: 110184 NSSS: WE TYPE: PWR

(NSIC 192041) ON 10-2-84, DURING FULL POWER OPERATION, BOTH FIRE PUMPS WERE WITHOUT POWER FOR APPROX 2 MINS. THIS EVENT OCCURRED DURING THE PERFORMANCE OF THE ANNUAL FIRE PUMP FLOW TEST, WHEN THE EQUIPMENT OPERATOR OVERLOOKED A STEP IN THE PROCEDURE TO CLOSE THE BREAKER FOR THE 'B' FIRE PUMP BEFORE OPENING THE BREAKER FOR THE 'A' FIRE PUMP. THE CONTROL ROOM OPERATORS RECEIVED AN ALARM ALERTING THEM OF THIS CONDITION AND IMMEDIATELY CONTACTED THE EQUIPMENT OPERATOR TO CLOSE 1 OF THE FIRE PUMP BREAKERS. THE OPERATOR INVOLVED WAS MADE AWARE OF THIS ERROR, AND A COPY OF THE INCIDENT REPORT HAS BEEN ROUTED TO THE OPERATIONS AND TRAINING GROUPS TO EMPHASIZE THE IMPORTANCE OF PROCEDURAL ADHERENCE DURING PERFORMANCE OF ACTIVITIES. IN ADDITION, THE PROCEDURE HAS BEEN REVISED TO ADD A SIGN OFF. DURING THE ENTIRE INCIDENT THE FIRE HEADER PRESSURE DID NOT FALL BELOW THE TECH SPEC REQUIREMENT OF 100 PSI. THIS EVENT IS BEING REPORTED AS A 30 DAY LER PURSUANT TO OUR TECH SPEC ON THE FIRE WATER SYSTEM.

[ 66] LA SALLE 1 DOCKET 50-373 LER 84-015  
 INADVERTENT GROUP II AND IV CONTAINMENT ISOLATION.  
 EVENT DATE: 022784 REPORT DATE: 032784 NSSS: GE TYPE: BWR

(NSIC 192065) ON 2-27-84 WITH THE UNIT 1 REACTOR IN COLD SHUTDOWN, A GROUP II AND GROUP IV ISOLATION OCCURRED. THE ISOLATION WAS A RESULT OF THE INSTALLATION OF MODIFICATION M-1-1-83-045, THE ADDITION OF MSIV GROUP I AUTOMATIC CLOSURE RELAY ALARM LOGIC. THE ALARM RELAY FUNCTIONS TO PROVIDE AN ALARM WHEN THE MSIV AUTOMATIC CLOSURE RELAY IS DEENERGIZED. DURING THE ELECTRICAL CONNECTION OF THIS ALARM RELAY, THE COMMON CONNECTION FOR THE 'B' LOGIC ISOLATION RELAYS WAS LIFTED RESULTING IN A GROUP II AND GROUP IV ISOLATION. THE MODIFICATION WAS TERMINATED UNTIL THE CAUSE FOR ISOLATION COULD BE FOUND. THE PROBLEM WAS CORRECTED AND THE ISOLATION LOGIC SUBSEQUENTLY RESET. THE ISOLATION HAD NO DETRIMENTAL EFFECT ON THE PLANT OR THE DECAY HEAT REMOVAL SYSTEM WHICH WAS IN OPERATION.

[ 67] LA SALLE 1 DOCKET 50-373 LER 84-014  
 PROCEDURE ERROR IN LES-R1-01.  
 EVENT DATE: 030184 REPORT DATE: 032684 NSSS: GE TYPE: BWR

(NSIC 192064) WHILE PERFORMING LASALLE ELECTRICAL SURVEILLANCE LES-R1-01, "REACTOR CORE ISOLATION COOLING LOGIC TEST," AN ELECTRICAL JUMPER WAS INSTALLED IN AN INCORRECT PANEL. THE CAUSE FOR THE INCORRECT JUMPER INSTALLATION WAS DUE TO A TYPOGRAPHICAL ERROR IN LES-R1-01. THE RESULT OF THE JUMPER INSTALLATION CAUSED A TRIP OF REACTOR RECIRCULATION PUMP 'A'. WITH LASALLE UNIT 1 IN COLD SHUTDOWN, BOTH REACTOR RECIRCULATION PUMPS WERE IN OPERATION, MAINTAINING CIRCULATION THROUGH THE CORE TO PREVENT STRATIFICATION. THE JUMPER WAS REMOVED AND REACTOR

RECIRCULATION PUMP 'A' RESTARTED. LES-R1-01 WAS CORRECTED PER PROCEDURE REVISION 2 TO REFLECT THE CORRECT PANEL LOCATION FOR THE ABOVE DESCRIBED ELECTRICAL JUMPER.

[ 68] LA SALLE 1 DOCKET 50-373 LER 84-060  
 RCIC STEAM LINE DIFFERENTIAL PRESSURE HI SPURIOUS ISOLATION.  
 EVENT DATE: 092984 REPORT DATE: 102484 NSSS: GE TYPE: BWR

(NSIC 192066) ON 9-29-84 AT 1000 HRS FOLLOWING LIS-RI-101, A DIV I HIGH STEAM FLOW ISOLATION WAS RECEIVED WHEN AN ATTEMPT TO REOPEN THE 1E51-F008, RCIC OUTBOARD ISOLATION WAS MADE. IT IS BELIEVED THAT A DIFFERENTIAL PRESSURE WAS CREATED BY COOLING DIFFERENCES UPSTREAM AND DOWNSTREAM OF THE 1E51-F008. WHEN THE 1E51-F008 VALVE WAS OPENED PER LOP-RI-04, THE ISOLATION OCCURRED. AT THE TIME OF THE EVENT, UNIT I WAS IN MODE 2 GOING TO COLD SHUTDOWN. CONSEQUENCES OF THIS EVENT WERE MINIMAL SINCE HPCS, ADS, LPCS AND RHR SHUTDOWN COOLING WERE OPERABLE. ALSO, THIS EVENT WAS SPURIOUS AND ISOLATED. THE PLANT WAS IN A SAFE CONDITION AT ALL TIMES. THE SYSTEM WAS RETURNED TO NORMAL AND NO LEAKAGE WAS VERIFIED. NO FURTHER ISOLATIONS OCCURRED.

[ 69] LA SALLE 1 DOCKET 50-373 LER 84-057  
 GROUP I ISOLATION DUE TO PROCEDURE ERROR.  
 EVENT DATE: 100184 REPORT DATE: 102384 NSSS: GE TYPE: BWR

(NSIC 191779) DURING PERFORMANCE OF LIS-RP-04, TURBINE STOP VALVE CLOSURE SCRAM AND EOC-RPT RESPONSE TIME TEST, A PRIMARY CONTAINMENT ISOLATION SYSTEM (PCIS) GROUP I ISOLATION OCCURRED. AT THE TIME OF THE OCCURRENCE, LASALLE UNIT 1 WAS IN COLD SHUTDOWN. PART OF LIS-RP-04 REQUIRES SCRAM SENSOR RELAYS TO BE ENERGIZED. CONTACTS OF THESE RELAYS ARE INTERLOCKED WITH PCIS GROUP I ISOLATION CIRCUITRY. WHEN THE SCRAM SENSOR RELAYS WERE ENERGIZED, THE GROUP I ISOLATION BYPASS FOR THE MAIN CONDENSER LOW VACUUM CONDITION WAS DEFEATED. BECAUSE MAIN CONDENSER VACUUM WAS LOW AT THE TIME, A PCIS GROUP I ISOLATION OCCURRED. LIS-RP-04 DID NOT RECOGNIZE THAT AN ISOLATION WOULD OCCUR. A TEMPORARY CHANGE WAS MADE TO LIS-RP-04 TO ALLOW COMPLETION OF THE SURVEILLANCE. THE PROCEDURE WILL BE REVISED PERMANENTLY. COMPLETION OF THIS REVISION IS BEING TRACKED BY AIR 1-84-67156.

[ 70] LA SALLE 1 DOCKET 50-373 LER 84-058  
 INADVERTENT START OF VC/VE EMERGENCY MAKE-UP FILTER TRAIN.  
 EVENT DATE: 100184 REPORT DATE: 102384 NSSS: GE TYPE: BWR  
 OTHER UNITS INVOLVED: LA SALLE 2 (BWR)

(NSIC 191780) AT 1256 ON 10-01-84, THE "B" EMERGENCY MAKE-UP TRAIN (0VC03CB) WHICH PROVIDES EMERGENCY FILTRATION OF SUPPLY AIR FOR THE "B" CONTROL ROOM VENTILATION AND "B" AUXILIARY ELECTRIC EQUIPMENT ROOM VENTILATION SYSTEMS WAS INADVERTENTLY INITIATED. THIS RESULTED FROM A LACK OF AWARENESS OF THE "B" EMERGENCY MAKE-UP TRAIN STATUS DURING THE PERFORMANCE OF LASALLE INSTRUMENT SURVEILLANCE, LIS-AR-05. THE "B" EMERGENCY MAKE-UP FILTER TRAIN WAS IMMEDIATELY SECURED AND PLACED IN "PULL-TO-LOCK" PER THE SURVEILLANCE PROCEDURE, A CONDITION DISABLING THE TRAIN PREVENTING SUBSEQUENT STARTS. THE SURVEILLANCE WAS RECOMMENCED AND COMPLETED WITHOUT FURTHER INCIDENT.

[ 71] LA SALLE 1 DOCKET 50-373 LER 84-061  
 MSIV'S EXHIBIT THROUGH-LEAKAGE.  
 EVENT DATE: 100184 REPORT DATE: 102484 NSSS: GE TYPE: BWR  
 VENDOR: ROCKWELL-INTERNATIONAL

(NSIC 191832) ON 10-1-84, AT 1120 HRS, DURING PERFORMANCE OF LTS-100-3, MSIV LOCAL LEAK RATE TEST, THE COMBINED LEAKAGE OF ALL 4 UNIT 1 MAIN STEAM LINES EXCEEDED THE TECH SPECS ALLOWABLE LEAK RATE. THE REASON THE MSIV'S FAILED THE



DELIBERATE OPERATOR ACTION SECTION OF APPENDIX L (L-29) OF THE FSAR SHOULD BE REINFORCED BY A CIRCUIT MODIFICATION AT THE FIRST REFUEL OUTAGE.

[ 75] LA SALLE 2 DOCKET 50-374 LER 84-063  
 TIME CLOCK EXCEEDED ON RCIC ISOLATION.  
 EVENT DATE: 090184 REPORT DATE: 092484 NSSS: GE TYPE: BWR

(NSIC 191781) ON 9-1-84 AT 1158, THE UNIT 2 RCIC SYSTEM WAS MANUALLY ISOLATED DUE TO THE RCIC PIPE TUNNEL AREA HIGH TEMPERATURE SWITCH BEING DECLARED INOPERABLE. TEMPERATURE SWITCH 2E31-N312A TESTING BEGAN AT 0850 BY PLACING THE DIV I TEST SWITCH FOR RCIC TO TEST, AND STARTING THE 2 HR GRACE PERIOD TIME CLOCK FOR SURVEILLANCES. AT 1046 THE TEST SWITCH WAS RETURNED TO NORMAL AND THE 2E31-N312A WAS DECLARED INOPERABLE BECAUSE CALIBRATIONS WERE INCOMPLETE. THE RCIC SYSTEM VALVES WERE CLOSED PER ACTION STATEMENT 22 OF TECH SPEC 3.3.2 AT 1158 (8 MINS LATER THAN REQUIRED BY TECH SPECS).

[ 76] MAINE YANKEE DOCKET 50-309 LER 84-010  
 FOUR VALVES FAIL TO CLOSE ON STEAM GENERATOR BLOWDOWN LINES.  
 EVENT DATE: 082884 REPORT DATE: 092584 NSSS: CE TYPE: PWR  
 VENDOR: CONVAL INC.

(NSIC 191804) ON 8-28-84, OPERATORS FOUND THAT 4 HIGH ENERGY LINE BREAK ISOLATION VALVES INSTALLED IN THE 3 SG BLOWDOWN LINES WOULD NOT CLOSE. THE CAUSE OF THE VALVE FAILURES WAS EXCESSIVE PACKING DRAG WHICH RESULTED FROM LACK OF CYCLING AT THE MANUFACTURER'S RECOMMENDED FREQUENCY. A SURVEILLANCE SCHEDULE HAS BEEN ESTABLISHED TO STROKE THE VALVES ON THE RECOMMENDED INTERVALS. IN ADDITION, THE MANUAL HANDWHEELS ON THE AIR ACTUATORS OF 2 OF THESE VALVES WERE PARTLY OPEN, PREVENTING COMPLETE CLOSURE. THE HANDWHEELS WERE PROBABLY LEFT PARTLY OPEN WHEN NON-LICENSED OPERATORS PLACED THE VALVES IN SERVICE. THE HANDWHEELS HAVE BEEN LOCKED IN THE FULLY CLOSED POSITION AND THE VALVES WILL BE ADDED TO A LOCKED VALVE LIST TO ASSURE ADMINISTRATIVE CONTROL. IN RESPONSE TO AN INPO SER 4-84 DESCRIBING SIMILAR INCIDENTS AT OTHER PLANTS, AN ONGOING REVIEW BEGAN SEVERAL MONTHS AGO TO IDENTIFY POSSIBLE ADVERSE IMPACTS OF MISPOSITIONED MANUAL OPERATORS ON AIR ACTUATED VALVES. THE COMPLETION OF THIS REVIEW SHOULD PREVENT THIS TYPE OF PROBLEM IN THE FUTURE.

[ 77] MAINE YANKEE DOCKET 50-309 LER 84-012  
 RADIATION SENSITIVE REACTOR COOLANT LEAK DETECTION METHOD LOST.  
 EVENT DATE: 091684 REPORT DATE: 101884 NSSS: CE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 191805) ON MON. 9-10-84, THE CONTAINMENT AIR PARTICULATE DETECTOR AND THE CONTAINMENT GAS MONITOR WERE REMOVED FROM SERVICE FOR MAINTENANCE. OPERATION OF THESE PROCESS MONITORS SATISFIES THE TECH SPEC REQUIREMENT FOR A REACTOR COOLANT LEAK DETECTION SYSTEM SENSITIVE TO RADIOACTIVITY IN THE CONTAINMENT. OPERATION OF THE CONTAINMENT LOW RANGE AND MANIPULATOR CRANE RADIATION MONITORS HAS HISTORICALLY PROVIDED A BACKUP METHOD TO FULFILL THIS REQUIREMENT. HOWEVER, THESE MONITORS, ALTHOUGH OPERATING, WERE NOT TECHNICALLY OPERABLE DURING THIS PERIOD DUE TO AN INABILITY TO APPROPRIATELY SOURCE CHECK THEIR ASSOCIATED DETECTORS. MISINTERPRETATION OF A PROCEDURE CHANGE LED SHIFT PERSONNEL TO BELIEVE THAT THESE MONITORS WERE OPERABLE. CONTAINMENT ATMOSPHERE SAMPLES ARE SENSITIVE TO LEAKS BUT WERE NOT OBTAINED ON A CONSISTENT BASIS THROUGH THE PERIOD. THE 48 HR REMEDIAL ACTION LIMITATION WAS EXCEEDED, RESULTING IN OPERATION OUTSIDE OF THE PLANT TECH SPECS. WHEN THE CONDITION WAS RECOGNIZED, THE GAS MONITOR WAS RETURNED TO SERVICE. PROCEDURE CHANGES HAVE BEEN IMPLEMENTED TO INSURE THE CONSISTENT COLLECTION OF CONTAINMENT ATMOSPHERE GRAB SAMPLES WHEN THE CONTAINMENT AIR PARTICULATE AND GAS MONITORS ARE OUT OF SERVICE.

[ 78] MCGUIRE 1 DOCKET 50-369 LER 84-025  
 CONTAINMENT SPRAY VENT VALVE FOUND OPEN.  
 EVENT DATE: 062784 REPORT DATE: 110984 NSSS: WE TYPE: PWR  
 VENDOR: KEROTEST MANUFACTURING CORP.

(NSIC 192062) ON 6-27-84, A 3/4 INCH VENT VALVE IN THE CONTAINMENT SPRAY SYSTEM WAS FOUND OPEN DURING A VALVE STROKE TIMING TEST. APPROX 35 GAL. OF WATER FROM THE RESIDUAL HEAT REMOVAL SYSTEM DRAINED ONTO THE FLOOR OF THE MECHANICAL PENETRATION ROOM IN THE AUXILIARY BLDG. THE MOST RECENT PREVIOUS DOCUMENTED OPERATION OF THE VALVE OCCURRED ON 4-17-84, DURING ANOTHER TEST. IT CANNOT BE VERIFIED IF THE VALVE WAS LEFT OPEN AT THAT TIME OR OPENED BY MISTAKE AT SOME TIME IN THE INTERIM. THE CAUSE OF THIS EVENT IS ATTRIBUTED TO PERSONNEL ERROR. THE UNIT WAS OPERATING AT 100% POWER WHEN THE INCIDENT WAS DISCOVERED. THE RADIOACTIVE SPILL WAS SUCCESSFULLY CLEANED UP WITHOUT ANY WORKERS RECEIVING A DOSE IN EXCESS OF ANY REGULATORY OR ADMINISTRATIVE LIMITS. CORRECTIVE ACTIONS INCLUDE THE USE OF APPROPRIATE INDEPENDENT VERIFICATION, AND A RE-EMPHASIS TO APPROPRIATE PERSONNEL OF THE IMPORTANCE OF REMOVAL AND RESTORATION PROCEDURES.

[ 79] MCGUIRE 2 DOCKET 50-370 LER 83-074  
 TWO CONTAINMENT ISOLATION VALVES FAIL TO CLOSE.  
 EVENT DATE: 102883 REPORT DATE: 112883 NSSS: WE TYPE: PWR  
 VENDOR: FISHER FLOW CONTROL DIV (ROCKWELL INT)  
 LIMITORQUE CORP.

(NSIC 191795) WHILE IN MODE 5, DURING THE PERFORMANCE OF COMPONENT COOLING SYSTEM VALVE STROKE TIMING-SHUTDOWN TESTING, VALVES 2KC-338 (REACTOR COOLANT PUMPS SUPPLY HEADER PENETRATION OUTSIDE ISOLATION) AND 2KC-424 (REACTOR COOLANT PUMPS RETURN HEADER PENETRATION INSIDE ISOLATION) STOPPED IN INTERMEDIATE POSITIONS WHILE BEING CLOSED AND WERE SUBSEQUENTLY DECLARED INOPERABLE. THIS CONSTITUTES A DEGRADATION OF CONTAINMENT ISOLATION VALVES (TECH SPEC 3.6.3) WHICH IS REPORTABLE PER TECH SPEC 6.9.1.11(D). OPERABLE REDUNDANT VALVES WERE AVAILABLE TO SEAL THE PENETRATIONS IF NEEDED. ALTHOUGH UNIT 2 WAS IN MODE 5 WHEN THE INOPERABLE VALVES WERE DISCOVERED, THEY ARE PRESUMED TO HAVE BEEN UNABLE TO CLOSE DURING EARLIER HIGHER MODE OPERATION. THIS IS ATTRIBUTED TO COMPONENT MALFUNCTION. EXERCISING THE VALVES (FISHER BUTTERFLY, TYPE 9220 WITH LIMITORQUE ACTUATORS) BY MANUAL OPERATION ELIMINATED WHATEVER BINDING HAD BEEN OCCURRING AND ALLOWED OPERATION FROM THE CONTROL ROOM. TEST FREQUENCY WILL BE INCREASED TO DETERMINE IF THE 'STICKING' IS A RECURRING PROBLEM, WITH APPROPRIATE MEASURES TAKEN.

[ 80] MCGUIRE 2 DOCKET 50-370 LER 84-021  
 REACTOR TRIP ON ERRONEOUS SIGNAL.  
 EVENT DATE: 083184 REPORT DATE: 100184 NSSS: WE TYPE: PWR

(NSIC 192063) ON 8-31-84 MCGUIRE UNIT 2 TRIPPED FROM 100% POWER ON AN INADVERTENT 2 OUT OF 4 CHANNEL POWER RANGE HIGH FLUX RATE SIGNAL. THE SIGNAL WAS GENERATED DURING PERFORMANCE OF A TEST PROCEDURE AS ONE CHANNEL OF THE CIRCUIT WAS TAKEN OUT OF SERVICE FOR TESTING, AND A POWER SUPPLY LEAD IN A SECOND CHANNEL WAS MISTAKENLY LIFTED, RESULTING IN THE 2 OUT OF 4 LOGIC TRIP. PERSONNEL ERROR IS CONSIDERED TO HAVE BEEN THE MAJOR CAUSE OF THE EVENT. ALL PLANT SYSTEMS RESPONDED AS INTENDED FOLLOWING THE TRIP. CORRECTIVE ACTIONS INCLUDE COUNSELING AND INSTRUCTION TO APPROPRIATE PERSONNEL TO AVOID SIMILAR ERRORS OF THIS NATURE IN THE FUTURE, PROCEDURAL ENHANCEMENTS WHICH RECOGNIZE, AND THEREBY GUARD AGAINST, THE POTENTIAL FOR SUCH ERRORS, AND IMPROVED LABELING OF NUCLEAR INSTRUMENTATION CABINETS.

[ 81] MCGUIRE 2 DOCKET 50-370 LER 84-024  
 ABNORMALLY HIGH FAILURE RATE OF FIRE DETECTORS.  
 EVENT DATE: 091684 REPORT DATE: 102284 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: MCGUIRE 1 (PWR)  
 VENDOR: EDWARDS CO.

(NSIC 191830) DURING A SEMI-ANNUAL TEST OF THE FIRE DETECTION SYSTEM, AN ABNORMALLY HIGH NUMBER OF FAILURES OF RATE-OF-RISE FIRE DETECTORS WAS DISCOVERED IN THE 2B DG ROOM. THE CAUSE OF THE FAILURES IS CLASSIFIED AS A DESIGN DEFICIENCY, BECAUSE THE DETECTORS WERE BEING USED IN AN ENVIRONMENT MORE SEVERE THAN THAT RECOMMENDED BY THE MANUFACTURER. THE MANUFACTURER RECOMMENDS THAT THE DETECTORS, WHICH HAVE A FIXED-RATE SET POINT OF 135 DEGREES F, NOT BE USED IN AREAS WHERE THE AMBIENT TEMPERATURE EXCEEDS 100 DEGREES. THE DETECTORS, MODEL E-135C (MANUFACTURED BY EDWARDS CO.), HAD EXPERIENCED AMBIENT TEMPERATURES OF ABOUT 120 DEGREES FOR ABOUT 3 YEARS. ALL FAILED DETECTORS WERE REPLACED, AND DETECTORS IN FIRE ZONES IN UNITS 1 AND 2 HAVING AMBIENT TEMPERATURES IN EXCESS OF 100 DEGREES WERE TESTED AND REPLACED IF DEFECTIVE.

[ 82] MONTICELLO DOCKET 50-263 LER 83-012  
 RELAY RACE HAS POTENTIAL TO BYPASS 'A' RPS.  
 EVENT DATE: 051983 REPORT DATE: 061683 NSSS: GE TYPE: BWR

(NSIC 192009) DURING SURVEILLANCE TESTING, MODE SWITCH SCRAM BYPASS ANNUNCIATOR CAME ON FOLLOWING ENERGIZATION OF 'A' REACTOR PROTECTION LOGIC. A RELAY RACE WAS FOUND TO BE THE CAUSE. THIS CONDITION MIGHT HAVE BYPASSED THE MODE SWITCH IN SHUTDOWN SCRAM FOR CHANNEL A IN THE UNLIKELY EVENT THE MODE SWITCH WAS RAPIDLY POSITIONED TO SHUTDOWN. REPORTABLE PER TECH SPEC 6.7.B.2.B. ALL AUTO SCRAM FUNCTIONS AND MANUAL SCRAM WERE OPERABLE. NO PREVIOUS OCCURRENCES. EVENT WAS CAUSED BY A DESIGN FEATURE THAT RESULTS IN A RELAY RACE. THE RELAYS WERE MANUALLY ACTUATED TO RETURN THEM TO A NORMAL CONDITION. DURING A SUBSEQUENT OUTAGE, MODIFIED LOGIC PER GE SIL 344 TO PRECLUDE RECURRENCE.

[ 83] MONTICELLO DOCKET 50-263 LER 84-001  
 INADVERTENT TRIP OF UNDERVOLTAGE RELAYS.  
 EVENT DATE: 010184 REPORT DATE: 013084 NSSS: GE TYPE: BWR

(NSIC 191748) WHILE SEARCHING FOR THE LOCATION OF AN UNWANTED GROUND ON STATION 125V BATTERY, A CIRCUIT THAT SUPPLIES CONTROL POWER TO SOLID STATE UNDERVOLTAGE RELAYS WAS OPENED. THESE RELAYS WENT INTO THE TRIPPED CONDITION. THIS RESULTED IN LOAD SHEDDING, A FAST START OF BOTH STANDBY DG'S WITH TRANSFER OF ONE ESSENTIAL BUS TO ITS ASSIGNED STANDBY GENERATOR, AND INITIATION OF THE STANDBY GAS TREATMENT SYSTEM. STATION POWER TO THE ESSENTIAL BUS #15 LOADS WAS MOMENTARILY LOST. ALL SYSTEMS WERE RETURNED TO NORMAL WITHIN 30 MINS EXCEPT FOR THE LOSS OF RESIN PRECOAT ELEMENTS ON REACTOR WATER CLEANUP FILTERS WHICH WERE REPLACED LATER. NO SIMILAR EVENT HAS BEEN EXPERIENCED.

[ 84] MONTICELLO DOCKET 50-263 LER 84-012  
 CONTROL ROOM EMERGENCY VENTILATION ACTUATED BY HC1 MONITOR.  
 EVENT DATE: 031384 REPORT DATE: 041284 NSSS: GE TYPE: BWR  
 VENDOR: M D A SCIENTIFIC, INC.

(NSIC 191749) THE EPT SYSTEM (CONTROL ROOM HVAC) TRANSFERRED TO THE EMERGENCY MODE WHEN THE HYDROGEN CHLORIDE MONITOR TAPE CASSETTE RAN OUT RESULTING IN A SPURIOUS TRIP OF THE MONITOR.

[ 85] NORTH ANNA 1 DOCKET 50-338 LER 84-014  
 REACTOR TRIPS TWICE ON STEAM GENERATOR LEVEL FLUCTUATIONS.  
 EVENT DATE: 072884 REPORT DATE: 102584 NSSS: WE TYPE: PWR  
 VENDOR: COPEL-VULCAN, INC.  
 LIMITORQUE CORP.

(NSIC 191821) AT 1900 HRS A RAMPDOWN OF NORTH ANNA UNIT 1 COMMENCED FROM 30% POWER. THE RAMPDOWN WAS INITIATED FOR THE PURPOSE OF PERFORMING A TURBINE OVERSPEED TRIP TEST AND A MAIN STEAM TRIP VALVE STROKE TEST. AT 2027 HRS A TURBINE TRIP-REACTOR TRIP OCCURRED. THE TURBINE TRIP WAS INITIATED MANUALLY BY THE CONTROL ROOM OPERATOR IN ANTICIPATION OF A SG 'B' HI-HI LEVEL TURBINE TRIP (SG LEVEL GREATER THAN 75%). THE REACTOR TRIP OCCURRED FROM THE TURBINE TRIP. THE OVERFEED CONDITION LEADING UP TO AND CAUSING THE SG 'B' HIGH LEVEL CONDITION WAS DUE TO THE INCOMPLETE CLOSURE OF THE MAIN FEED REGULATING VALVE, FCV-1488, AND THE INCOMPLETE CLOSURE OF THE MAIN FEED LINE MOTOR OPERATED BLOCK VALVE, MOV-FW-154B. THE REACTOR WAS RETURNED CRITICAL AT 0438 HRS ON 9-29-84 AND THE GENERATOR WAS PLACED ON LINE AT 1532 HRS ON 9-30-84. AT 1616 HRS ON 9-30-84 A REACTOR TRIP OCCURRED FROM SG 'B' LO-LO LEVEL (SG LEVEL LESS THAN 18%) DUE TO CONTROL FEEDWATER MANIPULATION DIFFICULTIES EXPERIENCED AT 20% POWER LEVEL.

[ 86] NORTH ANNA 1 DOCKET 50-338 LER 84-008  
 RECIRCULATION SPRAY COOLER LAP RING CRACKING.  
 EVENT DATE: 090184 REPORT DATE: 092784 NSSS: WE TYPE: PWR  
 VENDOR: OAT, JOSEPH AND SONS, INC.

(NSIC 191767) DURING PERFORMANCE OF THE NORTH ANNA 1 TYPE 'A' (ILRT) TEST THE RECIRCULATION SPRAY COOLERS WERE SUSPECTED AS A POSSIBLE SOURCE OF AIR LEAKAGE. UPON INVESTIGATION THE HEAT EXCHANGER LAP RINGS, WHICH SERVE AS THE LOWER SUPPORTIVE SURFACE FOR HEAT EXCHANGER COVERS, WERE FOUND TO HAVE RADICAL FLAWS IN THE OUTER 5/8" REGION OF THE 1" THICK RING. THE LAP RINGS ARE CONSTRUCTED OF STAINLESS STEEL TYPE 304L AND INDICATIONS OF CREVICE CORROSION WERE EVIDENT AT THE SOURCE OF CRACK PROPAGATION. THE CRACKS PROPAGATED IN THE REGION OF HIGH TENSILE STRESS. TENSILE STRESSES ARE A RESULT OF APPLIED STRESS AND RESIDUAL STRESS FROM THE MANUFACTURING PROCESS. BASED ON A FRACTURE MECHANICS ANALYSIS THE LAP RINGS WERE DETERMINED TO BE ACCEPTABLE FOR CONTINUED OPERATION WITH THE FLAWS AS FOUND. THE CRACKING WAS PROBABLY DUE TO CHLORIDE INDUCED STRESS CORROSION CRACKING. A STAINLESS STEEL TYPE 316L CLADDING WAS INSTALLED AT THE POINT OF LAP RING-DIAPHRAGM INTERFACE TO MINIMIZE FURTHER CREVICE CORROSION AND THE HEAT EXCHANGERS RETURNED TO SERVICE. THIS REPORT IS BEING SUBMITTED AS A VOLUNTARY REPORT SINCE IT WAS DETERMINED BY ANALYSIS THAT AT NO TIME WERE THE HEAT EXCHANGERS SUBJECT TO FAILURE. THE RECIRCULATION SPRAY COOLERS ARE USED AS THE COOLING INTERFACE FOR CONTAINMENT RECIRCULATED SUMP WATER DURING A DESIGN BASE ACCIDENT.

[ 87] NORTH ANNA 1 DOCKET 50-338 LER 84-009  
 FIRE SUPPRESSION WATER SUPPLY INOPERABLE.  
 EVENT DATE: 091184 REPORT DATE: 101184 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: NORTH ANNA 2 (PWR)  
 VENDOR: PEERLESS PUMP COMPANY  
 PRATT, HENRY COMPANY

(NSIC 191820) ON 9-4-84, WITH UNIT 1 IN MODE 5 AND UNIT 2 IN MODE 6, THE MOTOR DRIVEN FIRE PUMP WAS REMOVED FROM SERVICE DUE TO A LOW DISCHARGE PRESSURE. THE PUMP HAD BEEN RUNNING FOR 2 HRS WHEN THIS CONDITION WAS DISCOVERED. A SUBSEQUENT INSPECTION OF THE PUMP REVEALED SYMPTOMS OF PUMP RUNOUT. IT WAS LATER DISCOVERED THAT THE DISK OF THE ISOLATION BUTTERFLY VALVE FOR THE 12 IN. RECIRCULATION LINE HAD FAILED RESULTING IN RUNOUT OF THE MOTOR DRIVEN FIRE PUMP. THE RECIRCULATION LINE ISOLATION VALVE WAS REPLACED AND THE MOTOR DRIVEN FIRE PUMP WILL BE RETURNED TO SERVICE FOLLOWING REASSEMBLY AND TESTING. WITH THE MOTOR DRIVEN FIRE PUMP OUT

OF SERVICE, THE REDUNDANT DIESEL DRIVEN FIRE PUMP AT THE SERVICE WATER RESERVOIR HAS REMAINED OPERABLE TO SUPPLY THE FIRE SUPPRESSION WATER SYSTEM. ADDITIONAL WATER SOURCES, VIA THE WAREHOUSE NO. 5 DIESEL AND ELETRIC FIRE PUMPS, ARE AVAILABLE TO THE FIRE SUPPRESSION WATER SYSTEM, IF REQUIRED. SINCE THE MOTOR DRIVEN FIRE PUMP WAS NOT RETURNED TO SERVICE BY 9-11-84, THIS EVENT IS REPORTABLE AS A SPECIAL REPORT PURSUANT TO UNIT 1 TECH SPEC 6.9.2.1 AND UNIT 2 TECH SPEC 6.9.2.1.

[ 88] NORTH ANNA 1 DOCKET 50-338 LER 84-016  
EXPOSURE OF EMPLOYEE HAVING AN IMPROPERLY COMPLETED FORM NRC-4.  
EVENT DATE: 100584 REPORT DATE: 102584 NSSS: WE TYPE: PWR

(NSIC 191768) ON 10-5-84, IT WAS DETERMINED THAT A CONTRACT EMPLOYEE RECEIVED GREATER THAN 1.250 REM DURING THE 3RD QUARTER OF 1984 WITHOUT HAVING A PROPERLY COMPLETED FORM NRC-4, OCCUPATIONAL EXTERNAL RADIATION EXPOSURE HISTORY, ON FILE AS REQUIRED BY 10CFR20.101(B)(3). THIS EVENT IS REPORTABLE PURSUANT TO 10CFR20.405(A)(1)(I). THE MAXIMUM PERMISSIBLE QUARTERLY WHOLE BODY EXPOSURE LIMIT OF 3.0 REM AS SPECIFIED IN 10CFR20.101(B)(1) AND THE PERMISSIBLE ACCUMULATED DOSE OF 5(N-18) REM AS SPECIFIED IN 10CFR20.101(B)(2) WERE NOT EXCEEDED. THIS EVENT WAS CAUSED BY THE EMPLOYEE'S FAILURE TO PROPERLY COMPLETE FORM NRC-4. THE NORTH ANNA TRAINING DEPARTMENT HAS BEEN INSTRUCTED TO EMPHASIZE THE IMPORTANCE OF DISCLOSING ALL INFO REQUESTED BY FORM NRC-4 TO PREVENT A SIMILAR EVENT FROM OCCURRING.

[ 89] NORTH ANNA 1 DOCKET 50-338 LER 84-017  
IMPROPER HEALTH PHYSICS COVERAGE-WORKERS LEFT IN HIGH RADIATION AREA.  
EVENT DATE: 100584 REPORT DATE: 110284 NSSS: WE TYPE: PWR  
OTHER UNITS INVOLVED: NORTH ANNA 2 (PWR)

(NSIC 192052) ON OCTOBER 5, 1984, WITH UNIT 2 IN MODE 5, FIVE WORKERS WERE LEFT IN A POSTED HIGH RADIATION AREA WITHOUT THE PROPER HEALTH PHYSICS COVERAGE REQUIRED BY THE RADIATION WORK PERMIT. THE FIVE WORKERS WERE INSIDE THE "B" STEAM GENERATOR CUBICLE INSTALLING THE "B" STEAM GENERATOR PRIMARY MANWAYS. THE CONTRACT HEALTH PHYSICS TECHNICIAN ASSIGNED TO PROVIDE CONTINUOUS HEALTH PHYSICS COVERAGE WAS FOUND ASLEEP OUTSIDE THE CUBICLE BY THE UNIT 2 CONTAINMENT ROVING HEALTH PHYSICS TECHNICIAN. A DOSE ASSESSMENT ON THE FIVE WORKERS WAS PERFORMED IMMEDIATELY AND NO EXPOSURE LIMITS WERE EXCEEDED. THE ROVING HEALTH PHYSICS TECHNICIAN PROVIDED CONTINUOUS COVERAGE UNTIL THE WORK ACTIVITY WAS COMPLETED. THE CONTRACT HEALTH PHYSICS TECHNICIAN WAS PLACED ON INDEFINITE SUSPENSION AND CONSEQUENTLY HIS EMPLOYMENT WAS TERMINATED DUE TO HIS FAILURE TO MAINTAIN PROPER CONTROL AT THE WORKSITE AS REQUIRED BY THE RADIATION WORK PERMIT AND UNIT 1 AND 2 TECH SPEC 6.12.1.C. THIS EVENT WAS ORIGINALLY DETERMINED TO BE NON-REPORTABLE; HOWEVER AFTER CONSULTATION WITH NRC REGION II ON OCTOBER 26, 1984, THIS EVENT WAS RE-CLASSIFIED AS A REPORTABLE OCCURRENCE PURSUANT TO 10 CFR 50.73 (A)(2)(I)(B).

[ 90] NORTH ANNA 2 DOCKET 50-338 LER 84-007  
INOPERABLE SMOKE DETECTION EQUIPMENT.  
EVENT DATE: 091684 REPORT DATE: 103084 NSSS: WE TYPE: PWR  
VENDOR: FENWALL, INC.

(NSIC 192053) ON SEPTEMBER 16, 1984, IT WAS DISCOVERED THAT THE SMOKE DETECTOR LOCATED IN THE UNIT 2 CONTROL ROOM EMERGENCY AIR SUPPLY FAILED TO OPERATE AS REQUIRED BY TECH SPEC 3.3.3.7. CONTROL ROOM OPERATIONS PERSONNEL PROVIDED A CONTINUOUS FIRE WATCH IN ACCORDANCE WITH THE ACTION STATEMENT OF TECH SPEC 3.3.3.7 DURING DETECTOR INOPERABILITY. THE INOPERABLE DETECTOR WAS REPLACED ON OCTOBER 26, 1984. SINCE THE SMOKE DETECTOR WAS NOT RESTORED TO OPERABLE STATUS WITHIN 14 DAYS, THIS EVENT IS REPORTABLE AS A SPECIAL REPORT PURSUANT TO TECH SPEC 3.3.3.7 AND TECH SPEC 6.9.2.H.



[ 91] OYSTER CREEK DOCKET 50-219 LER 84-021  
 DIESEL AUTO STARTS DUE TO 4160 VOLT BUS LOCKOUT.  
 EVENT DATE: 092584 REPORT DATE: 103084 NSSS: GE TYPE: BWR

(NSIC 192021) WHILE TESTING 1-2 EMERGENCY SERVICE WATER PUMP DURING MAINTENANCE ACTIVITIES, PERSONNEL SAFETY GROUNDS WERE LEFT ON THREE (3) PHASES OF THE 4160 VOLT SWITCHGEAR (MOTOR LOAD SIDE OF BREAKER). TAGS WERE RELEASED TO ALLOW A JOG OF THE MOTOR TO CHECK FOR ROTATION. A BOLTED FAULT OCCURRED WHEN THE CONTROL SWITCH WAS CLOSED CAUSING A TRIP OF THE PUMP AND A FLASH WHICH CAUSED SUFFICIENT GROUND CURRENT FLOW TO TRIP THE MAIN 4160 VOLT BUS "1C" BREAKER. DURING THE REFUELING OUTAGE, AT THE TIME OF THE OCCURRENCE, THE REDUNDANT 4160 VOLT BUS "1D" WAS POWERED BY THE "1C" BUS VIA CROSS TIE BREAKERS EC AND ED. AS A RESULT OF THE LOCKOUT OF THE 4160 VOLT BUS "1C" IN THIS ALIGNMENT NORMAL OFFSITE POWER WAS ALSO LOST TO 4160 VOLT BUS "1D". THE LOSS OF POWER TO BUS "1D" INITIATED AN EMERGENCY FAST START OF DIESEL GENERATOR NO. 2 TO ASSUME LOADS ON BUS "1D". THE BUS "1C" LOCKOUT PREVENTED DIESEL GENERATOR NO. 1 FAST START UNTIL THE OPERATOR RESET THE BUS LOCKOUT AT WHICH TIME DIESEL GENERATOR NO. 1 FAST STARTED TO ASSUME LOADS ON BUS "1C". AFTER ASSESSMENT OF CONDITIONS, NORMAL POWER SOURCE ALIGNMENT WAS REESTABLISHED WITH TWO OFFSITE POWER CONNECTIONS AND TWO AVAILABLE DIESEL GENERATORS. AN INVESTIGATION REVEALED THAT PERSONNEL SAFETY GROUNDS APPLIED TO EMERGENCY SERVICE WATER PUMP 1-2 MOTOR FEEDER HAD NOT BEEN REMOVED BY MAINTENANCE PERSONNEL PRIOR TO RELEASING TAGS TO OPERATE THE PUMP.

[ 92] PALISADES DOCKET 50-255 LER 84-018  
 FAILURE TO PERFORM SNUBBER SURVEILLANCE.  
 EVENT DATE: 090584 REPORT DATE: 100584 NSSS: CE TYPE: PWR

(NSIC 191746) A REVIEW OF SURVEILLANCE TESTS REVEALED THAT THE SURVEILLANCE TEST FOR A SNUBBER LOCATED ON THE STEAM SUPPLY LINE TO THE STEAM DRIVEN AUX FEEDWATER PUMP HAD NOT BEEN PERFORMED AS REQUIRED, PRIOR TO PLANT HEAT-UP. AS A RESULT, THE SNUBBER AND THE AUX FEEDWATER PUMP WERE RENDERED ADMINISTRATIVELY INOPERABLE. THE PLANT WAS AT APPROX 64% POWER AT THE TIME OF DISCOVERY. A SHUTDOWN WAS COMMENCED WHILE, CONCURRENTLY, PERFORMANCE OF THE SURVEILLANCE TEST WAS INITIATED. SUBSEQUENTLY, THE TEST WAS SATISFACTORILY COMPLETED AND THE POWER REDUCTION WAS TERMINATED. THE INCIDENT WAS ATTRIBUTED TO PERSONNEL ERROR.

[ 93] PALISADES DOCKET 50-255 LER 84-020  
 FAILURE TO PERFORM SURVEILLANCE TESTING.  
 EVENT DATE: 090684 REPORT DATE: 100884 NSSS: CE TYPE: PWR

(NSIC 191747) ON 9-6-84, A REVIEW DETERMINED THAT 7 VALVES IN THE HOT LEG INJECTION SYSTEM HAD NOT BEEN FUNCTIONALLY TESTED SINCE THEIR INSTALLATION IN 1981. THE VALVES WERE NOT INCLUDED IN THE SURVEILLANCE TESTING PROGRAM DUE TO PERSONNEL ERROR. SUBSEQUENT TESTING OF THE VALVES VERIFIED THEIR OPERABILITY. DUE TO THE OCCURRENCE, THE PLANT WAS CONSERVATIVELY REGARDED AS HAVING OPERATED WITH A CONDITION PROHIBITED BY PALISADES TECH SPEC 3.3..1(G).

[ 94] PALISADES DOCKET 50-255 LER 84-021  
 PRIMARY COOLANT PUMP SEALS FAIL.  
 EVENT DATE: 091684 REPORT DATE: 103184 NSSS: CE TYPE: PWR  
 VENDOR: BYRON JACKSON PUMPS, INC.

(NSIC 192029) ON 9-16-84, PRIMARY COOLANT PUMP P-50C WAS SHUT DOWN DUE TO FAILURE OF ALL SEALS EXCEPT THE VAPOR SEAL. PRIOR TO SEAL FAILURE REACTOR POWER WAS AT 60%. SUBSEQUENT PUMP DISASSEMBLY ON 10-1-84 DETERMINED THAT THE BOLTS AND PINS COUPLING THE PUMP SHAFT TO THE IMPELLER HAD FAILED AS WELL AS SIGNIFICANT WEARING OF PUMP INTERNAL STATIONARY AND ROTATING COMPONENTS. INVESTIGATION TO DETERMINE THE FAILURE CAUSE HAS NOT BEEN COMPLETED. PRELIMINARY RESULTS INDICATE THE



[ 99] POINT BEACH 2 DOCKET 50-301 LER 84-004  
INADVERTENT ACTUATION OF THE REACTOR PROTECTION SYSTEM BY REMOVAL OF INSTRUMENT FUSES.

EVENT DATE: 092884 REPORT DATE: 102484 NSSS: WE TYPE: PWR

(NSIC 192039) WHILE PERFORMING HOT ROD DROP TESTING ON A PREVIOUSLY SHUT DOWN REACTOR, AN INADVERTENT REACTOR PROTECTION SYSTEM ACTUATION (TRIP) OCCURRED WHEN THE INSTRUMENT FUSES FOR SOURCE RANGE CHANNEL 31 WERE REMOVED WITHOUT BYPASSING THE TRIP FUNCTION. IT HAS BEEN DETERMINED THAT THE CAUSE OF THIS TRIP WAS PERSONNEL ERROR DUE TO A FAILURE TO FOLLOW THE APPROPRIATE PROCEDURE.

[100] PRAIRIE ISLAND 1 DOCKET 50-282 LER 83-007  
DAILY CHECKS NOT MADE ON STEAM LINE MONITORS.

EVENT DATE: 033083 REPORT DATE: 042983 NSSS: WE TYPE: PWR  
OTHER UNITS INVOLVED: PRAIRIE ISLAND 2 (PWR)

(NSIC 192014) A LICENSE AMENDMENT CONTAINING NEW OPERABILITY (3.15.B) AND SURVEILLANCE (4.1.A) REQUIREMENTS FOR THE STEAM LINE RADIATION MONITORS WAS ISSUED MARCH 23RD. WHEN THE AMENDMENT WAS RECEIVED AT THE PLANT, A UNIT 2 MONITOR HAD BEEN INOPERABLE FOR MORE THAN 7 DAYS AND THE DAILY CHECKS HAD NOT BEEN MADE. AFTER AMENDMENT RECEIPT, A UNIT 1 MONITOR WAS ALLOWED TO REMAIN INOPERABLE MORE THAN 7 DAYS AND DAILY CHECKS HAD NOT BEEN MADE BECAUSE TIMELY DISTRIBUTION OF THE TECH SPEC CHANGE HAD NOT BEEN MADE IN THE PLANT. THE MONITORS WERE REPAIRED AND RETURNED TO SERVICE AND SURVEILLANCE PROCEDURES WERE CHANGED TO INCLUDE THE DAILY CHECK. ADMINISTRATIVE CONTROLS WERE TIGHTENED TO PREVENT RECURRENCE OF THE UNIT 1 EVENT.

[101] PRAIRIE ISLAND 1 DOCKET 50-282 LER 84-009  
INADVERTENT START OF ONE DIESEL GENERATOR.

EVENT DATE: 100284 REPORT DATE: 110184 NSSS: WE TYPE: PWR  
OTHER UNITS INVOLVED: PRAIRIE ISLAND 2 (PWR)  
VENDOR: FAIRBANKS MORSE

(NSIC 192033) ON 10-2-84 UNIT 1 WAS AT 100% POWER AND UNIT 2 IN COLD SHUTDOWN FOR REFUELING. AS PART OF THE RESTORATION FOLLOWING WORK ON THE UNIT 2 BATTERIES (EJ) (BTRY), THE DC TRANSFER SWITCHES (HS) FOR THE UNIT 2 4KV SAFEGUARDS BUSES (EB) (BU) WERE TO BE TRANSFERRED BACK TO THEIR NORMAL SOURCE POSITIONS. THE PROCEDURE FOR THIS REQUIRES THAT THE VOLTAGE RESTORATION SCHEME FOR THE AFFECTED BUS BE PLACED IN MANUAL PRIOR TO THE TRANSFER IN ORDER TO PREVENT A DG FROM STARTING. SEE RE 84-007. TO PERFORM THIS PROCEDURE, TELEPHONE COMMUNICATION WAS ESTABLISHED BETWEEN AN ENGINEER IN THE BATTERY ROOM AND A CONTROL ROOM OPERATOR, BUT THROUGH A MISUNDERSTANDING THE TRANSFER SWITCH WAS THROWN BEFORE THE VOLTAGE RESTORATION SWITCH WAS PLACED IN MANUAL. AT 1646, D2 DG STARTED AS A RESULT OF THE ERROR AND RAN PROPERLY. THE EVENT REPORT WILL BE ROUTED TO ALL PLANT OPERATIONS AND ENGINEERING PERSONNEL.

[102] PRAIRIE ISLAND 2 DOCKET 50-306 LER 84-002  
TWO PRESSURIZER PRESSURE INSTRUMENTS FOUND OUT OF CALIBRATION.

EVENT DATE: 092884 REPORT DATE: 102984 NSSS: WE TYPE: PWR  
OTHER UNITS INVOLVED: PRAIRIE ISLAND 1 (PWR)

(NSIC 192042) DURING CALIBRATION OF PRESSURIZER TRANSMITTERS AT UNIT 2 REFUELING, TWO TRANSMITTERS WERE FOUND OUT OF SPEC. UNIT 1 TRANSMITTERS ARE BEING CHECKED. A SUPPLEMENTAL REPORT WILL BE SUBMITTED.

[103] SALEM 2 DOCKET 50-311 LER 84-022  
 REACTOR TRIP FROM 54% - SF/FP MISMATCH AND LOW LEVEL #24 SG.  
 EVENT DATE: 090584 REPORT DATE: 100584 NSSS: WE TYPE: PWR  
 VENDOR: ELECTRO PRODUCTS LABORATORIES  
 INGERSOL-RAND CO.

(NSIC 191754) ON 9-5-84, A REACTOR TRIP FROM 54% POWER OCCURRED DUE TO STEAM FLOW/FEED FLOW MISMATCH COINCIDENT WITH LOW WATER LEVEL IN NO. 24 SG. THE CAUSE OF THE EVENT WAS A SHEARED SHAFT ON NO. 22 CONDENSATE PUMP, CAUSED BY FRACTURE OF THE LOWER PUMP BEARING SUPPORT. AIR ENTRAINMENT INTO THE SYSTEM CAUSED SPEED OSCILLATIONS OF NO. 22 SG FEED PUMP. THIS, COUPLED WITH A SLIGHTLY LOWER THAN NORMAL OVERSPEED TRIP SETTING, RESULTED IN THE PUMP TRIPPING ON OVERSPEED. DUE TO A FAILURE TO RECEIVE THE FEED PUMP TRIP ALARM ON THE CONTROL ROOM BEZEL, THE FIRST INDICATION OF A PROBLEM WAS THE AUTOMATIC STARTING OF NO. 21 AND 22 AUX FEED PUMPS. REALIZING THAT THE FEED PUMP HAD TRIPPED, NO. 23 AUX FEED PUMP WAS STARTED AND A LOAD REDUCTION WAS ATTEMPTED; HOWEVER, THE REACTOR TRIP WAS UNAVOIDABLE. THE LACK OF A FEED PUMP TRIP ALARM WAS DUE TO A SETPOINT SHIFT OF THE CONTROL OIL PRESSURE DETECTOR. THE CONDENSATE PUMP WAS REPLACED WITH A SPARE, THE CONTROL OIL PRESSURE DETECTOR WAS CALIBRATED AND THE FEED PUMP OVERSPEED SETTING WAS ADJUSTED TO SPECIFICATION. TESTING VERIFIED PROPER OVERSPEED TRIP AND ALARM FUNCTIONS. THE RPS FUNCTIONED AS DESIGNED; HOWEVER, DUE TO ITS AUTOMATIC ACTUATION, THE EVENT IS REPORTABLE IN ACCORDANCE WITH 10CFR50.73(A)(2)(IV).

[104] SALEM 2 DOCKET 50-311 LER 84-023  
 PLANT VENT SAMPLE PUMP INOPERABLE.  
 EVENT DATE: 090684 REPORT DATE: 100584 NSSS: WE TYPE: PWR

(NSIC 191755) THE PLANT VENT SAMPLE PUMP WAS FOUND TO BE INOPERABLE DUE TO THE REMOTELY LOCATED SWITCH BEING IN THE OFF POSITION. THE PUMP WAS LAST REPORTED OPERATING 19 HRS EARLIER. THIS PUMP PROVIDES THE FLOW NECESSARY FOR THE IODINE COMPOSITE SAMPLES, WHICH ARE REQUIRED BY THE ENV TECH SPECS (TABLE 2.3-2D, ENV RELEASE POINTS). THE INOPERABILITY OF THIS PUMP DID NOT AFFECT THE OPERATION OF ANY OF THE PLANT VENT MONITORS, AND THE PLANT VENT WAS CONTINUOUSLY MONITORED AS REQUIRED. THE STRIP CHARTS FOR THE PLANT VENT IODINE AND THE GROSS ACTIVITY MONITORS VERIFY THAT THERE WERE NO ABNORMAL RELEASES TO THE PLANT VENT DURING THE INOPERABLE PERIOD OF THE SAMPLE PUMP. ALTHOUGH THE REASON FOR THE SWITCH BEING IN THE OFF POSITION WAS NOT DETERMINED, APPROPRIATE CORRECTIVE ACTION HAS BEEN TAKEN TO INSURE COLLECTION OF REPRESENTATIVE SAMPLES. PRESENT PLANS ARE TO INSTALL A LOW FLOW ALARM IN THE SAMPLE SYSTEM TO ALERT PERSONNEL TO POTENTIAL PROBLEMS. IN ADDITION, THE CHARCOAL CARTRIDGE FROM THE PLANT VENT IODINE MONITOR WILL BE MADE AVAILABLE FOR USE AS A BACKUP SAMPLE. BECAUSE THE COMPOSITE SAMPLE DOES NOT REFLECT THE INOPERABLE PERIOD OF THE SAMPLE PUMP, THE EVENT IS REPORTABLE IN ACCORDANCE WITH 10CFR50.73(A)(2)(I)(B).

[105] SALEM 2 DOCKET 50-311 LER 84-024  
 REACTOR TRIP FROM 100% DUE TO TURBINE GENERATOR FAILURE.  
 EVENT DATE: 100484 REPORT DATE: 110284 NSSS: WE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 192043) AT 0915 HRS, 10-4-84, DURING ROUTINE POWER OPERATION, UNIT 2 TURBINE GENERATOR TRIPPED ON GENERATOR DIFFERENTIAL RELAY PROTECTION. BY DESIGN, THE TURBINE TRIP CAUSED A REACTOR TRIP. THE RPS FUNCTIONED AS DESIGNED. THE TURBINE TRIP AND REACTOR TRIP OCCURRED AS REQUIRED TO PREVENT ADDITIONAL GENERATOR DAMAGE, AND TO MINIMIZE THE PRIMARY PLANT TRANSIENT. DUE TO THE AUTOMATIC ACTUATION OF THE RPS, THE EVENT IS REPORTABLE IN ACCORDANCE WITH THE CODE OF FED. REGULATIONS, 10CFR 50.73(A)(2)(IV). INITIAL INVESTIGATION REVEALED THAT THE GENERATOR TRIP WAS CAUSED BY A PHASE-TO-GROUND FAULT OF STATOR COILS B-40 AND B-41. SOME STATOR COILS, AT BOTH THE GENERATOR AND TURBINE END, WERE

DISCOVERED TO BE LOOSE. IN ADDITION, A HIGH POTENTIAL TEST INDICATED ADDITIONAL DISTRESS IN THE PHASE C WINDING. IT HAS BEEN DECIDED TO REPLACE THE GENERATOR, MANUFACTURED BY WESTINGHOUSE, WITH ONE OF A GE DESIGN. ALTHOUGH THE GENERATOR IS BEING REPLACED, INVESTIGATIONS ARE CONTINUING TO ASSESS THE FULL EXTENT OF DAMAGE, AND TO DETERMINE THE ROOT CAUSE OF THE FAILURE.

[106] SAN ONOFRE 1 DOCKET 50-206 LER 84-011  
 DELINQUENT PROCEDURE CHANGE APPROVALS.  
 EVENT DATE: 100284 REPORT DATE: 102984 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: SAN ONOFRE 2 (PWR)  
 SAN ONOFRE 3 (PWR)

(NSIC 192017) ON 10/4/84, 10/15/84, AND 10/18/84, WITH UNIT 1 IN MODE 5 AND UNITS 2 AND 3 IN MODE 1, IT WAS DETERMINED THAT TEMPORARY CHANGE NOTICES (TCN) WERE NOT APPROVED WITHIN FOURTEEN DAYS AS REQUIRED BY TECH SPEC 6.8.3.C. THERE WERE A TOTAL OF FOUR TCN'S WHICH FAILED TO MEET THIS REQUIREMENT. EACH OF THESE WERE EVALUATED AND DETERMINED TO HAVE NO SAFETY SIGNIFICANCE. IN ALL FOUR CASES, THE CAUSE IS ATTRIBUTABLE TO PERSONNEL ERROR. THERE WAS A LACK OF RIGOROUS ATTENTION TO THE TRACKING AND ISSUING PROCESS BY THE RESPONSIBLE PERSONNEL. AS CORRECTIVE ACTION, THE PERSONNEL INVOLVED HAVE BEEN REPRIMANDED OR REPLACED. ADDITIONAL TRAINING AND VERIFICATION POINTS HAVE ALSO BEEN IMPLEMENTED TO ENHANCE ADMINISTRATIVE CONTROL OVER THE PROCESSING OF TCNS.

[107] SAN ONOFRE 1 DOCKET 50-206 LER 84-013  
 MISSED LIQUID EFFLUENT SAMPLE.  
 EVENT DATE: 101484 REPORT DATE: 110984 NSSS: WE TYPE: PWR

(NSIC 192018) ON OCTOBER 14, 1984, WITH THE UNIT IN AN EXTENDED MODE 5 OUTAGE, A ROUTINE LIQUID RADWASTE DISCHARGE WAS INITIATED. TECH SPEC 4.5.D.2 REQUIRES A START, MID-POINT AND END SAMPLE EACH BE OBTAINED WHEN THE RELEASE WAS MADE, BECAUSE LIQUID MONITOR RT-1218 (EIS COMPONENT CODE RIT) WAS OUT OF SERVICE FOR PLANNED MAINTENANCE AND IMPROVEMENT MODIFICATIONS. HOWEVER, AFTER THE RELEASE HAD STARTED AN INCREASE IN THE RELEASE RATE WAS AUTHORIZED, BUT ADMINISTRATIVE CONTROLS DID NOT REQUIRE RECALCULATING THE APPROPRIATE TIME TO TAKE THE MID-POINT SAMPLE. CONSEQUENTLY, THE RELEASE CONCLUDED EARLY AND A MID-POINT SAMPLE COULD NOT BE OBTAINED. CORRECTIVE ACTION IS BEING TAKEN TO REVISE APPROPRIATE ADMINISTRATIVE PROCEDURES THAT DIRECT THE INTEGRATED ACTIVITIES OF THE OPERATIONS AND CHEMISTRY DEPARTMENTS REGARDING EFFLUENT RELEASES. IN ADDITION, THE SAMPLE FREQUENCIES HAVE BEEN INCREASED TO ENSURE A SUFFICIENT NUMBER OF SAMPLES WILL BE OBTAINED. ISSUANCE OF THE RADIOLOGICAL EFFLUENT TECH SPECS IN JANUARY 1985 WILL DELETE THE MID-POINT SAMPLE REQUIREMENT. THERE ARE NO CREDIBLE CIRCUMSTANCES THAT WOULD HAVE INCREASED THE SEVERITY OF THIS EVENT.

[108] SAN ONOFRE 2 DOCKET 50-361 LER 83-054  
 CONTROL ROD ASSEMBLY DROPPED.  
 EVENT DATE: 052683 REPORT DATE: 062383 NSSS: CE TYPE: PWR  
 VENDOR: COMBUSTION ENGINEERING, INC.

(NSIC 191794) WITH THE PLANT IN MODE 1 AND DURING SURVEILLANCE TESTING IN ACCORDANCE WITH PROCEDURE S023-3-3.5, CONTROL ELEMENT ASSEMBLY (CEA) NO. 64 (REGULATING GROUP 3) SLIPPED AND DROPPED IN EXCESS OF 7 INCHES (INDICATED POSITION). ACTION STATEMENT D OF LCO 3.1.3.1 WAS INVOKED AT 2030. THIS EVENT DID NOT AFFECT THE ABILITY OF THE CEA TO BE INSERTED INTO THE CORE. SUBSEQUENT INVESTIGATION REVEALED THAT THE SLIPPAGE WAS DUE TO SLOW OPERATION OF THE GRIPPERS WHICH PREVENTED ONE OF THE GRIPPERS (UPPER OR LOWER) FROM MAKING UP TO THE CEA PRIOR TO THE OTHER GRIPPER RELEASING. IN ACCORDANCE WITH LCO 3.1.3.1 ACTION STATEMENT D, CEA NO. 64 WAS RETRIEVED AND PLACED AT ITS UPPER ELECTRICAL LIMIT AT ABOUT 2040 ON 5-26-83.

[109] SAN ONOFRE 2 DOCKET 50-361 LER 84-008  
 REACTOR COOLANT TEMPERATURE INDICATOR FAILS.  
 EVENT DATE: 021184 REPORT DATE: 031284 NSSS: CE TYPE: PWR  
 VENDOR: SYSTEMS ENGINEERING LABORATORIES, INC.

(NSIC 191823) ON 2-11-84 THE PLANT MONITORING SYSTEM, WHICH THE OPERATOR WAS USING FOR TEMPERATURE INDICATION, FAILED AND THE DISPLAYED TEMPERATURE WAS NOT UPDATED. AS A RESULT, AT 2215 UNIT 2 INADVERTENTLY EXCEEDED 350 DEGREES BY 1 DEGREE FOR 2 MINS AND ENTERED MODE 3, CONTRARY TO THE REQUIREMENTS OF LIMITING CONDITION FOR OPERATION (LCO) 3.0.4, IN THAT LCO'S 3.5.1 (SAFETY INJECTION TANKS), 3.7.1.2 (AUX FEEDWATER SYSTEM), AND 3.6.3 (CONTAINMENT ISOLATION VALVES) WERE NOT FULLY MET. THE CAUSE OF THIS EVENT WAS FAILURE OF THE PLANT MONITORING SYSTEM SUCH THAT AN INCORRECT REACTOR COOLANT SYSTEM TEMPERATURE WAS DISPLAYED. UNIT 2 WAS RETURNED TO MODE 4 AT 2217. THE PMS DISPLAY WAS REPAIRED AND RETURNED TO SERVICE.

[110] SAN ONOFRE 2 DOCKET 50-361 LER 84-010  
 FEEDWATER HEATER LEVEL INSTRUMENT FAILS.  
 EVENT DATE: 022384 REPORT DATE: 032684 NSSS: CE TYPE: PWR

(NSIC 191824) THIS SUBMITTAL PROVIDES AN INFORMATIONAL LER DESCRIBING AN OCCURRENCE OF A PARTIAL LOSS OF EXTRACTION STEAM FEEDWATER HEATING WHICH RESULTED IN A REACTOR POWER INCREASE OF 3%. ON 2-23-84, AT 2215, WITH UNIT 2 IN MODE 1 AT 100% POWER, AN ADJUSTMENT TO FIRST POINT HEATER E036 WAS IN PROGRESS. DURING THIS ADJUSTMENT, THE FIRST POINT LEVEL CONTROLLER SPURIOUSLY CYCLED RESULTING IN HIGH LEVELS IN THE FIRST AND SECOND POINT HEATERS AND CLOSURE OF STEAM EXTRACTION BLOCK VALVES 2HV-8804 AND 2HV-8806 CAUSING FIRST AND SECOND POINT HEATERS TO BE AUTOMATICALLY ISOLATED FROM THE STEAM SUPPLY. DUE TO THE RESULTING STEAM LOSS, COLDER FEEDWATER FLOWED THROUGH THE STEAM GENERATORS AND THE REACTOR EXPERIENCED A POWER SURGE. REACTOR POWER INCREASED TO 103% (3492 MEGAWATTS THERMAL). PROMPT ACTION WAS TAKEN TO REDUCE TURBINE POWER RESULTING IN REACTOR POWER BEING REDUCED TO 100% IN LESS THAN 30 MINS. THIS EVENT IS CONSIDERED AN ISOLATED OCCURRENCE. NO CORRECTIVE ACTIONS ARE PLANNED.

[111] SAN ONOFRE 2 DOCKET 50-361 LER 84-020  
 HIGH STEAM GENERATOR LEVEL ON OVERFEED.  
 EVENT DATE: 032684 REPORT DATE: 042484 NSSS: CE TYPE: PWR

(NSIC 192058) AT 0520 ON 3-26-84, UNIT 2 WAS RETURNING TO SERVICE FOLLOWING A REACTOR TRIP WHICH OCCURRED 2 DAYS EARLIER. THE MAIN FEEDWATER SYSTEM (EIIS SYSTEM CODE SJ) REMAINED IN SERVICE AFTER THE TRIP SINCE DECAY HEAT WAS ADEQUATE TO SUPPORT A MAIN FEEDWATER PUMP TURBINE. AS A RESULT, THE STEAM GENERATOR LEVELS WERE BEING MAINTAINED BY MANUAL OPERATION OF THE FEEDWATER CONTROL SYSTEM (EIIS SYSTEM CODE JB). AT 0633, WITH THE UNIT IN MODE 2 AT 2% POWER, A REACTOR TRIP OCCURRED ON HIGH STEAM GENERATOR LEVEL. THE TRIP OCCURRED AS A RESULT OF OVERFEEDING THE STEAM GENERATORS DURING MANUAL OPERATION OF THE FEEDWATER CONTROL SYSTEM (EIIS SYSTEM CODE JB). THE PLANT PROTECTION SYSTEM (EIIS SYSTEM CODE JC) RESPONDED NORMALLY TO STABILIZE PLANT CONDITIONS DURING THIS EVENT. NO SYSTEM OR COMPONENT MALFUNCTIONED DURING THIS EVENT. MANUAL STEAM GENERATOR LEVEL CONTROL IS DIFFICULT AT LOW POWER DUE TO THE "SHRINK" AND "SWELL" RESPONSES OF STEAM GENERATOR LEVELS. DESIGN CHANGES TO OPTIMIZE STEAM GENERATOR LEVEL CONTROL AT ALL POWER LEVELS ARE UNDER CONSIDERATION. THERE ARE NO REASONABLE OR CREDIBLE ALTERNATIVES UNDER WHICH THIS EVENT WOULD HAVE BEEN MORE SEVERE.

[112] SAN ONOFRE 2 DOCKET 50-361 LER 84-050  
 RAPID POWER REDUCTION ON LOSS OF FEEDWATER TURBINE GIVES REACTOR TRIP ON LPD/DNBR.  
 EVENT DATE: 082684 REPORT DATE: 092584 NSSS: CE TYPE: PWR  
 VENDOR: BROWN BOVERI



A PROPOSED TECH SPEC AMENDMENT WAS SUBMITTED APR 27, 1984, REQUESTING MORE APPROPRIATE TGIS SETPOINTS. IN ADDITION, A REQUEST FOR EXEMPTION FROM REPORTING SPURIOUS ACTUATIONS OF THE TGIS UNDER 10 CFR 50.72 AND 10 CFR 50.73 IS BEING PREPARED.

[115] SAN ONOPRE 2 DOCKET 50-361 LER 84-053  
 SPURIOUS FUEL HANDLING ISOLATION SYSTEM (FHIS) ACTUATION.  
 EVENT DATE: 091984 REPORT DATE: 101684 NSSS: CE TYPE: PWR

(NSIC 191825) ON 9-19-84, AT 2218, WITH UNIT 2 IN MODE 1 AT 100% POWER, THE FUEL HANDLING ISOLATION SYSTEM (FHIS) (EIIIS SYSTEM CODE VG) TRAIN 'B' SPURIOUSLY ACTUATED WHEN THE POWER SUPPLY TO THE CONTROL MODULE FOR THE FUEL HANDLING AND VENT AIRBORNE MONITOR GAS DETECTOR, 2RE-7823-2 (EIIIS COMPONENT CODE DET), WAS DEENERGIZED FOR SYSTEM MODIFICATION WORK. ALTHOUGH FHIS IS NOT REQUIRED TO BE OPERABLE AT THIS TIME BECAUSE THERE IS NO SPENT FUEL IN THE SPENT FUEL POOL, ALL FHIS TRAIN B COMPONENTS WERE VERIFIED TO HAVE FUNCTIONED PROPERLY. THE ACTUATION WAS VERIFIED TO BE SPURIOUS AND SUBSEQUENTLY RESET AT 2223. THE CAUSE OF THE UNPLANNED ACTUATION WAS THE DEENERGIZATION OF A CONTROL MODULE DURING THE ESTABLISHMENT OF A CLEARANCE TO PERFORM SYSTEM MODIFICATIONS UNDER A DESIGN CHANGE PACKAGE (DCP). THIS RESULTED IN DEENERGIZATION OF THE RHIS ACTUATION RELAY AND SUBSEQUENT ACTUATION OF COMPONENTS IN FHIS. THE REASON THE ACTUATION WAS UNPLANNED WAS THAT THE PROCEDURE BEING USED TO ESTABLISH THE CLEARANCE DID NOT CONTAIN A CAUTION TO NOTIFY OPERATORS THAT AN ACTUATION WOULD OCCUR. CORRECTIVE ACTION WILL BE TO REVISE APPROPRIATE FHIS OPERATING PROCEDURES TO INCLUDE APPROPRIATE CAUTION STATEMENTS. THERE ARE NO REASONABLE OR CREDIBLE CIRCUMSTANCES UNDER WHICH THIS EVENT COULD HAVE BEEN MORE SEVERE.

[116] SAN ONOPRE 2 DOCKET 50-361 LER 84-055  
 SPURIOUS TOXIC GAS ISOLATION SYSTEM (TGIS) ACTUATION.  
 EVENT DATE: 092884 REPORT DATE: 102984 NSSS: CE TYPE: PWR  
 OTHER UNITS INVOLVED: SAN ONOPRE 3 (PWR)

(NSIC 192060) ON 9-28-84, AT 1905, WITH UNITS 2 AND 3 IN MODE 1 AT 100% AND 95% POWER, RESPECTIVELY, A SPURIOUS TOXIC GAS ISOLATION SYSTEM (TGIS) TRAIN 'B' ACTUATION OCCURRED. SUBSEQUENT TO THIS DATE, SPURIOUS TRAIN 'A' ACTUATIONS OCCURRED ON 10-24 AT 0456 AND 10-25 AT 0505. THE CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM (CREACUS) ACTUATED ON EACH TGIS. FOR EACH OCCURRENCE, THE ACTUATION WAS VERIFIED TO BE SPURIOUS BY CONFIRMING THAT THE METER INDICATIONS ON THE TGIS PANEL WERE LESS THAN THEIR RESPECTIVE SETPOINTS, AND TGIS WAS IMMEDIATELY RESET. SEE ALSO LERS 84-006, 012, 021, 026, 032, 037, 042, AND 052 (DOCKET NO. 50-361). SPURIOUS TGIS ACTUATIONS HAVE BEEN A RECURRING EVENT, AND HAVE BEEN THE RESULT OF ONE OR MORE OF THE FOLLOWING CONDITIONS: OVERLY CONSERVATIVE ALARM SETPOINTS; ELECTRICAL NOISE; RAPID TEMPERATURE AND PRESSURE CHANGES; RADIO TRANSMISSIONS; VIBRATION; AND DUST AND DIRT ACCUMULATION. IMPLEMENTATION OF CORRECTIVE ACTIONS HAS REDUCED THE NUMBER OF SPURIOUS TGIS ACTUATIONS TO ONLY 3 IN THE PERIOD FROM 9-12 TO 10-25, 1984. THERE ARE NO REASONABLE OR CREDIBLE CIRCUMSTANCES WHICH COULD HAVE INCREASED THE SEVERITY OF THESE EVENTS.

[117] SAN ONOPRE 2 DOCKET 50-361 LER 84-056  
 LOSS OF POWER TO THE 120V AC VITAL BUS.  
 EVENT DATE: 100284 REPORT DATE: 102984 NSSS: CE TYPE: PWR  
 OTHER UNITS INVOLVED: SAN ONOPRE 3 (PWR)  
 VENDOR: CYBEREX INC.

(NSIC 192061) AT 1812 ON 10-2-84, WITH UNITS 2 AND 3 IN MODE 1 AT 100% POWER, THE FAILURE OF VITAL INVERTER 2Y002 RESULTED IN THE DE-ENERGIZATION OF THE UNIT 2 CHANNEL B 120V AC VITAL BUS. THE UNIT 2 FUEL HANDLING ISOLATION SYSTEM AND



CONTAINMENT PURGE ISOLATION SYSTEM, AND THE UNITS 2 AND 3 COMMON TOXIC GAS ISOLATION SYSTEM ACTUATED DUE TO THE LOSS OF POWER. ADDITIONALLY, ALL PLANT PROTECTION SYSTEM CHANNEL B FUNCTIONS TRIPPED. HOWEVER, SINCE THE PPS REQUIRES 2 OF 4 CHANNELS FOR A COMPLETE ACTUATION, A REACTOR TRIP DID NOT OCCUR. CHANNEL B PPS TRIPS WERE PLACED IN BYPASS AT 1830. AT 1838, CHANNEL B 120V AC VITAL BUS WAS REENERGIZED FROM ITS ALTERNATE SOURCE. CHANNEL B PPS TRIPS WERE RESET AT 1856. THE FHIS, CPIS, AND TGIS WERE RESET AT 1925. INVESTIGATION DETERMINED THAT THE CHANNEL B INVERTER FAILED DUE TO A DIODE SHORT IN A POWER SUPPLY. THE POWER SUPPLY WAS REPLACED AND TESTED. CHANNEL B 120V AC VITAL BUS WAS RESTORED TO ITS NORMAL POWER SOURCE THROUGH THE VITAL INVERTER AT 0440 ON 10-3-84. THE POWER SUPPLY FAILURE IS CONSIDERED AN ISOLATED INCIDENT, AND NO FURTHER CORRECTIVE ACTION IS PLANNED.

[118] SAN ONOFRE 2 DOCKET 50-361 LER 84-057  
 ACTUATION OF SPURIOUS CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM.  
 EVENT DATE: 100384 REPORT DATE: 110184 NSSS: CE TYPE: PWR  
 OTHER UNITS INVOLVED: SAN ONOFRE 3 (PWR)

(NSIC 191826) ON 10-3-84, AT 0025, WITH UNITS 2 AND 3 IN MODE 1 AT 85% AND 100% POWER, RESPECTIVELY, THE CONTROL ROOM ISOLATION SYSTEM (CRIS) (EIS SYSTEM CODE VA) TRAIN 'A' SPURIOUSLY ACTUATED DURING THE PERFORMANCE OF A CHECK-SOURCE TEST. THE CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM (CREACUS) (EIS SYSTEM CODE VA) ACTUATED AS REQUIRED. THE CRIS ACTUATION WAS VERIFIED TO BE SPURIOUS AND WAS RESET AT 0027. THE CAUSE OF THE SPURIOUS ACTUATION WAS THAT DURING THE CHECK-SOURCE TEST THE ALARM DEFEAT FUNCTION ON CRIS RADIATION MONITOR 2/3RI-7824 (EIS COMPONENT CODE RIT) WAS REMOVED BEFORE THE CHECK-SOURCE RADIATION LEVELS DROPPED BELOW THE MONITOR ACTUATION SETPOINT. THE CHECK-SOURCE RADIATION LEVELS DROPPED BELOW THE MONITOR ACTUATION SETPOINT. THE CHECK-SOURCE TEST WAS UNNECESSARILY PERFORMED BY AN OPERATOR DURING THE SHIFTLY RADIATION MONITOR SURVEILLANCE. CORRECTIVE ACTION WAS TO COUNSEL THE OPERATOR ON THE IMPORTANCE OF USING PROCEDURES WHEN PERFORMING EVEN MINOR EVOLUTIONS. FURTHER CORRECTIVE ACTION IS TO DISCUSS THIS ITEM IN SHIFT BRIEFINGS AS AN EXAMPLE OF WHERE NOT USING PROCEDURES FOR EVEN MINOR EVOLUTIONS CAN RESULT IN ERROR. THERE ARE NO REASONABLE OR CREDIBLE CIRCUMSTANCES WHICH COULD HAVE INCREASED THE SEVERITY OF THIS EVENT.

[119] SAN ONOFRE 3 DOCKET 50-362 LER 84-035  
 HIGH PRESSURE SAFETY INJECTION PUMPS INOPERABLE.  
 EVENT DATE: 082184 REPORT DATE: 091784 NSSS: CE TYPE: PWR

(NSIC 191773) ON 8-21-84 AT 1815, WITH UNIT 3 IN MODE 1 AT 100% POWER, A REVIEW OF OPERATOR LOGS BY THE CONTROL ROOM SUPERVISOR IDENTIFIED THAT TRAIN A HPSI SUBGROUP RELAY TESTING HAD BEEN CONDUCTED CONCURRENT WITH THE DRAINING OF THE SALTWATER SIDE OF THE TRAIN B COMPONENT COOLING WATER (CCW) HEAT EXCHANGER. INVESTIGATION DETERMINED THAT AT 0416 ON 8-21-84, THE SALTWATER SIDE OF TRAIN B CCW HEAT EXCHANGER WAS REMOVED FROM SERVICE FOR CLEANING. TRAIN B COMPONENTS COOLED BY CCW, INCLUDING THE TRAIN B HPSI PUMP, WERE THEREFORE INOPERABLE. AT 0518 ON 8-21-84, THE TRAIN A HPSI BYPASS VALVES MU184 AND MU186 WERE OPENED IN ACCORDANCE WITH THE APPROVED SURVEILLANCE PROCEDURE FOR CONDUCT OF SUBGROUP RELAY TESTING. OPENING THE TRAIN A BYPASS VALVES RENDERED THE TRAIN A HPSI PUMPS INOPERABLE. THE BYPASS VALVES WERE SHUT AT 0536 ON 8-21-84 RESTORING THE TRAIN A HPSI PUMPS TO AN OPERABLE STATUS. THE CAUSE OF THIS EVENT WAS FAILURE OF THE CONTROL OPERATOR (CO) AND CONTROL ROOM SUPERVISOR (CRS) TO FOLLOW PROCEDURE PRECAUTIONS IN THE SUBGROUP RELAY TESTING PROCEDURE. THE CO AND CRS RECEIVED DISCIPLINARY ACTION AND COUNSELING ON THE IMPORTANCE OF ATTENTION TO DETAIL AND STRICT COMPLIANCE WITH PROCEDURAL REQUIREMENTS.

[120] SEQUOYAH 1 DOCKET 50-327 LER 83-080  
 ROD POSITION INDICATOR DECLARED INOPERABLE.  
 EVENT DATE: 053083 REPORT DATE: 062483 NSSS: WE TYPE: PWR  
 VENDOR: INTERNATIONAL INSTRUMENTS, INC.

(NSIC 192016) WITH UNIT 1 IN MODE 1 (10% REACTOR POWER) AT 0750 CDT ON 05/30/83, ROD POSITION INDICATOR (RPI) D-14 ON SHUTDOWN BANK 'A' WAS DECLARED INOPERABLE DUE TO INDICATING GREATER THAN 12 STEPS FROM THE DEMAND COUNTER. THIS REQUIRED ENTRY INTO ACTION STATEMENT (A) OF LCO 3.1.3.2. PREVIOUS OCCURRENCES ARE 327/80186, 80192, 82007, AND 50-328/83059). INVESTIGATION REVEALED THAT THE INDICATOR WOULD NOT MOVE MOST PROBABLY DUE TO BINDING ON THE SCALE. THE INTERNATIONAL INSTRUMENT MODEL 1140 INDICATOR WAS REPLACED AND CORRECT OPERATION VERIFIED. THE RPI WAS RETURNED TO SERVICE AT 0820 ON 05/30/83. NO FURTHER ACTION IS PLANNED.

[121] SEQUOYAH 1 DOCKET 50-327 LER 84-058  
 CONTAINMENT BLDG VENTILATION ISOLATION.  
 EVENT DATE: 091784 REPORT DATE: 101684 NSSS: WE TYPE: PWR  
 VENDOR: BROOKS ROTAMETER

(NSIC 191763) A HIGH RADIATION ALARM WAS ACTUATED, WHICH CAUSED A CONTAINMENT VENTILATION ISOLATION (CVI) TO OCCUR. INVESTIGATION REVEALED THAT DUE TO A LEAK IN THE MANWAY COVER ON SG NUMBER 1, STEAM ENTERED THE CONTAINMENT ATMOSPHERE AND THE RESULTING INCREASE IN MOISTURE SATURATED THE PARTICULATE FILTER AND CAUSED THE IODINE SAMPLE FLOW ALARM TO ACTUATE. THE CONTACTS ON THE FLOW SWITCH WERE VERY NOISY AND GENERATED ELECTROMAGNETIC INTERFERENCE (EMI) WHICH CAUSED THE HIGH RADIATION ALARM TO ACTUATE. THERE WAS NO ACTUAL HIGH RADIATION LEVEL IN CONTAINMENT AND NO PERSONNEL WERE CONTAMINATED.

[122] SEQUOYAH 1 DOCKET 50-327 LER 84-062  
 CONTROL ROOM VENTILATION ISOLATES.  
 EVENT DATE: 091884 REPORT DATE: 101684 NSSS: WE TYPE: PWR

(NSIC 191815) A CONTROL ROOM VENTILATION ISOLATION (CRI) OCCURRED AS A RESULT OF A PERSONNEL ERROR WHEN THE TEST SWITCH ON THE CHLORINE DETECTOR WAS ACTUATED. ANOTHER CRI OCCURRED WHEN A CAPACITOR LEAD CAME LOOSE ON A RADIATION MONITOR CHART DRIVE MOTOR AND GENERATED SPURIOUS ELECTROMAGNETIC INTERFERENCE (EMI) WHEN THE RECORDER WAS MOVED. THE EMI CAUSED THE MONITOR TO SPIKE ENOUGH TO ACTUATE THE HIGH RADIATION ALARM. NEITHER RADIATION NOR CHLORINE LEVELS WERE ABOVE NORMAL DURING THIS TIME. THE CRIS WERE RESET AND BOTH THE CHLORINE DETECTOR AND THE RADIATION MONITOR WERE RETURNED TO NORMAL.

[123] SEQUOYAH 1 DOCKET 50-327 LER 84-064  
 REACTOR TRIP IN COLD SHUTDOWN ON LOW SG LEVEL.  
 EVENT DATE: 092584 REPORT DATE: 102484 NSSS: WE TYPE: PWR

(NSIC 191816) WHILE IN MODE 5, COLD SHUTDOWN, WITH REACTOR TRIP BREAKERS CLOSED, THE UNIT EXPERIENCED A TRIP ON LOW-LOW SG LEVEL ON LOOP 1. THE MAIN STEAM ISOLATION VALVE WAS CYCLED FOR TESTING, RELEASING PRESSURE ON THE SG, RESULTING IN A SWELL, THEN A SHRINKAGE, OF LEVEL ON THE SECONDARY SIDE. THIS EFFECT HAD NOT BEEN ANTICIPATED BEFORE THE TEST. SG LEVEL WAS RECOVERED AFTER THE TRIP, DUE TO AUTOMATIC START OF THE AUX FEEDWATER. ALL SYSTEMS WORKED AS EXPECTED AND NO ABNORMALITIES WERE NOTED.

[124] SEQUOYAH 1 DOCKET 50-327 LER 84-061  
 PRESSURIZER RELIEF TANK PRESSURE INDICATORS DISCOVERED TO HAVE WRONG PRESSURE RANGE.  
 EVENT DATE: 092784 REPORT DATE: 102684 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: SEQUOYAH 2 (PWR)

(NSIC 192047) THE RCS PRESSURIZER RELIEF TANK PRESSURE INDICATORS LOCATED IN THE UNIT 1 AND 2 AUX CONTROL ROOMS (ACRS) WERE DISCOVERED TO HAVE A RANGE OF 0-10 PSIG INSTEAD OF 0-100 PSIG AS REQUIRED PER TECH SPECS. THE INDICATORS WERE DISCOVERED TO HAVE THE WRONG PRESSURE RANGE WHILE MAINTENANCE WAS BEING PERFORMED. THE PRESSURE INDICATORS IN THE MAIN CONTROL ROOM READ CORRECTLY. THE UNIT ONE INDICATOR WAS MODIFIED TO READ 0-100 PSIG AND THE UNIT TWO INDICATOR WILL BE MODIFIED DURING THE PRESENT REFUELING OUTAGE.

[125] SEQUOYAH 1 DOCKET 50-327 LER 84-059  
 FAILURE TO COMPLY WITH APPENDIX R OF 10 CFR.  
 EVENT DATE: 100984 REPORT DATE: 102384 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: SEQUOYAH 2 (PWR)

(NSIC 192046) FOLLOWING ADDITIONAL INSPECTIONS OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, INTERACTIONS WERE FOUND THAT WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. FIRE WATCHES HAD ALREADY BEEN ESTABLISHED IN THIS AREA DUE TO COMMITMENTS ALREADY MADE BY TVA DEALING WITH APPENDIX R. THIS FIRE WATCH SATISFIES REQUIREMENTS PER ACTION STATEMENT OF TECH SPEC 3.7.12 AND WILL REMAIN IN EFFECT TILL FULL COMPLIANCE WITH APPENDIX R CAN BE ACHIEVED. THIS REPORT ALSO CONTAINS DETAILS ON RCP OIL COLLECTION SYSTEM WHICH ALSO DOES NOT MEET 10 CFR 50 APPENDIX R REQUIREMENTS. THIS REPORT IS REQUIRED PER LICENSE CONDITION 2.H, 10 CFR 50.73 (A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. PREVIOUS OCCURRENCES - FOUR - SQRO-50-327/84046, SQRO-50-327/84049, SQRO-50-327/48051, AND SQRO-50-327/84057.

[126] SEQUOYAH 1 DOCKET 50-327 LER 84-063  
 FAILURE TO COMPLY WITH APPENDIX R OF 10 CFR 50.  
 EVENT DATE: 101884 REPORT DATE: 110184 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: SEQUOYAH 2 (PWR)

(NSIC 192048) FOLLOWING ADDITIONAL INSPECTIONS OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, INTERACTIONS WERE FOUND THAT WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. FIRE WATCHES HAD ALREADY BEEN ESTABLISHED IN THIS AREA DUE TO COMMITMENTS ALREADY MADE BY TVA DEALING WITH APPENDIX R. THIS FIRE WATCH SATISFIES REQUIREMENTS PER ACTION STATEMENT OF TECH SPEC 3.7.12 AND WILL REMAIN IN EFFECT TILL FULL COMPLIANCE WITH APPENDIX R CAN BE ACHIEVED. THIS REPORT IS REQUIRED PER LICENSE CONDITION 2.H, 10 CFR 50.73(A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. PREVIOUS OCCURRENCES - FIVE - SQRO-50-327/84046, SQRO-50-327/84049, SQRO 50-327/84051, SQRO-50-327/84057, AND SQRO-50-327/84059.

[127] SEQUOYAH 1 DOCKET 50-327 LER 84-067  
 FAILURE TO COMPLY WITH APPENDIX R OF 10 CFR 50.  
 EVENT DATE: 102284 REPORT DATE: 110584 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: SEQUOYAH 2 (PWR)

(NSIC 192049) FOLLOWING ADDITIONAL INSPECTIONS OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, INTERACTIONS WERE FOUND THAT WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. FIRE WATCHES HAD ALREADY BEEN ESTABLISHED IN THIS AREA, DUE TO COMMITMENTS ALREADY MADE BY TVA DEALING WITH APPENDIX R. THIS FIRE WATCH SATISFIES REQUIREMENTS PER ACTION STATEMENT OF TECH SPEC 3.7.12 AND WILL REMAIN IN EFFECT TILL FULL COMPLIANCE WITH APPENDIX R CAN BE ACHIEVED. THIS REPORT IS

REQUIRED PER LICENSE CONDITION 2.H, 10 CFR 50.73 (A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. THIS REPORT COVERS EVENTS REPORTED BY TELECOPY ON THE FOLLOWING DATES: 10/12/84, 10/24/84, 10/29/84, AND 10/30/84. PREVIOUS OCCURRENCES - SIX - SQRO-50-327/84046, SQRO-50-327/84049, SQRO-50-327/84051, SQRO-50-327/84057, SQRO-50-327/84059, AND SQRO-50-327/84063.

[128] SEQUOYAH 2 DOCKET 50-328 LER 84-014  
 REACTOR TRIP.  
 EVENT DATE: 083084 REPORT DATE: 092884 NSSS: WE TYPE: PWR  
 VENDOR: ARROW, HART & HEGEMAN

(NSIC 191764) ON 8-30-84 UNIT 2 EXPERIENCED A LO-LO STEAM GENERATOR REACTOR TRIP. DURING THE EVENT A MAIN FEEDWATER ISOLATION VALVE FAILED TO CLOSE DUE TO A STUCK CONTACT AND THE 'B' MAIN FEEDWATER PUMP RESET ITSELF DUE TO AN INCORRECT SOLENOID VALVE.

[129] SEQUOYAH 2 DOCKET 50-328 LER 84-016  
 REACTOR AND GENERATOR TRIP ON NEUTRAL OVERVOLTAGE.  
 EVENT DATE: 090984 REPORT DATE: 100984 NSSS: WE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELECTRIC COMPANY (ELEV. DIV)

(NSIC 191765) A REACTOR TRIP OCCURRED DUE TO A TURBINE TRIP WHICH WAS CAUSED BY THE GENERATOR NEUTRAL OVERVOLTAGE RELAY ACTUATING. THE RELAY OPERATION WAS VERIFIED AS VALID, AND A MEGGER TEST OF THE GENERATOR, ISOLATED PHASE BUS, AND MAIN AND UNIT STATION SERVICE TRANSFORMERS INDICATED A GROUND ON THE SYSTEM. THE GROUND WAS FOUND TO BE CAUSED BY A NEOPRENE GASKET/ISOLATING STRIP THAT HAD FALLEN DOWN ONTO THE ISOLATED PHASE (IPB). ALL THE STRIPS IN THE IPB WERE INSPECTED, REMOVED, AND REINSTALLED WITH RTV AS AN ADHESIVE. A PREVENTATIVE MAINTENANCE PROGRAM IS BEING IMPLEMENTED TO INSPECT THE ISOLATED PHASE BUS AT EACH REFUELING OUTAGE. THE UNIT STABILIZED AT 547 DEGREES F FOLLOWING THE REACTOR TRIP.

[130] ST. LUCIE 1 DOCKET 50-335 LER 84-009  
 REACTOR MANUALLY TRIPPED BECAUSE OF INTAKE SCREEN FOULING.  
 EVENT DATE: 091484 REPORT DATE: 101184 NSSS: CE TYPE: PWR

(NSIC 191818) WHILE AT 32% POWER, CLEANING AND REPAIRING OF INTAKE SCREENS WAS BEING DONE BECAUSE LARGE NUMBERS OF JELLYFISH WERE FOULING THESE SCREENS. A SHEAR PIN BROKE ON THE 1B1 TRAVELING SCREEN REQUIRING THAT THE 1B1 CIRCULATING WATER PUMP BE SHUTDOWN. SINCE THE 1B2 CIRCULATING WATER PUMP WAS ALREADY OUT OF SERVICE THE 'B' SIDE CONDENSER LOST COOLING AND THE REACTOR WAS MANUALLY TRIPPED. THE INTAKE SCREENS WERE REPAIRED. THE REACTOR WAS RESTARTED AND RETURNED TO POWER. THIS IS THE FIRST LER OF ITS TYPE, ALTHOUGH THERE HAVE BEEN FORCED OUTAGES CAUSED BY JELLYFISH FOULING THE SCREENS THAT DID NOT RESULT IN PLANT TRIPS.

[131] ST. LUCIE 1 DOCKET 50-335 LER 84-010  
 CHARGING PUMPS INOPERABLE DUE TO ADMINISTRATIVELY INOPERABLE EMERGENCY POWER SOURCES.  
 EVENT DATE: 092384 REPORT DATE: 102384 NSSS: CE TYPE: PWR

(NSIC 191819) DURING NORMAL FULL POWER OPERATION, BOTH OPERABLE CHARGING PUMPS WERE ALIGNED TO THE 1B DG FOR REPAIR OF LEAKING O-RINGS ON THE 1A PUMP ACCUMULATOR. AT 0745 ON 9-23-84, USAGE FROM THE 1B DIESEL FUEL OIL TANK LEFT THE TANK LEVEL AT 65% OF THE TECH SPEC 3.8.1.1.B.2 LIMIT OF 16,450 GALLONS. THE 1B DIESEL WAS ADMINISTRATIVELY DECLARED OUT OF SERVICE BUT IT WAS NOT DISABLED. DURING A ROUTINE LOG REVIEW AT 2015 ON 9-23-84 IT WAS RECOGNIZED THAT THE

CHARGING PUMPS WERE NOT OPERABLE PER TECH SPEC 3.0.5 DUE TO THE ADMINISTRATIVELY INOPERABLE EMERGENCY POWER SOURCE. ACTION WAS TAKEN TO ALIGN 1A FUEL OIL TANK TO THE 1B DG (AND THE 1B FUEL OIL TRANSFER PUMP) AND 1B DIESEL WAS DECLARED OPERABLE AT 2134 ON 9-23-84. (THE 1A DIESEL WAS DECLARED OUT OF SERVICE). THE 1B DIESEL WAS AVAILABLE FOR SERVICE AND FUEL DELIVERY WAS ALREADY SCHEDULED FOR 9-24-84. ALSO, IN THE EVENT OF LOSS OF POWER CHARGING PUMP ALIGNMENT COULD HAVE BEEN SWITCHED. THE 1A CHARGING PUMP WAS REPAIRED AND RETURNED TO SERVICE AT 1330 ON 9-24-84. AFTER COMPLETION OF THE FUEL OIL DELIVERY AT 1600 ON 9-24-84, BOTH DG'S WERE RETURNED TO OPERABLE STATUS. THIS ITEM WILL BE SPECIFICALLY ADDRESSED BY TRAINING TO ENSURE ALL OPERATORS ARE AWARE OF THE EVENT.

[132] ST. LUCIE 1 DOCKET 50-335 LER 84-011  
 DIESEL GENERATOR FUEL OIL TANK LEVEL BELOW TECH SPEC.  
 EVENT DATE: 100984 REPORT DATE: 110884 NSSS: CE TYPE: PWR

(NSIC 192051) THE 1A EMERGENCY DIESEL GENERATOR WAS TESTED ON OCTOBER 3, 1984 TO MEET THE REQUIREMENTS OF TECH SPEC 4.8.1.1.2. AT 1000 ON OCTOBER 9, 1984, DURING A ROUTINE LOG REVIEW, IT WAS NOTED THAT THE FUEL OIL STORAGE TANK WAS 0.5 PERCENT (3/4 INCH) BELOW THE TECH SPEC 3.8.1.1.B.2 REQUIRED LEVEL OF 16,450 GALLONS. THIS SITUATION WAS CORRECTED BY 1100 ON OCTOBER 9, 1984. THE TOTAL FUEL INVENTORY ON SITE WAS ADEQUATE TO ENSURE THE 1A DIESEL COULD HAVE PERFORMED ITS REQUIRED FUNCTION. SUBSEQUENT TO THIS EVENT, THE OPERATIONS SUPERVISOR ISSUED WRITTEN GUIDANCE TO ALL OPERATIONS PERSONNEL EMPHASIZING THE SIGNIFICANCE OF COMPARING ACTUAL LOG READING TO SPECIFIED LIMITS AND PAYING CLOSE ATTENTION TO DETAILS. NO FURTHER ACTION IS CONTEMPLATED.

[133] SUMMER 1 DOCKET 50-395 LER 84-040  
 BREACHED FIRE BARRIER.  
 EVENT DATE: 092084 REPORT DATE: 101684 NSSS: WE TYPE: PWR

(NSIC 191783) ON 9-20-84, AT 1430 HRS, WHILE REPAIRING SILICONE FOAM FIRE SEAL BLOCKOUT #ELB-2037, TRACE #687, AN ADJACENT BLOCKOUT (#ELB-2037, TRACE #686) WAS FOUND WITH FOAM REMOVED. BOTH FIRE BARRIERS ARE LOCATED IN CONTROL BLDG RM 36-11 (RELAY ROOM). THERE WAS NO FIRE BARRIER REMOVAL PERMIT ISSUED TO BREACH TRACE #686 AND ATTEMPTS TO LOCATE THE PERSON(S) WHO REMOVED THE BARRIER WERE UNSUCCESSFUL. THE FIRE BARRIER WAS DECLARED INOPERABLE. THE AREA SMOKE DETECTORS WERE VERIFIED OPERABLE, AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED AND A MAINTENANCE WORK REQUEST WAS GENERATED TO REPAIR THE BARRIER. ALL FIRE BARRIERS IN THE AREA WERE INSPECTED FOR DEGRADATION WITH NO ADDITIONAL PROBLEMS DISCOVERED. FIRE BARRIER (TRACE #686) WAS OPERABLE WHEN INSPECTED 6-18-84, DURING NORMAL SURVEILLANCES. THE BREACHED BARRIER WAS REPAIRED, SATISFACTORILY INSPECTED AND DECLARED OPERABLE ON 9-21-84, AT 1515 HRS. CONTINUED EMPHASIS IS BEING STRESSED IN THE STATION ORIENTATION TRAINING CLASSES ON THE IMPORTANCE OF STATION FIRE BARRIERS. ADDITIONALLY, THE MONTHLY SAFETY LECTURES FOR 10-84 HAVE BEEN FORMATTED TO FURTHER INCREASE PERSONNEL AWARENESS IN THIS AREA.

[134] SUMMER 1 DOCKET 50-395 LER 84-041  
 REACTOR TRIP ON INTERMEDIATE RANGE HIGH FLUX.  
 EVENT DATE: 092884 REPORT DATE: 102684 NSSS: WE TYPE: PWR

(NSIC 192067) ON 9-28-84, AT 2153 HRS, THE REACTOR TRIPPED FROM APPROX 10% POWER. THE PLANT WAS IN THE PROCESS OF A SHUTDOWN FOR REFUELING. THE INTERMEDIATE RANGE (IR) HIGH FLUX BISTABLE DID NOT RESET ON DECREASING POWER. AT 10% DECREASING POWER, NUCLEAR INSTRUMENTATION AUTOMATICALLY REINSTATED THE IR HIGH FLUX TRIP. THE 1 OUT OF 2 IR LOGIC WAS COMPLETED AND INITIATED THE REACTOR TRIP. THE EVENT WAS DUE TO OPERATOR ERROR IN THAT THE IR BISTABLE STATUS WAS NOT VERIFIED BEFORE DECREASING REACTOR POWER BELOW 10%. ALL REACTOR PROTECTION

SYSTEMS FUNCTIONED PROPERLY. THE LICENSEE PLANS TO DISCUSS THE EVENT WITH THE OPERATORS AND EVALUATE THE IR HIGH FLUX TRIP RESET POINT.

[135] SUMMER 1 DOCKET 50-395 LER 84-042  
 REACTOR BUILDING PURGE SUPPLY RADIATION MONITOR INOPERABLE.  
 EVENT DATE: 092884 REPORT DATE: 102684 NSSS: WE TYPE: PWR

(NSIC 192068) WHILE INVESTIGATING AN EVENT ASSOCIATED WITH RADIATION MONITOR RM-A4 (REACTOR BUILDING PURGE EXHAUST ATMOSPHERIC MONITOR) IT WAS IDENTIFIED THAT THE PLANT DESIGN MAY NOT SATISFY THE INTENT OF TECH SPEC 3.3.2, "ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION." THIS SPECIFICATION REQUIRES A MINIMUM OF TWO (2) OPERABLE RADIATION MONITORING CHANNELS TO PROVIDE CONTAINMENT PURGE VALVE ISOLATION ON HIGH CONTAINMENT RADIATION DURING MODES 1, 2, 3, AND 4. IN CERTAIN PLANT CONFIGURATIONS, ONE OF THE AVAILABLE RADIATION MONITORS IS ISOLATED AND CANNOT SAMPLE THE CONTAINMENT ATMOSPHERE. THE LICENSEE IS CURRENTLY REVIEWING PLANT DESIGN AND TECH SPECS FOR ADEQUACY.

[136] SUMMER 1 DOCKET 50-395 LER 84-044  
 RESIDUAL HEAT REMOVAL SUCTION ISOLATION.  
 EVENT DATE: 100284 REPORT DATE: 110184 NSSS: WE TYPE: PWR

(NSIC 192069) ON OCTOBER 2, 1984, THE PLANT WAS IN MODE 5 WITH TRAIN "B" OF THE RESIDUAL CONTROL (I&C) TECHNICIAN REMOVED TWO (2) FUSES IN SOLID STATE PROTECTION OF A MODIFICATION. THE FUSES WERE IMMEDIATELY REPLACED WHEN THE TECHNICIAN HEARD A RELAY ACTIVATE. THE DE-ENERGIZED CIRCUIT CAUSED THE TRAIN "A" RHR SUCTION ISOLATION VALVES XVG-8702 A & B (ONE VALVE IN EACH RHR TRAIN) TO CLOSE. OPERATIONS PERSONNEL IMMEDIATELY RESTORED TRAIN "B" RHR TO SERVICE AFTER THE VALVE CLOSURE. THE CAUSE WAS DETERMINED TO BE DRAWING ERRORS. AT 1700 HOURS DURING PERFORMANCE OF THE SAME MODIFICATION ON SSPS CABINET XPN-7010, A SIMILAR RHR ISOLATION OCCURRED VIA THE TRAIN "B" RHR SUCTION ISOLATION VALVES XVG-8701 A & B (ONE VALVE IN EACH RHR TRAIN). THE I & C TECHNICIAN WAS LIFTING LEADS AFFECTED BY THE MODIFICATION TO PREVENT A REPEAT OF THE PREVIOUSLY MENTIONED ISOLATION WHEN A DEFECTIVE FUSE HOLDER INTERRUPTED POWER TO THE TRAIN "B" CIRCUITRY. OPERATIONS PERSONNEL IMMEDIATELY RESTORED TRAIN "B" RHR TO SERVICE AFTER THE VALVE CLOSURE. TO PREVENT A POTENTIAL RECURRENCE, THE LICENSEE INITIATED A DRAWING REVISION AND REPLACED THE DEFECTIVE FUSE HOLDER ON OCTOBER 9 AND OCTOBER 10, 1984, RESPECTIVELY.

[137] SURRY 1 DOCKET 50-280 LER 83-022  
 FLOW ORIFICE USED DURING CR LEAKAGE TEST WOULD NOT SIMULATE EMERGENCY BOTTLE AIR PRESSURIZATION.  
 EVENT DATE: 050583 REPORT DATE: 060383 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: SURRY 2 (PWR)

(NSIC 192010) WITH UNIT 1 AT CSD AND UNIT 2 AT 100% POWER, PERFORMANCE OF A SPECIAL TEST REVEALED THE FLOW ORIFICE USED DURING CONTROL ROOM LEAKAGE TEST WOULD NOT SIMULATE EMERGENCY BOTTLE AIR PRESSURIZATION. THIS IS REPORTABLE PER TECH SPEC 6.6.2.B.(2). CONTROL ROOM COMPLEX MAY NOT HAVE BEEN ABLE TO MAINTAIN THE REQUIRED POSITIVE PRESSURE. HOWEVER, TESTING WITH THE CORRECT ORIFICE HAS BEEN COMPLETED SATISFACTORILY. FUNCTIONAL TESTS WERE NOT PERFORMED TO VERIFY THE ADEQUACY OF THE ORIFICE DESIGN. THE ORIFICE WAS MODIFIED AND FUNCTIONAL TESTS WERE PERFORMED TO VERIFY THE MODIFICATION.

[138] SURRY 1 DOCKET 50-280 LER 83-030  
 HEAT TRACING CIRCUIT FOUND INOPERABLE.  
 EVENT DATE: 070783 REPORT DATE: 080583 NSSS: WE TYPE: PWR



'A' PHASE MAIN LOAD CONNECTION BUS BAR. THIS FAILURE INITIATED AN INSTANTANEOUS GROUND FAULT ON ALL PHASES. IMMEDIATELY FOLLOWING THE TRIP, ALL CONTROL AND PROTECTION SYSTEMS FUNCTIONED AS EXPECTED WITH THE EXCEPTION OF THE ROD BOTTOM LIGHT FOR ROD J-7. THE BUS BAR FAILURE WAS FOUND TO BE SIMILAR TO THE FRACTURE OF 'B' PHASE WHICH OCCURRED ON 'C' RCP DURING 12-15-83. THE EXACT CAUSE FOR THESE FAILURES HAS NOT BEEN DETERMINED AT THIS TIME. ALL MAIN LOAD CONNECTION BUS BARS WILL BE REPLACED IN 'C' REACTOR COOLANT PUMP PRIOR TO THE UNIT RESTART. THE CAUSE FOR THE FAILURES WILL BE INVESTIGATED.

[143] SUSQUEHANNA 1 DOCKET 50-387 LER 84-042  
 AUDIT IDENTIFIED LATE CHEMISTRY SAMPLES.  
 EVENT DATE: 092684 REPORT DATE: 103084 NSSS: GE TYPE: BWR  
 OTHER UNITS INVOLVED: SUSQUEHANNA 2 (BWR)

(NSIC 191836) ON 9-26-84, A SIGNIFICANT OPERATING OCCURRENCE REPORT WAS WRITTEN WHICH DETAILED OCCURRENCES BETWEEN 12-23-83 AND 3-29-84, WHEN CHEMISTRY SAMPLES WERE NOT TAKEN WITHIN THE SPECIFIED TIME LIMITS OF VARIOUS LIMITING CONDITIONS FOR OPERATION ACTION STATEMENTS. SINCE THESE OCCURRENCES HAPPENED PRIOR TO THE IMPLEMENTATION OF CORRECTIVE ACTIONS TO PREVENT RECURRENCE AS SPECIFIED IN A SIMILAR LER, NO ADDITIONAL ACTIONS ARE PLANNED.

[144] SUSQUEHANNA 2 DOCKET 50-388 LER 84-018  
 POWER LOAD UNBALANCE, REACTOR SCRAM.  
 EVENT DATE: 090884 REPORT DATE: 100884 NSSS: GE TYPE: BWR  
 VENDOR: GEN ELEC CO (STEAM TURB/ENGRD PROD)

(NSIC 191782) SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 2, SCRAMMED ON 9-8-84 AT 0342 AS A RESULT OF A TURBINE CONTROL VALVE FAST CLOSURE SIGNAL GENERATED FROM A FALSE POWER-LOAD UNBALANCE SIGNAL DURING PERFORMANCE OF A WEEKLY POWER-LOAD UNBALANCE CIRCUIT TEST. THE UNIT RESPONDED AS PER DESIGN THROUGHOUT THE TRANSIENT. THE RECIRC. PUMPS TRIPPED AS PER DESIGN ON END OF CYCLE-RECIRCULATION PUMP TRIP FROM A TURBINE CONTROL VALVE FAST CLOSURE SIGNAL. UNIT 2 IS INVOLVED IN THE POWER ASCENSION PROGRAM AND WAS AT 46% POWER AT THE TIME OF THIS EVENT.

[145] SUSQUEHANNA 2 DOCKET 50-388 LER 84-019  
 HPCI AND ONE RHR PUMP INOPERABLE SIMULTANEOUSLY.  
 EVENT DATE: 091984 REPORT DATE: 101884 NSSS: GE TYPE: BWR  
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 191662) ON 9-19-84, RESIDUAL HEAT REMOVAL (RHR) PUMP 'D' WAS DECLARED INOPERABLE DUE TO ITS FAILURE TO START ON A MANUAL INITIATION SIGNAL. SINCE THE HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM WAS ALSO INOPERABLE BECAUSE IT WAS UNDERGOING A LUBE OIL CHANGEOUT, THE UNIT ENTERED LIMITING CONDITION FOR OPERATION (LCO) 3.0.3, REQUIRING THE COMMENCEMENT WITHIN ONE HR OF ACTIONS TO BEGIN REACTOR SHUTDOWN. LCO 3.0.3 WAS CLEARED IN 15 MINS WHEN RHR PUMP 'D' RESPONDED PROPERLY TO A MANUAL INITIATION SIGNAL. THE PROBLEM WITH THE RHR PUMP 'D' WAS ULTIMATELY TRACED TO INTERMITTENT OPERATION OF THE '52LS' RELAY CONTACTS ON THE SWITCHGEAR BREAKER. THE BREAKER WAS REPLACED.

[146] SUSQUEHANNA 2 DOCKET 50-388 LER 84-020  
 RWCU ISOLATION DURING INSTRUMENT CALIBRATION.  
 EVENT DATE: 092984 REPORT DATE: 102984 NSSS: GE TYPE: BWR  
 VENDOR: BARTON INSTRUMENT CO., DIV OF ITT

(NSIC 191837) AT 1400 HRS ON 9-29-84 AN LCO WAS ENTERED IN ACCORDANCE WITH TECH SPEC 3.3.2(B) DUE TO CALIBRATION OF THE RWCU SYSTEM HIGH FLOW DIFFERENTIAL PRESSURE SWITCH PDIS-G33-N044A. AT THE SAME TIME, A JUMPER USED TO BYPASS THE



INSTRUMENT'S TRIP SIGNAL FELL, CAUSING VALVE F001 TO SHUT, ISOLATING THE RWCU SYSTEM. VALVE F001 WAS REOPENED AT 1417 HRS AND CALIBRATION CONTINUED. AT 1800 HRS VALVE F001 WAS SHUT IN ACCORDANCE WITH ACTION 23 OF TECH SPEC TABLE 3.3.2-1. HOWEVER, OPERATORS MISINTERPRETED TECH SPEC 3.3.2(B) AND SHOULD HAVE CLOSED VALVE F001 AT 1700 HRS. CALIBRATION OF PDIS-G33-N044A CONTINUED UNTIL 1930 HRS; F001 WAS OPENED AT 2000 HRS AND THE LCO WAS CLEARED. THE SWITCH, PDIS-G33-N044A WAS LAST CALIBRATED ON 8-31-84 FOLLOWING SET POINT DRIFT THAT RESULTED IN AN ISOLATION OF THE SYSTEM. EVALUATION OF THE PERFORMANCE OF PDIS-G33-N044A IS CONTINUING. ISOLATION OF THE RWCU SYSTEM IS AN ESF ACTUATION DUE TO THE CLOSURE OF THE SYSTEM'S CONTAINMENT ISOLATION VALVE.

[147] SUSQUEHANNA 2 DOCKET 50-388 LER 84-021  
 REACTOR SCRAMS ON MOISTURE SEPARATOR DRAIN TANK HIGH LEVEL.  
 EVENT DATE: 093084 REPORT DATE: 110184 NSSS: GE TYPE: BWR  
 VENDOR: FISHER CONTROLS CO.

(NSIC 191838) ON 9-30-84, THE REACTOR SCRAMMED DUE TO A TURBINE TRIP ON MOISTURE SEPARATOR 'B' DRAIN TANK HIGH LEVEL DURING THE PERFORMANCE OF A STARTUP TEST TO DETERMINE THE MAXIMUM FEEDWATER PUMP RUNOUT CAPABILITIES. FEEDWATER FLUCTUATIONS RESULTED IN A 45% REACTOR RECIRCULATION PUMP RUNBACK WHICH SHOWED THAT THE MOISTURE SEPARATOR 'B' DRAIN TANK LEVEL CONTROL SYSTEM DID NOT ACCURATELY RESPOND TO THE TRANSIENT. AN EVALUATION OF SYSTEM DESIGN AND OPERATION IS CONTINUING. ANY ADDITIONAL CORRECTIVE ACTIONS WILL BE REPORTED IN AN UPDATE TO THIS LER.

[148] THREE MILE ISLAND 2 DOCKET 50-320 LER 84-016  
 FAILURE OF INCORE THERMOCOUPLES F-3, M-3, AND O-10.  
 EVENT DATE: 091084 REPORT DATE: 100484 NSSS: BW TYPE: PWR  
 VENDOR: BELFAB, INC.

(NSIC 191757) AT 0100 HRS ON 9-10-84, INCORE THERMOCOUPLES M-3, O-10, AND F-3 WERE DECLARED INOPERABLE. THE INCORE THERMOCOUPLES WILL BE CHECKED TO ENSURE THAT THE PROBLEM IS NOT IN ANY COMPONENT THAT IS ACCESSIBLE FOR REPAIRS. NO FURTHER ACTION IS CONSIDERED APPLICABLE. THE PRECISE REASON FOR THE FAILURE/ERRATIC BEHAVIOR OF INCORE THERMOCOUPLES M-3, O-10, AND F-3 IS NOT KNOWN AND MAY NOT BE POSSIBLE TO DETERMINE GIVEN THE CONDITION OF THE UNIT 2 CORE RELATIVE TO INCORE INSTRUMENTATION. AT THE TIME OF THE OCCURRENCE, THE UNIT 2 FACILITY WAS IN A LONG-TERM COLD SHUTDOWN STATE. THE REACTOR DECAY HEAT WAS BEING REMOVED VIA LOSS TO AMBIENT. THROUGH THE EVENT THERE WAS NO EFFECT ON THE RCS OR THE CORE. TO DATE, 13 LER'S INCLUDING THIS ONE, CONCERN THERMOCOUPLE FAILURES. THE OTHERS ARE 80-13, 80-41, 80-50, 80-53, 81-05, 81-13, 82-15, 83-10, 83-27, 83-32, 83-50, AND 84-09. THERE ARE 22 OF THE 52 INCORE THERMOCOUPLES REPORTED AS BEING OUT-OF-SERVICE (B-7, D-14, E-11, F-3, F-8, G-5, H-9, H-13, K-11, K-12, L-6, L-11, L-13, M-3, M-7, M-9, N-4, N-8, N-9, O-6, O-10, AND O-12). THE FAILED THERMOCOUPLES WERE TYPE K (CHROMIUM/ALUMEL) THERMOCOUPLES, MODEL NO. DAZA-76-7R-1B-1T-1C, SUPPLIED BY BABCOCK AND WILCOX, MANUFACTURED BY BEL FAB, INC.

[149] TROJAN DOCKET 50-344 LER 84-013  
 PRESSURIZER LEVEL TRANSMITTER CALIBRATION ERROR.  
 EVENT DATE: 090784 REPORT DATE: 100984 NSSS: WE TYPE: PWR

(NSIC 191769) ON 9-7-84 DURING PLANT SHUTDOWN FOR REFUELING, RECALCULATION OF THE CALIBRATION SCALING FACTORS FOR INSTALLATION OF A DESIGN MODIFICATION TO THE PRESSURIZER LEVEL INSTRUMENT SENSING LINES INDICATED THAT THE CALIBRATION FOR THE PREVIOUS DESIGN WAS IN ERROR. THE MAXIMUM ERROR LED TO LOWER-THAN-ACTUAL PRESSURIZER LEVEL INDICATION BY 10% OF SPAN. THE CAUSE OF THE ERROR WAS INCORRECT CALCULATION OF THE CALIBRATION SCALING FACTORS INCLUDING THERMAL DISPLACEMENT ERROR AND INCONSISTENCY BETWEEN THE VENT POINT SPECIFIED IN THE CALCULATIONS AND THE NUMERICAL FIGURES USED IN THE CALCULATIONS WHICH IMPLIED A

DIFFERENT POINT FOR VENTING. CORRECTED CALIBRATION SCALING FACTORS FOR THE MODIFIED SENSING LINE DESIGN ON EACH OF THE 3 PRESSURIZER LEVEL SENSING CHANNELS HAS BEEN APPLIED IN RECALIBRATION SCALING FACTOR CALCULATION HAS VERIFIED THERMAL DISPLACEMENTS, AND THAT THE NUMERICAL FIGURES USED IN THE CALCULATIONS ARE CONSISTENT WITH THE SPECIFIED VENT POINT. THE CALIBRATION SCALING FACTOR CALCULATION HAS ALSO BEEN REVIEWED FOR OVERALL ACCURACY OF THE SCALING FACTORS OBTAINED AND FOR THEIR USE IN PRESSURIZER LEVEL TRANSMITTER CALIBRATION PROCEDURE.

[150] TROJAN DOCKET 50-344 LER 84-014  
 IDENTIFIED LEAKAGE IN EXCESS OF 10 GPM FROM INCORE FLUX DETECTOR SEAL TABLE.  
 EVENT DATE: 091384 REPORT DATE: 101284 NSSS: WE TYPE: PWR  
 VENDOR: CRAWFORD FITTING CO.

(NSIC 192054) ON SEPTEMBER 13, 1984 AT 0910, AN UNUSUAL EVENT WAS DECLARED DUE TO AN IDENTIFIED REACTOR COOLANT LEAKAGE IN EXCESS OF 10 GPM. THE LEAK WAS A RESULT OF FAILURE OF A COMPRESSION FITTING ON ONE OF THE INCORE THIMBLES AT THE SEAL TABLE. THE FAILURE HAPPENED WHILE ATTEMPTING TO FIX A SMALL LEAK ON THE FITTING. IDENTIFIED LEAKAGE IN EXCESS OF 10 GPM IS IN VIOLATION OF TECH SPEC 3.4.6.2. AT THE TIME OF THE FAILURE THE PLANT WAS IN MODE 3 AT NORMAL OPERATING TEMPERATURE AND PRESSURE. THE PLANT WAS COOLED DOWN TO MODE 5 AND THE REACTOR VESSEL DRAINED TO A LEVEL BELOW THE LEAKING SEAL TABLE CONNECTION. MAINTENANCE CREWS DISCONNECTED THE TUBING AND PLUG-WELDED THE CONDUIT. THE REACTOR COOLANT SYSTEM (RCS) WAS SUBSEQUENTLY PRESSURE TESTED AND PASSED INSPECTIONS SATISFACTORILY.

[151] TROJAN DOCKET 50-344 LER 84-016  
 REACTOR TRIP WITH SAFETY INJECTION AND SUBSEQUENT ESP FAILURES.  
 EVENT DATE: 092084 REPORT DATE: 101984 NSSS: WE TYPE: PWR  
 VENDOR: ELECTRO - MOTIVE DIV. OF GM  
 FISCHER & PORTER CO.  
 GENERAL MOTORS

(NSIC 191822) ON 9-20-84 AT 0818 THE REACTOR TRIPPED FROM AN INTERMEDIATE RANGE HIGH FLUX SIGNAL WHICH WAS IMMEDIATELY FOLLOWED BY ACTUATION OF THE SAFETY INJECTION SYSTEM FROM A SPURIOUS HIGH STEAM FLOW SIGNAL COINCIDENT WITH A VALID LOW-LOW T(AVE) SIGNAL. NO COMPONENT FAILURES DIRECTLY CAUSED THE REACTOR TRIP/SAFETY INJECTION, BUT FOLLOWING THE EVENT ONE EMERGENCY DG FAILED TO AUTOMATICALLY START DUE TO A TRIP FROM HIGH CRANKCASE PRESSURE; THE STEAM-DRIVEN AUX FEEDWATER PUMP AUTOMATICALLY STARTED AND SUPPLIED FEEDWATER TO THE STEAM GENERATORS BUT TRIPPED FROM LOW PRESSURE AFTER 7 MINS; AND THE DIESEL-DRIVEN AUX FEEDWATER PUMP FAILED TO AUTOMATICALLY START. THE EVENT WAS INITIATED BY PLACING AN EXCESSIVE AMOUNT OF LOAD ON THE UNIT IN A SHORT TIME FRAME DURING INITIAL LOADING AFTER SYNCHRONIZATION OF THE UNIT TO THE POWER GRID. FAILURE OF A MEGAWATT RECORDER TO INDICATE THE MAGNITUDE OF THE LOAD BEING APPLIED, IN CONJUNCTION WITH THE FAILURE OF THE OPERATOR TO TAKE NOTICE OF ALTERNATE INDICATIONS OF INCREASING LOAD SUCH AS DECREASING T(AVG) AND INCREASING STEAM FLOW, WERE THE CAUSE OF THIS EVENT. THIS WAS ALSO COMPOUNDED BY FAILURE OF THE OPERATOR TO BLOCK THE INTERMEDIATE RANGE HIGH FLUX TRIP. THE PLANT WAS STABILIZED IN MODE 3 WITH PREFERRED POWER AVAILABLE AND AUX FEEDWATER SUPPLIED FROM THE ELECTRIC AUX FEEDWATER PUMP.

[152] TROJAN DOCKET 50-344 LER 84-017  
 DELAYED RESEATING OF MAIN STEAM SAFETY VALVE AND REACTOR TRIP.  
 EVENT DATE: 092684 REPORT DATE: 102484 NSSS: WE TYPE: PWR  
 VENDOR: FISCHER & PORTER CO.

(NSIC 192055) ON SEPTEMBER 26, 1984 AT 10:15 PM THE PLANT WAS OPERATING AT 50% RATED POWER WITH THE ROD CONTROL SYSTEM IN MANUAL FOR PHYSICS TESTING. UPON RECEIPT OF AN ALARM FOR LOW SUCTION PRESSURE ON THE OPERATING MAIN FEEDWATER

PUMP, MAIN TURBINE LOADING WAS MANUALLY REDUCED BY 250 MWE IN AN EFFORT TO AVOID AUTO TRIP OF THE PUMP. SINCE THE CONTROL RODS WERE IN MANUAL, THE REACTOR POWER DID NOT AUTOMATICALLY REDUCE IN CONJUNCTION WITH TURBINE LOAD. THE RESULTING MISMATCH BETWEEN TURBINE DEMAND AND REACTOR POWER CAUSED AN INCREASE IN THE AVERAGE TEMPERATURE (TAVE) OF THE REACTOR COOLANT SYSTEM FROM 571F TO 585F. THIS IN TURN CAUSED AN INCREASE IN STEAM GENERATOR STEAM PRESSURE WHICH RESULTED IN THE LIFTING OF THE FIRST (1170 PSIG SET POINT) SAFETY VALVE ON EACH OF THE FOUR MAIN STEAM LINES. UPON DISCOVERY OF THIS MISMATCH, REACTOR POWER WAS REDUCED BY MANUALLY INSERTING CONTROL RODS. THE 'D' STEAM SAFETY VALVE FAILED TO RESEAT WHEN STEAM PRESSURE WAS REDUCED. AN UNUSUAL EVENT WAS DECLARED AT 11:00 PM IN ACCORDANCE WITH THE RADIOLOGICAL EMERGENCY RESPONSE PLAN. THE TURBINE GENERATOR WAS TAKEN OFF LINE AND A MANUAL REACTOR SHUTDOWN INITIATED BY INSERTING CONTROL RODS. AN AUTOMATIC REACTOR TRIP OCCURRED WITH REACTOR POWER AT 1.2% DUE TO THE NARROW-RANGE WATER LEVEL IN THE 'D' STEAM GENERATOR REACHING THE LOW-LOW LEVEL TRIP SET POINT (20%). A PLANT COOL-DOWN WAS INITIATED IN ORDER TO RESEAT THE 'D' STEAM LINE SAFETY VALVE.

[153] TROJAN DOCKET 50-344 LER 84-018  
 REACTOR TRIP AFTER DEENERGIZATION OF 12.47 KV BUS.  
 EVENT DATE: 101884 REPORT DATE: 110784 NSSS: WE TYPE: PWR

(NSIC 192056) DURING A CONTROLLED PLANT SHUTDOWN TO HOT STANDBY ON OCTOBER 11, 1984 A REACTOR TRIP OCCURRED AT 1423 DUE TO THE ACCIDENTAL DEENERGIZATION OF THE H1, 12.47 KV NON-ENGINEERED SAFETY FEATURE BUS. THE REACTOR TRIP OCCURRED AT 26% POWER. THE DEENERGIZATION HAPPENED WHILE THE CONTROL OPERATOR WAS TRANSFERRING PLANT ELECTRICAL LOADS FROM THE UNIT AUXILIARY TRANSFORMER TO THE OFF-SITE SUPPLIED STARTUP TRANSFORMERS. THE DEENERGIZATION OF THE H1 BUS CAUSED THE POWER SUPPLY BREAKERS FOR THE 'A' AND 'C' REACTOR COOLANT PUMPS TO OPEN THUS INITIATING A REACTOR TRIP. THE H1 BUS WAS REENERGIZED AND THE PLANT WAS STABILIZED IN MODE 3. ALL PLANT SAFETY-RELATED SYSTEMS RESPONDED PROPERLY TO THE REACTOR TRIP. ON OCTOBER 11, 1984 THE PLANT WAS REDUCING POWER TO HOT STANDBY FOR MAINTENANCE WORK ON THE MAIN ELECTRICAL GENERATOR TO CORRECT A HYDROGEN GAS LEAKAGE PROBLEM. WHILE STILL IN MODE 1 AT 26% POWER, THE CONTROL OPERATOR CLOSED THE STARTUP TRANSFORMER FEEDER BREAKERS TO H1 AND H2 AND OBSERVED THE H1 AND H2 UNIT AUXILIARY TRANSFORMER FEEDER BREAKERS OPEN AUTOMATICALLY AS EXPECTED. THE OPERATOR THEN OPENED THE H2 UNIT AUXILIARY TRANSFORMER FEEDER BREAKER CONTROL SWITCH TO MATCH ITS INDICATING FLAG WITH THE BREAKER'S ACTUAL POSITION. HE THEN INTENDED TO MATCH THE INDICATING FLAG ON THE H1 UNIT AUXILIARY TRANSFORMER FEEDER BREAKER BUT ACCIDENTLY REOPENED THE H1 OFF-SITE SUPPLIED STARTUP TRANSFORMER FEEDER BREAKER THUS DEENERGIZING THE H1 BUS.

[154] TURKEY POINT 3 DOCKET 50-250 LER 84-025  
 COMPONENT COOLING WATER HX'S MAY NOT MEET DESIGN CRITERIA.  
 EVENT DATE: 092384 REPORT DATE: 102384 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: TURKEY POINT 4 (PWR)

(NSIC 191745) ON 9-23-84, WHILE UNIT 3 WAS AT 100% POWER AND UNIT 4 WAS AT 50% POWER, THE RESULTS OF PERFORMANCE TESTS AND PRELIMINARY ENGINEERING EVALUATION ON THE INTAKE COOLING WATER (ICW) SYSTEM REVEALED THE COMPONENT COOLING WATER (CCW) SYSTEM HEAT EXCHANGERS (HX) MAY NOT MEET THE DESIGN HEAT REMOVAL CAPABILITY UNDER DESIGN ICW INLET CONDITIONS. THE TESTS AND ENGINEERING EVALUATION OF THE ICW SYSTEM WERE PERFORMED AFTER A CONCERN WAS RAISED WITH PLANT MANAGEMENT ON THE PERFORMANCE OF THE ICW SYSTEM. THE ORIGINAL CONCERNS WERE A FLOW RESTRICTION IN THE ICW SYSTEM PIPING AND A TEMPORARY REPAIR TO A SECTION OF ICW PIPING. THE PLANT NUCLEAR SAFETY COMMITTEE REVIEWED THE TESTS AND THE ENGINEERING EVALUATIONS AND DETERMINED THE ICW AND CCW SYSTEMS WERE CAPABLE OF PERFORMING THEIR SAFETY FUNCTIONS UNDER CURRENT ICW INLET CONDITIONS. IN ADDITION, THE FOLLOWING SHORT TERM CORRECTIVE ACTIONS WERE IMPLEMENTED: 1) A TEMPORARY LCO BASED ON ICW SYSTEM INLET TEMPERATURE, PUMP, AND HX ARRANGEMENT WAS ESTABLISHED IMMEDIATELY, 2)

ENGINEERING PERFORMED A 10CFR50.59 EVALUATION OF THE TEMPORARY REPAIR TO A SECTION OF ICW PIPING AND FOUND NO UNREVIEWED SAFETY QUESTIONS, 3) OPERATING PROCEDURES WERE MODIFIED TO ADDRESS THE ACTIONS TO BE TAKEN DURING OFF-NORMAL CONDITIONS OF THE ICW SYSTEM, 4) PERFORMANCE TESTS AND INSPECTIONS HAVE BEEN IDENTIFIED TO DETERMINE THE CAUSE AND CORRECTIVE ACTIONS.

[155] TURKEY POINT 3 DOCKET 50-250 LER 84-027  
 REACTOR TRIP BREAKER TESTING REVEALS FAILED COMPONENTS.  
 EVENT DATE: 100284 REPORT DATE: 110184 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: TURKEY POINT 4 (PWR)  
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 192025) ON 10-2-84, WITH UNIT 4 AT COLD SHUTDOWN WITH REFUELING SHUTDOWN BORON CONCENTRATIONS, AND UNIT 3 AT 100% POWER, THE FOLLOWING CONDITIONS WERE FOUND DURING ROUTINE SURVEILLANCE AND TESTING OF THE WESTINGHOUSE DB-50 REACTOR AND BYPASS TRIP BREAKERS ON UNIT 4: 1) UNDERVOLTAGE TRIP ATTACHMENT COIL TAPE DAMAGED, 2) CRACKED INSULATING LINK, 3) MANUAL CLOSING MECHANISM BRACKET, 4) MANUAL CLOSING MECHANISM, FAILED BEARING. IMMEDIATE CORRECTIVE ACTION INCLUDED INSPECTION AND FUNCTIONAL TESTING OF THE UNIT 3 REACTOR TRIP/BYPASS TRIP BREAKERS. ALL THE TRIP BREAKERS COMPLETED FUNCTIONAL TESTS. THE INSPECTION REVEALED THE FOLLOWING: 1) MANUAL CLOSING BRACKET, 2) MANUAL CLOSING MECHANISM, FAILED BEARING. WESTINGHOUSE WAS CONTACTED TO EVALUATE THE IMPACT ON SAFETY OF THE CRACKED BRAZE JOINTS ON THE MANUAL CLOSING MECHANISM BRACKET AND THE FAILED BEARING IN THE MANUAL CLOSING MECHANISM. THE WESTINGHOUSE EVALUATION STATED THE CRACKED BRAZE JOINT OR BEARING FAILURE WOULD NOT IMPACT THE ELECTRICAL CLOSING AND OPENING OF THE BREAKER FUNCTIONS. THE SAFETY FUNCTION OF THE BREAKERS WOULD NOT BE COMPROMISED. CORRECTIVE ACTION INCLUDED REPLACEMENT OF THE FAILED BEARINGS PRIOR TO THE START-UP OF UNIT 4 AND WESTINGHOUSE IS EVALUATING THE FAILURE MODE OF THE BEARINGS AND IS PROVIDING A REPAIR PROCEDURE FOR THE CRACKED BRAZE JOINTS. SIMILAR OCCURRENCES: NONE.

[156] TURKEY POINT 3 DOCKET 50-250 LER 84-026  
 TURBINE RUNBACK DUE TO LOSS OF POWER TO 120V INSTRUMENT BUS.  
 EVENT DATE: 100984 REPORT DATE: 110884 NSSS: WE TYPE: PWR

(NSIC 192024) AT 2:37 AM, ON 10-9-84, WHILE UNIT 3 WAS AT 100% POWER, A TURBINE RUNBACK TO 70% REACTOR POWER OCCURRED. DURING AN INVESTIGATION FOR A GROUND ON AN INVERTER OF UNIT 4, A TEMPORARY LOSS OF POWER OCCURRED ON THE 120V AC INSTRUMENT BUS SUPPLYING POWER TO THE UNIT 3 VITAL PANEL 3P07. THIS CAUSED NUCLEAR INSTRUMENTATION SYSTEM CHANNEL N-42 TO GENERATE AN "NIS ROD DROP" SIGNAL CAUSING A TURBINE RUNBACK TO 70% POWER. 30 SECONDS AFTER THE RUNBACK SIGNAL, THE POWER TO 3P07 RETURNED AND THE N-42 POWER RANGE CHANNEL RETURNED TO NORMAL INDICATION LEVELS. AN INADVERTENT TRANSFER OF POWER FOR PANEL 3P07 FROM THE NORMAL 3A INVERTER TO THE SPARE AS INVERTER, WHICH IS SHARED WITH UNIT 4, IS BELIEVED TO BE THE CAUSE OF THE LOSS OF POWER. JUST PRIOR TO THIS UNIT 3 EVENT, THE AS INVERTER HAD BEEN MADE INOPERABLE BY A BLOWN FUSE AS THE RESULT OF AN UNRELATED EVENT ON UNIT 4 (LER 251-84-022). A THOROUGH INVESTIGATION INVOLVING EQUIPMENT TESTS, FAILED TO REVEAL ANY EQUIPMENT RELATED CAUSE FOR THIS TEMPORARY LOSS OF POWER. CORRECTIVE ACTIONS WERE TO STABILIZE UNIT 3 AT 70% REACTOR POWER. AFTER A 12 HR INVESTIGATION FAILED TO REVEAL ANY EQUIPMENT FAILURES, PREPARATIONS WERE BEGUN ON 10-9-84 TO RETURN UNIT 3 TO FULL POWER. CORRECTIVE ACTIONS INCLUDED TRAINING ON INVERTER SWITCHING FOR THE PERSONNEL ON-SHIFT DURING THE EVENT. THE EVENT WILL BE DISCUSSED IN OPERATOR REQUALIFICATION CLASSES VIA THE OPERATING EXPERIENCE FEEDBACK PROGRAM.

[157] TURKEY POINT 4 DOCKET 50-251 LER 84-021  
 INVERTER FAILURE CAUSES TURBINE RUNBACK AND REACTOR TRIP.  
 EVENT DATE: 092084 REPORT DATE: 102284 NSSS: WE TYPE: PWR  
 VENDOR: SHAWMUT COMPANY

(NSIC 191798) ON 9-20-84, WHILE UNIT 4 WAS AT 100% POWER, A TURBINE RUNBACK AND SUBSEQUENT REACTOR TRIP OCCURRED. DURING AN INVESTIGATION FOR A GROUND IN THE 3A DC BUS, THE "NORMAL" (4A) STATIC INVERTER (4Y01) TRIPPED DUE TO A BLOWN FUSE. THE 4A INVERTER WAS IN SERVICE SUPPLYING POWER TO A VITAL 120V AC INSTRUMENT BUS (PANEL 4P07). THE 4A INVERTER FAILURE RESULTED IN A LOSS OF POWER TO VITAL PANEL 4P07 WHICH CAUSED NUCLEAR INSTRUMENTATION SYSTEM (NIS) CHANNEL N-42 TO GENERATE AN "NIS ROD DROP" SIGNAL CAUSING A TURBINE RUNBACK TO 70% POWER. FOLLOWING THE TURBINE RUNBACK, A REACTOR TRIP OCCURRED WHEN THE REACTOR PROTECTION LOGIC OF STEAM FLOW GREATER THAN FEED FLOW, COINCIDENT WITH SG LOW LEVEL FOR THE "B" SG WAS MADE UP. IMMEDIATE CORRECTIVE ACTIONS INCLUDED STABILIZING THE UNIT AND RE-ENERGIZING VITAL PANEL 4P07. LONG TERM CORRECTIVE ACTION IS TO REPLACE THE INVERTERS TO ENSURE A MORE RELIABLE POWER SUPPLY. ALL EQUIPMENT FUNCTIONED AS DESIGNED ON INITIATION OF THE ENGINEERED SAFETY FEATURE ACTUATION SIGNAL (ESFAS) GENERATED IN THE REACTOR PROTECTION SYSTEM. SIMILAR OCCURRENCES: LER 251-84-11.

[158] TURKEY POINT 4 DOCKET 50-251 LER 84-022  
 REACTOR TRIP DUE TO BLOWN FUSE IN STATIC INVERTER.  
 EVENT DATE: 100984 REPORT DATE: 110884 NSSS: WE TYPE: PWR  
 VENDOR: SHAWMUT COMPANY

(NSIC 192026) ON 10-9-84, WHILE UNIT 4 WAS HEATING UP FROM COLD SHUTDOWN TO HOT SHUTDOWN, A REACTOR TRIP OCCURRED. THE ROOT CAUSE OF THE REACTOR TRIP WAS A BLOWN FUSE IN THE NORMAL 4A STATIC INVERTER (4Y01) THAT WAS SUPPLYING 120V AC INSTRUMENT POWER TO VITAL PANEL 4P07, WHICH CAUSED THE NUCLEAR INSTRUMENTATION BISTABLES FOR CHANNELS N-32 (SOURCE RANGE) AND N-36 TO DEENERGIZE, GENERATING REACTOR TRIP SIGNALS. IN ADDITION, THE LOSS OF POWER TO PANEL 4P07 INITIATED THE CLOSURE OF THE LETDOWN LINE PRESSURE CONTROL VALVE (PCV-4-145), WHICH WAS OPERATING IN THE AUTOMATIC MODE. THE LOSS OF POWER TO THE OVERPRESSURE MITIGATING SYSTEM ON PANEL 4P07 OPENED THE PRESSURIZER POWER OPERATED RELIEF VALVE (PORV-V-4-455C) WHEN THE TEMPERATURE INPUTS FAILED LOW RESULTING IN THE RCS PRESSURE DROPPING TO 50 PSIG. CORRECTIVE ACTIONS WERE TO PLACE VALVE PCV-4-145 IN THE MANUAL MODE TO REESTABLISH LETDOWN PRESSURE CONTROL, CLOSE THE PORV, COOL DOWN AND STABILIZE THE RCS AND REENERGIZE THE VITAL PANEL 4P07 USING THE SPARE AS INVERTER. INVESTIGATIONS BY MAINTENANCE PERSONNEL REVEALED A WIRING ERROR IN THE DC INPUT FILTER SECTION OF THE 4A INVERTER WHICH ALLOWED THE CIRCUIT TO BE MORE SUSCEPTIBLE TO DC BUS PROBLEMS. THE INVERTER WAS REWIRED AND SATISFACTORILY TESTED IN ACCORDANCE WITH THE MANUFACTURER'S PROCEDURES. CORRECTIVE ACTIONS WILL BE TO REPLACE THE INVERTERS TO ENSURE A MORE RELIABLE POWER SUPPLY.

[159] TURKEY POINT 4 DOCKET 50-251 LER 84-024  
 HAGAN SUMMATOR MODULE FOUND DEFECTIVE.  
 EVENT DATE: 101584 REPORT DATE: 110784 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: TURKEY POINT 3 (PWR)  
 VENDOR: HAGAN CONTROLS

(NSIC 192028) ON 9-7-84, WHILE UNIT 4 WAS AT 100% POWER, THE T(AVE) AND DELTA T SUMMATOR MODULE NM412D WAS FOUND DEFECTIVE DURING ROUTINE SURVEILLANCE AND THE DEFECTIVE MODULE WAS REPLACED. THIS PARTICULAR FAILURE MODE HAS BEEN NOTED ON OTHER W15D7100 PROCESS CONTROLS SUMMATORS WITH LIMITS (P/N 4111084-302 AND P/N 4111084-004). THESE SUMMATORS WHEN USED IN THE X10 OR X100 SCALE HAVE A TENDENCY TO BREAK INTO SUSTAINED OSCILLATIONS (LOCK-UP). THESE OSCILLATIONS USUALLY OCCUR WHEN THE INPUT IS DRIVEN HIGH OR WHEN THE SUMMATOR INPUT EXPERIENCES A SPIKE. PLANT MANAGEMENT DETERMINED ON 10-15-84, THAT THE LOCK-UP PROBLEM WAS REPORTABLE AS A GENERIC DEFECT. THE SAFETY FUNCTION OF THE T(AVE) AND DELTA T SUMMATOR IN

QUESTION WAS PART OF A REDUNDANT SYSTEM THAT REMAINED OPERABLE. MORE DETAIL IS PROVIDED IN THE ATTACHED TEST. OUR ENGINEERING STAFF IS EVALUATING A MODULE UPGRADE TO ELIMINATE THE PROBLEM. SIMILAR OCCURRENCES: NONE.

[160] TURKEY POINT 4 DOCKET 50-251 LER 84-023  
 REACTOR TRIP DUE TO FAILED DETECTOR ON SOURCE RANGE CHANNEL.  
 EVENT DATE: 101684 REPORT DATE: 111584 NSSS: WE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 192027) ON 10-16-84, WHILE COOLING DOWN UNIT 4, A REACTOR TRIP OCCURRED. THE ROOT CAUSE FOR THIS EVENT WAS A DETECTOR ON THE NIS N-32 CHANNEL WHICH FAILED, GENERATING A HIGH LEVEL SIGNAL. DURING THIS COOLDOWN, WITH THE CONTROL ROD GROUPS FULLY INSERTED, THE SHUTDOWN RODS BANK 'B' FULLY INSERTED, THE SHUTDOWN RODS BANK 'A' 86 STEPS WITHDRAWN, AND REACTOR TRIP BREAKER CLOSED, THE SOURCE RANGE NIS CHANNELS N-31 AND N-32 REENERGIZED AS DESIGNED WHEN THE REACTOR POWER ON THE INTERMEDIATE RANGE NIS CHANNELS DECREASED BELOW THE P-6 PERMISSIVE LEVEL. BECAUSE OF A FAILED DETECTOR IN NIS CHANNEL N-32, THIS CHANNEL GENERATED A HIGH FLUX LEVEL SIGNAL WHICH TRIPPED THE REACTOR, OPENING THE REACTOR TRIP BREAKERS AND DROPPING SHUTDOWN GROUP RODS BANK 'A' TO THEIR FULLY INSERTED POSITIONS. THE NIS CHANNEL N-32 WAS TAKEN OUT OF SERVICE AND ITS DETECTOR WAS REPLACED, TESTED, AND RETURNED TO SERVICE. ALL SAFETY EQUIPMENT FUNCTIONED AS DESIGNED UPON INITIATION OF THE ESPAS SIGNAL GENERATED IN THE REACTOR PROTECTION SYSTEM. SIGNIFICANT EVENT NOTIFICATION FOR THE REACTOR TRIP EVENT WAS MADE TO THE NRCOC VIA THE ENS PURSUANT TO 10 CFR 50.72(B)(2)(II). SIMILAR OCCURRENCES: NONE.

[161] WPPSS 2 DOCKET 50-397 LER 84-096  
 UNUSUAL EVENT DECLARED DURING REPORTED FIRE.  
 EVENT DATE: 090184 REPORT DATE: 092784 NSSS: GE TYPE: BWR

(NSIC 191784) A DELUGE SYSTEM ON THE 471' ELEVATION OF THE TURBINE GENERATOR BLDG. WAS ACTUATED DUE TO A STEAM LEAK. FIRE PUMP FP-P-110 (A 2500 GPM DIESEL DRIVEN UNIT) WAS STARTED DUE TO THE DELUGE SYSTEM ACTUATION. TWO PRE-ACTION SYSTEMS IN THE DG BLDG WERE ALSO TRIPPED. OPERATORS WERE DISPATCHED TO INVESTIGATE THE FIRE ALARMS. ABOUT 5 MINS LATER, AN FP-P-110 TROUBLE ALARM WAS RECEIVED IN THE CONTROL ROOM. SHORTLY AFTER THE TURBINE GENERATOR AND DG SYSTEMS WERE SECURED A FIRE ALARM WAS RECEIVED FOR THE WATER FILTRATION BLDG. SECURITY INFORMED THE CONTROL ROOM THAT SMOKE WAS COMING FROM THE WATER FILTRATION BLDG. AN OPERATOR WAS DISPATCHED TO INVESTIGATE AND FOUND SMOKE COMING FROM THE BLDG. AN UNUSUAL EVENT WAS DECLARED AT THIS TIME. AFTER ARRIVAL OF THE AUX FIRE BRIGADE VAN, THE OPERATOR ENTERED THE BLDG. NO FLAMES WERE FOUND; HE THEN SHUT DOWN FP-P-110. FURTHER INVESTIGATION FOUND THAT THE SMOKE WAS CAUSED BY LACK OF COOLING WATER TO THE FP-P-110 DIESEL ENGINE. THE COOLING WATER SUPPLY VALVE WAS FOUND SHUT; IT HAS SINCE BEEN LOCKED OPEN AND ADDED TO THE LOCKED VALVE LIST. THE STEM LEAK WHICH ACTIVATED THE DELUGE SYSTEM HAS BEEN REPAIRED.

[162] WPPSS 2 DOCKET 50-397 LER 84-105  
 UNSCHEDULED ACTUATIONS OF CONTROL ROOM EMERGENCY FILTRATION UNITS.  
 EVENT DATE: 092484 REPORT DATE: 101884 NSSS: GE TYPE: BWR  
 VENDOR: KAMAN SCIENCES CORP.

(NSIC 191785) THE DIV I CONTROL ROOM EMERGENCY FILTRATION UNIT (EPN: WMA-FN-54A) WAS AUTOMATICALLY ACTUATED ON 9-24-84 (1001 HRS AND 1010 HRS) DUE TO SPIKES ON A CORRESPONDING CONTROL ROOM REMOTE AIR INTAKE RADIATION MONITOR (EPN: WOA-RIS-31A). IN RESPONSE TO EACH EVENT, AFTER VERIFYING THAT RADIATION LEVELS WERE NOT ABOVE NORMAL BACKGROUND, THE EMERGENCY FILTRATION UNITS WERE RESET AND RETURNED TO A NORMAL LINEUP. THESE EVENTS WERE VERBALLY REPORTED TO THE NRC (9-24-84; 1110 HRS) IN ACCORDANCE WITH 10CFR50.72(B)(2)(II).

[163] WPPSS 2 DOCKET 50-397 LER 84-106  
 INCORRECT REACTOR LEVEL INSTRUMENT INSTALLATION.  
 EVENT DATE: 092784 REPORT DATE: 101884 NSSS: GE TYPE: BWR  
 VENDOR: GENERAL ELECTRIC CORP. (NUCLEAR ENG DIV)

(NSIC 192070) INCORRECT PIPING INSTALLATION OF THE REACTOR VESSEL FUEL ZONE LEVEL TRANSMITTER WAS NOTED WHEN INCREASING FLOW IN JET PUMP CAUSED THE RECORDER TO INDICATE ONSCALE. IF REACTOR VESSEL WATER LEVEL HAD BEEN LOWERED INTO THE FUEL ZONE THE INDICATION WOULD HAVE INDICATED UPSCALE HIGH, THUS ONE OF THE TWO FUEL ZONE INSTRUMENTS WOULD NOT HAVE BEEN OPERABLE. THIS CONDITION EXISTED FROM 11/5/83 THROUGH 9/27/84 WHEN THE INSTRUMENT INSTALLATION WAS CORRECTED.

[164] WPPSS 2 DOCKET 50-397 LER 84-108  
 REACTOR SCRAM ON INADVERTENT MSIV CLOSURE.  
 EVENT DATE: 100684 REPORT DATE: 110184 NSSS: GE TYPE: BWR

(NSIC 191840) WITH THE REACTOR IN MODE 2 (STARTUP AT 9% POWER AND 770 PSIG, THE MODE SWITCH WAS PLACED IN MODE 1 (RUN). THIS STEP OF THE PLANT STARTUP PROCEDURE WAS PERFORMED OUT OF SEQUENCE, PRIOR TO ENSURING THAT REACTOR PRESSURE WAS AT THE RATED CONDITIONS PER A PREVIOUS STEP IN THE PROCEDURE. PLACING THE MODE SWITCH IN 'RUN', WITH REACTOR PRESSURE LESS THAN 831 PSIG WILL RESULT IN AUTOMATIC CLOSURE OF THE MSIVS. THIS INITIATED AN AUTOMATIC MSIV ISOLATION AND A REACTOR SCRAM SINCE REACTOR PRESSURE WAS LESS THAN THE REQUIRED 831 PSIG AND MSIV'S WERE LESS THAN 90% OPEN.

[165] WPPSS 2 DOCKET 50-397 LER 84-107  
 CHLORINE DETECTOR GIVES ERRONEOUS HIGH SIGNAL.  
 EVENT DATE: 100884 REPORT DATE: 110184 NSSS: GE TYPE: BWR  
 VENDOR: M D A SCIENTIFIC, INC.

(NSIC 191839) ON 10-8-84 THE CONTROL ROOM EMERGENCY FILTRATION SYSTEM FAN WMA-FN-54A WAS AUTOMATICALLY STARTED ON A HI CHLORINE SIGNAL FROM WOA-SR-15. THIS IS CONSIDERED AN ESF ACTUATION. THE HI ALARM WAS CAUSED BY THE OPTICS INDICATING LAMP BACKING OUT OF ITS SOCKET AND DEENERGIZING THE OPTICS LAMP, THUS CUTTING OFF THE LIGHT SOURCE TO THE PHOTO CELLS. THE RESULTING HIGH CHLORINE ALARM WAS PER DESIGN.

[166] ZION 1 DOCKET 50-295 LER 84-025  
 MISSED SURVEILLANCE OF PENETRATION FIRE BARRIERS.  
 EVENT DATE: 122383 REPORT DATE: 103184 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: ZION 2 (PWR)

(NSIC 192037) SOME PORTIONS OF THE SURVEILLANCE OF PENETRATION FIRE BARRIERS (PT-207) WERE NOT ACCOMPLISHED WITHIN THE REQUIRED SURVEILLANCE INTERVAL OF 18 MONTHS. THE PT WAS NOT COMPLETED DURING THE SURVEILLANCE INTERVAL BECAUSE THE ASSISTANT FIRE MARSHALL HELD A DUAL POSITION OF EMERGENCY PLAN COORDINATOR WHICH CAUSED THE PT-207 SURVEILLANCE TO FALL BEHIND SCHEDULE AND THIS WAS NOT IMMEDIATELY RECOGNIZED. A POSITION OF PERMANENT FIRE MARSHALL, WITH NO OTHER RESPONSIBILITIES, HAS BEEN ESTABLISHED. THE ASSIGNMENT OF A REGULARLY SCHEDULED HELPER WILL ALLOW FULL-TIME EFFORT ON FIRE PROTECTION ITEMS INCLUDING PT-207. A NEW TRACKING SCHEDULE WILL ASSURE THAT PT-207 WILL BE COMPLETED ON TIME. NO FURTHER ACTION IS REQUIRED.

[167] ZION 1 DOCKET 50-295 LER 84-032  
 REACTOR COOLANT SYSTEM OVERPRESSURIZED.  
 EVENT DATE: 091184 REPORT DATE: 101084 NSSS: WE TYPE: PWR

(NSIC 191803) THE REACTOR COOLANT SYSTEM WAS IN THE COLD SHUTDOWN CONDITION, PRESSURIZER LEVEL WAS APPROX 80% AND A SINGLE CENTRIFUGAL CHARGING PUMP WAS RUNNING. THE OPERATOR WAS ORDERED TO INJECT THE BORON INJECTION TANK IN AN EFFORT TO INCREASE THE SHUTDOWN MARGIN. THE INCREASE IN MASS ADDITION TO THE SYSTEM COMBINED WITH A HIGH PRESSURIZER LEVEL RESULTED IN SYSTEM PRESSURE INCREASING ABOVE THE SETPOINT FOR LIFTING A PRESSURIZER POWER OPERATED RELIEF VALVE. MAXIMUM SYSTEM PRESSURE WAS 450 PSIG. THE ACTION TAKEN WAS A PROCEDURAL VIOLATION. THE SYSTEM WAS NOT OPERATED OUTSIDE OF THE BOUNDS OF ITS OPERATION CURVES. NO PROCEDURAL DEFICIENCIES WERE FOUND. ALL SYSTEMS OPERATED AS DESIGNED. A REDUNDANT PRESSURIZER POWER OPERATED RELIEF WAS AVAILABLE BUT DID NOT LIFT. THE SUPERVISOR WAS MADE AWARE OF THE PROCEDURAL VIOLATION AND WAS DISCIPLINED. NO SIMILAR EVENT HAS OCCURRED IN THE PAST. NO FURTHER ACTION IS REQUIRED. THIS REPORT IS BEING SUBMITTED IN ACCORDANCE WITH TECH SPEC 6.6.3.C.H. WHICH REQUIRES A REPORT WITHIN 30 DAYS.

[168]           ZION 1   DOCKET 50-295                   LER 84-034  
REACTOR COOLANT SYSTEM BORON CONCENTRATION SAMPLES NOT TAKEN.  
EVENT DATE: 100484   REPORT DATE: 110284         NSSS: WE                   TYPE: PWR

(NSIC 192038) WHILE UNIT 1 WAS IN THE PROCESS OF SYSTEM HEATUP, LOOP AND PRESSURIZER BORON SAMPLES WERE NOT TAKEN WITHIN THE SURVEILLANCE TIME LIMITS OF 4 HOURS. BY PROCEDURE THE REACTOR COOLANT LOOP AND PRESSURIZER SAMPLES MUST BE PULLED EVERY FOUR HOURS WHILE THE REACTOR COOLANT SYSTEM TEMPERATURE IS BETWEEN 200 F AND 500 F. THE ACTUAL SAMPLE DELTA TIME WAS 5-1/2 HOURS DURING ONE OF THE SAMPLE INTERVALS. THIS SAMPLE AND SUBSEQUENT SAMPLES VERIFIED THAT THE REACTOR COOLANT SYSTEM AND PRESSURIZER BORON CONCENTRATIONS WERE WITHIN SPECIFICATION THROUGHOUT THIS TIME.

[169]           ZION 2   DOCKET 50-304                   LER 84-006  
INOPERABLE WIDE RANGE REACTOR COOLANT PRESSURE CHANNEL.  
EVENT DATE: 060283   REPORT DATE: 040484         NSSS: WE                   TYPE: PWR

(NSIC 192040) A ROUTINE OPERATING SURVEILLANCE CHANNEL CHECK SHOWED THAT THE TWO WIDE RANGE REACTOR COOLANT SYSTEM PRESSURE CHANNELS DIFFERED BY MORE THAN THE ALLOWED TOLERANCE. THIS CONDITION WENT UNCORRECTED UNTIL THE NEXT MONTHLY SURVEILLANCE WAS PERFORMED, AT WHICH TIME, THE FAULTY CHANNEL WAS REPAIRED. THAT CHANNEL WAS INOPERABLE FOR MORE THAN 7 DAYS, VIOLATING TECH SPEC 3.8.9.A. THE CAUSE OF THE VIOLATION WAS FAILURE OF SHIFT PERSONNEL TO RECOGNIZE THE TECH SPEC SIGNIFICANCE OF THE INSTRUMENT AT THE TIME THE PROBLEM WAS FIRST DISCOVERED. TO PREVENT RECURRENCE, ADDITIONAL NOTES AND PRECAUTIONS REGARDING TECH SPECS WERE ADDED TO THE TEST PROCEDURE.



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This index is based on component and component-related keywords assigned by the NSIC staff when the summaries of the LERs are prepared for computer entry.

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