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# Licensee Event Report (LER) Compilation

For month of June 1984

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Oak Ridge National Laboratory

Prepared for  
U.S. Nuclear Regulatory  
Commission

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A year's subscription consists of 12 issues for  
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Single copies of this publication  
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Information Service, Springfield, VA 22161

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Washington, D. C. 20555

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Manuscript Completed: July 1984  
Date Published: July 1984

Oak Ridge National Laboratory  
Nuclear Safety Information Center  
Oak Ridge, TN 37830

**Prepared for**  
**Office for Analysis and Evaluation of Operational Data**  
**U.S. Nuclear Regulatory Commission**  
**Washington, D.C. 20555**  
**NRC FIN A9135**

## Special Insert for LER Monthly Report

## \*\*\*SPECIAL NOTICE\*\*\*

This issue of the *Licensee Event Report (LER) Compilation* includes the 1984 LERs submitted under the revised LER rule that became effective January 1, 1984 (see abstract for more information on the revised LER rule). The previous issue, Vol. 3 No. 5, included the first group of 1984 LERs.

The principal difference between issues of the monthly report containing 1984 LERs and earlier issues relates to the system and component indexes. These indexes formerly contained the system and component identifiers as listed in NUREG-0161, *Instructions for Preparation of Data Entry Sheets for Licensee Event Reports*. Since these identifiers are no longer used under the revised LER rule, the two indexes are now comprised of appropriate system and component keywords, respectively. The keywords appearing in the system and component indexes are also included in the general keyword index as in past issues.

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 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

Gary T. Mays, Director  
Nuclear Safety Information Center  
Oak Ridge National Laboratory  
P.O. Box Y  
Oak Ridge, TN 37831  
Telephone 615/574-0391  
FTS Number 624-0391

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[ 1] ARKANSAS NUCLEAR 1 DOCKET 50-313 LER 84-002  
 ERRONEOUS ANTICIPATORY TRIP SIGNAL CAUSES REACTOR TRIP.  
 EVENT DATE: 031684 REPORT DATE: 041384 NSSS: BW TYPE: PWR

(NSIC 189432) ON 3/16/84 AT 2243 WHILE AT APPROXIMATELY 17% FP, THE REACTOR TRIPPED ON THE REACTOR PROTECTIVE SYSTEM (RPS) ANTICIPATORY TRIP ON LOSS OF BOTH MAIN FEEDWATER (MPW) PUMPS. UNIT 1 WAS IN THE PROCESS OF A CONTROLLED SHUTDOWN FOR A MID-CYCLE MAINTENANCE OUTAGE. B MPW PUMP HAD BEEN REMOVED FROM SERVICE PREVIOUSLY. A MPW PUMP DID NOT ACTUALLY TRIP. THE RPS ACTUATION IS BELIEVED TO BE DUE TO PERTURBATIONS IN THE MPW PUMP TURBINE CONTROL OIL SYSTEM, POSSIBLY DUE TO CLOGGED FILTERS. THE EMERGENCY FEEDWATER SYSTEM (EFW) AUTOMATIC ACTUATION ALSO OCCURRED. THE RPS AND EFW PERFORMED AS DESIGNED. THE FILTERS WERE CHANGED IN THE CONTROL OIL SYSTEM, AND THE CONTROL OIL GAUGES AND ANTICIPATORY TRIP SWITCHES WERE CALIBRATED DURING THE OUTAGE.

[ 2] ARKANSAS NUCLEAR 2 DOCKET 50-368 LER 84-005  
 LCO EXCEEDED FOR CHANNEL A EXCORE DETECTOR.  
 EVENT DATE: 021084 REPORT DATE: 031184 NSSS: CE TYPE: PWR  
 VENDOR: GENERAL ATOMIC CO.

(NSIC 189402) ON 2/10/84, DURING THE ANALYSIS OF DATA FROM THE SHAPE ANNEALING MATRIX (SAM) TEST AT 50% FULL POWER (FP), THE OUTPUT OF THE CHANNEL A UPPER EXCORE DETECTOR SUBCHANNEL APPEARED TO SATURATE AT APPROXIMATELY 50.7% FP. ON 2/11/84, FURTHER ANALYSIS REVEALED A SIMILAR PHENOMENON ON THE LOWER EXCORE DETECTOR SUBCHANNEL. THE MIDDLE EXCORE DETECTOR SUBCHANNEL FOR CHANNEL A AND THE EXCORE DETECTORS FOR THE OTHER THREE CHANNELS EXHIBITED SATISFACTORY PERFORMANCE. THOUGH THE ACTION REQUIREMENTS OF TECH SPEC 3.3.1.1 WERE MET AFTER CHANNEL A WAS DETERMINED TO BE INOPERABLE, SUBSEQUENT REVIEW REVEALED THAT THE CHANNEL WAS INOPERABLE FOR A LONGER PERIOD OF TIME THAN ALLOWED BY TECH SPECS (48 HOURS). AFTER EXTENSIVE TROUBLESHOOTING, THE PRE-AMP ASSEMBLY AND FILTER WERE REPLACED. TESTING CONFIRMED PROPER FUNCTIONING OF DETECTOR SUBCHANNELS, AND CHANNEL A WAS RETURNED TO OPERABLE STATUS.

[ 3] ARKANSAS NUCLEAR 2 DOCKET 50-368 LER 84-006  
 CPC CHANNEL BYPASSED PRIOR TO COMPLETING ADDRESSABLE CONSTANT UPDATE ON ANOTHER CHANNEL.  
 EVENT DATE: 022184 REPORT DATE: 032084 NSSS: CE TYPE: PWR

(NSIC 189404) ON 2/21/84, WHILE I&C PERSONNEL WERE PERFORMING THE MONTHLY CHANNEL FUNCTIONAL TEST ON CPC CHANNEL C, IT BECAME NECESSARY TO RELOAD THE SYSTEM SOFTWARE. AFTER SOFTWARE RELOAD OF CHANNEL C, TESTING CONTINUED WHILE THE ADDRESSABLE CONSTANTS WERE BEING UPDATED BY OPERATIONS PERSONNEL. UPON COMPLETION OF TESTING ON CHANNEL C, I&C PERSONNEL BYPASSED CHANNEL D IN PREPARATION FOR MONTHLY TESTING ON THAT CHANNEL. OPERATIONS PERSONNEL RECOGNIZED THAT THE ADDRESSABLE CONSTANT UPDATE FOR CHANNEL C WAS STILL IN PROGRESS AND NOTIFIED I&C PERSONNEL. CHANNEL D WAS REMOVED FROM BYPASS UNTIL THE ADDRESSABLE CONSTANT UPDATE OF CHANNEL C WAS COMPLETED. CHANNEL D WAS BYPASSED FOR APPROXIMATELY 2 MINUTES WHILE CHANNEL C ADDRESSABLE CONSTANTS WERE BEING UPDATED. PROCEDURE CHANGES WERE MADE TO REQUIRE VERIFICATION OF CHANNEL OPERABILITY PRIOR TO REMOVING THE CHANNEL FROM BYPASS AFTER TESTING.

[ 4] ARKANSAS NUCLEAR 2 DOCKET 50-368 LER 84-008  
 REACTOR TRIP DUE TO LOW STEAM GENERATOR LEVEL.  
 EVENT DATE: 031284 REPORT DATE: 041184 NSSS: CE TYPE: PWR

(NSIC 189403) ON 3/12/84 AT 1321 HOURS THE REACTOR TRIPPED FROM APPROXIMATELY 4% FP BECAUSE OF LOW STEAM GENERATOR LEVEL IN "A" STEAM GENERATOR. PREPARATIONS WERE BEING MADE TO PUT THE TURBINE ON LINE. "A" MAIN FEEDWATER PUMP WAS FEEDING THE

STEAM GENERATORS. FEEDWATER CONTROLS WERE IN MANUAL. THE MAIN TURBINE WAS ROLLING AT APPROXIMATELY 1600 RPM. THE REACTOR POWER WAS BEING INCREASED, AND ADJUSTMENTS WERE BEING MADE TO FEEDWATER TO MATCH REACTOR CONDITIONS. THE CAUSE OF THE LOW LEVEL WAS DUE TO NORMAL LEVEL CONTROL DIFFICULTIES AT LOW STEAM DEMAND CONDITIONS. STEAM/FEED FLOW INDICATION INACCURACY AT LOW DEMAND IN COMBINATION WITH COLD FEEDWATER WITH THE MAIN TURBINE OFF LINE COMPLICATES THE STEAM GENERATOR LEVEL CONTROL AT LOW POWER LEVELS. AUTOMATIC CONTROL OF FEEDWATER IS NOT FEASIBLE AT LOW POWER AND MANUAL CONTROL IS DIFFICULT WITH THE COARSE CONTROLS PROVIDED. THE RPS ACTUATED AUTOMATICALLY AT THE TRIP SETPOINT. EMERGENCY FEEDWATER ACTUATED AUTOMATICALLY TO RESTORE STEAM GENERATOR LEVEL. THE SYSTEMS AND EQUIPMENT OPERATED AS DESIGNED. REANALYSIS OF REQUIRED LOW STEAM GENERATOR LEVEL TRIP SETPOINT AND ADDITION OF A LOW RANGE FEEDWATER CONTROL SYSTEM ARE BEING CONSIDERED. THIS EVENT IS SIMILAR TO THE EVENT REPORTED IN LER 50-368/84-004.

[ 5]            ARKANSAS NUCLEAR 2                            DOCKET 50-368            LER 84-009  
 DEGRADED RTD RESPONSE TIME.  
 EVENT DATE: 031984    REPORT DATE: 041784            NSSS: CE            TYPE: PWR  
 VENDOR: ROSEMOUNT, INC.  
                  WEED INSTRUMENT COMPANY, INC.

(NSIC 189634) MEASUREMENTS OF REACTOR COOLANT SYSTEM (RCS) RESISTANCE TEMPERATURE DETECTORS' (RTD'S) RESPONSE TIMES REQUIRED BY TECH SPEC 3.3.1.1 WERE PERFORMED BETWEEN 3/7/84 AND 3/19/84. UPON COMPLETION OF ANALYSIS OF THE TEST RESULTS, IT WAS DETERMINED THAT THE RESPONSE TIME OF ONE RTD SUPPLYING RPS CHANNEL "D" COLD LEG TEMPERATURE INDICATION WERE BEYOND THE TECH SPEC ALLOWABLE VALUE. CONSERVATIVE PENALTY FACTORS WERE APPLIED WITHIN ONE HOUR AFTER DETERMINATION. HOWEVER, DUE TO THE TIME DELAY BETWEEN MEASUREMENT AND ANALYSIS OF DATA, THE EVENT IS REPORTABLE SINCE THE DEGRADED RESPONSE TIME EXISTED LONGER THAN ALLOWED BY THE ACTION REQUIREMENTS OF TECH SPEC 3.3.1.1. DEGRADED RESPONSE TIME IS BELIEVED TO BE CAUSED BY INADEQUATE THERMAL COUPLING BETWEEN THE RTD SENSING ELEMENT AND RTD THERMOWELL. THE AFFECTED RTD'S ARE A MODEL 104AF, MANUFACTURED BY ROSEMOUNT, AND MODEL N9004, MANUFACTURED BY WEED. SIMILAR OCCURRENCES WERE REPORTED IN LER'S 81-017, 82-001, 83-009, 83-014 AND 83-025.

[ 6]            ARNOLD    DOCKET 50-331            LER 84-009  
 RHR PUMP DISCHARGE PIPING DEPRESSURIZES.  
 EVENT DATE: 013184    REPORT DATE: 030184            NSSS: GE            TYPE: BWR

(NSIC 189361) ON 01/31/84, DURING THE PERFORMANCE OF A LPCI SURVEILLANCE TEST, THE RHR SYSTEM DISCHARGE PIPING PRESSURE DROPPED TO 0 PSIG. THE RHR FILL AND VENT PROCEDURE, 0I-49, APP. V, WAS PERFORMED AND THE SYSTEM PRESSURE RETURNED TO NORMAL WITHIN 6 MINUTES. TECH SPEC PAR. 3.5.H STATES "WHENEVER ...LPCI SUBSYSTEM (IS) REQUIRED TO BE OPERABLE, THE DISCHARGE PIPING FROM THE PUMP DISCHARGE OF THESE SYSTEMS ...SHALL BE FILLED" AS AN LCO WITH NO ACTION STATEMENT. AS WAS DISCUSSED IN RELATED LER 84-005, DISCHARGE PIPING PRESSURE BELOW 40 PSIG IS AT PRESENT IN VIOLATION OF THE TECH SPEC. THE ROOT CAUSE OF THIS EVENT WAS EQUIPMENT MALADJUSTMENT BROUGHT TO LIGHT BY OPERATOR ACTION. THE RHR FULL FLOW TEST VALVES WERE CLOSED BY PANEL INDICATION. HOWEVER, THE PANEL INDICATIONS OF THESE VALVES DID NOT MATCH THE EXACT VALVE POSITIONS. IN ACTUALITY, THESE THROTTLE VALVES WERE NOT FULLY SEATED. UPON SECURING THE "C" RHR PUMP, A PORTION OF THE PIPING EMPTIED THROUGH THE TEST VALVES. THE VALVE DISCS WERE SEATED BY ANOTHER CLOSE SIGNAL. AS CORRECTIVE ACTION, THE POSITION INDICATION ON THE TWO VALVES IN QUESTION WAS ADJUSTED TO MATCH ACTUAL VALVE POSITION. ALSO, DURING OPERATOR REQUALIFICATION TRAINING, THE POTENTIAL FOR THROTTLE VALVE POSITION INDICATION MALADJUSTMENT WILL BE REVIEWED. ASSOCIATED CORRECTIVE ACTION DETAILED IN LER 84-005 IS CONTINUING.



[ 7]            BROWNS FERRY 1                            DOCKET 50-259            LER 84-009  
 DURING DATA BANK REVIEW KF FOUND TO BE IN ERROR.  
 EVENT DATE: 013084    REPORT DATE: 021784            NSSS: GE            TYPE: BWR

(NSIC 189422) IN THIS EVENT, THE FACTOR KF USED IN CALCULATIONS OF CRITICAL POWER RATIO (CPR) BY THE PROCESS COMPUTER WAS FOUND TO BE IN ERROR BY 2.5% AT RECIRCULATION FLOWS OF 75%. THIS IS THE MAXIMUM POSSIBLE ERROR. THE KF USED IN CALCULATIONS OF CPR BY THE COMPUTER WAS LAST VERIFIED TO BE CORRECT ON DEC 20, 1933. A REVIEW OF THE DATA FROM DEC 20, 1983 TO JAN 30, 1984 SHOWED THE HIGHEST CORE MAXIMUM FRACTION OF CRITICAL POWER (CMFCP) TO BE LESS THAN 0.90. THE CMFCP IS DEFINED AS THE LIMITING CPR DIVIDED BY THE CALCULATED CPR. A 2.5% ERROR WOULD MAKE THE HIGHEST CMFCP LESS THAN 0.92. THIS IS WELL BELOW THE ALLOWABLE LIMIT OF 1.0. THIS EVENT WAS CAUSED BY LOADING A CORE DUMP WHICH WAS GENERATED PRIOR TO CORRECTING KF. INADEQUATE PROCEDURES ALLOWED THE WRONG COMPUTER TAPE TO BE USED TO REINITIALIZE THE PROCESS COMPUTER, THUS OVERLAYING THE CORRECT KF WITH A PREVIOUS FUEL CYCLE KF. SINCE THIS EVENT, A PLANT INSTRUCTION DELINEATING REINITIALIZING THE PROCESS COMPUTER WILL BE ISSUED WITHIN 45 DAYS.

[ 8]            BROWNS FERRY 1                            DOCKET 50-259            LER 84-013  
 UNDERDESIGNED RHRSW/EECW PUMP AIR AND VACUUM RELIEF VALVES.  
 EVENT DATE: 021384    REPORT DATE: 030284            NSSS: GE            TYPE: BWR  
 OTHER UNITS INVOLVED: BROWNS FERRY 2 (BWR)  
                           BROWNS FERRY 3 (BWR)

(NSIC 189387) THE RHRSW/EECW AIR AND VACUUM RELEASE VALVES WERE EVALUATED BY TVA'S DIVISION OF ENGINEERING DESIGN DURING THE APPROVAL OF DESIGN CHANGE REQUEST TO ADD SURGE CHECK VALVES TO THE AIR AND VACUUM VALVES. THE AIR AND VACUUM RELEASE VALVES WERE FOUND TO BE UNDERRATED FOR THEIR SERVICE APPLICATION. THE OPERATING UNITS WERE REMOVED FROM SERVICE. AN ORIFICE PLATE WITH A 1.770-INCH DIAMETER HOLE WAS INSTALLED UNDER THE AIR AND VACUUM RELEASE VALVES TO RESTRICT THE AMOUNT OF WATER THAT COULD BE RELEASED INTO THE RHRSW/EECW PUMP ROOM THROUGH THE 4-INCH VALVES SHOULD THEY CRACK DURING PUMP STARTS. THE INSTALLATION OF THE ORIFICE WOULD PREVENT A SIGNIFICANT DECREASE OF SYSTEM FLOW. ALSO, PUMP ROOM DOORS ARE BEING MAINTAINED TO PRECLUDE POSSIBILITY OF FLOODING. THE SYSTEM WILL REMAIN IN THIS CONFIGURATION UNTIL NEW VALVES WITH THE PROPER DESIGN PRESSURE RATING CAN BE PURCHASED AND INSTALLED.

[ 9]            BROWNS FERRY 1                            DOCKET 50-259            LER 84-012  
 SHUTDOWN COOLING SYSTEM NOT AVAILABLE DUE TO VALVE FAILURE TO OPEN.  
 EVENT DATE: 021484    REPORT DATE: 030684            NSSS: GE            TYPE: BWR  
 VENDOR: LIMITORQUE CORP.  
                           RELIANCE ELECTRIC COMPANY  
                           WALWORTH COMPANY

(NSIC 189386) ON FEBRUARY 14, 1984, WHILE BRINGING UNITS 1 AND 2 TO COLD SHUTDOWN BECAUSE OF THE RESIDUAL HEAT REMOVAL SERVICE WATER SYSTEM AIR RELEASE VALVES NOT BEING PROPERLY CERTIFIED FOR THE DESIGN PRESSURE (REFERENCE BPRO-50-259/84013), RESIDUAL HEAT REMOVAL (RHR) VALVE FCV-1-74-48 ON UNIT 1 FAILED TO OPEN, MAKING IT IMPOSSIBLE TO ACHIEVE COLD SHUTDOWN USING NORMAL METHODS. AN ALERT WAS DECLARED PER THE RADIOLOGICAL EMERGENCY PLAN. THE PLANT WAS BROUGHT TO COLD SHUTDOWN THROUGH ALTERNATE MEANS AND THE ALERT WAS CANCELLED AFTER THE VALVE WAS OPENED MANUALLY AND SHUTDOWN COOLING RESTORED. AN INVESTIGATION OF THIS EVENT REVEALED THAT THE "B" PHASE WINDING OF THE MOTOR ON VALVE FCV-74-48 FAILED. AT THIS TIME IT IS NOT KNOWN IF THE FAILURE OF VALVE FCV-74-48 TO OPEN WAS A RESULT OF THE FAILURE OF "B" PHASE MOTOR WINDING OR IF THE MOTOR FAILED AS A RESULT OF OTHER CAUSES. INVESTIGATION OF THE CAUSE OF MOTOR FAILURE IS CONTINUING AND A FOLLOW-UP REPORT WILL BE SUBMITTED BY SEPTEMBER 1, 1984 PROVIDING DETAILS OF THIS INVESTIGATION.

[ 10]        BROWNS FERRY 1                                DOCKET 50-259        LER 84-019  
 FAILURE TO IMPLEMENT LITERAL REQUIREMENT OF TECH SPEC 4.9.A.2.A.  
 EVENT DATE: 032984    REPORT DATE: 042084    NSSS: GE                TYPE: BWR  
 OTHER UNITS INVOLVED: BROWNS FERRY 2 (BWR)  
                   BROWNS FERRY 3 (BWR)

(NSIC 189423) ON AUG 2, 1983, SURVEILLANCE INSTRUCTION 4.9.A.2.A HAD BEEN REVISED FROM THE TECH SPEC REQUIREMENT OF MEASURING BATTERY CELL TEMPERATURE IN "ADJACENT CELL" TO MEASURING BATTERY CELL TEMPERATURE IN "PILOT CELL." (THE PILOT CELL IS A PRESELECTED CELL USED TO TAKE SPECIFIC GRAVITY READINGS.) THIS CHANGE WAS DISCOVERED DURING AN INTERNAL AUDIT PERFORMED. ALTHOUGH THIS WAS IN CONFLICT WITH THE LITERAL TECH SPEC REQUIREMENT, IT PROVIDES FOR MORE ACCURATE CALCULATIONS. ON MAR 30, 1984, THE SURVEILLANCE INSTRUCTION WORDING WAS CHANGED BACK TO READ "TEMPERATURE OF THE ADJACENT CELL." A TECH SPEC REVISION IS BEING SUBMITTED TO REQUIRE "PILOT CELL" TEMPERATURE TO BE TAKEN INSTEAD OF "ADJACENT CELL."

[ 11]        BROWNS FERRY 2                                DOCKET 50-260        LER 84-003  
 HPCI INOPERABLE DUE TO TURBINE GOVERNOR CONTROL SYSTEM FAILURE.  
 EVENT DATE: 021284    REPORT DATE: 030684    NSSS: GE                TYPE: BWR  
 VENDOR: WOODWARD GOVERNOR COMPANY

(NSIC 189388) DURING ROUTINE SURVEILLANCE TESTING (HIGH PRESSURE COOLANT INJECTION TURBINE AND PUMP FLOW TEST), TESTING WAS STOPPED BECAUSE THE OPERATOR WAS UNABLE TO BRING THE HIGH PRESSURE COOLANT INJECTION TURBINE SPEED DOWN TO THE REQUIRED 2400 RPM. MAINTENANCE WAS DISPATCHED TO TROUBLESHOOT. THE RAMP GENERATOR SIGNAL CONVERTER WAS FOUND TO BE PERFORMING ERRATICALLY. THE FAILURE WAS DETERMINED TO BE RANDOM AND THE RAMP GENERATOR/SIGNAL CONVERTER BOX WAS REPLACED. SURVEILLANCE TESTING WAS SUCCESSFULLY PERFORMED AND NO RECURRENCE CONTROL REQUIRED.

[ 12]        BROWNS FERRY 2                                DOCKET 50-260        LER 84-004  
 HIGH FLUX SPIKE ON INTERMEDIATE RANGE MONITOR CAUSES SCRAM.  
 EVENT DATE: 022284    REPORT DATE: 031584    NSSS: GE                TYPE: BWR

(NSIC 189389) DURING STARTUP ON UNIT 2, THE REACTOR SCRAMMED DUE TO A HIGH FLUX SPIKE ON CHANNELS "C" AND "F" OF THE INTERMEDIATE RANGE MONITORS (IRM) OF THE NEUTRON MONITORING SYSTEM. THE SHORT PERIOD (< 5 SECONDS) AND SUBSEQUENT REACTOR SCRAM WERE THE RESULT OF THE CONTINUOUS WITHDRAWAL OF A HIGH-WORTH CONTROL ROD. THE IRMS FUNCTION TO PREVENT FUEL DAMAGE THAT CAN RESULT FROM ABNORMAL TRANSIENTS THAT OCCUR WHILE OPERATING IN THE INTERMEDIATE POWER RANGE. ADMINISTRATIVE CONTROLS TO PREVENT RECURRENCE OF FAST PERIODS WERE INADEQUATE TO ENSURE THAT HIGH-WORTH RODS WERE PROPERLY IDENTIFIED PRIOR TO USE. PLANT WRITTEN PROCEDURES AND THE NUCLEAR ENGINEER QUALIFICATION PROGRAM WILL BOTH BE REVISED TO INCLUDE FORMAL EMPHASIS ON THE NUCLEAR ENGINEER'S DUTIES AND PROPER CONTROL ROD SEQUENCING WITH RESPECT TO HIGH-WORTH RODS.

[ 13]        BROWNS FERRY 3                                DOCKET 50-296        LER 84-001  
 DIESEL GENERATORS HAVE INADEQUATE COOLING WATER.  
 EVENT DATE: 010384    REPORT DATE: 012384    NSSS: GE                TYPE: BWR  
 VENDOR: GENERAL MOTORS

(NSIC 189426) DURING THE PERFORMANCL OF THE MONTHLY OPERABILITY TEST OF DG 3ED, THE OPERATOR OBSERVED THE DG OVERHEATING. AFTER SHUTTING DOWN THE DIESEL, COOLING WATER FLOW TO THE ENGINE COOLERS WAS FOUND TO BE ZERO BY TEST INSTRUMENTS. INVESTIGATION REVEALED THAT THE COOLING WATER FLOW, WHICH IS SUPPLIED BY THE EMERGENCY EQUIPMENT COOLING WATER (EECW) SYSTEM, WAS BEING BLOCKED BY CLAM SHELLS ON THE INLET TUBE SHEET OF THE FIRST COOLER. AS A PRUDENT

MEASUREMENT, EECW FLOW TO ALL OTHER DIESELS WAS MEASURED AND ZERO FLOW WAS FOUND TO 3EA AND 3EC. AFTER CLEANING AND RETURN TO SERVICE, INCREASED FLOW MONITORING REVEALED WITHIN ONE WEEK ZERO FLOW ON 3ED AND REDUCED FLOW TO 3EA AND 3EC. THE APPARENT CAUSE WAS OVERCHLORINATION OF THE EECW HEADER TO THESE DIESELS, CAUSING MOVEMENT OF CLAM SHELLS WHICH HAD BEEN IN THE PIPING FOR A PERIOD OF TIME. A FLUSH OF THE MAIN HEADER HAS BEEN CONDUCTED AS WELL AS WEEKLY MONITORING OF FLOW ESTABLISHED. ANY FLOW DEGRADATION WILL RESULT IN A BACK FLUSH OF THE HEAT EXCHANGER. THIS WILL CONTINUE UNTIL THE PROBLEM IS ALLEVIATED, BASED ON THE RESULTS OF THE MONITORING PROGRAM. ALSO REPORTABLE UNDER 10 CFR 72.

[ 14]            BROWNS FERRY 3                                 DOCKET 50-296                     LER 84-004  
RESIDUAL HEAT REMOVAL VALVE STEM BREAKS.  
EVENT DATE: 022884     REPORT DATE: 031484             NSSS: GE                         TYPE: BWR  
VENDOR: WALWORTH COMPANY

(NSIC 189355) DURING THE UNIT 3 CYCLE 5 REFUELING OUTAGE ON FEB 28, 1984, THE RESIDUAL HEAT REMOVAL (RHR) OUTBOARD LOOP II ISOLATION VALVE STEM WAS FOUND TO BE BROKEN UPON DISASSEMBLY. (THE UNIT WAS REMOVED FROM SERVICE ON SEPT 7, 1983.) THE VALVE (FCV-74-67) IS A 24-INCH GATE VALVE WHICH IS MANUFACTURED BY WALWORTH COMPANY. THE MOST PROBABLE CAUSE FOR THE VALVE STEM TO BREAK WAS DUE TO OVERSTRESS OR EXTREME LOADING CONDITIONS. THE METALLURGICAL ENGINEERS PERFORMED A FAILURE ANALYSIS OF THE STEM BREAKS WHICH INDICATED THE FAILURE WAS DUE TO OVERLOADING. THE STEM WAS BROKEN IN 2 PLACES. METALLURGICAL EXAMINATIONS DID NOT FIND ANY EVIDENCE OF FATIGUE OR CORROSION ATTACK OF THE FRACTURE SURFACES. OPERATION INSTRUCTIONS STATE TO USE THE LOOP NOT PREVIOUSLY USED WHEN GOING INTO SHUTDOWN COOLING. LOOP I WAS USED PER THE SHIFT ENGINEER'S LOG. THE VALVE STEM IS MADE OF 410 STAINLESS STEEL AND WILL BE REPLACED WITH 17-4 PH STAINLESS. FURTHER INVESTIGATION OF THE LIMITORQUE, LIMITORQUE SWITCHES, AND VALVE DISC IS BEING CONDUCTED.

[ 15]            BROWNS FERRY 3                                 DOCKET 50-296                     LER 84-005  
LINEAR INDICATION IN THE REACTOR WATER CLEANUP SYSTEM.  
EVENT DATE: 040284     REPORT DATE: 042084             NSSS: GE                         TYPE: BWR

(NSIC 189520) DURING PERFORMANCE OF THE INDUCTION HEAT STRESS IMPROVEMENT PROGRAM A LINEAR ROOT INDICATION IN THE HEAT AFFECTED ZONE (1/2-INCH LONG BY 0.09 INCH DEEP) WAS FOUND ON A SIX-INCH PIPE WELD IN THE REACTOR WATER CLEANUP SYSTEM. THE CAUSE OF THE INDICATION CAN NOT BE POSITIVELY DETERMINED AT THIS TIME. THE WELD HAS BEEN EVALUATED AND THE RESULTS INDICATED THAT IF THE FLAW WERE INTERGRANULAR STRESS CORROSION CRACKING, NO GROWTH WOULD OCCUR BECAUSE OF THE COMPRESSIVE STRESS FIELD AT THE CRACK TIP. THIS WELD WILL BE LEFT AS IS AND NO REPAIR PERFORMED. THIS ACTION WAS DISCUSSED WITH THE NRC, OFFICE OF NUCLEAR REACTOR REGULATION IN A TELECON ON APR 9, 1984 AND THEY CONCURRED WITH TVA'S RECOMMENDATION TO LEAVE AS IS. THE WELD WILL BE INSPECTED DURING THE NEXT REFUELING OUTAGE AND DISPOSITION OF THE WELD WILL BE DETERMINED AFTER EVALUATION OF THE INSPECTION DATA.

[ 16]            BRUNSWICK 1     DOCKET 50-325                     LER 82-119 REV 1  
UPDATE ON TWO APRMS INOPERABLE.  
EVENT DATE: 112082     REPORT DATE: 031484             NSSS: GE                         TYPE: BWR  
VENDOR: GENERAL ELECTRIC CO.

(NSIC 189396) DURING STEADY STATE PLANT OPERATION, APRM F WAS DECLARED INOPERABLE DUE TO AN ERRATIC OUTPUT SIGNAL FROM INPUT LPRM 28-21C. AT THE TIME, APRM B WAS INOPERABLE, AS OF OCTOBER 18, 1982, DUE TO ERRATIC OUTPUTS FROM INPUT LPRMS 12-21C AND 36-45B. IN ACCORDANCE WITH TECH SPECS, A HALF SCRAM ON RPS TRIP CHANNEL B WAS MANUALLY INSERTED. THE FAILURE OF THESE RESPECTIVE LPRMS CAUSED THE SUBJECT APRMS TO HAVE TOO FEW INPUTS. TECH SPECS 3.1.4.3, 3.3.1, 6.9.1.9B.

ALL LPRMS WERE TESTED FOR APRM OPERABILITY PER MI-16-10 ON JUNE 24, 1983. OF THE THREE LPRMS MENTIONED, ONLY 28-21C DID NOT MEET ACCEPTANCE CRITERIA. HOWEVER, WHILE PERFORMING VOLTAGE BREAKDOWNS ON ALL LPRMS ON AUGUST 24, 1983, 28-21C WAS FOUND TO BE OPERABLE. IT IS BELIEVED THAT 28-21C HAD A LOOSE CONNECTOR THAT WAS CORRECTED DURING TESTING; THEREFORE, NO FURTHER ACTION FOR THIS EVENT IS PLANNED.

[ 17] BRUNSWICK 1 DOCKET 50-325 LER 83-000S  
 COBALT CONCENTRATION IN SEDIMENT EXCEEDS LIMIT.  
 EVENT DATE: 040283 REPORT DATE: 061783 NSSS: GE TYPE: BWR

(NSIC 189485) CAUSE - UNKNOWN. GAMMA ANALYSIS OF A BOTTOM SEDIMENT SAMPLE DETECTED CO-60 AT A CONCENTRATION OF 5.1 PLUS OR MINUS 0.02 PCI/G AT SAMPLE STATION NO. 33. THE CO-60 ACTIVITY FOUND IN THIS SAMPLE IS REPORTABLE DUE TO A FACTOR OF 10 INCREASE ABOVE THE MDA. IT IS NOT KNOWN AT THIS TIME IF THIS IS AN ACTUAL INCREASE OR IF IT IS DUE TO SAMPLE VARIABLES.

[ 18] BRUNSWICK 1 DOCKET 50-325 LER 83-000S  
 COBALT ACTIVITY IN CANAL SEDIMENT EXCEEDS LIMIT.  
 EVENT DATE: 040583 REPORT DATE: 053183 NSSS: GE TYPE: BWR

(NSIC 189481) CAUSE - UNKNOWN. RESULTS OF GAMMA ANALYSIS OF 2 BOTTOM SEDIMENT SAMPLES DETECTED CO-60 AT A CONCENTRATION OF 1.17 PLUS OR MINUS 0.05 PCI/G AT SAMPLE STATION NO. 33 AND 1.25 PLUS OR MINUS 0.04 PCI/G AT SAMPLE STATION NO. 34. THESE BOTTOM SEDIMENT SAMPLES WERE COLLECTED AS PART OF AN EXPANDED SURVEILLANCE PROGRAM ON SEDIMENT IN THE DISCHARGE CANAL. THE CO-60 ACTIVITY FOUND IN THESE SAMPLES IS REPORTABLE DUE TO A FACTOR OF 10 INCREASE ABOVE THE MDA. THE SAMPLING FREQUENCY FOR BOTTOM SEDIMENT SAMPLES HAS BEEN INCREASED FROM SEMIANNUALLY TO MONTHLY FOR THE PERIOD OF NOV 1982 THROUGH JUNE 1983 IN ORDER TO MORE CLOSELY MONITOR THE CO-60 ACTIVITY LEVELS IN THE DISCHARGE CANAL AND TO DETERMINE IF TRENDS IN THESE ACTIVITY LEVELS CAN BE PREDICTED.

[ 19] BRUNSWICK 1 DOCKET 50-325 LER 83-045 REV 2  
 UPDATE ON RCIC STEAM SUPPLY ISOLATION VALVE FAILS TO OPEN.  
 EVENT DATE: 091983 REPORT DATE: 012484 NSSS: GE TYPE: BWR  
 VENDOR: ANCHOR VALVE CO.

(NSIC 189395) WHILE PERFORMING REACTOR VESSEL LEVEL LOOP CALIBRATIONS (PT-55.3PC), E51-F007, WHICH IS THE INBOARD PCIV STEAM SUPPLY TO THE RCIC SYSTEM, WOULD NOT COMPLETELY REOPEN, INDICATING A DUAL OPEN-CLOSE POSITION. WHILE PERFORMING RCIC ISOLATION INSTRUMENTATION (PT-02.1.9PC) ON SEPTEMBER 24, 1983, E51-F007 WOULD NOT REOPEN. E51-F007, WHICH IS NORMALLY IN THE OPEN POSITION, IS INACCESSIBLE DURING UNIT POWER OPERATION. DURING EACH EVENT, THE UNIT WAS AT POWER OPERATION. AN INVESTIGATION INDICATED THAT THE LIMITORQUE MOTOR OPERATOR'S SPRING PACK WAS LOOSE AND THE RETAINING NUT WAS INSTALLED UPSIDE DOWN DURING CONSTRUCTION. ALSO, IT APPEARS THAT THE SPRING PACK WAS INCORRECTLY ADJUSTED DURING INITIAL CONSTRUCTION. THE SPRING PACK WAS REPLACED AND THE PRELOAD ESTABLISHED. THE PRELOAD WAS THEN CHECKED, THE VALVE WAS STROKED, AND THE TORQUE SWITCH WAS SET UP TO ALLOW THE VALVE TO FUNCTION PROPERLY.

[ 20] BRUNSWICK 1 DOCKET 50-325 LER 84-003  
 HIGH PRESSURE COOLANT INJECTION SYSTEM TURBINE SPEED OSCILLATIONS.  
 EVENT DATE: 021984 REPORT DATE: 031484 NSSS: GE TYPE: BWR  
 VENDOR: WOODWARD GOVERNOR COMPANY

(NSIC 189360) ON FEBRUARY 19, 1984, AT 2115, WHILE PERFORMING AN OPERABILITY TEST OF THE UNIT NO. 1 HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM, IT WAS DISCOVERED THAT SPEED CONTROL OF THE HPCI TURBINE WAS VERY ERRATIC. AT THE TIME

THE UNIT WAS OPEATING AT 100 PERCENT POWER AND THE REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM WAS OPERABLE. THE HPCI TURBINE ELECTRONIC SPEED CONTROLLER (EGM), WOODWARD GOVERNOR CO. PART NO. 99J3-14, WAS FOUND TO BE NOT FUNCTIONING PROPERLY. THE SUBJECT EGM UNIT WAS REPLACED AND THE HPCI SYSTEM WAS SATISFACTORILY TESTED AND RETURNED TO SERVICE ON FEBRUARY 23 AT 2115. THE FAILED EGM UNIT IS BEING SENT TO THE MANUFACTURER FOR ASSESSMENT OF THE UNIT FAILURE. A SUPPLEMENT TO THIS REPORT, REFLECTING THE CAUSE OF THE EGM FAILURE AND ANY REQUIRED ACTIONS, IS EXPECTED TO BE SUBMITTED BY SEPTEMBER 21, 1984.

[ 21] BRUNSWICK 2 DOCKET 50-324 LER 83-0005  
 OFF-GAS ISOLATION VALVE DEENERGIZED.  
 EVENT DATE: 052183 REPORT DATE: 060383 NSSS: GE TYPE: BWR

(NSIC 189482) CAUSE - 2 ELECTRICAL PANELS WERE DEENERGIZED. A PLANT ENGINEER INVOLVED WITH INSTALLING THE CHARCOAL ADSORBER BED MODIFICATION IN THE AUGMENTED OFF-GAS (AOG) BUILDING DISCOVERED THAT ELECTRICAL PANELS HB5 AND HB8 IN THE BUILDING WERE DEENERGIZED. HB5 AND HB8 WERE SUBSEQUENTLY REENERGIZED. IT WAS DETERMINED THAT THE SOLENOID OPERATOR POWER SUPPLY FOR 2-AOG-HCV-102, OFF-GAS ISOLATION VALVE, IS FED FROM THE SUBJECT ELECTRICAL PANELS. THE VALVE POSITION INDICATION IS ENERGIZED FROM A POWER SOURCE SEPARATE FROM THE VALVE'S ACTUATING SOLENOID. AS A RESULT, WHEN THE SOLENOID POWER SUPPLY WAS DEENERGIZED, NORMAL VALVE POSITION INDICATION WAS NOT AFFECTED, AND THERE WAS NO INDICATION ON THE CONTROL BOARD THAT THE VALVE WAS RENDERED INCAPABLE OF AUTOMATIC OR MANUAL ISOLATION.

[ 22] BRUNSWICK 2 DOCKET 50-324 LER 83-081 REV 1  
 UPDATE ON TIP RETRACTION MECHANISM FAILS.  
 EVENT DATE: 093083 REPORT DATE: 031484 NSSS: GE TYPE: BWR  
 VENDOR: GENERAL ELECTRIC CO.

(NSIC 189394) DURING UNIT POWER OPERATION, THE "C" TRAVERSE IN-CORE PROBE (TIP) DETECTOR WOULD NOT FULLY RETRACT FROM THE CORE, THEREBY RENDERING THE "C" TIP GUIDE TUBE PRIMARY CONTAINMENT ISOLATION (PCI) BALL VALVE INOPERABLE. AT THE TIME, THE "C" TIP MANUAL ISOLATION SHEAR VALVE WAS OPERABLE. WITHIN 5 HOURS AND 15 MINUTES OF THE EVENT, THE "C" TIP DETECTOR WAS MANUALLY RETRACTED TO REESTABLISH OPERABILITY OF THE "C" TIP GUIDE TUBE PCI BALL VALVE. TECH SPECS 3.6.3, 6.9.1.9B. DAMAGE OF THE SUBJECT DETECTOR RESULTING FROM A LOOSE BULLS-HEAD TUBING CONNECTOR IN THE TIP DRIVE BOX PREVENTED THE DETECTOR FROM RETRACTING. THE DETECTOR AND ITS DRIVE CABLE WERE REPLACED AND THE TIP, PART NO. 919D564G001, WAS RETURNED TO SERVICE. NO FURTHER ACTION IS PLANNED REGARDING THIS EVENT.

[ 23] CALVERT CLIFFS 2 DOCKET 50-318 LER 82-054 REV 1  
 UPDATE ON SHUTDOWN COOLING INOPERABLE.  
 EVENT DATE: 112482 REPORT DATE: 030584 NSSS: CE TYPE: PWR  
 VENDOR: LAMBDA ELECTRONICS

(NSIC 189393) AT 0547, DURING NORMAL SHUTDOWN OPERATION IN MODE 6, POWER WAS LOST TO 24 4KV BUS RESULTING IN THE LOSS OF 22 SALTWATER PUMP AND 22 LPSI PUMP, THEREBY DISABLING THE ONLY OPERABLE SHUTDOWN COOLING LOOP (TECH SPEC 3.9.8.1). POWER WAS RESTORED TO 24 4KV BUS AND SHUTDOWN COOLING FLOW RESTORED AT 0605. THE REDUNDANT SHUTDOWN COOLING LOOP WAS OUT OF SERVICE FOR MAINTENANCE. SIMILAR EVENTS: NONE. VENDOR FAILURE REPORT INDICATED THE CAUSE OF THE POWER SUPPLY FAILURE TO BE A CRACKED PRINTED CIRCUIT BOARD. ROOT CAUSE COULD NOT BE DETERMINED AS THE UNIT WAS OVER 12 YEARS OLD. THE VENDOR CHECKED A SAMPLE SUPPLY OF UNITS FROM THEIR STOCK. NO SIMILAR DEFECTS WERE FOUND. NO FURTHER CORRECTIVE ACTION IS PLANNED.

[ 24] CALVERT CLIFFS 2 DOCKET 50-318 LER 84-002  
 REQUIRED SAMPLING WAS NOT PERFORMED FOR INOPERABLE RADIATION MONITOR.  
 EVENT DATE: 032684 REPORT DATE: 042484 NSSS: CE TYPE: PWR

(NSIC 189525) ON MAR 13, 1984, AT APPROXIMATELY 1025, WITH UNIT 2 AT 98% POWER, THE CONDENSER OFF-GAS RADIATION MONITOR, 2-RI-1752, WAS FOUND TO BE INDICATING LESS THAN ZERO COUNTS PER MINUTE (CPM). A PULSE AND LEVEL CALIBRATION CHECK WAS PERFORMED SATISFACTORILY. AFTER ADDITIONAL INSPECTIONS OF THE DRAWER AND SKID ASSEMBLIES, 2-RI-1752 WAS "ERRONEOUSLY" CONSIDERED IN SERVICE BUT INDICATING LOW. A MAINTENANCE REQUEST WAS THEN INITIATED. ON MAR 22, 1984 DURING PERFORMANCE OF THE MAINTENANCE REQUEST, THE DETECTOR'S SIGNAL LEAD AT J104, ON BACK OF 2-RI-1752, WAS FOUND DISCONNECTED. 2-RI-1752 WAS RETURNED TO SERVICE AT 1500 ON MAR 22, 1984. ON MAR 26, 1984 THE SHIFT SUPERVISOR WAS INFORMED OF THE FINDINGS AND THE CONDENSER OFF-GAS RADIATION MONITOR WAS THEN DECLARED INOPERABLE FROM MAR 13, 1984 TO MAR 22, 1984. TECH SPEC APPENDIX 'B', PART 1, SECTION 2.3, TABLE 2.3.1, ITEM 5. THE SHIFT SUPERVISOR INFORMED CHEMISTRY AND A GRAB SAMPLE WAS TAKEN WITH SATISFACTORY RESULTS.

[ 25] CONNECTICUT YANKEE DOCKET 50-213 LER 84-002  
 FIRE DETECTION PANEL INOPERABLE.  
 EVENT DATE: 032384 REPORT DATE: 042384 NSSS: WE TYPE: PWR  
 VENDOR: GOULDS INC. (INDUSTRIAL BATTERY DIV)

(NSIC 189507) THE PLANT WAS OPERATING IN MODE 1 AT 100% POWER. DURING ROUTINE OPERATIONS SURVEILLANCE CHECKS IT WAS DISCOVERED THAT THE FIRE DETECTION SYSTEM PROTECTING THE SCREENWELL BUILDING (MK) WAS INOPERABLE DUE TO LOSING BOTH NORMAL AND BACK-UP POWER SUPPLIES TO THE LOCAL CONTROL PANEL. THE AUXILIARY OPERATOR WHO DISCOVERED THE PANEL OUT OF SERVICE IMMEDIATELY CHECKED THE NORMAL POWER SUPPLY BREAKER AND FOUND IT MANUALLY OPENED. HE CLOSED THE BREAKER AND RESTORED THE FIRE DETECTION PANEL TO NORMAL OPERATION. DUE TO THE UNCERTAINTY AS TO HOW LONG THIS SYSTEM WAS OUT OF SERVICE, THIS INCIDENT IS REPORTABLE UNDER 10 CFR 50.73 (A)(2)(I).

[ 26] CONNECTICUT YANKEE DOCKET 50-213 LER 84-003  
 INOPERABLE FIRE DOOR.  
 EVENT DATE: 040484 REPORT DATE: 050184 NSSS: WE TYPE: PWR

(NSIC 189508) WHILE THE PLANT WAS OPERATING AT 100% POWER (MODE 1), A FIRE DOOR WAS DETERMINED TO BE INOPERABLE (4-4-84 1300 HRS). THE DOOR WAS RETURNED TO OPERABLE STATUS WITHIN THE TIME LIMIT ALLOWED BY TECH SPECS (SECTION 3.22.F). SINCE IT WAS DETERMINED THAT THE DOOR HAD ACTUALLY BEEN IN A NONCONFORMING CONDITION FOR APPROXIMATELY TWO DAYS, THIS INCIDENT IS REPORTABLE UNDER 10 CFR 50.73(A)(2)(I).

[ 27] CONNECTICUT YANKEE DOCKET 50-213 LER 84-004  
 INOPERABLE FIRE BARRIER PENETRATION SEAL.  
 EVENT DATE: 041284 REPORT DATE: 050484 NSSS: WE TYPE: PWR

(NSIC 189593) A PENETRATION (PEN) FIRE BARRIER WAS FOUND INOPERABLE, WHICH VIOLATES TECH SPECS (SECTION 3.22.F). THE CONDITION WAS RECTIFIED IN ACCORDANCE WITH TECH SPEC 3.22.F.2. THIS INCIDENT IS REPORTABLE UNDER 10CFR50.73(A)(2)(I); THE INOPERABLE CONDITION IS BELIEVED TO HAVE EXISTED FOR A PERIOD OF TIME GREATER THAN THAT ALLOWED BY TECH SPEC 3.22.F.

[ 28]         COOK 1                                   DOCKET 50-315         LER 84-002  
 PROCEDURAL ERROR WITH EMERGENCY CORE COOLING SURVEILLANCE PROCEDURE.  
 EVENT DATE: 040184     REPORT DATE: 050184     NSSS: WE             TYPE: PWR

(NSIC 189626) DURING POWER OPERATION WITH REACTOR POWER AT 58%, A PROCEDURAL ERROR WITH THE EMERGENCY CORE COOLING SURVEILLANCE PROCEDURE WAS DISCOVERED. THE QUARTERLY PORTION OF THE PROCEDURE REQUIRED THE CLOSING OF ONE TRAIN'S RESIDUAL HEAT REMOVAL HEAT EXCHANGER OUTLET VALVE WHILE THE MONTHLY PORTION OF THE PROCEDURE HAD ALREADY CLOSED THE CORRESPONDING VALVE ON THE OPPOSITE TRAIN. THIS WOULD HAVE RENDERED BOTH TRAINS INOPERABLE. THIS PROCEDURAL ERROR WAS RECOGNIZED PRIOR TO RENDERING BOTH TRAINS INOPERABLE AND AT NO TIME WERE BOTH VALVES CLOSED. THE CONTRIBUTING FACTOR TO THIS ERROR WAS THAT THE MODIFICATION TO THE QUARTERLY STEPS WAS DONE WITHOUT CONSIDERATION OF THE ABNORMAL SYSTEM CONDITIONS CAUSED BY THE MONTHLY STEPS OF THE PROCEDURE. A PROCEDURAL CHANGE HAS BEEN WRITTEN TO CORRECT THE ERROR. THE PERSONNEL INVOLVED HAVE BEEN MADE AWARE OF THE ERROR AND CAUTIONED ABOUT ASSUMING THE INITIAL CONDITIONS OF EQUIPMENT UNDER TEST.

[ 29]         COOK 1                                   DOCKET 50-315         LER 84-003  
 FAILING TO MAINTAIN A CONTINUOUS FIRE WATCH.  
 EVENT DATE: 040784     REPORT DATE: 050784     NSSS: WE             TYPE: PWR

(NSIC 189617) ON APR 7, 1984 AT 0940 HRS, WHILE IN MODE 1, FIRE DOOR #227 TO THE TURBINE DRIVEN AUXILIARY FEED PUMP ROOM WAS OBSERVED TO BE INOPERABLE DUE TO ELECTRICAL CORDS BEING PLACED THROUGH THE PENETRATION OBSTRUCTING COMPLETE CLOSURE OF THE DOOR. A FIRE WATCH WAS IMMEDIATELY ESTABLISHED. THE CORDS HAD BEEN PLACED TO FACILITATE REPAIRS BEING PERFORMED ON THE TURBINE DRIVEN AUXILIARY FEED PUMP TRIP AND THROTTLE VALVE, AND WERE REMOVED UPON WORK COMPLETION. A CONTINUOUS FIRE WATCH WAS NOT MAINTAINED FOR SHORT PERIODS OF TIME WHILE WORK ON THE TRIP AND THROTTLE VALVE WAS CEASED. THIS WAS NONCONSERVATIVE WITH RESPECT TO THE ACTION STATEMENT OF TECH SPEC 3.7.10. MAINTENANCE PERSONNEL INVOLVED WITH EVENT HAVE BEEN REINSTRUCTED AS TO THE RULES WHICH GOVERN TECHNICAL AND NONTECHNICAL SPECIFICATION RELATED FIRE DOORS.

[ 30]         COOK 2                                   DOCKET 50-316         LER 84-003  
 ACTUATION OF AN ENGINEERED SAFETY FEATURE.  
 EVENT DATE: 031184     REPORT DATE: 040684     NSSS: WE             TYPE: PWR  
 VENDOR: EBERLINE INSTRUMENT CORP.

(NSIC 189392) ON MARCH 11, 1984 AT 1149 HOURS, WITH THE REACTOR COOLANT SYSTEM IN MODE 5, THE UPPER CONTAINMENT AREA RADIATION MONITOR (VRS-2201) RECEIVED A HIGH ALARM THAT RESULTED IN AUTOMATIC ACTUATION OF THE ENGINEERED SAFETY FEATURE CONTAINMENT ISOLATION SYSTEM - TECH SPEC 3.3.2.1, TABLE 3.3-3, ITEM 3C (NOT REQUIRED IN MODE 5) - PURGE AND EXHAUST ISOLATION. THE CONTROL TERMINAL PRINTOUT WAS +0.00E+00 MR/HR AT THE TIME OF THE HIGH ALARM. THE HIGH ALARM WAS CLEARED ON VRS-2201 BY GOING TO ALARM "OFF" AND THEN BACK TO ALARM "ON" POSITION. THIS RETURNED VRS-2201 TO NORMAL STATUS AND PURGE WAS THEN MANUALLY RESTARTED. THE IDENTICAL SEQUENCE OUTLINED ABOVE OCCURRED FIVE ADDITIONAL TIMES; 1849, 2009 AND 2139 HOURS ON MARCH 11, 1984, AND 0047 AND 0937 HOURS ON MARCH 17, 1984. AT THE TIMES OF ALL THE EVENTS, THE CONTROL TERMINAL PRINTOUT READING WAS +0.00E+00 MR/HR WHICH IS AN INDICATION THAT NO HIGH AREA RADIATION LEVELS ACTUALLY EXISTED. IT IS THEREFORE SUSPECTED THAT THESE OCCURRENCES ARE THE RESULT OF EQUIPMENT MALFUNCTIONS POSSIBLY DUE TO SOFTWARE PROBLEMS. THE MANUFACTURER HAS BEEN NOTIFIED OF THESE OCCURRENCES AND RESOLUTION IS CURRENTLY UNDER EVALUATION. UPON THE RESOLUTION OF THIS PROBLEM, AN UPDATED LER WILL BE SUBMITTED.

[ 31] COOK 2 DOCKET 50-316 LER 84-004  
 IMPROPER ICE CONDENSER ICE BASKET WEIGHTS.  
 EVENT DATE: 032084 REPORT DATE: 041984 NSSS: WE TYPE: PWR

(NSIC 189322) WHILE SHUTDOWN FOR A REFUELING OUTAGE, SOME ICE CONDENSER ICE BASKETS WERE DETERMINED TO BE BELOW TECH SPEC 3.6.5.1.D LCO VALUE OF 1220 LBS. PER BASKET (WITH A 95% LEVEL OF CONFIDENCE ON 03-20-84). THE DEFICIENT ICE BASKETS WILL BE BROUGHT INTO SPECIFICATIONS BY EMPTYING THEM AND REFILLING THEM. PREVIOUS ICE ADDITION METHODS HAVE PROVIDED ENOUGH ICE TO MEET ACCEPTABLE ICE BASKET WEIGHTS, BUT SOME BASKETS WOULD BE BELOW ALLOWABLE VALUES AT THE NEXT WEIGHING PERIOD. THIS NEW METHOD OF ICE ADDITION SHOULD INSURE ACCEPTABLE ICE BASKET WEIGHTS AT THE NEXT SCHEDULED WEIGHING. THE DEFICIENT ICE BASKETS ARE CURRENTLY BEING EMPTIED, REFILLED AND WEIGHED. THIS TASK WILL BE COMPLETED BY THE END OF THE OUTAGE. THIS IS AN INTERIM REPORT, THE FINAL REPORT WILL BE SUBMITTED FOLLOWING COMPLETION OF THE ICE WEIGHING AND ADDITION PROGRAM.

[ 32] COOK 2 DOCKET 50-316 LER 84-005  
 CONTAINMENT TYPE B AND C LEAK TESTS.  
 EVENT DATE: 033184 REPORT DATE: 043084 NSSS: WE TYPE: PWR

(NSIC 189524) WHILE SHUT DOWN FOR A REFUELING OUTAGE, THE ACCUMULATED LEAKAGE FOUND WHILE PERFORMING THE TYPE B AND C LEAK RATE TESTS ON CONTAINMENT PENETRATIONS EXCEEDED THE LCO VALUE (0.60 LA) OF TECH SPEC 3.6.1.2.B. ON 3-31-84, THE ACCUMULATED LEAKAGE WAS FOUND TO BE 0.64 LA. THOSE CONTAINMENT ISOLATION VALVES THAT EXHIBIT EXCESSIVE LEAK RATES ARE BEING REPAIRED AND RETESTED TO INSURE THE COMBINED LEAK RATES ARE WITHIN ALLOWABLE LIMITS. THE B AND C LEAK RATE TESTING IS STILL IN PROGRESS AND WILL NOT BE COMPLETED UNTIL THE END OF THE REFUELING OUTAGE. THIS IS AN INTERIM REPORT. THE FINAL REPORT WILL BE SUBMITTED FOLLOWING COMPLETION OF THE B AND C LEAK RATE TESTS.

[ 33] COOK 2 DOCKET 50-316 LER 84-007  
 CONTAINMENT PURGE ISOLATION OCCURS FOUR TIMES.  
 EVENT DATE: 041184 REPORT DATE: 050984 NSSS: WE TYPE: PWR

(NSIC 189618) THE FOLLOWING 4 INCIDENTS OCCURRED DURING MODE 6 IN WHICH CONTAINMENT PURGE ISOLATED DUE TO RADIATION MONITOR HIGH ALARMS. THREE OF THE INCIDENTS OCCURRED ON THE LOWER CONTAINMENT LOW RANGE NOBLE GAS RADIATION MONITOR, ERS-2405. ONE OCCURRED ON THE LOWER CONTAINMENT AIRBORNE BETA PARTICULATE MONITOR, ERS-2401. THEY ARE BEING REPORTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50.73(A)(2)(IV) WHICH STATES: "ANY EVENT OR CONDITION THAT RESULTED IN MANUAL OR AUTOMATIC ACTUATION OF ANY ENGINEERED SAFETY FEATURE (ESF) INCLUDING THE REACTOR PROTECTION SYSTEM (RPS). HOWEVER, ACTUATION OF AN ESF, INCLUDING THE RPS, THAT RESULTED FROM AND WAS PART OF THE PREPLANNED SEQUENCE DURING TESTING OR REACTOR OPERATION NEED NOT BE REPORTED."

[ 34] COOK 2 DOCKET 50-316 LER 84-006  
 CONTAINMENT PURGE ISOLATION.  
 EVENT DATE: 041484 REPORT DATE: 050184 NSSS: WE TYPE: PWR

(NSIC 189628) THE FOLLOWING SIX INCIDENTS ARE BEING REPORTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50.73(A)(2)(IV) WHICH STATES: "ANY EVENT OR CONDITION THAT RESULTED IN MANUAL OR AUTOMATIC ACTUATION OF ANY ENGINEERED SAFETY FEATURE (ESF) INCLUDING THE REACTOR PROTECTION SYSTEM (RPS). HOWEVER, ACTUATION OF AN ESF, INCLUDING THE RPS, THAT RESULTED FROM AND WAS PART OF THE PREPLANNED SEQUENCE DURING TESTING OR REACTOR OPERATION NEED NOT BE REPORTED." AT THE TIME OF THESE OCCURRENCES, THE CONTAINMENT PURGE PROCEDURE DID NOT ADDRESS EXPECTED RESULTS OR PREPLANNED SEQUENCES AS IDENTIFIED IN THE NUREG PARAGRAPHS. EACH



UNIT'S PROCEDURE HAS BEEN REVISED TO IDENTIFY EXPECTED SITUATIONS WHICH WILL PREVENT THE NEED TO REPORT ANY SIMILAR INCIDENTS OF THIS NATURE.

[ 35]            CRYSTAL RIVER 3                            DOCKET 50-302            LER 84-003  
ELECTRICAL FAULT IN 230 KV TRANSMISSION SYSTEM CAUSES REACTOR TRIP.  
EVENT DATE: 022884    REPORT DATE: 032984    NSSS: BW            TYPE: PWR  
VENDOR: GENERAL ELECTRIC CO.

(NSIC 189427) ON FEB 28, 1984, CRYSTAL RIVER UNIT 3 (CR-3) WAS OPERATING AT ABOUT 74% REACTOR POWER AND 650 MWE WITH 4 REACTOR COOLANT PUMPS RUNNING. THE B EMERGENCY DIESEL GENERATOR WAS SYNCHRONIZED TO THE GRID FOR PERIODIC TEST. AT 1039 A FAULT OCCURRED IN THE 230 KV ELECTRICAL SYSTEM EXTERNAL TO CR-3 EVENTUALLY RESULTING IN BRIEF LOSS OF POWER TO UNIT 3 STARTUP TRANSFORMER. THE POWER LOSS RESULTED IN A REACTOR SHUTDOWN DUE TO LOSS OF POWER TO THE CONTROL ROD DRIVE MECHANISMS. THE B EMERGENCY DIESEL GENERATOR OUTPUT BREAKER WAS LOCKED OUT AFTER TRIPPING ON GENERATOR FIELD OVERCURRENT. THE A DIESEL GENERATOR PICKED UP THE A ES BUS LOADS. REACTOR COOLING WAS ACCOMPLISHED BY EMERGENCY FEEDWATER SUPPLIED TO THE STEAM GENERATORS. THE PLANT ELECTRICAL LINE-UP WAS A MAJOR FACTOR IN THIS EVENT AND IT IS TO BE REEXAMINED. TRAINING WILL BE CONDUCTED TO ASSURE PROPER CONTROL OF PRESSURIZER LEVEL DURING PLANT TRANSIENTS.

[ 36]            CRYSTAL RIVER 3                            DOCKET 50-302            LER 84-005  
ENGINEERED SAFEGUARDS SYSTEM SPURIOUSLY ACTUATES.  
EVENT DATE: 031284    REPORT DATE: 041084    NSSS: BW            TYPE: PWR

(NSIC 189428) ON MAR 12, 1984, AT 1120, CRYSTAL RIVER UNIT 3 EXPERIENCED A PARTIAL ENGINEERED SAFEGUARDS SYSTEM ACTUATION. THE UNIT WAS AT 98% REACTOR POWER (877 MWE) WITH SURVEILLANCE PROCEDURE "ENGINEERED SAFEGUARDS MONTHLY FUNCTIONAL TEST" IN PROGRESS. THE A AND B TRAINS OF CHANNELS 1 AND 2, AS WELL AS THE A TRAIN OF CHANNEL 3 HAD PASSED THE "RB ISOLATION AND COOLING" PORTION OF THE TEST WHEN CHANNEL 2, B TRAIN HIGH PRESSURE INJECTION RELAY ACTUATED. THIS RELAY ACTUATION, COMBINED WITH CHANNEL 3 BEING IN TEST, RESULTED IN THE HIGH PRESSURE INJECTION INITIATION. BORATED WATER WAS INJECTED INTO THE REACTOR COOLANT SYSTEM FROM THE BORATED WATER STORAGE TANK. THE EXCESS BORON CAUSED A POWER REDUCTION OF 8%. THE ENGINEERED SAFEGUARDS SYSTEM WAS TESTED BY INSTRUMENTATION AND CONTROL (I&C) PERSONNEL IMMEDIATELY FOLLOWING PLANT STABILIZATION. ALL CHANNELS WERE TESTED SATISFACTORILY. NO FAILED RELAYS OR ABNORMAL OPERATIONS OF ANY TYPE WERE OBSERVED, OTHER THAN AN INTERMITTENT FAN FAILURE CONDITION IN CHANNEL 2 CABINET. THE RELAY ACTUATION WAS APPARENTLY CAUSED BY A NOISE SIGNAL IN CHANNEL 2 B TRAIN, HOWEVER, NO SOURCE HAS BEEN IDENTIFIED. THE ACTUATION IS CONSIDERED AN ISOLATED EVENT AND THE SYSTEM HAS BEEN RETURNED TO SERVICE.

[ 37]            CRYSTAL RIVER 3                            DOCKET 50-302            LER 84-006  
TUNNEL SUMP PUMPS NOT TESTED ON TIME.  
EVENT DATE: 031384    REPORT DATE: 041084    NSSS: BW            TYPE: PWR

(NSIC 189429) ON MAR 13, 1984, THE A EMERGENCY DIESEL GENERATOR WAS TAKEN OUT OF SERVICE FOR MAINTENANCE AT 0204. PER TECH SPEC 3.8.1.1 ACTION A, THE SURVEILLANCE REQUIREMENT 4.8.1.1.1.A.2 MUST BE PERFORMED WITHIN ONE HOUR. SURVEILLANCE 4.8.1.1.1.A.2 IMPLIES THAT TO ASSURE OPERABILITY OF THE 230 KV SUPPLY TO CR 3, IT MUST BE ASSURED THAT THE SUMP PUMPS IN THE TUNNEL CONTAINING THE DC CONTROL FEEDS TO THE 230 KV SWITCHGEAR ARE OPERABLE. DUE TO OPERATOR ERROR, THIS WAS NOT DONE UNTIL 0440, I.E., TWO HRS AND THIRTY-SIX MIN LATER. PERSONNEL INVOLVED IN THIS EVENT HAVE BEEN COUNSELED BY THEIR SUPERVISOR. NO FURTHER ACTION IS CONSIDERED APPROPRIATE.

[ 38]           DIABLO CANYON 1                           DOCKET 50-275           LER 84-006  
 ENGINEERING SAFETY FEATURES' CIRCUIT BREAKERS FAIL.  
 EVENT DATE: 021784   REPORT DATE: 031984   NSSS: WE           TYPE: PWR  
 VENDOR: GENERAL ELECTRIC CO.

(NSIC 189515) ON FEB 17, 1984, PACIFIC GAS AND ELECTRIC DETERMINED THAT TEST FAILURES OF FOUR 4.16KV CIRCUIT BREAKERS, USED FOR ENGINEERED SAFETY FEATURE EQUIPMENT, REPRESENTED A POTENTIAL FOR SAFETY SYSTEMS TO FAIL TO PERFORM THEIR INTENDED FUNCTION. THE TEST FAILURES OCCURRED IN THE MECHANICAL ACTUATOR OF GENERAL ELECTRIC MAGNE-BLAST CIRCUIT BREAKERS, AND WAS CHARACTERIZED BY FAILURE OF THE CIRCUIT BREAKERS TO REMAIN CLOSED. THE CAUSE OF THESE FAILURES WAS DETERMINED TO BE EXCESSIVE WEAR IN THE TEFLON COATED FIBERGLASS SLEEVE BEARINGS USED IN THE MECHANICAL ACTUATOR. INVESTIGATION DETERMINED THAT THE FAILURES OCCURRED IN BREAKERS WITH APPROXIMATELY 400 CYCLES OF OPERATION, MUCH EARLIER THAN THE PREDICTED REPLACEMENT VALUE OF 10,000 CYCLES. CORRECTIVE ACTIONS INCLUDED: FUNCTIONAL TESTING TO CONFIRM OPERABILITY OF ALL 4.16KV BREAKERS SERVING VITAL LOADS; DEVELOPMENT OF SUPPLEMENTAL MAINTENANCE PROCEDURES FOR 4.16KV BREAKERS INSPECTION AND OVERHAUL; REPAIR OF FAILED BREAKERS USING ALUMINUM BRONZE SLEEVE BEARINGS; AND ACCELERATION OF BREAKER OVERHAUL USING ALUMINUM BRONZE BEARINGS IN ALL 4.16KV BREAKERS SERVING VITAL LOADS, PRIOR TO INITIAL CRITICALITY.

[ 39]           DIABLO CANYON 1                           DOCKET 50-275           LER 84-010  
 INOPERABLE RADWASTE EFFLUENT VALVE.  
 EVENT DATE: 032684   REPORT DATE: 042584   NSSS: WE           TYPE: PWR

(NSIC 189600) WHILE IN MODE 3 (HOT STANDBY), THE LIQUID RADWASTE EFFLUENT LINE ISOLATION VALVE (RCV-18) FAILED TO CLOSE AS REQUIRED DURING THE PERFORMANCE OF A SURVEILLANCE TEST. AN IMPROPERLY COORDINATED JUMPER INSTALLATION HAD DISABLED THE AIR OPERATOR TO RCV-18 AND WOULD NOT HAVE ALLOWED THIS VALVE TO SHUT UPON RECEIPT OF A HIGH RADIATION SIGNAL FROM THE DISCHARGE RADIATION MONITOR, RM-18. NO LIQUID RADIOACTIVE MATERIALS WERE DISCHARGED, AND THE CONTROL ROOM HIGH RADIATION ALARM FROM RM-18 REMAINED OPERABLE. THE JUMPER WAS REMOVED UPON DISCOVERY, AND VALVE RCV-18 WAS RETURNED TO SERVICE. THE PLANT PROCEDURE PERTAINING TO JUMPERS AND LIFTED CIRCUITS HAS BEEN REVISED TO PROVIDE MORE CLEARLY DEFINED GUIDANCE TO OPERATIONS AND MAINTENANCE PERSONNEL.

[ 40]           DIABLO CANYON 1                           DOCKET 50-275           LER 84-011  
 INADVERTENT AUTO-START OF DIESEL GENERATOR.  
 EVENT DATE: 033084   REPORT DATE: 043084   NSSS: WE           TYPE: PWR

(NSIC 189516) WHILE IN MODE 3 (HOT STANDBY), DIESEL GENERATOR NO. 1-3 AUTOMATICALLY STARTED WHEN THE 4KV BUS F POTENTIAL TRANSFORMER FUSE DRAWER WAS PULLED OUT DURING A WIRE TRACE BY AN ELECTRICAL MAINTENANCE ENGINEER. THE ENGINEER WAS UNAWARE THAT OPENING THE DRAWER WOULD DISCONNECT THE BUS POTENTIAL FUSES. IN ORDER TO PREVENT RECURRENCE, LABELS WILL BE MOUNTED ON THE POTENTIAL TRANSFORMER FUSE DRAWERS TO CAUTION PERSONNEL.

[ 41]           DIABLO CANYON 1                           DOCKET 50-275           LER 84-012  
 CONTROL ROOM MAIN ANNUNCIATOR LOST.  
 EVENT DATE: 040184   REPORT DATE: 050184   NSSS: WE           TYPE: PWR

(NSIC 189605) WHILE IN MODE 3 (HOT STANDBY), AN I&C TECHNICIAN PERFORMING MAINTENANCE ON THE CONTROL ROOM MAIN ANNUNCIATOR TYPEWRITER MISREAD THE PROCEDURE HE WAS FOLLOWING AND OPENED THE AC AND DC POWER SUPPLY BREAKERS FOR THE MAIN ANNUNCIATOR PANELS. BY DIRECTION OF THE SHIFT FOREMAN, THE BREAKERS WERE SHUT AND POWER WAS RESTORED TO THE MAIN ANNUNCIATOR WITHIN TWO MINUTES. POLICY DIRECTIVES AND TECHNICIAN TRAINING WERE INITIATED TO REEMPHASIZE THE IMPORTANCE

OF REVIEWING AND UNDERSTANDING PROCEDURES PRIOR TO INITIATING WORK. ADDITIONAL ASSISTANCE WILL BE PROVIDED, WHEN WARRANTED BY TECHNICIAN INEXPERIENCE, BY ASSIGNING TECHNICIAN TEAMS TO PERFORM THE WORK.

[ 42]           DIABLO CANYON 1                           DOCKET 50-275           LER 84-013  
INOPERABLE EMERGENCY CORE COOLING SUBSYSTEMS.  
EVENT DATE: 040784   REPORT DATE: 050784   NSSS: WE           TYPE: PWR

(NSIC 189606) ON APR 7, 1984, AT 0930 PST, WHILE IN MODE 3 (HOT STANDBY), IT WAS DISCOVERED THAT BOTH SUBSYSTEMS TO EMERGENCY CORE COOLING SYSTEM (ECCS) (BG) HAD BEEN INOPERABLE SINCE 1910 PST ON APR 6, 1984. THIS CONDITION WAS NOT IN COMPLIANCE WITH TECH SPECS SECTIONS 3.0.3 AND 3.5.2. BOTH ECCS SUBSYSTEMS WERE RESTORED TO OPERABLE CONDITION AT 1010 PST ON APR 7, 1984. THE CAUSES CONTRIBUTING TO THIS CONDITION WERE 1) OPERATORS FAILED TO RECOGNIZE THAT A LIMITING CONDITION FOR OPERATION (LCO) HAD BEEN EXCEEDED AND 2) AN OPERATING PROCEDURE THAT DID NOT PROVIDE ADEQUATE GUIDANCE TO ALERT OPERATORS TO A TECH SPEC REQUIREMENT. CORRECTIVE ACTIONS INCLUDE REVISION OF THE APPLICABLE OPERATING PROCEDURES, REVIEW OF ALL OTHER SAFETY-RELATED OPERATING PROCEDURES TO DETECT AND CORRECT SIMILAR SITUATIONS, AND INITIATING THE DEVELOPMENT OF A PLANT COMPONENT/TECH SPEC CROSS REFERENCE DOCUMENT FOR OPERATOR USE.

[ 43]           DRESDEN 2                                   DOCKET 50-237           LER 82-057 REV 1  
UPDATE ON PINHOLE LEAK IN FEEDWATER HEATER NORMAL DRAIN LINE.  
EVENT DATE: 122482   REPORT DATE: 072783   NSSS: GE           TYPE: BWR  
VENDOR: GENERAL ELECTRIC CO.

(NSIC 189510) WHILE PERFORMING A ROUTINE INSPECTION DURING NORMAL UNIT OPERATION, A PINHOLE LEAK WAS FOUND IN THE 2D3 AND 2C3 FEEDWATER HEATER NORMAL DRAIN LINE (TECH SPEC 6.6.B.2.D). THE EVENT WAS OF MINIMAL SAFETY SIGNIFICANCE SINCE ALL LEAKAGE DRAINED INTO THE TURBINE BUILDING FLOOR DRAIN SYSTEM. PREVIOUS OCCURRENCES ON UNIT 2 REPORTED BY RO 82-35/03L-0 AND 82-55/03L-0 ON DOCKET 50-237. THE PINHOLE LEAK IS BELIEVED TO BE CAUSED BY EXCESSIVE MOVEMENT OF THE 2D3 FEEDWATER HEATER NORMAL DRAIN LINE. MODIFICATION M12-2-82-37 HAS BEEN INITIATED TO ADD RESTRAINTS TO THE D FEEDWATER HEATER DRAIN SYSTEM DURING THE UPCOMING REFUEL OUTAGE. THE LEAK WILL BE REPAIRED DURING THIS PERIOD.

[ 44]           DRESDEN 3                                   DOCKET 50-249           LER 84-001  
REACTOR SCRAM.  
EVENT DATE: 032384   REPORT DATE: 041784   NSSS: GE           TYPE: BWR

(NSIC 189596) DURING A REACTOR START-UP SUBSEQUENT TO A REFUELING OUTAGE, WITH REACTOR HEAT-UP AND PRESSURIZATION UNDERWAY, REACTOR WATER LEVEL DECREASED TO THE LOW LEVEL ALARM POINT. WITH THE LOW FLOW FEEDWATER REGULATING VALVE WIDE OPEN IN RESPONSE TO THE LOW WATER LEVEL, THE FIRST REACTOR FEED PUMP WAS STARTED. EXCESSIVE COLD WATER ENTERING THE REACTOR CAUSED A HIGH NEUTRON FLUX REACTOR SCRAM.

[ 45]           FARLEY 1                                       DOCKET 50-348           LER 84-002  
REACTOR TRIP.  
EVENT DATE: 021084   REPORT DATE: 030684   NSSS: WE           TYPE: PWR

(NSIC 189363) AT 2358 ON 2-10-84, THE REACTOR TRIPPED FROM APPROXIMATELY 10% POWER DUE TO AN INTERMEDIATE RANGE HIGH FLUX SIGNAL. INVESTIGATION REVEALED THAT THIS EVENT WAS CAUSED BY OVERLY CONSERVATIVE TRIP SETPOINTS AND THAT A HIGH FLUX CONDITION HAD NOT EXISTED.

[ 46] FARLEY 1 DOCKET 50-348 LER 84-003  
 REACTOR COOLANT SYSTEM HAS LOW BORON CONCENTRATION.  
 EVENT DATE: 021884 REPORT DATE: 030984 NSSS: WE TYPE: PWR

(NSIC 189364) AT 1440 ON 2-18-84, DETENSIONING OF THE REACTOR VESSEL HEAD STUDS WAS BEGUN WITH A REACTOR COOLANT SYSTEM BORON CONCENTRATION OF 1899 PPM VERSUS GREATER THAN OR EQUAL TO 2000 PPM AS REQUIRED BY TECH SPEC 3.9.1. THIS WAS CAUSED BY A MISINTERPRETATION OF THE TECH SPEC.

[ 47] FARLEY 1 DOCKET 50-348 LER 84-007  
 DG BUILDING CARDOX FIRE SUPPRESSION SYSTEM INOPERABLE.  
 EVENT DATE: 022084 REPORT DATE: 032184 NSSS: WE TYPE: PWR

(NSIC 189368) AT 1345 ON 2-20-84, DURING TROUBLESHOOTING, THE AUTOMATIC ACTUATION PORTION OF THE DIESEL BUILDING CARDOX FIRE SUPPRESSION SYSTEM, WHICH SUPPLIES 4160 V BUS 1J, WAS DETERMINED TO BE INOPERABLE. THE REQUIRED HOURLY FIREWATCH HAD NOT BEEN PERFORMED.

[ 48] FARLEY 1 DOCKET 50-348 LER 84-006  
 BOTH CONTAINMENT PERSONNEL AIRLOCK DOORS OPEN.  
 EVENT DATE: 022384 REPORT DATE: 032184 NSSS: WE TYPE: PWR

(NSIC 189367) ON 2-23-84, THE UNIT WAS IN MODE 6 WITH UNLATCHING AND REMOVAL OF CONTROL ROD DRIVE MECHANISMS (CORE ALTERATION) IN PROGRESS. AT APPROXIMATELY 1646, THE SHIFT SUPERVISOR WAS INFORMED THAT, FOR APPROXIMATELY THIRTY SECONDS, BOTH CONTAINMENT PERSONNEL AIRLOCK DOORS WERE OPEN AT THE SAME TIME. THE INNER DOOR HAD BEEN IMMEDIATELY CLOSED RESTORING CONTAINMENT INTEGRITY.

[ 49] FARLEY 1 DOCKET 50-348 LER 84-004  
 MSIV SHAFT INDICATIONS.  
 EVENT DATE: 022984 REPORT DATE: 032184 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: FARLEY 2 (PWR)  
 VENDOR: ATWOOD & MORRILL CO., INC.

(NSIC 189365) ON 02-29-84, DURING A PLANNED MAINTENANCE ON THE MAIN STEAM ISOLATION VALVES (MSIVS), SURFACE INDICATIONS IN THE OPERATOR SIDE PACKING GLAND AREA RANGING FROM ONE TO THIRTEEN INCHES IN LENGTH WERE DISCOVERED ON THREE OF THE SIX SHAFTS. ALL SIX SHAFTS WILL BE REPLACED WITH A564 GR630 STAINLESS STEEL SHAFTS DURING THE CURRENT OUTAGE.

[ 50] FARLEY 1 DOCKET 50-348 LER 84-005  
 FEEDWATER REDUCER TO NOZZLE WELD INDICATIONS.  
 EVENT DATE: 022984 REPORT DATE: 032184 NSSS: WE TYPE: PWR

(NSIC 189366) ON 02-28-84 AND 02-29-84, DURING PLANNED ULTRASONIC EXAMINATION OF THE FEEDWATER PIPING, INDICATIONS WERE DISCOVERED IN THE UNIT 1 FEEDWATER REDUCER TO STEAM GENERATOR NOZZLE WELDS. REPAIRS WILL BE COMPLETED DURING THE CURRENT OUTAGE.

[ 51] FARLEY 1 DOCKET 50-348 LER 84-008  
 FIRE BARRIER PENETRATION NOT PROPERLY SEALED.  
 EVENT DATE: 030284 REPORT DATE: 032984 NSSS: WE TYPE: PWR

(NSIC 189255) AT 0915 ON 3-2-84, IT WAS DETERMINED THAT THE CONTROL ROOM FIRE BARRIER PENETRATION FOR THE NRC RED PHONE CABLE WAS NOT PROPERLY SEALED. INVESTIGATION REVEALED THAT THE PENETRATION HAD BEEN OPENED ON 2-2-84, UNDER PCN

B81-1003, TO INSTALL THE NRC RED PHONE ON THE OPERATOR'S DESK. UPON COMPLETION OF THE WORK, THE PENETRATION WAS NOT PROPERLY SEALED. SINCE THE CONTROL ROOM IS MANNED CONTINUOUSLY, A FIREWATCH WAS MAINTAINED DURING THE TIME THAT THE PENETRATION WAS NONFUNCTIONAL. THE PENETRATION WAS PROPERLY SEALED AND RETURNED TO FUNCTIONAL STATUS AT 1455 ON 3-3-84. IN ADDITION, THE ELECTRICAL MAINTENANCE PERSONNEL INVOLVED WILL BE REINSTRUCTED ON THE USE OF FNP-0-MP-35.1 (INSTALLATION OF PENETRATION SEALS).

[ 52] FARLEY 1 DOCKET 50-348 LER 84-009  
 FIRE BARRIER PENETRATIONS OPEN FOR LONGER THAN ALLOWED.  
 EVENT DATE: 031184 REPORT DATE: 033084 NSSS: WE TYPE: PWR

(NSIC 189256) ON 3-4-84, SPARE CONTAINMENT ELECTRICAL PENETRATIONS WC02, EB02, EB04, EC05, AND EB10 WERE OPENED TO ALLOW MODIFICATIONS DESIGNED TO COMPLY WITH REG GUIDE 1.97 AND ENHANCE OUTAGE WORK. THESE PENETRATIONS WERE REQUIRED TO BE RETURNED TO FUNCTIONAL STATUS BY 1030, 1245, 1415, 1500 AND 1630 ON 3-11-84, RESPECTIVELY. IT WAS KNOWN THAT THE REQUIRED WORK COULD NOT BE PERFORMED WITHIN THE ALLOWED TIME; THEREFORE, THE PENETRATIONS WERE NOT RETURNED TO FUNCTIONAL STATUS UNTIL 1430 ON 3-22-84 UPON COMPLETION OF THE WORK. THE APPROPRIATE FIRE DETECTION INSTRUMENTATION WAS VERIFIED TO BE OPERABLE AND AN HOURLY FIREWATCH WAS PERFORMED IN THE AFFECTED AREAS DURING THE TIME THAT THESE PENETRATIONS WERE NONFUNCTIONAL.

[ 53] FARLEY 1 DOCKET 50-348 LER 84-010  
 INADEQUATE SURVEILLANCE PROCEDURE.  
 EVENT DATE: 040684 REPORT DATE: 050484 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: FARLEY 2 (PWR)

(NSIC 189630) AT 1800 ON 4-6-84, IT WAS DETERMINED THAT ADEQUATE LOCAL LEAK RATE TESTING (LLRT) HAD NOT BEEN PERFORMED ON THE UNIT 1 AND UNIT 2 FUEL TRANSFER TUBES SINCE 5-29-79 AND 9-8-80, RESPECTIVELY. THIS WAS CAUSED BY THE USE OF AN IMPROPER TEST CONNECTION DUE TO A PROCEDURAL INADEQUACY. FNP-1-STP-627/FNP-2-STP-627 (LOCAL LEAK RATE TESTING OF A CONTAINMENT PENETRATIONS) HAVE BEEN REVISED AND PERFORMED SATISFACTORILY.

[ 54] FARLEY 2 DOCKET 50-364 LER 84-002  
 MISSED FIRE WATCH PATROL.  
 EVENT DATE: 012484 REPORT DATE: 022384 NSSS: WE TYPE: PWR

(NSIC 188995) AT 1500 ON 1/23/84, IT WAS DETERMINED THAT AN HOURLY FIREWATCH PATROL IN THE B TRAIN AUXILIARY BUILDING BATTERY CHARGER ROOM, AS REQUIRED BY TECH SPEC 3.3.3.9, HAD NOT BEEN PERFORMED DURING THE 1300-1400 AND 1400-1500 HRS. THE FIREWATCH PATROL WAS IMMEDIATELY PERFORMED FOR THE 1500-1600 HR AND ALL SUBSEQUENT HRS AS REQUIRED.

[ 55] FARLEY 2 DOCKET 50-364 LER 84-005  
 REACTOR TRIP DUE TO LOW LEVEL IN STEAM GENERATOR.  
 EVENT DATE: 040984 REPORT DATE: 050484 NSSS: WE TYPE: PWR

(NSIC 189632) AT 1107 ON 4-9-84, THE REACTOR TRIPPED DUE TO LOW LEVEL IN 2A STEAM GENERATOR IN CONJUNCTION WITH LOOP 1 STEAM FLOW GREATER THAN FEED FLOW. THIS WAS CAUSED BY OPERATOR ERROR DURING PERFORMANCE OF FNP-2-STP-33.1 (SAFEGUARDS TEST CABINET TRAIN A(B) FUNCTIONAL TEST).

[ 56] FITZPATRICK DOCKET 50-333 LER 84-004  
 REACTOR CORE ISOLATION COOLING DECLARED INOPERABLE.  
 EVENT DATE: 021084 REPORT DATE: 022984 NSSS: GE TYPE: BWR

(NSIC 189397) DURING POWER OPERATION WITH THE HIGH PRESSURE COOLANT INJECTION SYSTEM OUT OF SERVICE FOR SCHEDULED MAINTENANCE, A D.C. GROUND OCCURRED ON "A" STATION BATTERY. DURING THE PERFORMANCE OF THE GROUND ISOLATION PROCEDURE THE D.C. CONTROL POWER TO THE RCIC INVERTER WAS MOMENTARILY INTERRUPTED. THE MOMENTARY LOSS OF D.C. POWER TO THE RCIC INVERTER REQUIRES A MANUAL RESET TO RE-POWER UP THE INVERTER. THE GROUND ISOLATION PROCEDURE DID NOT INFORM THE OPERATOR THAT A MANUAL RESET WAS REQUIRED. THE LOSS OF BOTH HPCI AND RCIC PLACED THE PLANT ON A 24 HOUR LIMITING CONDITION FOR OPERATION. THE OPERATOR, AFTER DETERMINING THAT THE INVERTER WOULD NOT RESET AUTOMATICALLY, PERFORMED A MANUAL RESET. SURVEILLANCE TESTING FOR RCIC OPERABILITY WAS IMMEDIATELY CONDUCTED AND RCIC WAS DECLARED OPERABLE. THE CONSEQUENCES OF THIS OCCURRENCE WERE MINIMIZED DUE TO THE SHORT OUTAGE OF THE RCIC SYSTEM (APPROXIMATELY 30 MINUTES) AND BECAUSE THE ADS AND LOW PRESSURE INJECTION SYSTEMS WERE OPERABLE. A CHANGE TO THE GROUND ISOLATION PROCEDURE WAS INCORPORATED TO INSTRUCT THE OPERATOR TO MANUALLY RESET THE RCIC INVERTER.

[ 57] FITZPATRICK DOCKET 50-333 LER 84-007  
 MSIV'S LEAK RATES EXCEED LIMITS.  
 EVENT DATE: 030484 REPORT DATE: 040484 NSSS: GE TYPE: BWR  
 VENDOR: ROCKWELL-INTERNATIONAL

(NSIC 189629) PRIOR TO A SCHEDULED MODIFICATION OF MAIN STEAM ISOLATION VALVES (MSIV) 29AOV-80D AND 29AOV-86D, A LOCAL LEAK RATE TEST (LLRT), WHICH CHECKED THE LEAK RATE OF BOTH VALVES SIMULTANEOUSLY, WAS PERFORMED. THE LLRT RESULT EXCEEDED THE LIMITS OF TECH SPEC TABLE 3.7-1. UPON INSPECTION OF 29AOV-80D, IT WAS NOTICED THAT THE SEAT HAD DEVELOPED A SMALL CUT. THE VALVE SEAT WAS MACHINED AND THE VALVES WERE REASSEMBLED. A LLRT WAS PERFORMED UPON COMPLETION OF VALVE MAINTENANCE, WITH TEST RESULTS WITHIN TECH SPEC LIMITS. THE OUTBOARD IN THAT LINE WAS IN GOOD CONDITION.

[ 58] FITZPATRICK DOCKET 50-333 LER 84-009  
 REACTOR TRIP DUE TO LOW WATER LEVEL.  
 EVENT DATE: 032284 REPORT DATE: 041984 NSSS: GE TYPE: BWR  
 VENDOR: GRAHAM MFG CO.  
 WORTHINGTON PUMP CORP.

(NSIC 189585) WHILE OPERATING AT 67% POWER WITH A SINGLE REACTOR FEED PUMP IN OPERATION, A REACTOR SCRAM OCCURRED AS A RESULT OF LOW REACTOR VESSEL LEVEL. THE CAUSE OF THE LOSS OF VESSEL LEVEL WAS A FAILURE OF THE OPERATING FEED PUMP BEARING. THE TRANSIENT PROCEEDED NORMALLY WITH REACTOR LEVEL BEING RESTORED BY THE RCIC AND HPCI SYSTEMS. DURING COOLDOWN AFTER THE NEED FOR AUTOMATIC HPCI INJECTION HAD PASSED, IT WAS NOTED THAT A GASKET HAD FAILED ON THE HPCI GLAND SEAL CONDENSER. TO ISOLATE THE LEAKAGE, THE HPCI SYSTEM WAS MADE INOPERATIVE. THE PLANT WAS PLACED IN COLD SHUTDOWN WHILE REPAIRS TO THE FEED PUMPS WERE COMPLETED.

[ 59] FITZPATRICK DOCKET 50-333 LER 84-011  
 FAILURE OF REDUNDANT RADIATION MONITORS.  
 EVENT DATE: 032984 REPORT DATE: 041884 NSSS: GE TYPE: BWR  
 VENDOR: NUCLEAR MEASUREMENTS CORP.

(NSIC 189435) DURING FULL POWER REACTOR OPERATION, REDUNDANT TURBINE BUILDING VENTILATION RADIATION MONITORS A AND B SIMULTANEOUSLY FAILED DOWNSCALE. THE DOWNSCALE TRIPS RESULTED IN A TURBINE BUILDING VENTILATION ISCLATION. PORTABLE

MONITORING WAS IMMEDIATELY STARTED AS REQUIRED BY TECH SPEC 3.2.3.B. FURTHER INVESTIGATION BY INSTRUMENT AND CONTROL PERSONNEL REVEALED THAT MOISTURE HAD ENTERED THE CABLE CONNECTORS BETWEEN THE DETECTOR UNIT AND MONITOR. THE DETECTOR UNITS ARE LOCATED IN THE RECIRCULATION MOTOR GENERATOR SET ROOM, AND IT WAS FURTHER DETERMINED THAT THE ROOF DAMPERS IN THIS ROOM WERE MALFUNCTIONING WHICH ALLOWED PRECIPITATION DUE TO ADVERSE WEATHER CONDITIONS TO LEAK ON THE CONNECTORS. THE ROOF DAMPERS WERE IMMEDIATELY ADJUSTED TO PREVENT IN-LEAKAGE FROM THE ENVIRONMENT AND THE CONNECTORS WERE IMMEDIATELY DRIED OUT AND RESEALED. A AND B TURBINE BUILDING VENTILATION RADIATION MONITORS WERE RETURNED TO SERVICE IN THREE HOURS. THE STAFF CONSIDERS THIS FAILURE TO BE AN ISOLATED INCIDENT.

[ 60] FT. CALHOUN 1 DOCKET 50-285 LER 84-002  
 MAIN STEAM SAFETY VALVES FAIL TO LIFT WITHIN SETPOINT TOLERANCE.  
 EVENT DATE: 030384 REPORT DATE: 040284 NSSS: CE TYPE: PWR  
 VENDOR: DRESSER INDUSTRIAL VALVE & INST DIV

(NSIC 189348) WHILE PERFORMING SURVEILLANCE TEST ST-MSSV-1, MAIN STEAM SAFETY VALVE TEST, DURING A SCHEDULED SHUTDOWN OF THE UNIT FOR REFUELING, IT WAS DISCOVERED THAT FIVE OF THE TEN MAIN STEAM SAFETY VALVES FAILED TO LIFT WITHIN PLUS OR MINUS 1% OF THEIR NAMEPLATE SETPOINT VALUES. THIS EXCEEDS THE MINIMUM OPERABILITY REQUIREMENTS OF TECH SPEC 2.1.6(3) WHICH REQUIRES 8 OF THE 10 STEAM SAFETY VALVES TO BE OPERABLE WITH THEIR LIFT SETTINGS BETWEEN 1000 PSIA AND 1050 PSIA WITH A TOLERANCE OF PLUS OR MINUS 1% OF THE NOMINAL NAMEPLATE SETPOINT VALUES WHENEVER THE REACTOR IS IN POWER OPERATION.

[ 61] FT. CALHOUN 1 DOCKET 50-285 LER 84-003  
 PARTIAL LOSS OF D.C. POWER CAUSES LOSS OF COMPONENT COOLING WATER AND ESP ACTUATION.  
 EVENT DATE: 031484 REPORT DATE: 041384 NSSS: CE TYPE: PWR

(NSIC 189413) IN THE PROCESS OF TAGGING OUT INSTRUMENT INVERTER B FOR MAINTENANCE, A SWITCHING ERROR WAS MADE. MAINTENANCE PROCEDURE MP-EE-9 FOR INSTRUMENT INVERTER MAINTENANCE WAS BEING USED. THE PROCEDURE CALLED FOR OPENING THE D.C. FEEDER BREAKER TO THE INVERTER BUT INSTEAD THE OPERATOR OPENED A BREAKER WHICH SUPPLIES D.C. POWER TO CONTROL ROOM PANEL AI-41B. AS A RESULT, TWO REPORTABLE EVENTS OCCURRED. THE FIRST EVENT WAS THAT BOTH CHANNELS OF STEAM GENERATOR LOW SIGNAL (SGLS) WHICH IS AN ENGINEERED SAFETY FEATURE, UNBLOCKED AND TRIPPED. THE SECOND EVENT WAS THAT THE COMPONENT COOLING WATER (CCW) SYSTEM WHICH IS A SAFETY SYSTEM BECAME INOPERABLE. SEVERAL CCW VALVES FAILED OPEN ON LOSS OF D.C. POWER. THE INCREASED FLOW DEMAND IN THE SYSTEM CAUSED A DROP IN CCW SYSTEM PRESSURE. WHEN THE CCW SYSTEM DROPPED BELOW 60 PSIG, THE RAW WATER BACKUP VALVES TO SEVERAL COMPONENTS NORMALLY COOLED BY CCW OPENED. WHEN THE RAW WATER BACKUP VALVES OPENED THE HEAD PRESSURE IN THE CCW SYSTEM CAUSED A CCW INVENTORY LOSS THROUGH THE BACKUP VALVES TO THE EXTENT THAT THE RUNNING CCW PUMP BEGAN CAVITATING AND HAD TO BE SECURED. APPROXIMATELY TWO MINUTES AFTER THE EVENT OCCURRED, THE OPERATOR REALIZED HIS MISTAKE AND RECLOSED THE BREAKER RESTORING D.C. POWER TO THE DISTRIBUTION PANEL IN THE CONTROL ROOM. THE CONTROL ROOM OPERATORS CLOSED THE RAW WATER BACKUP VALVES THAT HAD OPENED.

[ 62] FT. ST. VRAIN DOCKET 50-267 LER 79-035 REV 1  
 UPDATE ON NUMEROUS PIPE HANGER PROBLEMS.  
 EVENT DATE: 083179 REPORT DATE: 092783 NSSS: GA TYPE: HTR

(NSIC 189490) CAUSE - DESIGN/INSTALLATION ERRORS. A FIELD AUDIT AND PRELIMINARY ENGINEERING ANALYSIS OF A RANDOM SAMPLE OF AS-BUILT SAFETY RELATED PIPING DRAWINGS SHOWED THAT SEVERAL HANGERS HAD INCONSISTENCIES THAT MAY HAVE JEOPARDIZED THE OPERABILITY OF THE ASSOCIATED SYSTEMS IN THE EVENT OF A DESIGN BASIS EARTHQUAKE. BECAUSE OF THESE INCONSISTENCIES, THE UNIT WAS SHUT DOWN ON

SEPT 1, 1979. THIS IS REPORTABLE PER TECH SPEC AC 7.5.2(A)9. SIMILAR REPORTABLE OCCURRENCES: 79-058, 80-03. THE CAUSE OF THIS PROBLEM WAS DESIGN/INSTALLATION INCONSISTENCIES WHICH MAY HAVE JEOPARDIZED THE SYSTEMS INVOLVED. MOST OF THESE WERE DUE TO ORIGINAL CONSTRUCTION. CORRECTIVE ACTION WAS TAKEN ON ALL DISCREPANCIES FOUND TO RESTORE SYSTEM AND HANGERS TO ORIGINAL INTENDED CONFIGURATION. REDOCUMENTATION TO CORRECT AND VERIFY ALL AS-BUILT DRAWINGS IS COMPLETE.

[ 63] FT. ST. VRAIN DOCKET 50-267 LER 80-062 REV 1  
 UPDATE ON PURIFICATION ISOLATION VALVE FAILURE TO CLOSE.  
 EVENT DATE: 102280 REPORT DATE: 112383 NSSS: GA TYPE: HTGR

(NSIC 189493) CAUSE - UNKNOWN. THE ISOLATION VALVE FOR THE 'A' PURIFICATION TRAIN (HV-2301) WOULD NOT CLOSE EITHER ELECTRICALLY OR BY THE HANDJACK AND WAS THEREFORE CONSIDERED INOPERABLE AT THAT TIME. AT 0830 HRS THE VALVE WAS OPERATED BY MEANS OF THE HANDJACK AND WAS MANUALLY CLOSED. THIS EVENT IS REPORTABLE PER TECH SPEC AC 7.5.2(A)9. SIMILAR RO'S: 77-09, 77-12. THE CAUSE OF THE VALVE FAILURE COULD NOT BE DETERMINED AT THE TIME. FOLLOW-UP INVESTIGATION AND TESTING OF HV-2301 REVEALED NO BINDING OR OTHER MECHANICAL PROBLEMS INDICATING A POSSIBLE LACK OF KNOWLEDGE/EXPERIENCE IN THE OPERATION OF A VALVE OF THIS TYPE. HV-2301 WAS TESTED DURING A SUBSEQUENT REFUELING OUTAGE AND FOUND TO BE OPERABLE, EITHER ELECTRICALLY OR MANUALLY.

[ 64] FT. ST. VRAIN DOCKET 50-267 LER 83-011 REV 1  
 UPDATE ON LOSS OF VACUUM TANK RUPTURE DISC.  
 EVENT DATE: 030783 REPORT DATE: 112383 NSSS: GA TYPE: HTGR

(NSIC 189494) CAUSE - RAPID FLOW INCREASE. THE RUPTURE DISC ON THE VACUUM TANK RUPTURED AND CAUSED AN UNSAMPLED AND UNPLANNED RELEASE TO OCCUR. THIS IS REPORTED AS A DEGRADED MODE OF LCO 4.8.1(A) PER TECH SPEC AC 7.5.2(B)2. RELATED REPORTS: RO'S 82-051, 82-042, 82-022, 82-009, 80-063, 80-005, 79-033, AND 78-003. THE REPOSITIONING OF A VALVE IN THE LINE FROM THE CORE SUPPORT FLOOR VENT TO THE GAS WASTE SYSTEM APPARENTLY CAUSED TOO RAPID OF A FLOW INCREASE TO THE GAS WASTE SYSTEM FOR THE VACUUM TANK PRESSURE CONTROL SYSTEM TO REACT. THE RUPTURE DISC WAS REPLACED, AND THE SYSTEM WAS RETURNED TO NORMAL OPERATION. APPROPRIATE OPERATING PROCEDURES WERE REVISED TO PREVENT REOCCURRENCE.

[ 65] FT. ST. VRAIN DOCKET 50-267 LER 83-044  
 BEARING WATER MAKEUP PUMP INOPERABLE.  
 EVENT DATE: 101183 REPORT DATE: 111083 NSSS: GA TYPE: HTGR

(NSIC 189495) CAUSE - REPAIR OF LEAKY FILTERS AND VALVES. THE BEARING WATER MAKEUP PUMP, P-2105, WAS REMOVED FROM SERVICE WITH THE REACTOR OPERATING AT APPROXIMATELY 65% POWER. THIS EVENT CONSTITUTES OPERATION IN A DEGRADED MODE OF LCO 4.2.2, AND IS REPORTABLE PER TECH SPEC AC 7.5.2(B)2. SIMILAR RO'S: 80-077, 81-052, 82-036, AND 83-037. THE BEARING WATER MAKEUP PUMP WAS REMOVED FROM SERVICE TO REPAIR TWO LEAKING VALVES AND TWO LEAKING FILTERS ASSOCIATED WITH THE PUMP. THE PUMP WAS RETURNED TO SERVICE WITHIN THE 24 HRS SPECIFIED BY LCO 4.2.2. CHECK VALVE V-21842 WAS MANUFACTURED BY CRANE CO., 3 INCH CARBON STEEL, 1500 LB. RATED, MODEL 1573. ISOLATION VALVE V-21916 WAS MANUFACTURED BY VELAN VALVE CORP., 3 INCH CARBON STEEL, CAST, BALL, MANUALLY OPERATED.

[ 66] FT. ST. VRAIN DOCKET 50-267 LER 83-046  
 UNSAMPLED RADIOACTIVE GAS RELEASED.  
 EVENT DATE: 102483 REPORT DATE: 112383 NSSS: GA TYPE: HTGR

(NSIC 189492) CAUSE - CRACK IN MOISTURE MONITOR. AN UNPLANNED, UNSAMPLED



RADIOACTIVE GAS RELEASE OCCURRED WHILE OPERATING AT APPROXIMATELY 69% REACTOR POWER. A CRACK IN THE ANALYTICAL MOISTURE MONITOR (M-9306) RESULTED IN A RELEASE TO ATMOSPHERE VIA THE FILTERED AND MONITORED REACTOR PLANT EXHAUST STACK. THE RELEASE WAS CALCULATED TO BE BELOW ASSOCIATED MAXIMUM PERMISSIBLE CONCENTRATIONS. THIS CONSTITUTES OPERATION IN A DEGRADED MODE OF LCO 4.8.1(A) AND IS REPORTABLE PER TECH SPEC AC 7.5.2(B)4. SIMILAR REPORTS: RO'S 83-011, 82-050, 82-042, 82-022, 82-009, 80-063. A CRACK IN THE CASING OF THE ANALYTICAL MOISTURE MONITOR (M-9306) CAUSED HIGH AIRBORNE ACTIVITY IN THE REACTOR BUILDING AND THE SUBSEQUENT RELEASE VIA THE REACTOR PLANT VENTILATION EXHAUST SYSTEM. REACTOR BUILDING ACCESS WAS RESTRICTED AS A PRECAUTIONARY MEASURE. THE DEFECTIVE ANALYTICAL MOISTURE MONITOR WAS REPLACED.

[ 67] FT. ST. VRAIN DOCKET 50-267 LER 83-045  
 HALON SYSTEM FOR CONTROL ROOM INOPERABLE.  
 EVENT DATE: 102583 REPORT DATE: 112383 NSSS: GA TYPE: HTGR

(NSIC 189491) CAUSE - ADMINISTRATIVE ERROR. THE HALON 1301 SYSTEM FOR THE THREE-ROOM COMPLEX (CONTROL ROOM, AUXILIARY ELECTRIC ROOM AND 480V SWITCHGEAR ROOM) WAS TAKEN OUT OF SERVICE TO PERFORM A PLANT MODIFICATION. ALSO DURING THE MODIFICATION WORK, THE AUTOMATIC FUNCTION OF A PORTION OF THE THREE-ROOM COMPLEX ISOLATION DAMPERS WAS REMOVED. THESE EVENTS CONSTITUTE OPERATION IN DEGRADED MODES OF LCO 4.10.1 AND 4.10.2 AND ARE REPORTABLE PER TECH SPEC AC 7.5.2(B)2. A PLANT MODIFICATION REQUIRED SEVERAL PIPING AND ELECTRICAL CONDUIT RUNS TO BE RELOCATED. THESE RUNS AFFECTED HALON SUPPLY PIPING AND THE THREE-ROOM COMPLEX ISOLATION DAMPER CONTROL CIRCUIT. DURING THE MODIFICATION, APPROPRIATE COMPENSATORY MEASURES WERE INITIATED. THE MODIFICATION PROCESS WAS COMPLETED AND AFFECTED SYSTEMS RETURNED TO NORMAL OPERATION WITHIN THE 72 HR GRACE PERIOD ALLOWED.

[ 68] FT. ST. VRAIN DOCKET 50-267 LER 83-047  
 HYDRAULIC SHOCK SUPPRESSOR FOUND INOPERABLE.  
 EVENT DATE: 110283 REPORT DATE: 120283 NSSS: GA TYPE: HTGR

(NSIC 189496) CAUSE - LEAKING RESERVOIR GASKETS. ONE CLASS I HYDRAULIC SHOCK SUPPRESSOR WAS FOUND INOPERABLE. SINCE IT MUST BE ASSUMED THE SNUBBER WAS INOPERABLE DURING POWER OPERATION, THIS EVENT CONSTITUTES OPERATION IN A DEGRADED MODE OF LCO 4.3.10 AND IS REPORTABLE PER TECH SPEC AC 7.5.2(B)2. SIMILAR REPORTS ARE RO'S: 83-016, 83-022, AND 83-031. LEAKING RESERVOIR GASKETS ALLOWED THE LOSS OF OIL. BFS-244E IS A ONE AND ONE-HALF INCH ITT GRINNELL, FIGURE 201 HYDRAULIC SNUBBER. THE SNUBBER WAS REMOVED AND REPLACED WITH A TESTED, QUALIFIED SPARE.

[ 69] FT. ST. VRAIN DOCKET 50-267 LER 83-048  
 THE BEARING WATER PRESSURE SWITCHES INOPERABLE.  
 EVENT DATE: 110383 REPORT DATE: 120283 NSSS: GA TYPE: HTGR

(NSIC 189487) CAUSE - ACCUMULATION OF DIRT AND CRUD. TWO OF THE THREE BEARING WATER DIFFERENTIAL PRESSURE SWITCHES WERE FOUND INOPERABLE. THIS EVENT CONSTITUTES OPERATION IN A DEGRADED MODE OF LCO 4.4.1, TABLE 4.4-3, AND IS REPORTABLE PER TECH SPEC AC 7.5.2(B)2. SIMILAR OCCURRENCES: RO 81-005, 82-002, 82-025. TWO OF THE THREE ITT BARTON, MODEL P-288A, PRESSURE DIFFERENTIAL INDICATING SWITCHES WERE INOPERABLE DUE TO AN ACCUMULATION OF DIRT AND OIL. THE THIRD SWITCH REMAINED OPERABLE. THE FAULTY SWITCHES WERE REPLACED, CALIBRATED, AND RETURNED TO SERVICE. NUCLEAR ENGINEERING DIVISION IS INVESTIGATING THE PROBLEM; RESULTS OF WHICH WILL BE SUBMITTED IN A FUTURE REPORT.

[ 70] FT. ST. VRAIN DOCKET 50-267 LER 83-053  
 BEARING WATER MAKEUP PUMP INOPERABLE.  
 EVENT DATE: 121083 REPORT DATE: 010984 NSSS: GA TYPE: HTGR

(NSIC 189488) CAUSE - LEAKY VALVES AND FILTERS. THE BEARING WATER MAKEUP PUMP, P-2105, WAS REMOVED FROM SERVICE WITH THE REACTOR OPERATING AT APPROXIMATELY 25% POWER. THIS EVENT CONSTITUTES OPERATION IN A DEGRADED MODE OF LCO 4.2.2, AND IS REPORTABLE PER TECH SPEC AC 7.5.2(B)2. SIMILAR RO'S: 80-077, 81-052, 82-036, 83-037, AND 83-044. THE BEARING WATER MAKEUP PUMP WAS REMOVED FROM SERVICE TO REPAIR ASSOCIATED LEAKING VALVES AND FILTERS. V-21743, CHECK VALVE, EDWARDS VALVE DIVISION, MANUAL OPERATOR, 3 INCH 2580 PSIG, 650 F; V-21843, CHECK VALVE, CRANE CO., 3 INCH, CAST, CARBON STEEL, 2580 PSIG, 650 F; V-21914 AND V-21915, GATE VALVES, VELAN VALVE CORP., MANUAL OPERATORS, CAST, CARBON STEEL, 3 INCH, 120 PSIG, 650 F. THE VALVES AND FILTERS WERE REPAIRED OR REPLACED. NO FURTHER CORRECTIVE ACTION IS ANTICIPATED OR REQUIRED.

[ 71] FT. ST. VRAIN DOCKET 50-267 LER 83-055  
 HELIUM CIRCULATOR PENETRATION VALVE FAILS TEST.  
 EVENT DATE: 122183 REPORT DATE: 012084 NSSS: GA TYPE: HTGR

(NSIC 189489) CAUSE - UNKNOWN REASON. ONE OF EIGHT HELIUM CIRCULATOR PENETRATION SAFETY VALVES WAS REMOVED FROM SERVICE TO ALLOW TESTING/ADJUSTMENT OF THE RELIEF PRESSURE. SAFETY VALVE, V-11174, DID NOT RELIEVE WITHIN THE ACCEPTANCE CRITERIA SPECIFIED IN LSSS 3.3, TABLE 3.3.1, ITEM D. THIS IS REPORTABLE PER TECH SPEC AC 7.5.2(B)1. SAFETY VALVE, V-11174, MANUFACTURED BY DRESSER, MODEL NUMBER 1912GC, 1.5 INCH, CAST CARBON STEEL, RATED FOR 845 PSIG AT 750 F, WAS OUT OF ADJUSTMENT FOR AN UNKNOWN REASON. THE SAFETY VALVE WAS REMOVED, TESTED AND ADJUSTED, REINSTALLED, AND LEAK CHECKED.

[ 72] GRAND GULF 1 DOCKET 50-416 LER 84-006  
 ESP ACTUATION DURING SURVEILLANCE.  
 EVENT DATE: 012084 REPORT DATE: 022484 NSSS: GE TYPE: BWR

(NSIC 189455) A DIV 1 ISOLATION OCCURRED DURING THE PERFORMANCE OF A SPECIAL TEST WHEN AN RPS SWITCH WAS PLACED IN THE TEST POSITION. THE INVESTIGATION REVEALED A CORRESPONDING CHANNEL SWITCH TO ALSO BE IN TEST. THE POSITION OF BOTH SWITCHES COMPLETED THE ACTUATION LOGIC TO INITIATE STANDBY GAS TREATMENT TRAIN A, CONTROL ROOM FRESH AIR UNIT A ISOLATION, AND A DIV 1 AUXILIARY BUILDING ISOLATION.

[ 73] GRAND GULF 1 DOCKET 50-416 LER 84-007  
 FUSES MISSING FROM HALON PANEL.  
 EVENT DATE: 012884 REPORT DATE: 030284 NSSS: GE TYPE: BWR

(NSIC 189456) DURING SURVEILLANCE TESTING, THREE FUSES WERE FOUND TO BE NOT INSTALLED IN A HALON SYSTEM CONTROL PANEL FOR THE COMPUTER AND CONTROL PANEL ROOM. THESE MISSING FUSES WOULD HAVE PREVENTED FIRE DAMPERS IN THE ROOM FROM CLOSING IN THE EVENT OF A FIRE.

[ 74] GRAND GULF 1 DOCKET 50-416 LER 84-012  
 ELEVATOR DOORS NOT VERIFIED SHUT.  
 EVENT DATE: 031484 REPORT DATE: 041084 NSSS: GE TYPE: BWR

(NSIC 189417) THE ELEVATOR DOORS IN THE CONTRCL BUILDING AND AUXILIARY BUILDING ARE FIRE DOORS AND ARE INDICATED AS SUCH IN THE FSAR. TECH SPEC 4.7.7.2.D REQUIRES THAT UNLOCKED FIRE DOORS WITHOUT ELECTRICAL SUPERVISION BE VERIFIED CLOSED AT LEAST ONCE PER 24 HOURS. ON MARCH 14, 1984, IT WAS DISCOVERED THAT THE SURVEILLANCE WHICH ACCOMPLISHES THIS DID NOT INCLUDE THE ELEVATOR DOORS.

ALTHOUGH THE DOORS WERE IN FACT OPERABLE AND CLOSED, THIS WAS NOT VERIFIED AND DOCUMENTED EACH DAY. THEREFORE, THIS IS REPORTED AS A VIOLATION OF THE TECH SPEC. THE SURVEILLANCE HAS BEEN REVISED TO INCLUDE THE ELEVATOR DOORS. A CHECK WAS MADE TO ENSURE THAT ALL OTHER FIRE DOORS WERE ALREADY INCLUDED IN THE SURVEILLANCE. THIS IS A FINAL REPORT.

[ 75] GRAND GULF 1 DOCKET 50-416 LER 84-014  
DISCOVERY OF UNSEALED FIRE BARRIERS.  
EVENT DATE: 031484 REPORT DATE: 041384 NSSS: GE TYPE: BWR

(NSIC 189381) FIELD ENGINEERING IDENTIFIED TEN BREACHED PENETRATIONS WHICH FUNCTION AS FIRE BARRIERS AND/OR SECONDARY CONTAINMENT BOUNDARY SEALS. FIRE WATCHES WERE ESTABLISHED IN ACCORDANCE WITH TECH SPEC 3.7.7 UPON DISCOVERY. THE SEALS WERE RESTORED BY MARCH 23, 1984. THE CAUSE OF THIS SITUATION WAS PERSONNEL ERROR. THE ERROR WAS CONTRARY TO APPROVED PROCEDURES. AN INSPECTION OF A NUMBER OF PENETRATIONS IN SELECTED AREAS WILL BE CONDUCTED TO DETERMINE IF OTHER UNIDENTIFIED BREACHED BARRIERS EXIST.

[ 76] GRAND GULF 1 DOCKET 50-416 LER 84-013  
SHUTDOWN COOLING ISOLATES DURING SURVEILLANCE.  
EVENT DATE: 032284 REPORT DATE: 041184 NSSS: GE TYPE: BWR

(NSIC 189418) WHILE PERFORMING A SURVEILLANCE ON THE REACTOR VESSEL HIGH PRESSURE TRIP SYSTEM, ONE OF THE COMMON SHUTDOWN COOLING SUCTION VALVES CLOSED, ISOLATING BOTH LOOPS OF SHUTDOWN COOLING. THIS OCCURRED AS A RESULT OF PERSONNEL ERROR WHEN THE HIGH PRESSURE TRIP WAS NOT RESET PRIOR TO RESTORING POWER TO THE ISOLATION VALVE'S MOTOR OPERATOR, AS REQUIRED BY THE PROCEDURE BEING USED.

[ 77] GRAND GULF 1 DOCKET 50-416 LER 84-016  
CONTAINMENT ISOLATION AND DIESEL GENERATOR FAILURE TO START.  
EVENT DATE: 032484 REPORT DATE: 042384 NSSS: GE TYPE: BWR

(NSIC 139573) WHILE PERFORMING A SPECIAL TEST TO MEASURE THE RESPONSE TIME OF SEVERAL LPCS AND LPCI 'A' ISOLATION VALVES, A PROCEDURE ERROR CAUSED A DIV 1 CONTAINMENT ISOLATION AND GENERATED AN AUTO START SIGNAL TO THE DIV 1 DIESEL GENERATOR. THE DIESEL GENERATOR FAILED TO START.

[ 78] GRAND GULF 1 DOCKET 50-416 LER 84-015  
CONTROL ROOM FRESH AIR AUTO START.  
EVENT DATE: 032684 REPORT DATE: 042384 NSSS: GE TYPE: BWR

(NSIC 189540) AT 1124 HRS ON MAR 26, 1984, WHILE THE PLANT WAS IN COLD SHUTDOWN, THE 'B' CONTROL ROOM FRESH AIR UNIT WAS INADVERTENTLY STARTED IN THE ISOLATION MODE. A CONTRACTOR ELECTRICAL TECHNICIAN WAS PREPARING TO REPLACE A RELAY BY JUMPERING THE POWER SUPPLY AROUND IT. DUE TO THE CLOSE PROXIMITY OF OTHER TERMINALS, HE TOUCHED ONE WITH THE JUMPER. THIS CAUSED A RELAY TO DROP OUT WHICH AUTOMATICALLY STARTED THE CONTROL ROOM FRESH AIR UNIT. THIS EVENT HAS NO SAFETY CONSEQUENCES. THIS IS A FINAL REPORT.

[ 79] HATCH 1 DOCKET 50-321 LER 84-001  
REACTOR SCRAMS FOLLOWING A HIGH VIBRATION TURBINE TRIP.  
EVENT DATE: 021184 REPORT DATE: 030984 NSSS: GE TYPE: BWR

(NSIC 189359) FOLLOWING A LOAD REDUCTION TRANSIENT DUE TO THE B RECIRCULATION PUMP TRIP AND A SUBSEQUENT CONTROL ROD EXCHANGE THE UNIT WAS BEING BROUGHT TO FULL LOAD. DURING A MEGAWATT INCREASE FROM 310 MWE TO 465 MWE THE TURBINE

TRIPPED ON HIGH TURBINE VIBRATION AND INITIATED A REACTOR SCRAM. THE UNIT WAS BROUGHT TO COLD SHUTDOWN TO INVESTIGATE TURBINE PROBLEMS.

[ 80] HATCH 1 DOCKET 50-321 LER 84-004  
 SCRAM DISCHARGE VOLUME LEVEL SWITCHES NOT TESTED.  
 EVENT DATE: 032784 REPORT DATE: 042584 NSSS: GE TYPE: BWR

(NSIC 189433) ON 3/27/84, WHILE PERFORMING A REVIEW OF AMENDMENT FOR DATA BASE REVISION FORM 1 PER THE REQUIREMENTS OF TECH SPECS SURVEILLANCE PROGRAM PROCEDURE (HNP-831), PLANT PERSONNEL DETERMINED THAT THE SCRAM DISCHARGE VOLUME HIGH LEVEL THERMAL LEVEL SENSORS (1C1-N060-A-D) HAD NOT BEEN FUNCTIONALLY TESTED AT THE REQUIRED FREQUENCY. AMENDMENT #7 TO UNIT 1 TECH SPECS (ISSUED ON 1/4/84) INCORPORATED THESE SENSORS AND THEIR RESPECTIVE TEST FREQUENCIES AS ITEM 7.B OF TECH SPECS TABLES 3.1-1 AND 4.1-1. TECH SPECS TABLE 4.1-1 REQUIRES A MONTHLY INSTRUMENT FUNCTIONAL TEST FREQUENCY. SUBSEQUENT INVESTIGATION REVEALED NO FUNCTIONAL TEST PROCEDURE EXISTED FOR THESE INSTRUMENTS. THUS, THE INSTRUMENT FUNCTIONAL TEST MINIMUM FREQUENCY REQUIREMENT FOR ITEM 7.B WAS NOT BEING MET. AS PART OF THE CORRECTIVE ACTION ON 3/27/84, THE SCRAM LEVEL DISCHARGE VOLUME LEVEL (THERMAL SENSORS) INSTRUMENT FT&C PROCEDURE (HNP-1-3019) WAS WRITTEN AND SATISFACTORILY COMPLETED.

[ 81] HATCH 2 DOCKET 50-366 LER 82-123 REV 1  
 UPDATE ON REED SWITCH POSITION INDICATORS FOR CONTROL RODS WERE FOUND INOPERABLE.  
 EVENT DATE: 103082 REPORT DATE: 031984 NSSS: GE TYPE: BWR  
 VENDOR: GENERAL ELECTRIC CO.

(NSIC 189633) WHILE INSERTING CONTROL RODS FOR REACTOR SHUTDOWN, REED SWITCH POSITION INDICATORS FOR CONTROL RODS 14-07 AND 34-43 WERE FOUND INOPERABLE. THIS EVENT IS CONTRARY TO TECH SPECS 3.1.3.7. BOTH CONTROL RODS WERE FULLY INSERTED. THEIR POSITIONS WERE DETERMINED WITHIN ONE HOUR BY USE OF THE "FULL-IN" POSITION INDICATORS, THEREFORE, TECH SPECS 3.1.3.7, ACTION A WAS SATISFIED. THIS EVENT IS REPETITIVE AS LAST REPORTED ON LER 50-366/1982-088. THESE EVENTS WERE CAUSED BY COMPONENT FAILURE. ON 05/09/83, THE RPIS PROBE WAS REPLACED IN CRD 2C11-14-07. ON 10/30/83, CRD 2C11-34-43 WAS REPAIRED BY REPLACING ITS DISPLAY MEMORY CARD IN PANEL 2H11-P615. SUBSEQUENT TO REPAIR, BOTH CONTROL ROD DRIVES WERE SATISFACTORILY FUNCTIONALLY TESTED AND RETURNED TO SERVICE.

[ 82] INDIAN POINT 2 DOCKET 50-247 LER 84-002  
 MSIV EXCESSIVE CLOSURE TIME.  
 EVENT DATE: 010584 REPORT DATE: 020484 NSSS: WE TYPE: PWR  
 VENDOR: ATWOOD & MORRILL CO., INC.

(NSIC 189457) ON JANUARY 5, 1984 WHILE THE PLANT WAS SHUTDOWN FOR MAINTENANCE, TWO OF THE FOUR MAIN STEAM ISOLATION VALVES (MSIV) DID NOT FULLY CLOSE WITHIN THE FIVE (5) SECOND TECH SPEC REQUIREMENT. THE VALVES' SHAFT LUBRICATION HAD DRIED OUT, THEREBY INCREASING THE FRICTION ON THE VALVE SHAFT. THE VALVE SHAFT AND PACKING WERE LUBRICATED. THE VALVES WERE THEN SATISFACTORILY TESTED BY CLOSING WITHIN FIVE (5) SECONDS.

[ 83] INDIAN POINT 2 DOCKET 50-247 LER 84-003  
 INOPERABLE ROD POSITION INDICATING SYSTEM.  
 EVENT DATE: 020584 REPORT DATE: 032284 NSSS: WE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 189343) THE PLANT WAS BROUGHT TO THE HOT SHUTDOWN CONDITION DUE TO RPI CHANNEL DRIFT. A RECALIBRATION OF THE RPI SYSTEM WAS PERFORMED AND THE UNIT WAS RETURNED TO FULL POWER AT 0700 HRS ON FEB 11, 1984.

[ 84] INDIAN POINT 2 DOCKET 50-247 LER 84-004  
 EXCESSIVE RESPONSE TIME OF AUXILIARY FEEDWATER PUMP ROOM TEMPERATURE SWITCHES.  
 EVENT DATE: 040684 REPORT DATE: 050784 NSSS: WE TYPE: PWR  
 VENDOR: ASCO VALVES

(NSIC 189595) DURING A REVIEW OF VENDOR DATA SUPPLIED AS PART OF THE ENVIRONMENTAL QUALIFICATION PROGRAM, IT WAS DETERMINED THAT THE RESPONSE TIME FOR REDUNDANT TEMPERATURE SWITCHES WAS IN EXCESS OF THAT REQUIRED. EITHER TEMPERATURE SWITCH IS RELIED UPON TO ISOLATE STEAM TO THE TURBINE DRIVEN AUXILIARY FEEDWATER PUMP IN THE EVENT A STEAM LINE BREAK OCCURS IN THE ROOM WHERE THE PUMP IS LOCATED. THIS AUTOMATIC ISOLATION ACTION PROTECTS THE INSTRUMENTATION AND MOTOR INSULATION OF THE TWO MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS WHICH WOULD BE EXPOSED TO THE ENVIRONMENT INDUCED BY THE STEAM LINE BREAK. IMMEDIATE CORRECTIVE ACTION WAS TAKEN BY OPENING OF THE EQUIPMENT ROLL UP DOOR TO THE PUMP ROOM TO PROVIDE STEAM VENTING AND TO AVOID AN EXCESSIVE TEMPERATURE RISE IF A BREAK SHOULD OCCUR. A GUARD WAS STATIONED TO ENSURE THE DOOR REMAINS OPEN AND TO MAINTAIN SECURITY. IN ADDITION, THE SETPOINTS OF THE TEMPERATURE SWITCHES WERE REDUCED TO 110F TO PROVIDE AN ADDITIONAL MARGIN OF SAFETY.

[ 85] INDIAN POINT 3 DOCKET 50-286 LER 84-001  
 HIGH MAIN STEAM DIFFERENTIAL PRESSURE RESULTING IN SI ACTUATION.  
 EVENT DATE: 012584 REPORT DATE: 022484 NSSS: WE TYPE: PWR  
 VENDOR: CROSBY VALVE

(NSIC 189349) ON JAN 25, 1984, WHILE THE REACTOR WAS AT HOT SHUTDOWN, CODE SAFETY VALVE MS-45 ON NO. 34 MAIN STEAM HEADER, OPENED MOMENTARILY. A SAFETY INJECTION (S.I.) SIGNAL WAS ACTUATED AUTOMATICALLY ON HIGH DELTA-P BETWEEN LINE 34 AND THE OTHER THREE STEAM LINES. ALL EQUIPMENT ASSOCIATED WITH THE S.I. ACTUATION PERFORMED ITS DESIGNATED FUNCTION. AFTER COMPLETION OF SAFETY VALVE TESTING, THE REACTOR WAS RETURNED TO CRITICALITY IN ACCORDANCE WITH ESTABLISHED PROCEDURES.

[ 86] INDIAN POINT 3 DOCKET 50-286 LER 84-003  
 HIGH MAIN STEAM DIFFERENTIAL PRESSURE RESULTS IN SI ACTUATION.  
 EVENT DATE: 012884 REPORT DATE: 022484 NSSS: WE TYPE: PWR  
 VENDOR: CROSBY VALVE

(NSIC 189350) ON JAN 28, 1984, WITH THE REACTOR CRITICAL AT ZERO POWER, CODE SAFETY VALVE MS-45 ON NO. 34 MAIN STEAM HEADER OPENED MOMENTARILY. A SAFETY INJECTION (S.I.) SIGNAL WAS ACTUATED AUTOMATICALLY ON HIGH DELTA-P BETWEEN LINE 34 AND THE OTHER THREE STEAM LINES. ALL EQUIPMENT ASSOCIATED WITH AN S.I. ACTUATION PERFORMED ITS DESIGNATED FUNCTION. AFTER COMPLETION OF SAFETY VALVE TESTING, THE REACTOR WAS RETURNED TO CRITICALITY IN ACCORDANCE WITH ESTABLISHED PROCEDURES.

[ 87] INDIAN POINT 3 DOCKET 50-286 LER 84-004  
 UNIT TRIPS ON LOW FEED FLOW.  
 EVENT DATE: 020984 REPORT DATE: 030784 NSSS: WE TYPE: PWR  
 VENDOR: FOXBORO CO., THE

(NSIC 189351) ON FEB 9, 1984, WITH THE REACTOR AT 90% POWER, BOTH HEATER DRAIN PUMPS TRIPPED. THIS RESULTED IN REDUCED SUCTION PRESSURE TO THE MAIN FEED PUMPS AND A CORRESPONDING DECREASE IN FEED FLOW. A REACTOR TRIP WAS ACTUATED AUTOMATICALLY ON A STEAM FLOW/FEED FLOW MISMATCH ON NO. 32 STEAM GENERATOR. ALL EQUIPMENT ASSOCIATED WITH THE TRIP PERFORMED ITS DESIGNATED FUNCTION.

[ 88] INDIAN POINT 3 DOCKET 50-286 LER 84-005  
 UNIT TRIPS FOLLOWING MAIN FEED REGULATING VALVE CLOSURE.  
 EVENT DATE: 022084 REPORT DATE: 032084 NSSS: WE TYPE: PWR

(NSIC 189352) ON FEB 20, 1984, WITH THE REACTOR AT 90% POWER, A REACTOR TRIP WAS INITIATED ON A STEAM FLOW/FEED FLOW MISMATCH ON NO. 32 STEAM GENERATOR. THE MISMATCH WAS CAUSED BY CLOSURE OF MAIN FEED REGULATING VALVE AS A RESULT OF THE FAILURE OF A TRIP SOLENOID. SUBSEQUENT INVESTIGATION INDICATED THAT WATER LEAKAGE INTO THE SOLENOID'S TERMINAL BOX WAS RESPONSIBLE FOR THE SOLENOID FAILURE. THE LEADS WERE REPLACED, THE TERMINAL BOX WAS DRAINED AND SEALED, AND THE UNIT RETURNED TO SERVICE.

[ 89] INDIAN POINT 3 DOCKET 50-286 LER 84-006  
 REACTOR TRIP DUE TO INADVERTENT CLOSURE OF CELL SWITCH.  
 EVENT DATE: 030984 REPORT DATE: 032084 NSSS: WE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 189353) ON MAR 9, 1984, WITH THE REACTOR AT 96% POWER, A TURBINE TRIP WAS INITIATED DURING MONTHLY REACTOR PROTECTION SYSTEM (RPS) TESTING. THE CAUSE FOR THE TURBINE TRIP WAS FOUND TO BE THE INADVERTENT CLOSURE OF A CELL SWITCH ASSOCIATED WITH REACTOR TRIP BYPASS BREAKER NO. 52/BYB. INVESTIGATION DETERMINED THAT A MISALIGNED CATCH PLATE IN THE BREAKER CUBICLE ASSEMBLY LED TO THE CLOSURE OF THE CELL SWITCH DURING TESTING. THE CATCH WAS REALIGNED AND THE BREAKER WAS TESTED AND RETURNED TO SERVICE.

[ 90] KEWAUNEE DOCKET 50-305 LER 84-002  
 REACTOR TRIPS ON HIGH STEAM GENERATOR LEVEL SIGNAL.  
 EVENT DATE: 031684 REPORT DATE: 041384 NSSS: WE TYPE: PWR  
 VENDOR: BLACK-SIVALS-BRYSON

(NSIC 189521) AT 2345 ON MAR 16, 1984, WITH THE REACTOR AT 2% POWER (MAIN GENERATOR OFF LINE), THE TURBINE OVERSPEED TRIP TEST WAS BEGUN. LOW ELECTRO-HYDRAULIC (EHC) OIL PRESSURE, DUE TO AN OIL LEAK ON TURBINE CONTROL VALVES #3 AND #4, CAUSED THE START OF THE SECOND EHC PUMP. MANUAL ISOLATION OF THE LEAK RESULTED IN AN EHC PRESSURE SPIKE CAUSING THE RAPID OPENING OF #4 TURBINE CONTROL VALVE. THE INCREASED STEAM DEMAND CAUSED STEAM GENERATOR 1B LEVEL TO SWELL TO THE HI-HI SETPOINT COINCIDENT WITH P-7 (AT POWER TRIP PERMISSIVE) ENABLING DUE TO HI TURBINE IMPULSE PRESSURE. THIS RESULTED IN A TURBINE TRIP/REACTOR TRIP. IMMEDIATE OPERATOR ACTIONS FOR A TURBINE TRIP/REACTOR TRIP WERE TAKEN AND SYSTEMS VERIFIED STABLE.

[ 91] KEWAUNEE DOCKET 50-305 LER 84-003  
 ROD CLUSTER CONTROL ASSEMBLY CLADDING WEAR.  
 EVENT DATE: 040184 REPORT DATE: 050184 NSSS: WE TYPE: PWR

(NSIC 189613) DURING THE CYCLE IX-X REFUELING SHUTDOWN, AN UNDERWATER VISUAL INSPECTION OF 3 ROD CLUSTER CONTROL ASSEMBLIES (RCCA'S) REVEALED APPARENT WEAR MARKS ON THE CLADDING OF THE RCCA ABSORBER RODLETS. THE WEAR MARKS WERE FOUND TO OCCUR AT A POSITION WHICH CORRELATES TO THE LOCATION OF THE GUIDE CARDS USED TO POSITION THE RODLETS IN THE GUIDE HOUSING WHEN THE RCCA'S ARE PARKED IN THEIR NORMALLY FULL OUT POSITION. THE CLADDING WEAR IS ATTRIBUTABLE TO THE DESIGN OF THE GUIDE CARDS AND IS A RESULT OF VIBRATORY INTERACTION BETWEEN THE RODLETS AND THE GUIDE CARDS DURING LONG PERIODS OF STEADY STATE POWER OPERATION. BECAUSE NONE OF THE RODLETS EXHIBITED WEAR WHICH EXCEEDS THE WESTINGHOUSE CRITERIA FOR RCCA WEAR DEPTH, THE RCCA'S ARE ACCEPTABLE FOR OPERATION IN CYCLE X. VISUAL INSPECTIONS OF THE REMAINING RCCA'S ARE PRESENTLY PLANNED FOR THE CYCLE X-XI REFUELING SHUTDOWN. ALTHOUGH THIS EVENT DOES NOT MEET THE REPORTING CRITERIA OF

10 CFR 50.73(A), IT HAS BEEN REPORTED AS AN LER WHICH MAY BE OF GENERIC INTEREST. SAFE, FUNCTIONAL OPERATION OF THE RCCA'S IS STILL ENSURED.

[ 92]           KEWAUNEE                                  DOCKET 50-305           LER 84-004  
 INADVERTENT ACTUATION OF SHIELD BUILDING VENTILATION RECIRCULATION FAN.  
 EVENT DATE: 040984   REPORT DATE: 050984           NSSS: WE               TYPE: PWR  
 VENDOR: GENERAL ELECTRIC CO.

(NSIC 189614) ON APR 9, 1984, WITH THE PLANT IN THE REFUELING OPERATING MODE, WORK WAS IN PROGRESS TO MODIFY THE SHIELD BUILDING VENT SYSTEM (SVVS) TRAIN 'B' DAMPER ACTUATORS. IMPLEMENTATION OF THE DESIGN CHANGE REQUIRED THAT A CONTACT ON A SYSTEM RELAY BE CHANGED FROM THE NORMALLY CLOSED POSITION TO THE NORMALLY OPEN POSITION. AT APPROXIMATELY 1015 (CST) AN ELECTRICIAN STARTED TO DISASSEMBLE THE RELAY. REMOVAL OF THE RELAY FACE PLATE RELEASED THE INTERNAL SPRINGS OF THE UPPER TIER OF CONTACTS CAUSING 4 CONTACTS TO CHANGE TO THE CLOSED POSITION. THIS CONTACT CLOSURE ACTUATED THE TRAIN 'B' RECIRCULATION FAN. THIS TYPE OF RELAY (GENERAL ELECTRIC TYPE CR120) HAS HAD ONLY LIMITED USE AT KEWAUNEE UNTIL RECENTLY. TWO CORRECTIVE ACTIONS WILL BE TAKEN TO PREVENT RECURRENCE: 1) A DESCRIPTION OF THIS EVENT WILL BE ENTERED INTO THE INFORMATION AND OPERATIONAL EXPERIENCE REVIEW PROGRAM AND CIRCULATED TO APPLICABLE PLANT AND CORPORATE SUPERVISORS TO REVIEW WITH THEIR PERSONNEL; AND 2) EQUIPMENT CONTROL PRACTICES DURING MODIFICATIONS WILL BE DISCUSSED BY THE PLANT OPERATING REVIEW COMMITTEE TO DETERMINE IF ANY CHANGES IN THESE PRACTICES ARE APPROPRIATE.

[ 93]           KEWAUNEE                                  DOCKET 50-305           LER 84-005  
 INADVERTENT RELAY ACTUATION.  
 EVENT DATE: 041084   REPORT DATE: 051084           NSSS: WE               TYPE: PWR

(NSIC 189615) AT 2130 ON APR 10, 1984, DURING REFUELING SHUTDOWN, THE SLAVE RELAY MONITOR TEST WAS PERFORMED ON DG SEQUENCE LOADING PANEL DR106. DURING THE TEST TWO SLAVE RELAYS (44) PICKED UP INADVERTENTLY, ACTUATING 4 VALVES AND A RECIRCULATION FAN. THESE COMPONENTS WERE RETURNED TO THEIR ORIGINAL STATUS AND THE TEST WAS REPEATED WITH THE SAME RESULTS. AN INVESTIGATION BY PLANT ELECTRICIANS THE NEXT DAY COULD NOT LOCATE OR REPRODUCE THE PROBLEM, ALL 44 PERFORMED SATISFACTORILY. FURTHER INVESTIGATION YIELDED NO PROBABLE CAUSE. THIS TEST HAS BEEN CONDUCTED TWICE EACH SHIFT SINCE THE EVENT WITH NO REOCCURRENCES.

[ 94]           LA SALLE 1    DOCKET 50-373           LER 83-039 REV 1  
 UPDATE ON PIPE SLUBBERS FAIL.  
 EVENT DATE: 041883   REPORT DATE: 022184           NSSS: GE               TYPE: BWR  
 VENDOR: PACIFIC SCIENTIFIC COMPANY

(NSIC 189409) DURING PERFORMANCE OF VISUAL INSPECTIONS PER TECH SPEC 3.7.9, MECHANICAL SNUBBERS R141-1060S WAS FOUND LOCKED BETWEEN HOT AND COLD SETTINGS. THE AFFECTED PIPING ANALYZED BY SARGENT & LUNDY ENGINEERS WITH DEFECTIVE SNUBBER MODELED AS RIGID. NO ADVERSE STRESSES OR LOADS FOUND ON PIPING OR ADJACENT RESTRAINTS. THEREFORE, SAFE OPERATION OF THE PLANT WAS MAINTAINED. SNUBBER MANUFACTURED BY PACIFIC SCIENTIFIC. FAILURE DETERMINED TO BE TRANSIENT ON LINE 1R141BA-10". TRANSIENT CAUSED BY OPENING VALVE 1E51-F064 WHICH CAUSED WATER TO BE FLASHED TO STEAM. FLASHING AS WELL AS LARGE THERMAL MOVEMENTS CAUSED FAILURE. ALL OTHER SNUBBERS ON LINE STROKED AND TWO ADDITIONAL FAILURES FOUND. ALL HAVE BEEN REPLACED. LONG TERM CORRECTIVE ACTION TRACKED BY MODIFICATION M-1-1-82-26.

[ 95]           LA SALLE 1    DOCKET 50-373           LER 83-046 REV 1  
 UPDATE ON TWO SNUBBERS DAMAGED BY HEAT.  
 EVENT DATE: 051083   REPORT DATE: 021484           NSSS: GE               TYPE: BWR  
 VENDOR: PACIFIC SCIENTIFIC COMPANY

(NSIC 189410) DURING PERFORMANCE OF VISUAL INSPECTIONS REQUIRED PER TECH SPEC 3.7.9, MECHANICAL SNUBBER NB13-1006S WAS FOUND LOCKED BETWEEN HOT AND COLD SETTINGS. THE AFFECTED PIPING ANALYZED BY SARGENT & LUNDY WITH DEFECTIVE SNUBBER MODELED AS RIGID. NO ADVERSE STRESSES OR USAGE FACTORS ABOVE ALLOWABLE OCCURRED AS A RESULT OF THIS FAILURE. REPLACEMENT SNUBBER ALSO FAILED SIMILARLY. SEE LER 83-145/03L-0. CAUSE DETERMINED TO BE EXCESSIVE HEAT IN UPPER DRYWELL. THE FAILED SNUBBERS WERE REPLACED UNDER WORK REQUESTS L24623 AND L26155. A STROKE TEST OF OTHER POTENTIALLY HEAT DAMAGED SNUBBERS WAS PERFORMED AS DOCUMENTED IN LER 83-145/03L-0. A SYSTEM FOR LOWERING DRYWELL TEMPERATURES, AND MONITORING PLAN WILL BE IN PLACE PRIOR TO STARTUP PER LER 83-143/01T-0.

[ 96] LA SALLE 1 DOCKET 50-373 LER 83-000S  
ECCS ACTUATION AND INJECTION OCCURS.  
EVENT DATE: 090683 REPORT DATE: 091683 NSSS: GE TYPE: BWR

(NSIC 189483) CAUSE - LOSS OF POWER SUPPLY TO EHC SYSTEM. THIS SPECIAL REPORT IS BEING SUBMITTED PER TECH SPEC 3.5.1.1, CONCERNING ECCS ACTUATION AND INJECTION INTO THE REACTOR COOLANT SYSTEM. THE -22V DC POWER SUPPLY TO THE EHC SYSTEM WAS LOST DUE TO TROUBLESHOOTING BEING DONE ON THE EHC SYSTEM. THE LOSS OF THE -22V DC SUPPLY CAUSED FEEDBACK TO THE BYPASS VALVE POSITION UNIT TO BE LOST. THIS LOSS OF FEEDBACK CAUSED ALL FIVE MAIN TURBINE VALVES TO GO OPEN CAUSING ALTERATIONS IN REACTOR WATER LEVEL WHICH CAUSED THE FOLLOWING TRIPS: A. MOTOR DRIVEN REACTOR FEEDWATER PUMP HIGH REACTOR WATER LEVEL TRIP. B. REACTOR PROTECTOR SYSTEM ACTUATION AT LOW REACTOR WATER LEVEL. C. HPCS, RCIC, AND PCIS INITIATIONS AT LOW REACTOR WATER LEVEL. HPCS AND RCIC PUMPS RESTORED REACTOR PRESSURE VESSEL LEVEL. UPON REACTOR WATER LEVEL RESTORATION THE HPCS PUMP WAS SECURED AND THE RCIC PUMP WAS USED TO CONTROL LEVEL.

[ 97] LA SALLE 1 DOCKET 50-373 LER 83-129 REV 1  
UPDATE ON REACTOR FLOW INSTRUMENT TEST INTERVAL EXCEEDED.  
EVENT DATE: 101883 REPORT DATE: 020684 NSSS: GE TYPE: BWR

(NSIC 189411) LIS-RR-1 CALIBRATION EXCEEDED ITS CRITICAL DATE BY ONE DAY. FREQUENCY WAS CHANGED FROM 18 MONTHS TO 3 MONTHS AND WAS NOT ENTERED ON THE COMPUTER. THE PROBABLE CONSEQUENCE WAS THAT POWER TO FLOW SCRAMS AND RBM ROD BLOCKS COULD OCCUR (DUE TO INCORRECT FLOW INDICATION) IN THE NONCONSERVATIVE OR THE CONSERVATIVE DIRECTION. THE CAUSE OF THE OVERDUE SURVEILLANCE WAS PERSONNEL ERROR OF NOT ENTERING THE SURVEILLANCE CHANGE INTO THE COMPUTER. WHEN THE ERROR WAS DISCOVERED THE SURVEILLANCE WAS COMPLETED AND HAS BEEN PERFORMED QUARTERLY EVER SINCE.

[ 98] LA SALLE 1 DOCKET 50-373 LER 84-005  
REACTOR SCRAM/LOSS OF MAIN CONDENSER VACUUM.  
EVENT DATE: 011684 REPORT DATE: 021584 NSSS: GE TYPE: BWR  
VENDOR: TEMP FLEX DIV. ASSOCIATED PIPING

(NSIC 189443) ON 1-16-84 AT 1522 THE REACTOR PROTECTION SYSTEM INITIATED A REACTOR SCRAM WHEN THE TURBINE GENERATOR TRIPPED DUE TO LOW VACUUM. THE REACTOR WAS MANUALLY ISOLATED FROM THE CONDENSER BECAUSE VACUUM DETERIORATED VERY RAPIDLY. PRESSURE INCREASED TO ABOUT 1050 PSIG AT WHICH POINT A SAFETY RELIEF VALVE (SRV) LIFTED IN THE PRESSURE RELIEF MODE. TWO SUBSEQUENT MANUAL ACTUATIONS OF AN SRV WERE REQUIRED BEFORE RCIC WAS CAPABLE OF CONTROLLING PRESSURE. REACTOR WATER LEVEL DECREASED TO ABOUT +2" AND WAS INITIALLY REGAINED BY FEEDWATER TO +54.5" WHICH IS THE HI LEVEL TRIP FOR THE FEED PUMP. WATER INVENTORY WAS SUBSEQUENTLY MAINTAINED BY RCIC. NO ECCS OR PCIS INITIATIONS WERE REQUIRED AND NO MAINTENANCE OR TESTING WAS IN PROGRESS THAT MADE THE TRANSIENT MORE SEVERE. THE LOSS OF VACUUM OCCURRED BECAUSE THE RUBBER BOOT SEAL WHICH FORMS AN EXPANSION JOINT BOUNDARY BETWEEN THE C LOW PRESSURE TURBINE AND THE C CONDENSER HOOD



RUPTURED. THE BOOT SEAL WAS OVERHEATED AND SUBSEQUENTLY FAILED WHEN AN EXTRACTION STEAM EXPANSION JOINT LOCATED INSIDE THE CONDENSER FAILED THEREBY CAUSING STEAM TO IMPINGE ON THE METAL SHIELD PROTECTING THE BOOT SEAL. THE BOOT SEAL WAS REPLACED AND THE EXTRACTION STEAM LINE WAS CAPPED UNTIL A REPLACEMENT EXPANSION JOINT COULD BE OBTAINED.

[ 99] LA SALLE 1 DOCKET 50-373 LER 84-001  
 RADWASTE DISCHARGED WITHOUT BEING SAMPLED.  
 EVENT DATE: 012384 REPORT DATE: 012584 NSSS: GE TYPE: BWR

(NSIC 189442) ON 1-25-84 A DISCHARGE OF A RADWASTE TANK TO THE ILLINOIS RIVER WAS CONDUCTED WITH NO KNOWN SAMPLE FLOW TO THE PROCESS RAD MONITOR (IL) DUE TO SAMPLE RETURN LINES FREEZING. THIS RESULTED IN A DISCHARGE WITHOUT CONTINUOUS MONITORING AS REQUIRED BY TECH SPEC 3.3.7.10. PRIOR TO THE DISCHARGE, A BATCH SAMPLE WAS TAKEN AND ANALYZED TO DETERMINE PROPER BLOWDOWN FLOW FOR DILUTION. PROPER BLOWDOWN FLOW WAS VERIFIED THROUGHOUT THE DISCHARGE. IT IS THEREFORE FELT THAT NO RELEASE LIMITS WERE EXCEEDED. ON SEVERAL NIGHTS JUST PRIOR TO THE DISCHARGE, EXTREMELY COLD CONDITIONS EXISTED CAUSING THE RETURN LINE FOR THE SAMPLE SKID WHICH IS IN UNHEATED SURROUNDINGS TO BECOME FROZEN. ERRATIC FLOW OSCILLATIONS WERE NOTED DURING THE DISCHARGE OF 1-22-84 CAUSING SAMPLE FLOW ALARMS IN THE CONTROL ROOM. THE DISCHARGE WAS NOT SECURED BUT FLOW WAS CHECKED WITH A DETERMINATION THAT THE HIGH FLOW SIGNAL GAVE THE ALARM. THE ALARM WAS NOTED AS INVALID AND THE DISCHARGE CONTINUED TO COMPLETION. AT THE START OF THE DISCHARGE ON 1-23-84, SOURCE CHECKS WERE CONDUCTED. SAMPLE FLOW WAS NOT CHECKED AND WAS NOT REQUIRED BY PROCEDURE. THE CONTROL ROOM NSO DID NOT NOTE THE SAMPLE FLOW ALARM AND STARTED THE DISCHARGE WHICH CONTINUED UNTIL DETECTED BY THE ONCOMING NSO WHO SECURED THE DISCHARGE. HE HAD THE OUTSIDE ROUNDS EQUIPMENT ATTENDANT INVESTIGATE THE SAMPLE FLOW ALARM AND FOUND THE RETURN LINE FROZEN.

[100] LA SALLE 1 DOCKET 50-373 LER 84-013  
 MAIN STEAM LINE FLOW SWITCHES' CALIBRATIONS DRIFT.  
 EVENT DATE: 021484 REPORT DATE: 031584 NSSS: GE TYPE: BWR  
 VENDOR: ITT-BARTON

(NSIC 189130) BETWEEN 2300 ON 2/14/84 AND 0700 ON 2/15/84 DURING THE PERFORMANCE OF LIS-MS-02, 9 OUT OF 16 MAIN STEAM HIGH FLOW SWITCHES WERE FOUND TO BE OUT OF SPEC HIGH, WITH 3 OF THE INSTRUMENTS EXCEEDING ALLOWABLE LIMITS. AT THE TIME THE UNIT WAS IN COLD SHUTDOWN, OPERATING CONDITION #4. ALL OF THE INSTRUMENTS WERE IMMEDIATELY (AND SATISFACTORILY) RECALIBRATED IN ACCORDANCE WITH LIS-MS-02. SINCE THE PREVIOUS PERFORMANCE OF THE CALIBRATION PORTION OF LIS-MS-02, THE UNIT #1 RX HAS BEEN IN OPERATING CONDITIONS #1, 2, 3, AND 4. THE INCREASE IN THE FOLLOWER DRAG AT THE LOBE POINT OF THE CAM ON THE BARTON 288A DP SWITCH APPEARS TO BE THE CAUSE OF THE DRIFTING PROBLEM. IF CURRENT TRENDING INDICATES AN INHERENT PROBLEM WITH THE BARTON 288A, CONSIDERATION WILL BE GIVEN TO ADJUSTING THE SETPOINT TO COMPENSATE FOR THE INSTRUMENT DRIFT, TO INSPECT, REPAIR, OR REPLACE THE CAM ROLLER MECHANISM FOR THE SWITCHES, OR TO REPLACE THE EXISTING BARTON 288A MODEL.

[101] LA SALLE 1 DOCKET 50-373 LER 84-009  
 SCRAM OCCURS FOLLOWING BUMPED IRM CABLE.  
 EVENT DATE: 021984 REPORT DATE: 031384 NSSS: GE TYPE: BWR  
 VENDOR: GENERAL ELECTRIC CORP. (NUCLEAR ENG DIV)

(NSIC 189127) ON 2-19-84 AT 1010 HOURS A NONCOINCIDENT SCRAM OCCURRED FROM AN UPSCALE TRIP ON IRM A. MECHANICAL MAINTENANCE PERSONNEL WERE WORKING UNDERNEATH THE VESSEL ON CRD 54-27 AND INADVERTENTLY BUMPED IRM A CAUSING THE EVENT. AT THE TIME OF THE OCCURRENCE, THE UNIT WAS IN REFUEL MODE WITH THE SHORTING LINKS

REMOVED. THIS EVENT DID NOT AFFECT PLANT SAFETY. OPERATIONS RESET THE SCRAM AND MMD PERSONNEL WERE NOTIFIED OF THE SENSITIVITY OF THE IRM CABLES.

[102] LA SALLE 1 DOCKET 50-373 LER 84-017  
CONTROL ROOM VENTILATION AMMONIA/CHLORINE DETECTION SYSTEM FAILS.  
EVENT DATE: 030884 REPORT DATE: 040584 NSSS: GE TYPE: BWR  
OTHER UNITS INVOLVED: LA SALLE 2 (BWR)  
VENDOR: M D A SCIENTIFIC, INC.  
PENNWALT CORP.

(NSIC 189374) ON MARCH 8, 1984, THE AMMONIA/CHLORINE MONITORS OAE-VC091A AND OAE-VC091B FOR THE CONTROL BUILDING ENVIRONMENTAL CONTROL SYSTEM (VI) ALARMED. AN ATTEMPT TO RESET THE ALARM WAS UNSUCCESSFUL. AN INVESTIGATION REVEALED THE VI SYSTEM "B" TRAIN AMMONIA/CHLORINE DETECTORS TO BE FROZEN, MAKING THEM INOPERABLE. THE VI SYSTEM "A" TRAIN AMMONIA DETECTOR WAS ALSO INOPERABLE, INDICATING A FAULTY OPTICAL ISOLATOR. AT THE TIME OF THE OCCURRENCE, BOTH UNIT 1 AND UNIT 2 WERE IN COLD SHUTDOWN (CONDITION 4). IN ACCORDANCE WITH TECH SPEC 3.3.7.8, THE VI SYSTEM "A" TRAIN WAS RUN IN THE RECIRCULATION MODE. WORK REQUESTS L34054 AND L34055 WERE GENERATED TO INVESTIGATE AND REPAIR THE DETECTORS. THE DETECTORS WERE REPAIRED ON 3/12/84 AND RETURNED TO SERVICE ON 3/13/84.

[103] LA SALLE 1 DOCKET 50-373 LER 84-018  
BUTT SPLICES IN CONTROL CABLES.  
EVENT DATE: 031084 REPORT DATE: 040984 NSSS: GE TYPE: BWR  
OTHER UNITS INVOLVED: LA SALLE 2 (BWR)

(NSIC 189445) TWO ALLEGATIONS WERE MADE TO THE NUCLEAR REGULATORY COMMISSION. THE FIRST CONCERNED THE USE OF AN INCORRECT SPLICING TECHNIQUE USED TO INSTALL BUTT SPLICES ON CONTROL/INSTRUMENTATION CONDUCTORS AND THE SECOND CONCERNED AN IMPROPER TECHNIQUE USED TO REMOVE OUTER JACKETING FROM MULTICONDUCTOR CABLING RESULTING IN NICKS/CUTS TO THE CONDUCTOR INSULATION.

[104] LA SALLE 1 DOCKET 50-373 LER 84-019  
RWCU DIFFERENTIAL FLOW ISOLATION CALIBRATION DATA INCORRECT.  
EVENT DATE: 032084 REPORT DATE: 041884 NSSS: GE TYPE: BWR  
OTHER UNITS INVOLVED: LA SALLE 2 (BWR)

(NSIC 189535) WHILE INVESTIGATING A DIFFERENTIAL FLOW INDICATION PROBLEM IT WAS DISCOVERED THAT INCORRECT CALIBRATION DATA HAD BEEN USED TO CALIBRATE THE REACTOR WATER CLEANUP SYSTEM (CE) INLET FLOW TRANSMITTER. THE CAUSE WAS DUE TO CONFLICTING INSTRUMENT DATA SHEETS. THE RWCU SYSTEM IN UNIT 1 WAS ISOLATED PER THE TECH SPECS. UNIT 2 WAS IN COLD SHUTDOWN. THE INSTRUMENT CALIBRATION PROCEDURES WERE REVISED AND THE INSTRUMENTS WERE RECALIBRATED TO THE CORRECT VALUES. THE CONFLICTING DATA SHEETS WILL BE REVISED.

[105] LA SALLE 1 DOCKET 50-373 LER 84-020  
REACTOR BUILDING VENT ISOLATION.  
EVENT DATE: 032784 REPORT DATE: 042384 NSSS: GE TYPE: BWR  
VENDOR: GENERAL ELECTRIC CO.

(NSIC 189587) UNIT 1 WAS OPERATING AT 80% POWER. 'D' REACTOR BUILDING VENT PROCESS RAD MONITOR (IL) WAS IN THE TRIPPED CONDITION WITH NO ALARMS PRESENT. DURING PERFORMANCE OF INSTRUMENT MAINTENANCE SURVEILLANCE LIS-VR-01, 'C' REACTOR BUILDING VENT (VA) PRM WAS PLACED IN THE TRIPPED CONDITION CAUSING A GROUP IV PRIMARY CONTAINMENT ISOLATION SYSTEM ISOLATION (JM). PER LCA-VR-01, THE GROUP IV PCIS ISOLATION WAS RESET. THE PCIS GROUP I ISOLATION WAS BYPASSED TO PREVENT A SPURIOUS MAIN STEAM TUNNEL DIFFERENTIAL TEMPERATURE TRIP, WHILE THE REACTOR

BUILDING HVAC (VA) SYSTEM WAS RESTARTED. THE PCIS GROUP I ISOLATION BYPASS WAS THEN REMOVED. THE 'D' REACTOR BUILDING VENT PRM WAS REPAIRED BY REPLACING THE RELAY BOARD INSIDE THE TRIP UNIT.

[106] LA SALLE 1 DOCKET 50-373 LER 84-021  
CONTROL ROOM HVAC SYSTEM AMMONIA DETECTOR INOPERABLE.  
EVENT DATE: 032784 REPORT DATE: 042684 NSSS: GE TYPE: BWR

(NSIC 189588) ON MARCH 27, 1984, DURING THE PERFORMANCE OF CONTROL ROOM HVAC SYSTEM (VI) AMMONIA DETECTOR FUNCTIONAL TEST (LIS-VC-03), IT WAS FOUND THAT AMMONIA DETECTOR OXY-VC125B WOULD NOT INITIATE ITS REQUIRED FUNCTIONS. UNIT 1 WAS IN RUN MODE AT 50% POWER, AND UNIT 2 WAS IN STARTUP AT 5% POWER AT THE TIME. IT WAS DETERMINED THAT THE INSTRUMENT MECHANICS (IM'S) WHO HAD REPAIRED THE DETECTOR STARTING 3/8/84 HAD INCORRECTLY RELANDED A WIRE. THIS WAS DUE TO THE IM'S NOT USING GOOD SHOP PRACTICES WHEN SIGNING OFF ON THE PROCEDURE THAT DOCUMENTED THE LIFTING AND LANDING OF THE LEADS. THE IM'S HAD THEN DECLARED THE DETECTOR OPERABLE ON 3/12/84. AT 2000 ON 3/27/84, THE DETECTOR WIRING WAS CORRECTED AND THE DETECTOR WAS RETURNED TO OPERATING CONDITION.

[107] LA SALLE 2 DOCKET 50-374 LER 84-009  
RHR SHUTDOWN COOLING ISOLATES.  
EVENT DATE: 030884 REPORT DATE: 031384 NSSS: GE TYPE: BWR  
VENDOR: LIMITORQUE CORP.  
RILEY COMPANY, THE - PANALARM DIVISION

(NSIC 189412) ON MARCH 8, 1984, FOLLOWING THE COMPLETION OF WORK REQUEST L34027 ON INSTRUMENT 2E31N605C, RHR EQUIPMENT AREA HIGH TEMP SWITCH, AN ISOLATION SIGNAL WAS GENERATED CAUSING THE "A" LOOP OF RHR TO ISOLATE. THE SHUTDOWN COOLING MODE OF RHR WAS IN OPERATION ON LOOP "A" AT THE TIME. AS DESIGNED, THE INJECTION VALVE 2E12-F053A CLOSED, BUT CONTRARY TO DESIGN, THE SUCTION VALVE 2E12-F008 REMAINED OPEN. THIS SEQUENCE OF EVENTS PLACED THE "A" RHR PUMP AT SHUT OFF HEAD CONDITIONS, AND THE SUBSEQUENT OPENING OF THE MINIMUM FLOW VALVE 2E12-F064A ALLOWED 60 INCHES OF REACTOR WATER TO BE PUMPED TO THE SUPPRESSION POOL. UPON RECEIVING A REACTOR VESSEL LOW LEVEL ALARM, THE OPERATOR TRIPPED THE "A" RHR PUMP AND THUS TERMINATED THE LEVEL DECREASE. THE APPARENT CAUSE OF THE PROBLEM HAS BEEN DETERMINED TO BE AS FOLLOWS: 1) A PERSONNEL ERROR WAS MADE LEAVING THE BREAKER FOR THE 2E12-F008 VALVE IN THE OFF POSITION FOLLOWING SOME PREVIOUS TESTING THAT WAS PERFORMED INVOLVING THE 2E12-F008 VALVE. THE BREAKER AND VALVE POSITION WAS LOGGED IN THE U-2 NSO'S LOG, HOWEVER, THE NSO INVOLVED COULD NOT RECALL THE CIRCUMSTANCES SURROUNDING THE LOG ENTRY. 2) THE FAILURE OF THE SPARE RILEY ALARM AND TRIP MODULE THAT WAS INSTALLED AS A PART OF WORK REQUEST L34027. THE SPARE ALARM AND TRIP MODULE WERE ASSUMED TO BE A WORKING UNIT BASED ON THE OPERABILITY CHECK THAT WAS PERFORMED ON THE INSTALLED SPARES DURING THE INITIAL CALIBRATION.

[108] LA SALLE 2 DOCKET 50-374 LER 84-010  
REACTOR WATER CLEANUP SYSTEM TWICE ISOLATES ON HIGH DIFFERENTIAL TEMPERATURE IN THE PUMP ROOM.  
EVENT DATE: 031284 REPORT DATE: 041084 NSSS: GE TYPE: BWR  
VENDOR: AMERICAN WARMING & VENTILATING INC.  
RILEY COMPANY, THE - PANALARM DIVISION

(NSIC 189444) AT 0600 ON 3/12/84 AND 0818 ON 3/13/84 THE UNIT 2 RWCU SYSTEM ISOLATED ON A PUMP ROOM VENTILATION DIFFERENTIAL TEMPERATURE HIGH. AT THE TIME OF BOTH TRIPS, THE UNIT 2 REACTOR WAS IN COLD SHUTDOWN, OPERATING CONDITION 4. THE CAUSE OF THE RWCU ISOLATIONS APPEARS TO BE THE RESULT OF A NORMAL OPERATING TEMPERATURE GRADIENT ACROSS THE PUMP ROOM DUE TO COLD REACTOR BUILDING AIR BLASTING THE INLET TEMPERATURE ELEMENTS VIA THE ROOM GRAVITY DAMPER. AIR'S

1-84-67030, 1-84-67038 AND WORK REQUEST L34337 HAVE BEEN GENERATED TO INVESTIGATE THE UNIT 2 RWCU PUMP ROOM VENTILATION PROBLEM WITH RECOMMENDATIONS TO MOVE OR SHIELD THE AFFECTED INLET TEMPERATURE ELEMENTS TO MODIFY THE GRAVITY DAMPERS TO MANUAL ADJUST, AND TO REPAIR THE UNIT 2 REACTOR BUILDING HVAC FLOW SENSING EQUIPMENT TO ALLOW THE BLAST COILS TO ENERGIZE PER DESIGN.

[109] LACROSSE DOCKET 50-409 LER 84-002  
 REACTOR PARTIAL SCRAM DUE TO LOW NITROGEN PRESSURE ON CONTROL ROD DRIVE MECHANISM.  
 EVENT DATE: 011784 REPORT DATE: 021384 NSSS: AC TYPE: BWR  
 VENDOR: PARKER SEAL COMPANY

(NSIC 189285) A REACTOR PARTIAL SCRAM OCCURRED DUE TO LOW GAS PRESSURE ON CONTROL ROD DRIVE MECHANISM (CRDM) NO. 8 WHEN THE O-RING ON ITS ACCUMULATOR PRESSURE TRANSDUCER FAILED. IN A PARTIAL SCRAM, THE CENTER 13 CONTROL RODS ARE AUTOMATICALLY INSERTED, WHICH SHUTS DOWN THE REACTOR. ALL AUTOMATIC FUNCTIONS WORKED PROPERLY. THE REACTOR OPERATOR MANUALLY SCRAMMED THE REMAINING RODS INTO THE CORE. THE TRANSDUCER O-RING WAS REPLACED. THE CRDM WAS TESTED WITH SATISFACTORY RESULTS.

[110] LACROSSE DOCKET 50-409 LER 84-005  
 DISCOVERY OF UNSEALED FIRE BARRIER PENETRATION.  
 EVENT DATE: 040384 REPORT DATE: 050184 NSSS: AC TYPE: BWR

(NSIC 189592) DURING A PLANT INSPECTION PROMPTED BY REVIEW OF 10 CFR 50, APPENDIX R CRITERIA, THE FIRE PROTECTION SUPERVISOR FOUND A VERTICAL CABLE RACEWAY WHICH HAD NOT BEEN SEALED WHERE IT PASSED THROUGH A BARRIER BETWEEN FIRE AREAS. APPROXIMATELY 80 OTHER FIRE BARRIER PENETRATIONS HAD BEEN IDENTIFIED AND SEALED APPROXIMATELY FIVE YEARS AGO WHEN FIRE BARRIER PENETRATIONS WERE FIRST REVIEWED AT LACBWR. CURRENT TECH SPECS REQUIRE THAT ALL PENETRATION FIRE BARRIERS PROTECTING SAFETY-RELATED AREAS BE FUNCTIONAL. THE CABLE RACEWAY WAS SEALED THAT DAY BY THE METHOD USED IN SEALING OTHER CABLE TRAYS. THE CABLE RACEWAY WILL BE ADDED TO THE LIST OF FIRE BARRIERS INSPECTED DURING THE 18 MONTH SURVEILLANCE TEST.

[111] LACROSSE DOCKET 50-409 LER 84-004  
 PERSONNEL AIR LOCK TYPE B TEST FAILURE.  
 EVENT DATE: 040684 REPORT DATE: 042584 NSSS: AC TYPE: BWR  
 VENDOR: DURAMETALLIC CORP.

(NSIC 189642) DURING A TYPE B LEAKAGE TEST OF THE PERSONNEL AIRLOCK THE INNER DOOR UPPER HANDWHEEL SHAFT MECHANICAL SEAL LEAKED AIR. THE OUTER AIRLOCK DOOR WAS CHECKED BY THE SOAP BUBBLE TECHNIQUE AT TEST PRESSURE. NO LEAKAGE WAS VISIBLE. IN ORDER TO REPAIR THE INNER DOOR UPPER HANDWHEEL SHAFT MECHANICAL SEAL, THE OUTER DOOR WAS OPENED FOR PERSONNEL ACCESS INTO THE AIRLOCK. DURING THE TIME PERIOD THE OUTER DOOR WAS OPEN, CONTAINMENT INTEGRITY DID NOT EXIST. THE AIRLOCK OUTER DOOR WAS OPEN FOR A CUMULATIVE PERIOD OF LESS THAN 10 MINUTES. BOTH THE UPPER AND LOWER INNER DOOR HANDWHEEL SHAFT SEALS WERE REPLACED. THE UPPER HANDWHEEL SHAFT SEAL WAS WORN DOWN, CAUSING THE LEAKAGE. THE LOWER HANDWHEEL SHAFT SEAL ALSO EXHIBITED SOME WEAR, SO IT WAS REPLACED AS A PRECAUTIONARY MEASURE. A TYPE B LEAKAGE TEST WAS CONDUCTED FOLLOWING THE REPAIR. ZERO LEAKAGE WAS MEASURED. THIS WAS THE FIRST PERSONNEL AIRLOCK TEST FAILURE DUE TO THIS CAUSE.

[112] MCGUIRE 1 DOCKET 50-369 LER 84-008  
 EFFECT ON CONTAINMENT ENVIRONMENT OF A SUPERHEATED STEAM BLOWDOWN FOLLOWING A STEAMLINE RUPTURE.  
 EVENT DATE: 011284 REPORT DATE: 040684 NSSS: WE TYPE: PWR

(NSIC 189533) DURING NRC REVIEW OF THE CATAWBA FSAR, IT WAS NOTED THAT SEVERAL MODEL CHANGES WERE MADE TO THE WESTINGHOUSE MARVEL CODE USED TO CALCULATE THE MASS AND ENERGY RELEASE FOR POSTULATED MAIN STEAMLINE BREAKS. ONE OF THESE CHANGES, ACCOUNTING FOR ADDITIONAL HEAT TRANSFER TO STEAM DURING TUBE BUNDLE UNCOVERY IN THE STEAM GENERATOR (I.E. SUPERHEATED STEAM), COULD HAVE SIGNIFICANT IMPACT ON THE CONTAINMENT TEMPERATURE RESPONSE FOR ICE CONDENSER CONTAINMENTS. IT WAS ESTIMATED THAT THE PEAK TEMPERATURE RESPONSE OF THE CONTAINMENT LOWER COMPARTMENT MAY EXCEED THE PREVIOUSLY CALCULATED TEMPERATURE PROFILE, WITH AN ATTENDANT POTENTIAL IMPACT ON EQUIPMENT ENVIRONMENTAL QUALIFICATION. ALTHOUGH NOT REPORTABLE AS AN LER PURSUANT TO 50.73, THIS REPORT IS SUBMITTED FOR INFORMATION ONLY. A LIMITED BEST ESTIMATE ANALYSIS WAS PERFORMED ON THE EFFECT ON CONTAINMENT ENVIRONMENT OF A SUPERHEATED STEAM BLOWDOWN FOLLOWING A POSTULATED STEAMLINE RUPTURE FOR MCGUIRE NUCLEAR STATION. THE RESULTING PEAK CONTAINMENT TEMPERATURE OF 311 F IS LOWER THAN THE ORIGINAL FSAR PEAK CONTAINMENT TEMPERATURE OF 326 F, AND THEREFORE THE ENVIRONMENTAL QUALIFICATION OF SAFETY RELATED EQUIPMENT INSIDE CONTAINMENT IS NOT AFFECTED.

[113] MCGUIRE 1 DOCKET 50-369 LER 84-002  
 OVERTEMPERATURE DELTA T REACTOR TRIP.  
 EVENT DATE: 013084 REPORT DATE: 022984 NSSS: WE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 189405) ON JANUARY 30, 1984 A UNIT 1 REACTOR TRIP WAS INITIATED BY THE REACTOR PROTECTION SYSTEM ON TWO-OUT-OF-FOUR OVERTEMPERATURE DELTA T (O T DELTA T) SIGNAL. THE TRIP OCCURRED FROM A VOLTAGE SPIKE IN LOOP C WHILE LOOP A WAS IN THE TEST (TRIP) CONDITION FOR MAINTENANCE. UNIT 1 WAS IN MODE 1 AT 94% POWER AT THE TIME OF THE TRIP. THIS EVENT IS ATTRIBUTED TO THE FAILURE OF A LEAD/LAG CARD IN LOOP C DELTA T/TAVG OF THE PROCESS CONTROL SYSTEM. THE REACTOR TRIPPED AS DESIGNED AND NO ANOMALIES ARISING FROM THE TRANSIENT OCCURRED. THE FAULTY CARD WAS REPLACED AND THE LOOP RETURNED TO SERVICE.

[114] MCGUIRE 1 DOCKET 50-369 LER 84-009  
 INADQUATE CONTROL OF CONTAINMENT INTEGRITY.  
 EVENT DATE: 031484 REPORT DATE: 042484 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: MCGUIRE 2 (PWR)

(NSIC 189635) ON MARCH 14, 1984, IT WAS DETERMINED THAT THERE WAS A POSSIBLE LACK OF CONTAINMENT INTEGRITY INVOLVING THE REACTOR VESSEL LEVEL INDICATION SYSTEM (RVLIS) ON UNIT 2 AND UNIT 1. A QUALITY ASSURANCE (QA) REVIEW REVEALED THAT THE TUBING WELDS AND CONTAINMENT PENETRATION FITTING WELDS TO THE TUBING HAD NOT BEEN TESTED ON UNIT 2. THE POSSIBLE LACK OF CONTAINMENT INTEGRITY EXISTED ON UNIT 2 FROM JULY 1983 TO MARCH 1984. THIS CONDITION ALSO EXISTED ON UNIT 1 FROM MARCH 1981 TO JUNE 1982. THESE INCIDENTS ARE ATTRIBUTED TO ADMINISTRATIVE DEFICIENCY, DUE TO THE LACK OF ADMINISTRATIVE CONTROLS IN THE DESIGN, INSTALLATION, AND FOLLOW-UP ON RVLIS. UNIT 1 WAS IN MODE 6 AND UNIT 2 WAS IN MODE 1 AT 100% POWER AT THE TIME OF DISCOVERY. CONTAINMENT INTEGRITY WAS VERIFIED ON UNIT 1 ON JUNE 29, 1982 WITH THE PUFF AND PRESSURE TEST PERFORMED BY WESTINGHOUSE. UNIT 2 CONTAINMENT INTEGRITY WAS VERIFIED WHEN A LEAK TEST WAS PERFORMED ON RVLIS ON MARCH 14, 1984.

[115] MCGUIRE 1 DOCKET 50-369 LER 84-010  
 DIESEL GENERATOR STARTS DUE TO A TRANSMISSION SYSTEM DISTURBANCE.  
 EVENT DATE: 032884 REPORT DATE: 042784 NSSS: WE TYPE: PWR

(NSIC 189636) DIESEL GENERATOR (D/G) 1B EXPERIENCED AN INVALID AUTOMATIC START ON MARCH 28, 1984 AT 1725. THE D/G STARTED ON A UNIT 1 BLACKOUT SIGNAL GENERATED BY A MOMENTARY POWER TRANSMISSIONS SYSTEM DISTURBANCE DUE TO A SEVERE STORM. (D/G 1A WAS INOPERABLE DUE TO MAINTENANCE.) UNIT 1 WAS IN A REFUELING OUTAGE WITH ALL

FUEL REMOVED FROM THE REACTOR AT THE TIME OF THIS OCCURRENCE. THIS INCIDENT IS ATTRIBUTED TO AN UNUSUAL SERVICE CONDITION DUE TO THE POWER DISTRIBUTION SYSTEM DISTURBANCE CAUSED BY THE SEVERE WEATHER. THIS EVENT IS SIMILAR TO PREVIOUS LER 369/84-06. THE BLACKOUT SIGNAL CLEARED IN LESS THAN 1 SECOND, THEREFORE THE D/G WAS NOT LOADED. THE D/G WAS SHUT DOWN AFTER OPERATING FOR APPROXIMATELY SIX MINUTES. THE D/G PERFORMED AS DESIGNED DURING THIS INCIDENT.

[116] MCGUIRE 1 DOCKET 50-369 LER 84-011  
DIESEL GENERATOR AUTOMATIC START DUE TO A FAILED RIDGE.  
EVENT DATE: 032984 REPORT DATE: 043084 NSSS: WE TYPE: PWR

(NSIC 189637) DIESEL GENERATOR (D/G) 1A EXPERIENCED AN INVALID AUTOMATIC START ON MARCH 29, 1984 AT 0401 WHEN A DIODE SHORTED IN A TEMPORARY TRIP MONITOR DEVICE, GENERATING A START SIGNAL. THE TRIP MONITOR DEVICE HAD BEEN TEMPORARILY INSTALLED IN THE CONTROL CIRCUIT OF THE D/G TO PRECLUDE ANY SPURIOUS, NON-EMERGENCY TRIPS DURING ENGINEERED SAFETY FEATURES TESTING. UNIT 1 WAS IN A REFUELING OUTAGE WITH ALL FUEL REMOVED FROM THE REACTOR AT THE TIME OF THIS OCCURRENCE. THIS EVENT IS ATTRIBUTED TO COMPONENT FAILURE DUE TO THE DIODE IN THE TRIP MONITOR DEVICE FAILING. THE D/G WAS SHUT DOWN AFTER OPERATING FOR APPROXIMATELY 36 MINUTES. THE D/G PERFORMED AS DESIGNED DURING THIS INCIDENT AND WOULD HAVE SUBSEQUENTLY LOADED HAD THIS BEEN A VALID TEST. THE TRIP MONITOR DEVICE WILL EITHER BE MODIFIED PRIOR TO FUTURE USE OR NOT USED.

[117] MCGUIRE 1 DOCKET 50-369 LER 84-012  
DIESEL GENERATOR STARTED DUE TO A BLACKOUT.  
EVENT DATE: 033084 REPORT DATE: 043084 NSSS: WE TYPE: PWR

(NSIC 189638) ON MARCH 30, 1984 AT 1934, DURING PERFORMANCE OF THE "ENGINEERED SAFETY FEATURES ACTUATION PERIODIC TEST," DIESEL GENERATOR (D/G) 1A EXPERIENCED AN AUTOMATIC START SIGNAL DUE TO A 4160 VOLT EMERGENCY BUS NO. ETA BLACKOUT. D/G WAS OPERATING ON STANDBY WHEN UNIT 1 TRAIN A ESSENTIAL SWITCHGEAR (1ETA) NORMAL FEEDER BREAKER WAS MISTAKENLY OPENED. 1ETA BREAKER 1A (D/G 1A BREAKER) CLOSED AND LOADED, RESTORING POWER TO TRAIN A EMERGENCY EQUIPMENT. UNIT 1 WAS IN A REFUELING OUTAGE WITH ALL FUEL REMOVED FROM THE REACTOR AT THE TIME OF THIS OCCURRENCE. THIS EVENT IS ATTRIBUTED TO PERSONNEL ERROR, DUE TO NORMAL FEEDER BREAKER FOR 1ETA BEING MISTAKENLY OPENED. THE D/G WAS SUCCESSFULLY SHUT DOWN AT 2056. D/G 1A PERFORMED AS DESIGNED DURING THIS INCIDENT AND WOULD HAVE CONTINUED TO SUPPLY EMERGENCY LOADS AS NECESSARY. THIS REPORT WILL BE COVERED WITH APPROPRIATE PERSONNEL.

[118] MCGUIRE 1 DOCKET 50-369 LER 84-013  
LACK OF REDUNDANT OVERCURRENT PROTECTION FOR DC WELDING CIRCUIT ELECTRICAL CONTAINMENT PENETRATIONS.  
EVENT DATE: 040584 REPORT DATE: 050784 NSSS: WE TYPE: PWR  
OTHER UNITS INVOLVED: MCGUIRE 2 (PWR)

(NSIC 189586) ON APRIL 5, 1984, AS A RESULT OF A DESIGN ENGINEERING REVIEW, IT WAS DETERMINED THAT REDUNDANT CIRCUIT PROTECTION CAPABLE OF KEEPING OVERLOAD AND FAULT CURRENTS WITHIN THE RATINGS OF ELECTRICAL PENETRATIONS WAS NOT PROVIDED FOR TWO PERMANENTLY INSTALLED DC WELDING CIRCUITS PER UNIT. THESE CIRCUITS SUPPLY MULTIPLE RECEPTACLES INSIDE CONTAINMENT. THIS IS NOT IN CONFORMANCE WITH FSAR, CHAPTER 8, PARAGRAPH 8.3.1.2.7.7. AT THE TIME OF DISCOVERY, UNIT 1 WAS IN MODE 6, AND UNIT 2 WAS IN MODE 1 AT 100% POWER. THE FAILURE TO PROVIDE REDUNDANT CIRCUIT PROTECTION FOR THESE PENETRATIONS IS ATTRIBUTED TO DESIGN OVERSIGHT AND THE UNIQUE NATURE OF THE CIRCUITS INVOLVED. DUKE POWER COMPANY PLANS TO INSTALL REDUNDANT OVERCURRENT PROTECTIVE DEVICES IN THE CIRCUITS BY THE END OF THE NEXT REFUELING OUTAGE FOR EACH UNIT. AS IS THE STANDARD PROCEDURE, THESE PENETRATIONS WILL CONTINUE TO BE TESTED AT APPROXIMATELY SIX MONTH INTERVALS. SHOULD IT

BECOME NECESSARY TO USE THESE CIRCUITS PRIOR TO INSTALLATION OF THE OVERCURRENT PROTECTION, THE CIRCUIT'S PENETRATION WILL BE TESTED. THE PENETRATIONS HAVE BEEN TESTED SINCE THEIR LAST USE AND NO INTEGRITY PROBLEMS ARE INDICATED.

[119] MCGUIRE 2 DOCKET 50-370 LER 84-001  
RESIDUAL HEAT REMOVAL TRAIN LOST TWICE.  
EVENT DATE: 010984 REPORT DATE: 021584 NSSS: WE TYPE: PWR

(NSIC 189371) ON DEC 31, 1983 AT 1640, DURING DRAINING OPERATIONS OF THE REACTOR COOLANT (NC) SYSTEM, RESIDUAL HEAT REMOVAL (ND) PUMP B WAS OBSERVED TO HAVE ZERO DISCHARGE FLOW. PUMP B MOTOR AMPERAGE WAS LOW, AND THE ND SYSTEM PRESSURE AND PUMP B DISCHARGE PRESSURE WERE EQUAL. BASED ON THESE FACTORS, ND PUMP B WAS TRIPPED AND ND TRAIN B WAS DECLARED INOPERABLE AT 1650. THE FWST TO ND PUMP ISOLATION VALVE WAS TWICE CYCLED TO PROVIDE CORE COOLING AND RAISE NC SYSTEM LEVEL WITH WATER FROM THE FUELING WATER STORAGE TANK, WHILE VENTING THE ND SUCTION LINE AND PUMP B. THE CORE TEMPERATURE RATE OF RISE DECREASED AFTER THE 1ST WATER ADDITION, AND THE 2ND ADDITION RESULTED IN DECREASED CORE TEMPERATURES. ND PUMP B WAS RESTARTED AT 1720, AND FLOW WAS RESTORED. ON JAN 9, 1984 OPERATORS WERE DECREASING LEVEL IN THE REACTOR COOLANT LOOPS WHEN A COMPUTER ALARM FOR LOW ND PUMP A DISCHARGE PRESSURE WAS RECEIVED. FLUCTUATIONS IN ND PUMP A MOTOR AMPERAGE WERE NOTED AND SIMULTANEOUS FLUCTUATIONS IN DISCHARGE PRESSURE AND FLOW ALSO OCCURRED. AFTER THE "LOW ND FLOW" ANNUNCIATOR ALARMED, ND PUMP A WAS TRIPPED AT 1246, AND ND TRAIN A WAS INOPERABLE. OPERATORS MANUALLY OPENED THE ND SYSTEM TO FWST ISOLATION VALVE, RAISING THE REACTOR COOLANT LOOP LEVEL WITH WATER FROM THE FWST. THE SUCTION LINE AND PUMP WERE VENTED, AND THE PUMP WAS RESTARTED AT 1348. THESE INCIDENTS ARE DUE TO INADEQUATE GUIDELINES RECORDING THE WATER LEVEL TO BE MAINTAINED IN THE REACTOR COOLANT LOOPS DURING ND OPERATION.

[120] MCGUIRE 2 DOCKET 50-370 LER 84-002  
INADVERTENT CLOSURE OF "C" REACTOR COOLANT LOOP TO RESIDUAL HEAT REMOVAL PUMPS' ISOLATION VALVES.  
EVENT DATE: 011584 REPORT DATE: 022984 NSSS: WE TYPE: PWR

(NSIC 189406) DURING FILLING AND VENTING OPERATIONS FOR UNIT 2 STARTUP, OPERATORS CLOSED THE BREAKERS FOR VALVES 2ND-1B AND 2ND-2A ('C' REACTOR COOLANT (NC) LOOP TO RESIDUAL HEAT REMOVAL (ND) PUMPS' ISOLATION VALVES) ON JANUARY 15, 1984. FUSES FOR THE A AND B TRAIN OUTPUT RELAY CABINETS OF THE SOLID STATE PROTECTION SYSTEM (SSPS) HAD BEEN REMOVED ON JANUARY 9 TO PERMIT TRANSMITTER TIME RESPONSE TESTING. NORMALLY CLOSED CONTACTS IN THE CLOSE CIRCUITS OF THE VALVES ARE CONTROLLED BY SSPS OUTPUT RELAYS. WITH SSPS OUTPUTS DE-ENERGIZED, THE CONTACTS COMPLETED THE CIRCUITS, PROVIDING CLOSE SIGNALS FOR 2ND-1B AND 2A. THUS, WHEN THE BREAKERS FOR 2ND-1B AND 2ND-2A WERE CLOSED, THE VALVES IMMEDIATELY CLOSED, ISOLATING ND SUCTION. BOTH ND TRAINS WERE DECLARED INOPERABLE AT 2207, PURSUANT TO TECH SPEC 3.4.1.4.2. UNIT 2 WAS IN MODE 5 WITH THE REACTOR COOLANT LOOPS NOT FILLED AT THE TIME OF THE INCIDENT. OPERATORS RESPONDED BY TRIPPING ND PUMP A AND CHEMICAL AND VOLUME CONTROL (NV) PUMP A AND REOPENING THE BREAKERS FOR 2ND-1B AND 2A. THE VALVES WERE THEN MANUALLY OPENED AND ND PUMP A WAS RESTARTED. THIS INCIDENT IS ATTRIBUTED TO PERSONNEL ERROR. APPROPRIATE MEASURES TO ENSURE CONTROL OVER 2ND-1B AND 2A WERE NOT TAKEN ON JANUARY 9, 1984, WHEN THE SSPS OUTPUT RELAY CABINETS WERE DE-ENERGIZED. PROCEDURES WERE REVISED, AND APPROPRIATE PERSONNEL WILL BE COUNSELED.

[121] MCGUIRE 2 DOCKET 50-370 LER 84-004  
CHEMICAL AND VOLUME CONTROL PUMP DAMAGED.  
EVENT DATE: 011584 REPORT DATE: 022984 NSSS: WE TYPE: PWR

(NSIC 189407) CHEMICAL AND VOLUME CONTROL (NV) PUMP 2A WAS DECLARED INOPERABLE AT 2317 ON JANUARY 15 AFTER THE PUMP WAS STARTED AND RUN FOR APPROXIMATELY 19

MINUTES WITHOUT SUCTION. THE VOLUME CONTROL TANK OUTLET ISOLATION VALVE INADVERTENTLY CLOSED PRIOR TO STARTING THE PUMP, CAUSING DESTRUCTION OF THE PUMP. DURING THIS TIME, NV PUMP 2B WAS INOPERABLE FOR MAINTENANCE. WITH BOTH NV PUMPS INOPERABLE, THE LIMITING CONDITIONS OF TECH SPECS 3.1.2.1 AND 3.1.2.3 WERE NOT MET. HOWEVER, THE ACTION STATEMENTS WERE MET SINCE NO OPERATION INVOLVING CORE ALTERATIONS OR POSITIVE REACTIVITY CHANGES WERE CONDUCTED. UNIT 2 WAS IN MODE 5 AT THE TIME OF THIS INCIDENT. THIS EVENT IS ATTRIBUTED TO PERSONNEL ERROR DUE TO THE OPERATORS' FAILURE TO VERIFY A SUCTION PATH PRIOR TO OPERATING NV PUMP 2A. ALSO, ERROR IS NOTED FOR THEIR SUBSEQUENT FAILURE TO IDENTIFY THE LOSS OF SUCTION TO THE PUMP DURING OPERATION DESPITE CONTROL BOARD INDICATIONS AND NUMEROUS INDIRECT OPERATOR AID COMPUTER (OAC) ALARMS. NV PUMP 2A WAS REPAIRED. APPROPRIATE PERSONNEL WILL BE COUNSELED WITH EMPHASIS PLACED ON VERIFICATION OF FLOW PATHS PRIOR TO STARTING ANY PUMP, AND GIVING OAC ALARMS PROPER ATTENTION.

[122] MCGUIRE 2 DOCKET 50-370 LER 84-005  
 REACTOR TRIP BREAKER ON TRAIN B WAS OPENED DURING BREAKER TIME RESPONSE TESTING.  
 EVENT DATE: 020284 REPORT DATE: 030584 NSSS: WE TYPE: PWR

(NSIC 189372) A UNIT 2 REACTOR TRIP WAS INITIATED ON FEB 2, 1984, AT 1111 DURING PERFORMANCE OF THE "SOLID STATE PROTECTION SYSTEM (SSPS) PERIODIC TEST ABOVE REACTOR COOLANT SYSTEM PRESSURE OF 1955 PSI." THE TRIP OCCURRED WHEN AN INSTRUMENT AND ELECTRICAL (IAE) SPECIALIST, WHO WAS PREPARING TO PLACE THE TRAIN B BYPASS BREAKER IN THE TEST POSITION, MISTAKENLY OPENED THE COMPARTMENT FOR THE TRAIN B REACTOR TRIP BREAKER AND ACCIDENTLY PUSHED THE RED TRIP PUSHBUTTON. UNIT 2 WAS IN MODE 1 AT 89% WHEN THIS INCIDENT OCCURRED.

[123] MCGUIRE 2 DOCKET 50-370 LER 84-006  
 DIGITAL ROD POSITION INDICATION SYSTEM FAILURE RESULTS IN A MANUAL REACTOR TRIP.  
 EVENT DATE: 020384 REPORT DATE: 030584 NSSS: WE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 189373) WHILE ATTEMPTING A UNIT 2 REACTOR STARTUP ON FEBRUARY 3, 1984, A DIGITAL ROD POSITION INDICATION (DRPI) DATA A FAILURE ALARM WAS RECEIVED AT 0107. AT 0134 A DATA B FAILURE ALARM WAS RECEIVED ALONG WITH A DRPI URGENT ALARM (TOTAL DRPI SYSTEM FAILURE). THE CONTROL OPERATOR OPENED THE REACTOR TRIP BREAKERS IN ACCORDANCE WITH THE ACTION STATEMENT OF TECH SPEC 3.1.3.3. THE UNIT WAS IN MODE 3 WITH THE CONTROL BANKS INSERTED AND THE SHUTDOWN BANKS WITHDRAWN WHEN THE REACTOR TRIP BREAKERS WERE OPENED. THIS EVENT IS ATTRIBUTED TO FAILURES OF A CENTRAL CONTROL CARD AND A DISPLAY CARD IN THE DPRI SYSTEM. THE CARDS WERE REPLACED WITH SPARES AND THE DPRI SYSTEM DECLARED OPERABLE.

[124] MCGUIRE 2 DOCKET 50-370 LER 84-008  
 CENTRIFUGAL CHARGING PUMP SPEED CHANGER LOOSES LUBRICATION.  
 EVENT DATE: 022384 REPORT DATE: 032684 NSSS: WE TYPE: PWR

(NSIC 189408) ON FEBRUARY 23, 1984 AT APPROXIMATELY 0915, A TECHNICIAN REMOVED A THERMOMETER FROM THE SPEED CHANGER ON CENTRIFUGAL CHARGING PUMP 2B (NV PUMP 2B) FOR CALIBRATION (WHILE THE PUMP WAS RUNNING). THIS RESULTED IN A LOSS OF LUBRICATION TO THE SPEED CHANGER WHICH LED TO SERIOUS DAMAGE TO THE BEARINGS. DUE TO THE LOSS OF THE SPEED CHANGER, NV PUMP 2B AND CHEMICAL AND VOLUME CONTROL SYSTEM (NV) TRAIN 2B WERE DECLARED INOPERABLE, PURSUANT TO TECH SPECS 3.5.2, 3.1.2.2, AND 3.1.2.4. THESE SPECIFICATIONS REQUIRE THAT BOTH TRAINS OF NV BE OPERABLE IN MODES 1, 2, AND 3. UNIT 2 WAS IN MODE 1 AT 100% POWER AT THE TIME OF THE INCIDENT. NV PUMP 2A WAS STARTED TO MAINTAIN CHARGING FLOW, AND NV PUMP 2B WAS SHUTDOWN. THIS INCIDENT IS ATTRIBUTED TO ADMINISTRATIVE/PROCEDURAL DEFICIENCY. THERMOMETERS ON THE SPEED CHANGER AND OUTBOARD BEARING OF THE PUMP WERE INSTALLED IN THE WRONG LOCATION. THE THERMOMETER TO BE CALIBRATED WAS NOT LISTED IN THE MCGUIRE INSTRUMENT AND CONTROL LIST, AND THE GENERIC CALIBRATION



PROCEDURE AND WORK REQUEST WERE INADEQUATELY PREPARED FOR THE REMOVAL OF THE THERMOMETER FOR CALIBRATION. THE THERMOMETERS WERE EXCHANGED, THE SPEED CHANGERS SHAFT, BEARING, AND GEARS REPLACED, AND THE PUMP TESTED AND DECLARED OPERABLE. PROCEDURES AND WORK REQUESTS WILL BE REVISED WITH RESTRICTIONS TO AID IN THE REMOVAL AND INSTALLATION OF THE THERMOMETERS.

[125] MCGUIRE 2 DOCKET 50-370 LER 84-009  
 REACTOR TRIP FOLLOWING A CARD FAILURE IN THE PROCESS CONTROL SYSTEM.  
 EVENT DATE: 031984 REPORT DATE: 041884 NSSS: WE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 189534) ON MAR 19, 1984 AT 1501.41, A REACTOR TRIP WAS INITIATED BY A STEAM GENERATOR A LO-LO LEVEL. THIS WAS CAUSED BY SYSTEM FLUCTUATIONS AFTER A LOOP POWER SUPPLY (NLP) CARD FAILED IN CHANNEL 1 FOR THE STEAM PRESSURE SIGNAL TO THE 7300 PROCESS CONTROL SYSTEM (PCS) WHICH AFFECTED FEEDWATER (CF) FLOW ON STEAM GENERATOR B. THE FAILURE CAUSED THE B SG CF CONTROL VALVE TO CLOSE. OPERATORS PLACED THE VALVE IN "MANUAL," AND THEN ATTEMPTED TO PLACE THE STEAM FLOW SIGNAL INPUT FOR SG B TO CHANNEL 2. SG'S A, C, AND D LEVEL CONTROLS WERE PLACED IN "MANUAL." THE FEEDWATER PUMPS (FWPS) WERE PUT IN "MANUAL." AFTER THE SYSTEM WAS STABILIZED, PWP A WAS RETURNED TO "AUTOMATIC." THIS CAUSED SYSTEM TRANSIENTS (SG LEVELS BEGAN DECREASING AND SG FEEDWATER FLOWS BEGAN FLUCTUATING) WHICH RESULTED IN A REACTOR TRIP ON SG A LO-LO LEVEL. UNIT 2 WAS IN MODE 1 AT 100% POWER AT THE TIME OF THE REACTOR TRIP. THE REACTOR TRIPPED AS DESIGNED AND NO SYSTEM ABNORMALITIES RESULTED FROM THIS TRIP. THE FAILED NLP CARD WAS REPLACED, THE "MAIN STEAM LINE PRESSURE CALIBRATION" PROCEDURE PERFORMED ON SG B, AND THE LOOP RETURNED TO SERVICE. THIS REPORT (CONCERNING THE LOSS OF A CONTROLLING STEAM FLOW CHANNEL) WILL BE INCLUDED IN OPERATOR REQUALIFICATION TRAINING.

[126] MILLSTONE 1 DOCKET 50-245 LER 84-005  
 LOCAL LEAK RATE TEST FAILURE.  
 EVENT DATE: 041484 REPORT DATE: 050184 NSSS: GE TYPE: BWR  
 VENDOR: CRANE COMPANY

(NSIC 189594) ON APRIL 14, 1984 AT 1530 HOURS, WHILE PERFORMING LOCAL LEAK RATE TESTING OF THE MAIN STEAM ISOLATION VALVES, THE COMBINED LEAK RATE OF THE MSIVS ON THE 'B' MAIN STEAM LINE WAS FOUND TO BE 15.49 SCFH. TECH SPECS REQUIRE THAT NO ONE MSIV EXCEED A LEAK RATE OF 11.5 SCFH AT 25 PSIG. ADDITIONAL INFORMATION, INCLUDING CAUSES, CORRECTIVE ACTIONS AND AS-LEFT LEAK RATES FOR THESE VALVES AND ADDITIONAL VALVES THAT MAY NOT MEET LOCAL LEAK RATE ACCEPTANCE CRITERIA WILL BE PROVIDED IN A SUPPLEMENTAL REPORT. THE PLANT IS PRESENTLY SHUT DOWN FOR A PLANNED REFUELING OUTAGE.

[127] MILLSTONE 2 DOCKET 50-336 LER 84-002  
 REACTOR TRIP DUE TO LOW STEAM GENERATOR LEVEL.  
 EVENT DATE: 011184 REPORT DATE: 021084 NSSS: CE TYPE: PWR  
 VENDOR: FOXBORO CO., THE

(NSIC 189292) THE PLANT WAS RETURNING TO FULL POWER OPERATIONS FOLLOWING A REFUELING OUTAGE. REACTOR POWER ADJUSTMENTS WERE BEING MADE TO THE RECENTLY INSTALLED AUTOMATIC FEEDWATER CONTROL SYSTEM TO ESTABLISH AUTOMATIC CONTROL OF THE BYPASS VALVE AS WELL AS THE MAIN FEEDWATER REGULATING VALVES. LEVEL IN THE NUMBER 1 STEAM GENERATOR STARTED INCREASING AND THE OPERATOR TOOK MANUAL CONTROL TO STOP THE INCREASE. THE INCREASE RATE WAS SLOWED, AND THE LEVEL GRADUALLY REACHED A PEAK OF 92% BEFORE DECREASING. SINCE LEVEL WAS PEAKING THERE WAS NO NEED TO TRIP THE TURBINE, ALTHOUGH GENERAL GUIDELINES REQUIRE A TURBINE TRIP AT 90% STEAM GENERATOR LEVEL. LEVEL CONTINUED TO DECREASE, FEED RATE WAS MANUALLY INCREASED BUT THE ADDED FEED RESULTED IN A LEVEL SHRINK DUE TO THE COLD FEEDWATER. THE REACTOR TRIPPED AS LEVEL DECREASED TO 38.5%. THE LEVEL FINALLY

REACHED 37.2%. REACTOR TRIP AND POST TRIP ACTIONS WERE PERFORMED IN ACCORDANCE WITH PLANT PROCEDURES. REACTOR TRIP RECOVERY PROCEDURES WERE FOLLOWED WITH PERSONNEL RESPONDING AS EXPECTED. DURING THE TRANSIENT AVERAGE TEMPERATURE FELL TO 509 DEGREES FAHRENHEIT AND STEAM GENERATOR PRESSURE FELL TO 740 PSIA. "NORMAL" CONDITIONS ARE 530 DEGREES AND 880 PSIA RESPECTIVELY. THIS TRANSIENT OCCURRED OVER A 1-HOUR PERIOD BEFORE THE MAIN STEAM ISOLATION VALVES WERE CLOSED TO STOP ALL HEAT REMOVAL. THIS CONDITION IS A RESULT OF EARLY FUEL CYCLE LIFE AND THE LACK OF DECAY HEAT AVAILABLE.

[128] MONTICELLO DOCKET 50-263 LER 84-013  
ONE OFFSITE POWER SOURCE LOST.  
EVENT DATE: 031884 REPORT DATE: 041784 NSSS: GE TYPE: BWR

(NSIC 189513) SOURCE AIR CIRCUIT BREAKER ON THE PRIMARY SIDE OF THE STATION AUXILIARY TRANSFORMER, NO. 1AR, TRIPPED, ISOLATING ONE OFFSITE AC POWER SOURCE. SUBSEQUENT LOCKOUT RELAY ACTUATION INITIATED A FAST START OF THE STANDBY DIESEL GENERATORS. NO TRANSFER OF LOADS TO THE DIESEL GENERATORS RESULTED SINCE THE PRIMARY OFFSITE SOURCE REMAINED INTACT. THE DIESEL GENERATORS WERE SHUT DOWN AND RETURNED TO STANDBY STATUS. INITIAL TESTING AND INSPECTION OF NO. 1AR TRANSFORMER AND SOURCE BREAKER FAILED TO SHOW ANY DEFECTS. ATTEMPT TO RECLOSE THE SOURCE AIR CIRCUIT BREAKER FAILED RESULTING IN LOCKOUT RELAY ACTUATION AND A SECOND FAST START OF THE DIESEL GENERATORS. THE DIESEL GENERATORS WERE AGAIN SHUT DOWN AND NO. 1AR TRANSFORMER ISOLATED. INVESTIGATION REVEALED A GROUND FAULT ON THE UNDERGROUND CABLING. CABLE ON ALL THREE PHASES WAS REPLACED AND TESTED AND THE CABLE CONDUIT SEAL REPLACED. THE CABLE CONDUIT SEAL WILL BE INSPECTED AS PART OF THE PREVENTATIVE MAINTENANCE PROGRAM TO BE COMPLETED DURING REFUELING OUTAGES.

[129] MONTICELLO DOCKET 50-263 LER 84-014  
SAFEGUARD INITIATION DUE TO SYSTEM DISTURBANCE.  
EVENT DATE: 032284 REPORT DATE: 042384 NSSS: GE TYPE: BWR

(NSIC 189424) A SYSTEM WIDE DISTURBANCE CAUSED A MOMENTARY IN-HOUSE VOLTAGE DROP. AFFECTED INSTRUMENTATION INITIATED PRIMARY CONTAINMENT GROUP II ISOLATION, START OF STANDBY GAS TREATMENT SYSTEM AND CONTROL ROOM VENTILATION SYSTEM TRIP TO THE EMERGENCY ISOLATION MODE. NO PLANT EQUIPMENT FAILURES WERE NOTED AND ALL AFFECTED SYSTEMS WERE RETURNED TO NORMAL SHORTLY AFTER THE DISTURBANCE.

[130] MONTICELLO DOCKET 50-263 LER 84-015  
SAFEGUARDS INITIATION DUE TO RPS MG FEEDER TRIP.  
EVENT DATE: 032584 REPORT DATE: 042484 NSSS: GE TYPE: BWR  
VENDOR: GENERAL ELECTRIC CO.

(NSIC 189599) THE MOTOR SOURCE BREAKER FOR THE REACTOR PROTECTION SYSTEM POWER SUPPLY MOTOR GENERATOR SET TRIPPED WHICH ISOLATED RPS BUS A LOADS. THESE LOADS CONSIST OF POWER RANGE NEUTRON MONITORS, SCRAM SOLENOID LOGIC CHANNEL A, STEAM LINE AND OFF-GAS RADIATION MONITORS. LOSS OF 120V AC POWER TO RADIATION MONITORS INITIATED A PRIMARY CONTAINMENT GROUP II ISOLATION AND START OF STANDBY GAS TREATMENT SYSTEM. POWER WAS RESTORED TO RPS BUS A FROM ALTERNATE SOURCE AND THE SYSTEM WAS RESET AND RETURNED TO NORMAL WHILE REPAIRS WERE MADE AND EQUIPMENT TESTED. THE MG SET WAS RETURNED TO SERVICE 8 DAYS AFTER THE EVENT.

[131] NINE MILE POINT 1 DOCKET 50-220 LER 83-020 REV 1  
UPDATE ON FAILURE TO PERFORM SEISMIC ANALYSIS OF CONTAINMENT SPRAY TEST VALVES.  
EVENT DATE: 071183 REPORT DATE: 030884 NSSS: GE TYPE: BWR  
VENDOR: HILLER, RALPH A., CO.

(NSIC 189382) AN NRC INSPECTION OF NUREG 0737, SHIELDING REVIEW, REVEALED THAT THE FOUR CONTAINMENT SPRAY TEST VALVES (EP NUMBERS 80-40, 80-41, 80-44 AND 80-45) MAY NOT MEET THE SEISMIC CRITERIA DUE TO THE INSTALLATION OF AIR OPERATORS. THESE OPERATORS WERE INSTALLED WITHOUT PROPER SEISMIC ANALYSIS. THE CAUSE OF THIS PROBLEM WAS THE FAILURE TO PERFORM A SEISMIC ANALYSIS IN THE DESIGN OF THE MODIFICATION. ON JULY 11, 1983, THE AIR OPERATORS ON VALVES 80-44 AND 80-45 WERE REMOVED TO RESTORE ONE CONTAINMENT SPRAY SYSTEM TO AN ACCEPTABLE CONFIGURATION FOR SEISMIC OPERABILITY OF ONE SYSTEM. THE FOLLOWING DAY, JULY 12, 1983, THE AIR OPERATORS ON VALVES 80-40 AND 80-41 WERE THEN REMOVED TO PLACE BOTH CONTAINMENT SPRAY SYSTEMS IN AN ACCEPTABLE CONDITION FOR SEISMIC OPERABILITY AND TO COMPLY WITH TECH SPEC 3.3.7. A SEISMIC ANALYSIS OF THE CONTAINMENT SPRAY TEST/ALTERNATE TORUS COOLING LINES AFFECTED BY THE INSTALLATION OF THE SUBJECT VALVE OPERATORS IS BEING PERFORMED TO DETERMINE THE SEISMIC ACCEPTABILITY OF THESE SYSTEMS. THE RESULTS OF THIS ANALYSIS WILL FOLLOW AS REVISION 1 TO THIS LER.

[132] NINE MILE POINT 1 DOCKET 50-220 LER 84-001  
FAILURE OF TYPE AK BREAKERS.  
EVENT DATE: 032084 REPORT DATE: 041984 NSSS: GE TYPE: BWR

(NSIC 189420) DURING AND JUST PRIOR TO THE CURRENT REFUELING OUTAGE, PROBLEMS WITH THE OPERATION AND TESTING OF GE TYPE AK CIRCUIT BREAKERS WERE ENCOUNTERED WHICH RESULTED IN FAILURE TO TRIP AND/OR IN PREMATURE TRIP ON OVERCURRENT. THE FAILURES ARE ATTRIBUTED TO AGE INDUCED HARDENING OF GROMMETS IN THE EC-2A ELECTROMECHANICAL OVERCURRENT DEVICE. THIS DEVICE CAN BE USED ON AK-15, AK-25, AND AK-50 SERIES BREAKERS. CORRECTIVE ACTIONS TAKEN OR PLANNED INCLUDE REPLACEMENT WITH NEW OR NEWLY REBUILT EC-2A DEVICES AND ESTABLISHMENT OF AN ADEQUATE PREVENTIVE MAINTENANCE SURVEILLANCE INTERVAL.

[133] NINE MILE POINT 1 DOCKET 50-220 LER 84-002  
CONTROL ROD DRIVE HOUSING LEAKS.  
EVENT DATE: 032784 REPORT DATE: 042684 NSSS: GE TYPE: BWR  
VENDOR: COMBUSTION ENGINEERING, INC.

(NSIC 189509) DURING AN INSPECTION OF THE CONTROL ROD DRIVE HOUSINGS, A SMALL LEAK WAS DISCOVERED AT ONE LOCATION, AND EVIDENCE OF LEAKAGE WAS DISCOVERED AT OTHER LOCATIONS. THE CAUSE IS BELIEVED TO BE INTERGRANULAR STRESS CORROSION CRACKING (IGSCC) IN THE STUB TUBE HEAT AFFECTED ZONE OF THE STUB TUBE TO CONTROL ROD DRIVE HOUSING WELDS. CORRECTIVE ACTION TAKEN WAS TO ROLL THESE HOUSINGS INTO THE REACTOR VESSEL PENETRATION.

[134] NORTH ANNA 1 DOCKET 50-338 LER 84-003  
TURBINE TRIP-REACTOR TRIP FROM SPURIOUS E.H.C. RESERVOIR LOW LEVEL SIGNAL.  
EVENT DATE: 020884 REPORT DATE: 030784 NSSS: WE TYPE: PWR  
VENDOR: ABEX DENISON COMPANY (DIV OF ABEX CORPORATION)

(NSIC 189398) ON FEBRUARY 8, 1984, AT 0957 HOURS, WITH UNIT 1 AT 21 PERCENT NUCLEAR POWER, A TURBINE TRIP-REACTOR TRIP OCCURRED DUE TO THE RECEIPT OF A SPURIOUS ELECTROHYDRAULIC CONTROL (EHC) FLUID RESERVOIR LOW LEVEL TURBINE TRIP SIGNAL. ALL PLANT PARAMETERS REMAINED WITHIN THE BOUNDS OF THE SAFETY ANALYSIS AND NORMAL FOR A POST TRIP CONDITION. ALL EQUIPMENT PERFORMED AS REQUIRED. THE CAUSE OF THE SPURIOUS EHC RESERVOIR LOW LEVEL TURBINE TRIP WAS VIBRATION. SECONDS PRIOR TO THE TRIP, THE SECOND OF TWO E.H.C. PUMPS, WHICH TAKE SUCTION FROM THE E.H.C. RESERVOIR, WAS STARTED, IN PREPARATION FOR MAINTENANCE, DUE TO UNLOADER PROBLEMS ON THE FIRST PUMP. EXCESSIVE VIBRATION OCCURRED WITH BOTH PUMPS RUNNING DUE TO THE UNLOADER OF THE SECOND PUMP ALSO EXHIBITING PROBLEMS. IT IS ASSUMED THAT UNLOADER MALFUNCTION CAUSED THE ABNORMAL PUMP VIBRATION. DUE TO THE CLOSE PROXIMITY OF THE LOW LEVEL SWITCH TO THE PUMPS, THE LEVEL SWITCH LOW LEVEL CONTACTS MADE UP AND INITIATED A TURBINE TRIP. CORRECTIVE ACTIONS TAKEN TO

PREVENT RECURRENCE WERE TO READJUST THE UNLOADERS PRIOR TO RETURNING STEAM TO THE TURBINE.

[135] NORTH ANNA 2 DOCKET 50-339 LER 84-001  
 REACTOR TRIPS FROM LOW STEAM GENERATOR LEVEL.  
 EVENT DATE: 031384 REPORT DATE: 040584 NSSS: WE TYPE: PWR  
 VENDOR: LIMITORQUE CORP.

(NSIC 189530) ON MARCH 13, 1984, WITH UNIT 2 AT 100 PERCENT POWER, A REACTOR TRIP-TURBINE TRIP OCCURRED AT 1530 DUE TO THE RECEIPT OF AN "A" STEAM GENERATOR FEED FLOW-STEAM FLOW MISMATCH COINCIDENT WITH A LOW STEAM GENERATOR LEVEL SIGNAL. PLANT PARAMETERS WARRANTED THE TRIP DUE TO THE CLOSURE OF THE "A" MAIN FEED REGULATING VALVE. THE CAUSE OF THE CLOSURE OF THE MAIN FEED REGULATING VALVE WAS AN INSTANTANEOUS LOSS OF POWER TO "A" STEAM GENERATOR FEEDWATER CONTROL SYSTEM CARDS IN PROCESS RACK 6. THE SUPPLY POWER LOSS WAS A RESULT OF THE REINSTALLATION OF THE REDUNDANT POWER SUPPLY. THE LOSS OF POWER CAUSED THE LOCAL MANUAL-AUTO VALVE STATION IN THE CONTROL ROOM TO SWITCH TO MANUAL WITH ZERO DEMAND WHICH SUBSEQUENTLY CLOSED THE "A" MAIN FEED REGULATING VALVE. A SECOND REACTOR TRIP OCCURRED AT 1702 DUE TO LOW-LOW WATER LEVEL IN THE "C" STEAM GENERATOR. THE REACTOR WAS NOT CRITICAL AT THE TIME OF THE TRIP. A THIRD REACTOR TRIP OCCURRED FROM 1% POWER AT 2036 DUE TO LOW-LOW WATER LEVEL IN THE "C" STEAM GENERATOR. BOTH TRIPS WERE DUE TO MANUAL FEEDWATER CONTROL DIFFICULTIES AT LOW POWER.

[136] OYSTER CREEK DOCKET 50-219 LER 84-001  
 DIESEL GENERATOR FUEL OIL TANK LEVEL BELOW TECH SPEC LIMIT.  
 EVENT DATE: 030384 REPORT DATE: 040284 NSSS: GE TYPE: BWR

(NSIC 189419) ON FRIDAY, MAR 2, 1984, DIESEL GENERATOR #2 (DG-2) WAS STARTED AND ALLOWED TO RUN FOR 4 HRS FOR POST-MAINTENANCE TESTING. THE DG FUEL OIL TANK LEVEL AFTER TESTING WAS BELOW THE TECH SPEC LIMIT OF 14,500 GAL. EARLY ON SATURDAY, MAR 3, 1984, ANOTHER LOAD TEST WAS PERFORMED ON DG-2, FOR APPROXIMATELY 1 HR. THE OIL TANK LEVEL BY THE LEVEL GAUGE WAS BELOW THE TECH SPEC LIMIT, HOWEVER, BY VISUAL CHECK INSIDE THE TANK, THE LEVEL APPEARED TO BE ABOVE THE TECH SPEC LIMIT. ON THE NEXT SHIFT, THE LEVEL WAS CHECKED AGAIN AND FOUND TO BE BELOW THE TECH SPEC LIMIT. OIL WAS TRANSFERRED INTO THE TANK TO BRING THE LEVEL ABOVE THE LIMIT OF 14,500 GAL.

[137] PALISADES DOCKET 50-255 LER 84-001  
 ALL AC POWER LOST.  
 EVENT DATE: 010884 REPORT DATE: 020784 NSSS: CE TYPE: PWR

(NSIC 189421) ON JAN. 8, 1984, THE PALISADES NUCLEAR PLANT EXPERIENCED A COMPLETE LOSS OF ALL NORMAL COMMUNICATIONS LINKS BETWEEN THE PLANT, THE NRC AND STATE/LOCAL AUTHORITIES. THE EVENT WAS PRECIPITATED BY THE NEED TO ISOLATE A FAULTY SWITCHYARD BREAKER. TO ACCOMPLISH THE ISOLATION, IT WAS NECESSARY TO INTERRUPT THE OFFSITE POWER SUPPLY TO THE PLANT. AT THE TIME OF THE EVENT, PALISADES WAS IN A REFUELING OUTAGE WITH ALL FUEL REMOVED FROM THE REACTOR AND ONE DIESEL GENERATOR INOPERABLE. WHILE OPERATING PROCEDURES REQUIRE TWO OPERABLE DIESEL GENERATORS PRIOR TO REMOVING OFFSITE POWER, THE SHIFT SUPERVISOR PROCEEDED WITH THE EVOLUTION AFTER DETERMINING THE SAFETY OF THE FUEL WOULD NOT BE JEOPARDIZED. IN PREPARING FOR THE EVOLUTION, THE OPERATORS FAILED TO REALIZE THAT THERE WOULD BE NO OPERABLE SERVICE WATER PUMPS SUPPLIED BY THE OPERATING DIESEL. CONSEQUENTLY, AFTER 50 MIN THE DIESEL OVERHEATED DUE TO LACK OF COOLING WATER AND WAS MANUALLY TRIPPED. THE RESULTING LOSS OF ONSITE AC POWER CAUSED A LOSS OF ALL PLANT TELEPHONES AND RADIOS FOR 45 MIN. ONSITE POWER WAS SUBSEQUENTLY RE-ENERGIZED FROM THE SWITCHYARD, RESULTING IN THE RESTORATION OF

NORMAL COMMUNICATIONS. THE INCIDENT RESULTED IN THE DECLARATION OF AN UNUSUAL EVENT.

[138] PALISADES DOCKET 50-255 LER 84-003  
DISCONNECTED AUXILIARY FEEDWATER PIPE HANGER.  
EVENT DATE: 022084 REPORT DATE: 043084 NSSS: CE TYPE: PWR

(NSIC 189598) ON FEBRUARY 20, 1984, WHILE SHUTDOWN FOR REFUELING, A PIPE HANGER ON AUXILIARY FEEDWATER PIPING TO THE 'B' STEAM GENERATOR WAS DISCOVERED TO BE DISCONNECTED FROM ITS SUPPORT STRUT. THE PROBABLE CAUSE OF THE CONDITION WAS DETERMINED TO BE VIBRATION OF AUXILIARY FEEDWATER PIPING. VIBRATION RESULTED IN THE LOOSENING OF A NUT WHICH FASTENED THE HANGER TO ITS SUPPORT STRUT. ULTIMATELY, THE NUT BECAME COMPLETELY UNTHREADED, CAUSING THE OBSERVED CONDITION. EVALUATION SUBSEQUENTLY DETERMINED THAT FOR A POSTULATED SEISMIC EVENT, THE AUXILIARY FEEDWATER LINE TO THE 'B' STEAM GENERATOR WOULD BE OVERSTRESSED AS A DIRECT RESULT OF THE DISCONNECTED HANGER. THE HANGER WILL BE REPAIRED PRIOR TO RETURNING TO OPERATION. ALL HANGERS ON THE AUXILIARY FEEDWATER LINES WILL BE INSPECTED FOR LOOSE COMPONENTS, AND BE REPAIRED AS NECESSARY.

[139] PALISADES DOCKET 50-255 LER 84-002  
CONTAINMENT ISOLATION ACTUATION.  
EVENT DATE: 040184 REPORT DATE: 042684 NSSS: CE TYPE: PWR

(NSIC 189512) ON APR. 1, 1984, WITH REFUELING OPERATIONS IN PROGRESS, OPERATORS INADVERTENTLY STRUCK AN AREA RADIATION MONITOR WITH A POLE THAT WAS BEING USED TO REPOSITION REACTOR CAVITY AUXILIARY LIGHTNING. PHYSICAL CONTACT WITH THE RADIATION MONITOR RESULTED IN AN AUTOMATIC ACTUATION OF CONTAINMENT ISOLATION.

[140] PEACH BOTTOM 2 DOCKET 50-277 LER 84-003  
REACTOR VESSEL HEATUP RATE EXCEEDED 100 DEGREES FAHRENHEIT PER HOUR.  
EVENT DATE: 013184 REPORT DATE: 030184 NSSS: GE TYPE: BWR  
VENDOR: GENERAL ELECTRIC CO.

(NSIC 189096) TECH SPEC 3.6.A.1 STATES THAT THE AVERAGE RATE OF REACTOR COOLANT TEMPERATURE CHANGE DURING NORMAL HEATUP OR COOLDOWN SHALL NOT EXCEED 100 F INCREASE (OR DECREASE) IN ANY ONE HR PERIOD. DURING STARTUP ON UNIT 2, THE REACTOR OPERATOR NOTED THAT THE HEATUP RATE WAS EXCEEDING THE TECH SPEC LIMIT OF 100 F IN A 1 HR PERIOD PER SURVEILLANCE TEST 9.12 (REACTOR VESSEL TEMPERATURES). IN RESPONDING, THE OPERATOR FAILED TO TAKE ADEQUATE CORRECTIVE ACTION RAPIDLY ENOUGH AND THE REACTOR COOLANT TEMPERATURE INCREASED BY 110 F WITHIN A 1 HR PERIOD. BECAUSE ORIGINAL DESIGN ANALYSIS CONSIDERED REACTOR VESSEL THERMAL TRANSIENTS FAR GREATER THAN 110 F PER HR, THIS EVENT IS CONSIDERED TO HAVE MINIMAL SAFETY SIGNIFICANCE. AN ENGINEERING EVALUATION THAT SPECIFICALLY ADDRESSES THIS EVENT WILL BE PROVIDED IN A FOLLOW-UP REPORT.

[141] PEACH BOTTOM 2 DOCKET 50-277 LER 84-004  
RHR FULL-FLOW TEST LINE ISOLATION VALVE PACKING LEAKS.  
EVENT DATE: 021384 REPORT DATE: 031484 NSSS: GE TYPE: BWR  
VENDOR: WALWORTH COMPANY

(NSIC 189390) ON FEBRUARY 13, 1984, WHILE PERFORMING LOCAL LEAK RATE TESTS ON THE 'B' RHR SYSTEM VALVES ON UNIT 2, A PACKING LEAK WAS DISCOVERED USING LEAK DETECTION FLUID ON THE RHR FULL-FLOW TEST LINE ISOLATION VALVE, MO2-10-34B, WHICH ALLOWED VENTING OF TORUS ATMOSPHERE TO SECONDARY CONTAINMENT. THE LEAKAGE WAS NON-ISOLATABLE FROM PRIMARY CONTAINMENT EXCEPT BY BACKSEATING THE VALVE. THE LEAKAGE COULD NOT BE MEASURED DUE TO THE PIPING CONFIGURATION. THE CAUSE WAS A RESULT OF LOOSE PACKING. THE PACKING WAS TIGHTENED, THE VALVE WAS STROKE TESTED

SATISFACTORILY AND RETURNED TO SERVICE WITHIN 3 HOURS FROM THE TIME OF ITS DISCOVERY. THIS LER IS SUBMITTED PURSUANT TO THE FACT THAT A DETERMINATION COULD NOT BE MADE AS TO WHETHER OR NOT THE CONTAINMENT LEAKAGE WAS WITHIN ALLOWABLE TECH SPEC LIMITS. THE APPLICABLE TECH SPEC IS 4.7.A.2.D.

[142] PEACH BOTTOM 2 DOCKET 50-277 LER 84-005  
 SPURIOUS ACTUATION OF THE PRIMARY CONTAINMENT ISOLATION SYSTEM.  
 EVENT DATE: 032384 REPORT DATE: 041984 NSSS: GE TYPE: BWR

(NSIC 189621) ON MARCH 23, 1984, AT 3:47 P.M., WITH UNIT 2 AT 95% POWER LEVEL, A PARTIAL ACTUATION OF THE PRIMARY CONTAINMENT ISOLATION SYSTEM (PCIS) OCCURRED. INVESTIGATION REVEALED THAT THE ACTUATION WAS THE RESULT OF A LOSS OF POWER TO A PORTION OF THE PCIS LOGIC. THE PCIS IS DESIGNED AS A FAIL-SAFE SYSTEM AND OPERATED AS SUCH BY ISOLATING THE INBOARD ISOLATION VALVES IN GROUP II-D OF THE PCIS. THE LOSS OF POWER WAS DUE TO A BLOWN FUSE WHICH RESULTED FROM A SHORTED COIL IN RELAY 16A-K56 (GENERAL ELECTRIC, MODEL NO. CR120A04002AA). THE RELAY WAS REPLACED, VERIFIED AS OPERABLE, AND THE PCIS WAS RETURNED TO SERVICE.

[143] PEACH BOTTOM 2 DOCKET 50-277 LER 84-007  
 REACTOR WATER CLEANUP (RWCU) SYSTEM ISOLATION.  
 EVENT DATE: 040384 REPORT DATE: 042784 NSSS: GE TYPE: BWR

(NSIC 189622) ON APRIL 3, 1984, AT 9:15 A.M., WITH UNIT 2 AT 92% POWER LEVEL, THE REACTOR WATER CLEANUP (RWCU) SYSTEM ISOLATED ON HIGH TEMPERATURE. INVESTIGATION REVEALED THAT THE ISOLATION OCCURRED AS THE RESULT OF THE LOSS OF ELECTRICAL POWER TO TEMPERATURE INDICATING SWITCH, TIS-12-99, WHICH ISOLATES THE RWCU SYSTEM ON HIGH TEMPERATURE AT THE OUTLET OF THE NONREGENERATIVE HEAT EXCHANGERS. THE ACTUAL OUTLET TEMPERATURE WAS APPROXIMATELY 90 DEGREES F. MAINTENANCE, WORKING ON TIS-12-89B ("B" RWCU RECIRC. PUMP TRIP ON HIGH COOLING WATER TEMP.), SHORTED THE HOT LEAD TO GROUND CAUSING FUSE 12A-F1 TO BLOW. THIS FUSE ALSO SUPPLIES ELECTRICAL POWER TO TIS-12-99. THE FUSE WAS REPLACED, AND THE RWCU SYSTEM WAS RETURNED TO SERVICE BY 9:50 A.M. ON APRIL 3, 1984.

[144] PILGRIM 1 DOCKET 50-293 LER 84-004  
 SAFETY VALVE SETPOINTS BELOW REQUIREMENT OF TECHNICAL SPECIFICATIONS.  
 EVENT DATE: 032884 REPORT DATE: 042684 NSSS: GE TYPE: BWR  
 VENDOR: DRESSER INDUSTRIAL VALVE & INST DIV

(NSIC 189625) ON 3/28/83, DURING A REFUELING OUTAGE, THE MAINTENANCE DEPARTMENT WAS NOTIFIED BY WYLE LABORATORIES THAT BOTH OF THE MAIN STEAM SAFETY VALVES EXHIBITED SET PRESSURES MORE THAN 1% BELOW THE NAMEPLATE SET PRESSURE. THIS IS CONTRARY TO THE REQUIREMENTS OF PNPS TECH SPEC 2.2.C WHICH REQUIRES BOTH VALVES TO LIFT AT 1240 PSI +/- 13 PSI. WHEN TESTED, ONE VALVE LIFTED AT 1209 PSI, AND THE OTHER LIFTED AT 1155 PSI. CAUSE AND CORRECTIVE ACTION ARE PENDING RECEIPT OF A WRITTEN REPORT FROM WYLE LAB.

[145] PILGRIM 1 DOCKET 50-293 LER 84-005  
 TWO TARGET ROCK SAFETY RELIEF VALVES HAVE OPERABILITY PROBLEMS.  
 EVENT DATE: 040484 REPORT DATE: 050484 NSSS: GE TYPE: BWR  
 VENDOR: TARGET ROCK CORP.

(NSIC 189610) ON 4/4/84, DURING A REFUELING OUTAGE, THE MAINTENANCE DEPARTMENT WAS NOTIFIED BY WYLE LABORATORIES THAT THE PILOT VALVES ON TWO OF THE TARGET ROCK TWO-STAGE SAFETY RELIEF VALVES (S/RV'S) DID NOT LIFT WITHIN SPECIFICATION WHEN DIAGNOSTICALLY TESTED IN THE AS-FOUND CONDITION. THIS IS CONTRARY TO THE REQUIREMENTS OF THE INTENT OF PNPS TECH SPEC 2.2.B WHICH REQUIRED THE S/RV'S TO LIFT AT 1095 PSI PLUS OR MINUS 11 PSI. THE MOST PROBABLE CAUSE OF THE SAFETY

RELIEF VALVES NOT LIFTING HAS INITIALLY BEEN DETERMINED TO BE STUCK PILOT VALVES. DETERMINATION OF ROOT CAUSE AND CORRECTIVE ACTION IS PENDING FURTHER ANALYSIS AND TESTING.

[146] PILGRIM 1 DOCKET 50-293 LER 84-006  
 FIRE DOOR DEGRADATION.  
 EVENT DATE: 040584 REPORT DATE: 050484 NSSS: GE TYPE: BWR  
 VENDOR: WILLIAMSBURG

(NSIC 189611) ON 4/5/84, DURING A REFUELING OUTAGE, A DETAILED INSPECTION WAS MADE OF TECH SPEC REQUIRED FIRE DOORS. AS A RESULT OF THAT INSPECTION, 37 FIRE DOORS WERE FOUND TO BE POTENTIALLY NONFUNCTIONAL DUE TO HOLES IN THE DOOR AND FRAME, EXCESSIVE SPACES, OR OTHER DAMAGE. FIRE PATROLS WERE ESTABLISHED AS A COMPENSATORY MEASURE. THE PLANT MAY HAVE BEEN OPERATED FOR SOME TIME PRIOR TO THE DEC 10, 1983 SHUTDOWN WITH THESE DOORS IN A DEGRADED CONDITION AND WITHOUT A FIRE PATROL ESTABLISHED AS PER TECH SPEC 3.12.F.

[147] POINT BEACH 2 DOCKET 50-301 LER 84-001  
 SNUBBER REMOVED PRIOR TO TECH SPEC CHANGE.  
 EVENT DATE: 022384 REPORT DATE: 031584 NSSS: WE TYPE: PWR  
 VENDOR: GRINNELL CORP.

(NSIC 189356) THE PIPE SNUBBER IN LOCATION ID NO. 2HS-M75 AS LISTED IN TECH SPEC TABLE 15.3.13-1 WAS REMOVED PRIOR TO OBTAINING A TECH SPEC CHANGE TO ALLOW ITS REMOVAL. THE SNUBBER WAS REINSTALLED WITHIN 72 HRS OF THE EVENT DATE TO SATISFY THE LIMITING CONDITION OF OPERATION SPECIFIED IN TECH SPEC 15.3.13.2. THE SNUBBER HAD BEEN REMOVED AS PART OF A MAJOR MODIFICATION TO THE PRESSURIZER RELIEF VALVE PIPING SUPPORTS BASED ON REANALYSIS REQUIRED BY NUREG-0737. AT NO TIME WAS THE SYSTEM IN AN UNSAFE OR UNANALYZED CONDITION. A TECH SPEC CHANGE TO DELETE THE SNUBBER HAS BEEN INITIATED.

[148] QUAD CITIES 1 DOCKET 50-254 LER 84-001  
 SHUTDOWN DUE TO INOPERABLE HPCI SYSTEM AND SAFETY RELIEF VALVE FAILURE.  
 EVENT DATE: 030584 REPORT DATE: 032684 NSSS: GE TYPE: BWR  
 VENDOR: BYRON JACKSON PUMPS, INC.  
 DRESSER INDUSTRIES, INC.

(NSIC 189344) A REACTOR SHUTDOWN WAS INITIATED ON MAR 5, 1984, DUE TO THE OCCURRENCE OF TWO UNRELATED EVENTS. DURING THE PERFORMANCE OF QOS 2300-2, HIGH PRESSURE COOLANT INJECTION (HPCI) PUMP OPERABILITY, THE PUMP LUBRICATING OIL WAS FOUND TO BE CONTAMINATED WITH WATER. THE SURVEILLANCE WAS COMPLETED SUCCESSFULLY BUT HPCI WAS DECLARED INOPERABLE DUE TO THE CONTAMINATED OIL. WHILE TESTING REDUNDANT SAFETY SYSTEMS, AS REQUIRED BY TECH SPECS, ELECTROMATIC RELIEF VALVE 1-203-3E FAILED TO OPEN WHEN GIVEN A MANUAL SIGNAL. THE REACTOR WAS, THEREFORE, SHUTDOWN PER TECH SPEC 3.5.C.3. ALTHOUGH IT HAD BEEN DECLARED INOPERABLE, THE HPCI SYSTEM WAS STILL CAPABLE OF PERFORMING ITS INTENDED FUNCTION. ALSO, THE FOUR REMAINING RELIEF VALVES OPERATED PROPERLY AND PROVIDED SUFFICIENT CAPACITY TO FULFILL AUTOMATIC DEPRESSURIZATION SYSTEM REQUIREMENTS.

[149] QUAD CITIES 1 DOCKET 50-254 LER 84-003  
 SPURIOUS LOW WATER LEVEL SCRAMS OCCUR.  
 EVENT DATE: 030684 REPORT DATE: 040284 NSSS: GE TYPE: BWR

(NSIC 189385) ON MARCH 6, 1984, WITH THE REACTOR IN SHUTDOWN, THREE FULL REACTOR SCRAMS WERE RECEIVED DUE TO ERRATIC REACTOR WATER LEVEL INDICATIONS. THESE ERRATIC INDICATIONS WERE CAUSED BY UNUSUAL TEMPERATURE AND PRESSURE CONDITIONS RESULTING FROM A PROCEDURE DEFICIENCY WHICH ALLOWED THE REACTOR WATER TO BE

COOLED WITH THE REACTOR NOT VENTED. THESE UNUSUAL CONDITIONS COULD ONLY OCCUR WHEN THE REACTOR IS BEING SHUTDOWN FOR REFUELING. THE REACTOR OPERATOR CORRECTLY FOLLOWED ALL PROCEDURES. THE PROCEDURE HAS BEEN REVISED TO GUARD AGAINST A RECURRENCE OF THIS EVENT. THIS REPORT IS BEING SUBMITTED TO DOCUMENT THE REACTOR SCRAMS THAT OCCURRED WITH THE UNIT SHUTDOWN.

[150] QUAD CITIES 1 DOCKET 50-254 LER 84-004  
 MAIN STEAM ISOLATION VALVES LEAK.  
 EVENT DATE: 031684 REPORT DATE: 040684 NSSS: GE TYPE: BWR  
 VENDOR: NUMATICS

(NSIC 189384) ON MARCH 16, 1984, FIVE MAIN STEAM ISOLATION VALVES ON UNIT ONE WERE FOUND TO LEAK IN EXCESS OF THE 11.5 SCFH LIMIT GIVEN IN TECH SPEC 3.7.A.2.A.3. THE EXCESSIVE LEAKAGES FOR VALVES AO 1-203-1B, AO 1-203-2B, AO 1-203-1C, AO 1-203-2C, AND AO 1-203-2D WERE IDENTIFIED DURING LOCAL LEAK RATE TESTING PERFORMED WHILE UNIT ONE WAS SHUTDOWN FOR END OF CYCLE SEVEN REFUELING. CAUSES FOR THE EXCESSIVE LEAKAGES HAVE NOT YET BEEN DETERMINED. REPAIRS WILL BE COMPLETED AND LEAKAGES BROUGHT TO WITHIN TECH SPEC REQUIREMENTS PRIOR TO CYCLE EIGHT STARTUP. A SUPPLEMENTAL REPORT WILL BE ISSUED AT THAT TIME.

[151] RANCHO SECO DOCKET 50-312 LER 84-011  
 SURVEILLANCE PROCEDURES HAVE INCORRECT CONFIGURATION TABLE.  
 EVENT DATE: 030684 REPORT DATE: 040684 NSSS: BW TYPE: PWR

(NSIC 189430) ON MAR 6, 1984 QUALITY ASSURANCE REPORTED THAT THE CONFIGURATION TABLES IN SURVEILLANCE PROCEDURES SP 203.02 A, B, AND C (QUARTERLY AND ANNUAL INSPECTION AND SURVEILLANCE TESTS FOR HPI LOOP A, HPI LOOP B, AND MAKEUP PUMP AND VALVES) WERE MISLEADING AND INCORRECT WITH RESPECT TO THE CROSSTIE ISOLATION VALVES. THE SURVEILLANCE PROCEDURES ARE CURRENTLY BEING REVISED IN ORDER TO DELETE THE CONFIGURATION TABLES AND ADD NOTATIONS TO REFER TO THE OPERATING PROCEDURE, A.15 (MAKEUP, PURIFICATION, AND LETDOWN SYSTEM) FOR THE ALLOWABLE BREAKER AND VALVE CONFIGURATIONS.

[152] RANCHO SECO DOCKET 50-312 LER 84-013  
 SECURED HIGH RADIATION AREA DOORS OPEN.  
 EVENT DATE: 030684 REPORT DATE: 040584 NSSS: BW TYPE: PWR

(NSIC 189391) ON MARCH 6, 1984 AT 0845, THE DOOR TO THE RADWASTE CRUD FILTER ROOM AND THE DOOR TO THE DECAY HEAT COOLER ROOMS (BOTH SECURED HIGH RADIATION AREAS) WERE FOUND OPEN. THE DOORS WERE SHUT AND LOCKED, AND SIGNS WILL BE PUT ON LOCAL ZONES TO INDICATE THAT DOORS TO SECURED HIGH RADIATION AREAS MUST BE MAINTAINED LOCKED CLOSED, IN ORDER TO PREVENT A REOCCURRENCE OF THIS PROBLEM.

[153] RANCHO SECO DOCKET 50-312 LER 84-014  
 SURVEILLANCE PROCEDURE SP 205.02 NOT REVISED.  
 EVENT DATE: 031284 REPORT DATE: 041284 NSSS: BW TYPE: PWR

(NSIC 189431) DURING THE SCHEDULED REFUELING OUTAGE OF FEB 17, 1983 THROUGH AUG 5, 1983, LOCAL LEAK RATE TESTS WERE CONDUCTED ON ELECTRICAL AND MECHANICAL PENETRATIONS. DURING THE OUTAGE 6 ADDITIONAL ELECTRICAL PENETRATIONS WERE ADDED AND 1 MECHANICAL MODIFICATION TO AN EXISTING PENETRATION WAS MADE. HOWEVER, SURVEILLANCE PROCEDURE SP 205.02 (LOCAL COMPONENT LEAK RATE TESTING SURVEILLANCE) WAS NOT REVISED TO INCLUDE THESE CHANGES. CONSEQUENTLY, THERE WAS NO APPROVED TEST PROCEDURE FOR THE NEW PENETRATIONS. SUBSEQUENTLY, TESTS WERE RUN ON THE NEW PENETRATIONS, VIA A WORK REQUEST THAT REFERENCED THE SURVEILLANCE PROCEDURE. ALTHOUGH THE TESTING WAS CONDUCTED WITHOUT A SPECIFIC APPROVED PROCEDURE, THE FACT THAT THE REQUIREMENTS OF THE SURVEILLANCE PROCEDURE WERE IMPOSED BY THE WORK



REQUEST INDICATES THAT THE TEST OF THE NEW PENETRATIONS WAS STILL VALID UNDER THE TECH SPECS SURVEILLANCE STANDARDS SECTION 4.4.1. THIS WEAKNESS IN SURVEILLANCE PROCEDURE 205.02 HAS BEEN CORRECTED WITH A TEMPORARY CHANGE AND PERMANENT CORRECTIVE MEASURES WILL BE COMPLETE BY JUN 1, 1984. THE ENGINEER RESPONSIBLE FOR THE WORK REQUEST HAS BEEN REMINDED OF THE REQUIREMENT TO VERIFY THAT THE PROCEDURES REFERENCED IN THE WORK REQUEST ARE COMPLETE AND APPLICABLE TO THE SPECIFIC WORK REQUIRED.

[154] RANCHO SECO DOCKET 50-312 LER 84-015  
 RELATED INCIDENTS TO HYDROGEN EXPLOSION.  
 EVENT DATE: 031984 REPORT DATE: 041984 NSSS: BW TYPE: PWR  
 VENDOR: DRESSER INDUSTRIAL VALVE & INST DIV  
 ITE IMPERIAL CORPORATION  
 WESTINGHOUSE ELECTRIC CORP.

(NSIC 189523) UNIT 1 WAS GENERATING AT 92% POWER. THE WESTINGHOUSE MAIN GENERATOR HYDROGEN SEAL OIL SYSTEM HYDROGEN SIDE PUMP HAD BEEN OFF FOR 1 HR DUE TO SECONDARY PLANT ELECTRICAL BUS PROBLEMS. DUE TO SEAL OIL SYSTEM PROBLEMS, HIGH DEFOAMING TANK AND HYDROGEN SIDE DRAIN REGULATOR TANK LEVELS OCCURRED WHICH REQUIRED THE OPERATORS TO TAKE MANUAL CONTROL OF DRAIN REGULATOR TANK LEVEL. INADEQUATE MANUAL LEVEL CONTROL CAUSED HYDROGEN SEAL OIL PRESSURE TO DECREASE ALLOWING HYDROGEN TO ESCAPE FROM THE GENERATOR, RESULTING IN AN EXPLOSION AND FIRE. THE TURBINE/GENERATOR WAS MANUALLY TRIPPED (2151:05 HRS) AND THE REACTOR TRIPPED ON ANTICIPATORY TRIP FROM THE TURBINES. 1 HR LATER A 4 MIN PARTIAL LOSS OF NON-NUCLEAR INSTRUMENTATION (NNI) POWER OCCURRED DUE TO AN OVERVOLTAGE TRIP SETPOINT DRIFT. 3 REPORTABLE EVENTS OCCURRED 1) LUBRICATING OIL WAS DISCHARGED INTO THE PLANT LIQUID EFFLUENT STREAM. A HYDROGEN SEAL OIL SYSTEM MALFUNCTION CAUSED OIL TO ENTER THE GENERATOR. 2) THE FIRE PROTECTION CO2 TANK WAS EMPTIED BY AUTOMATIC TIMED DISCHARGE OF THE SYSTEM INTO THE FIRE AREA; MINIMUM TANK LEVEL IS 60% PER TECH SPECS. 3) A PRIMARY CODE SAFETY VALVE LIFTED 140 PSIG BELOW THE 2500 PSI SETPOINT DURING THE RCS PRESSURE TRANSIENT ASSOCIATED WITH THE PARTIAL NNI POWER LOSS. CORRECTIVE ACTION TO BE COMPLETED INCLUDES A CONCERTED EFFORT BY THE DISTRICT FOR IMPLEMENTATION OF VARIOUS RECOMMENDATIONS IN ORDER TO PREVENT FUTURE SIMILAR EVENTS.

[155] SALEM 1 DOCKET 50-272 LER 84-005  
 REACTOR TRIP DUE TO TURBINE GENERATOR FAILURE.  
 EVENT DATE: 022484 REPORT DATE: 032384 NSSS: WE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 189346) ON FEB 24, 1984, DURING ROUTINE POWER OPERATION, A REACTOR TRIP OCCURRED FROM 100% POWER. THE REACTOR TRIP WAS A RESULT OF UNIT 1 TURBINE GENERATOR TRIPPING ON GENERATOR NEUTRAL GROUND PROTECTION. INITIAL INVESTIGATION REVEALED THAT COIL B31 HAD FAILED OUTSIDE THE IRON AT THE COOLING WATER CONNECTION ON THE EXCITER END OF THE GENERATOR. A COOLING WATER LEAK HAD ALSO DEVELOPED IN THIS AREA. SOME COPPER SPLATTER FROM THE FAILED COIL AND DEGRADED INSULATION WAS NOTED IN SEVERAL AREAS. IN ADDITION, SOME LOOSE GENERATOR COILS WERE NOTED ON THE EXCITER END. THE FULL EXTENT OF THE DAMAGE AND THE CAUSE OF THE GENERATOR FAILURE IS STILL UNDER INVESTIGATION. A SUPPLEMENTAL REPORT WILL BE ISSUED WHEN THE REPAIRS HAVE BEEN COMPLETED, AND A DETERMINATION OF THE CAUSE HAS BEEN MADE. THE REACTOR PROTECTION SYSTEM FUNCTIONED AS DESIGNED. THE TURBINE TRIP AND THE REACTOR TRIP OCCURRED AS REQUIRED TO PREVENT ADDITIONAL GENERATOR DAMAGE, AND TO MINIMIZE THE PRIMARY PLANT TRANSIENT. THIS OCCURRENCE INVOLVED NO UNDUE RISK. BECAUSE OF THE AUTOMATIC ACTUATION OF THE REACTOR PROTECTION SYSTEM, THE EVENT IS REPORTABLE IN ACCORDANCE WITH THE CODE OF FEDERAL REGULATIONS, 10 CFR 50.73(A)(2)(IV).

[156] SALEM 1 DOCKET 50-272 LER 84-007  
 CONTAINMENT ISOLATION SYSTEM CHECK VALVE LEAKS.  
 EVENT DATE: 030684 REPORT DATE: 040584 NSSS: WE TYPE: PWR  
 VENDOR: VELAN VALVE CORP.

(NSIC 189154) ON MAR. 6, 1983, DURING A REFUELING OUTAGE, PSE&G COMMENCED ROUTINE PERIODIC LEAK RATE TESTING OF TYPE C COMPONENTS; AT WHICH TIME, A CHECK VALVE (1SA119) LOCATED INSIDE CONTAINMENT AND IN THE CONTAINMENT STATION AIR SUPPLY LINE, EXHIBITED A LEAKAGE RATE GREATER THAN THE CAPACITY OF THE LEAK RATE TEST EQUIPMENT. BECAUSE OF THIS, THE ACTUAL LEAK RATE AND THE TOTAL COMBINED LEAKAGE OF ALL TYPE B AND C COMPONENTS COULD NOT BE VERIFIED TO BE WITHIN SPECIFICATION. THE CONTAINMENT STATION AIR SUPPLY MANUAL ISOLATION VALVE (1SA118) IS A NORMALLY CLOSED VALVE, AND ITS LEAK RATE WAS DETERMINED TO BE WITHIN THE LIMITS ALLOWED BY TECH SPECS. THE COMBINED LEAKAGE RATE OF ALL TYPE B AND C COMPONENTS HAD PREVIOUSLY BEEN DEMONSTRATED WITHIN SPECIFICATION DURING THE LAST ROUTINE LEAK RATE TESTING PERFORMED DURING THE PERIOD OF OCT. 1982 - FEB. 1983. TYPE B AND C LEAK RATE TESTING IS STILL IN PROGRESS. AS REQUIRED BY THE TECH SPECS, 1SA119, AND ALL OTHER CONTAINMENT ISOLATION VALVES WHICH ARE IDENTIFIED AS EXCEEDING ALLOWABLE LIMITS, WILL BE REPAIRED AND RETESTED PRIOR TO CHANGING OPERATING MODES, AND EXCEEDING TWO-HUNDRED DEGREES. A SUPPLEMENT TO THIS REPORT WILL BE ISSUED AT THE COMPLETION OF TESTING, IDENTIFYING THESE COMPONENTS, THE CAUSE OF THEIR FAILURE, AND ANY CORRECTIVE ACTION TAKEN.

[157] SALEM 1 DOCKET 50-272 LER 84-010  
 REACTOR COOLANT SYSTEM - RTD BYPASS LINE VALVE FAILURES.  
 EVENT DATE: 040184 REPORT DATE: 050184 NSSS: WE TYPE: PWR  
 OTHER UNITS INVOLVED: SALEM 2 (PWR)  
 VENDOR: ROCKWELL-INTERNATIONAL

(NSIC 189514) LER 83-007/03L DOCUMENTED AN ISOLATED EVENT (OCCURRING ON JAN 29, 1983) INVOLVING, WHAT WAS ASSUMED TO BE, CORROSION PRODUCTS RESTRICTING FLOW IN NO. 14 REACTOR COOLANT LOOP RTD BYPASS LINE. AS A RESULT OF THAT LER, THE NRC ISSUED IE INFORMATION NOTICE 83-65 TO ALL UTILITIES, DESCRIBING THAT EVENT AND MAKING RECOMMENDATIONS CONCERNING THE RTD BYPASS LINE FLOW SENSORS AND ASSOCIATED ALARM. ON OCT 19, 1983, PSE&G RECEIVED A NOTICE FROM ANOTHER UTILITY, DESCRIBING A SIMILAR EVENT THAT THEY HAD EXPERIENCED; ALTHOUGH, THEIR PROBLEM WAS CAUSED BY A STEM-TO-DISK SEPARATION OF A BYPASS LINE ISOLATION VALVE. THEY EXPLAINED THAT THE VALVE DISK HAD FALLEN, RESULTING IN RESTRICTION OF THE FLOW; AND, THE VALVE DISK COULD LIFT REESTABLISHING FLOW. SINCE THIS TYPE OF FAILURE COULD EASILY BE MISTAKEN FOR AN OBSTRUCTION CAUSED BY CRUD, IT WAS DECIDED TO RADIOGRAPH ALL RTD BYPASS LINE VALVES. IN JAN 1984, RADIOGRAPHY RESULTS OF UNIT 2 VALVES REVEALED STEM-TO-DISK SEPARATIONS ASSOCIATED WITH TWO VALVES. UNIT 2 LER 84-001-00 DOCUMENTED THESE FINDINGS AND ALERTED THE COMMISSION TO POSSIBLE GENERIC PROBLEMS. ON APR 1, 1984, RADIOGRAPHY RESULTS OF UNIT 1 VALVES REVEALED SIMILAR FAILURES ASSOCIATED WITH 11 VALVES. ALL UNIT 1 RTD BYPASS LINE VALVES HAVE BEEN REPLACED WITH ONES OF A DIFFERENT DESIGN. PRESENT PLANS ARE TO REPLACE UNIT 2 VALVES DURING THE NEXT REFUELING OUTAGE.

[158] SALEM 2 DOCKET 50-311 LER 84-001  
 REACTOR COOLANT SYSTEM - RTD BYPASS LINE - VALVE FAILURES.  
 EVENT DATE: 011284 REPORT DATE: 020984 NSSS: WE TYPE: PWR  
 VENDOR: ROCKWELL-INTERNATIONAL

(NSIC 189357) IN JAN 1983, SALEM UNIT 1 EXPERIENCED A LOW FLOW CONDITION IN NO. 14 REACTOR COOLANT LOOP RESISTANCE TEMPERATURE DETECTOR BYPASS LINE. THE EVENT WAS ATTRIBUTED TO BLOCKAGE CAUSED BY CORROSION PRODUCTS, AND THE EVENT WAS DOCUMENTED IN LER NO. 83-007/03L. AS A RESULT OF THAT LER, THE USNRC ISSUED IE INFORMATION NOTICE NO. 83-65, DESCRIBING THIS OCCURRENCE, AND RECOMMENDING THAT ALL UTILITIES PERIODICALLY VERIFY THE RTD BYPASS LINE LOW FLOW ALARM SETPOINTS.

AS A RESULT OF THE IE NOTICE, SALEM RECEIVED A MESSAGE FROM ANOTHER UTILITY, STATING THAT A SIMILAR PROBLEM WAS CAUSED BY A SEPARATION OF THE STEM AND DISC ON AN RTD BYPASS LINE VALVE. ALTHOUGH NO ADDITIONAL RTD BYPASS LINES LOW FLOW CONDITIONS HAVE BEEN EXPERIENCED, IT WAS DECIDED TO RADIOGRAPH ALL BYPASS LINE VALVES IN BOTH UNITS AT THE NEXT AVAILABLE OPPORTUNITY. ON JAN 12 AND 13, 1984, RADIOGRAPHY RESULTS OF THE REACTOR COOLANT SYSTEM RESISTANCE TEMPERATURE DETECTOR BYPASS LINE VALVES INDICATED THAT THE STEMS WERE DETACHED FROM THE DISCS ON 22RC17 AND 23RC24. IT SHOULD BE NOTED THAT THIS FAILURE CAN OCCUR UNDETECTED. THIS PROBLEM APPEARS TO BE GENERIC IN NATURE, AND THIS REPORT IS BEING SUBMITTED TO NOTIFY THE COMMISSION AND OTHER FACILITIES OF THIS TYPE OF PROBLEM.

[159] SALEM 2 DOCKET 50-311 LER 84-002  
RESIDUAL HEAT REMOVAL SYSTEM HAS LOSS OF FLOW.  
EVENT DATE: 020984 REPORT DATE: 030984 NSSS: WE TYPE: PWR

(NSIC 189358) ON FEBRUARY 9, 1984, DURING A MAINTENANCE SHUTDOWN, RESIDUAL HEAT REMOVAL COMMON SUCTION VALVE (2RH1) INADVERTENTLY SHUT WHILE TESTING WAS BEING PERFORMED ON THE PRESSURIZER OVERPRESSURE PROTECTION SYSTEM. THIS RESULTED IN A LOSS OF RHR FLOW THROUGH THE REACTOR COOLANT SYSTEM. THE BREAKERS FOR THE RHR COMMON SUCTION VALVES WERE NOT TAGGED, AS REQUIRED, PRIOR TO POPS TESTING. THE CONTROLS FOR THESE VALVES, LOCATED ON THE CONTROL ROOM CONSOLE, CONTAINED RED BEZEL COVERS WHICH INDICATED THAT THE VALVES ALREADY CONTAINED SHIFT SUPERVISOR TAGS FOR A PREVIOUS JOB. SINCE THE TAGS WERE NOT REQUIRED FOR PERSONNEL SAFETY, POPS TESTING WAS AUTHORIZED WITH THE USE OF THE EXISTING TAGS. UNKNOWN TO THE SHIFT SUPERVISOR, THESE TAGS HAD BEEN TEMPORARILY RELEASED, AND THE RED BEZEL COVERS HAD NOT BEEN REMOVED. TECH SPEC ALLOW RHR TO BE REMOVED FROM SERVICE FOR UP TO TWO HOURS, PROVIDED THERE ARE NO OPERATIONS WHICH WOULD RESULT IN A REDUCTION OF REACTOR COOLANT SYSTEM BORON CONCENTRATION. RHR FLOW WAS REESTABLISHED WITHIN SEVENTEEN MINUTES. A SYSTEM WILL BE ESTABLISHED FOR UPDATING THE STATUS OF THE CONTROL ROOM CONSOLE BEZEL COVERS, WHENEVER TAGGING RELEASES OR REQUESTS ARE INITIATED. THIS EVENT IS REPORTABLE IN ACCORDANCE WITH 10CFR50.73(A) (2) (V). AS A RESULT OF THIS OCCURRENCE, A SYSTEM WILL BE ESTABLISHED FOR UPDATING STATUS OF CONTROL ROOM CONSOLE BEZEL COVERS, WHENEVER TAGGING RELEASES OR REQUESTS ARE INITIATED.

[160] SALEM 2 DOCKET 50-311 LER 84-007  
ROD CONTROL ASSEMBLIES NOT ON SURVEILLANCE SHEET.  
EVENT DATE: 040184 REPORT DATE: 050184 NSSS: WE TYPE: PWR

(NSIC 189522) ON APR 1, 1984, WHILE PERFORMING ROUTINE SURVEILLANCE ON THE ROD CONTROL ASSEMBLIES, IT WAS DISCOVERED THAT 4 RODS WERE MISSING FROM THE SURVEILLANCE CHECK-OFF SHEET. DUE TO A TYPOGRAPHICAL ERROR, THEY HAD BEEN INADVERTENTLY OMITTED FROM THE CHECK-OFF SHEET WHEN THE SURVEILLANCE PROCEDURE WAS REVISED FOR THE 2 YR REVIEW. THE SURVEILLANCE REQUIRES THAT EACH FULL LENGTH ROD (WHICH IS NOT FULLY INSERTED IN THE CORE) BE VERIFIED OPERABLE BY MOVEMENT AT LEAST ONCE PER 31 DAYS. THE SURVEILLANCE WAS NOT PERFORMED ON THESE RODS ON 6 SEPARATE OCCASIONS SINCE JULY 1983. THE RODS OMITTED FROM THE CHECK-OFF SHEET WERE LOCATED IN THE 2 GROUPS WITHIN CONTROL BANK 'B' (RODS 1B3 AND 1B4 FROM GROUP 1, AND 2B3 AND 2B4 FROM GROUP 2). THE REMAINING RODS IN THESE GROUPS WERE VERIFIED TO BE OPERABLE, AND IT IS HIGHLY UNLIKELY THAT THE OMITTED RODS COULD HAVE BEEN INOPERABLE AND OUT OF ALIGNMENT WITHOUT BEING OBSERVED BY THE OPERATOR PERFORMING THE SURVEILLANCE. THE SURVEILLANCE WAS SATISFACTORILY PERFORMED ON THESE RODS WHEN THE OMISSION WAS DISCOVERED; AND, AN ON-THE-SPOT CHANGE WAS MADE TO THE SURVEILLANCE PROCEDURE TO INCLUDE THE MISSING CONTROL RODS ON THE CHECK-OFF SHEET. THE OCCURRENCE IS REPORTABLE IN ACCORDANCE WITH THE CODE OF FEDERAL REGULATIONS, 10 CFR 50.73 (A)(2)(I)(B).

[161] SALEM 2 DOCKET 50-311 LER 84-008  
 REACTOR TRIP DUE TO FALSE LOW CONDENSER VACUUM SIGNAL.  
 EVENT DATE: 040684 REPORT DATE: 050484 NSSS: WE TYPE: PWR

(NSIC 189616) ON APR 5, 1984, A LOW VACUUM ALARM WAS RECEIVED WHILE PERFORMING A TURBINE TRIP TEST. FOLLOWING THE TEST, THE ALARM FAILED TO CLEAR WITH AN INDICATED VACUUM OF 27" AT THE TRIP BLOCK ON THE FRONT STANDARD OF THE TURBINE. ON APR 6, 1984, DURING ROUTINE POWER OPERATION, A TURBINE/REACTOR TRIP OCCURRED AS A RESULT OF A FALSE LOW CONDENSER VACUUM SIGNAL. THE LOW VACUUM SIGNAL (WHICH CAUSED THE TURBINE TRIP) WAS DUE TO A WATER SLUG ENTERING THE TURBINE TRIP BLOCK, VIA AN INSTRUMENT LINE, WHILE TROUBLESHOOTING THE PROBLEM WITH THE LOW VACUUM ALARM. THE REACTOR TRIP, ON TURBINE TRIP, OCCURRED TO PREVENT STEAM GENERATOR SAFETY VALVE ACTUATION. THE PLANT WAS MAINTAINED SAFELY IN MODE 3 PER OPERATING PROCEDURES. INVESTIGATION REVEALED THAT THE PRESSURE DETECTOR INSTRUMENT LINE CONTAINED CONDENSATION, WHICH FORMED A LOOP SEAL AND PREVENTED AN ACCURATE VACUUM SIGNAL. THE INSTRUMENT LINE WAS BLOWN DRY, AND THE LOW VACUUM ALARM TESTED SATISFACTORILY. THE LOOP SEAL AFFECTED ONLY THE ALARM AND DID NOT AFFECT THE OPERATION OF THE TURBINE TRIP. ALL SAFETY SYSTEMS FUNCTIONED AS DESIGNED. BECAUSE OF THE AUTOMATIC ACTUATION OF THE REACTOR PROTECTION SYSTEM, THE EVENT IS REPORTABLE PER 10CFR 50.73(A)(2)(IV).

[162] SAN ONOFRE 1 DOCKET 50-206 LER 84-003  
 BATTERY LESS THAN REQUIRED CAPACITY.  
 EVENT DATE: 032784 REPORT DATE: 042684 NSSS: WE TYPE: PWR

(NSIC 189601) ON MAR 27, 1984, WITH UNIT 1 IN AN EXTENDED MODE 5 OUTAGE, THE NO. 1 125V DC BATTERY WAS DETERMINED TO HAVE INSUFFICIENT CAPACITY TO SATISFY THE DESIGN DUTY CYCLE OF 90 MINUTES FOR ALL NO. 1 DC BUS LOADS. AS A CONSERVATIVE MEASURE PRIOR TO THE FINAL DETERMINATION OF THIS INSUFFICIENT CAPACITY, SEVERAL NONSAFETY-RELATED LOADS HAD BEEN REMOVED FROM THE NO. 1 DC BUS ON MAR 24, 1984, RESTORING THE NO. 1 BATTERY'S CAPABILITY TO POWER ALL REMAINING LOADS FOR AT LEAST 90 MINUTES. AS PERMANENT CORRECTIVE ACTION, THE NO. 1 BATTERY WILL BE REPLACED WITH A BATTERY OF SUFFICIENT CAPACITY TO MEET THE 90 MINUTE DESIGN DUTY CYCLE, INCLUDING THE NONSAFETY-RELATED LOADS WHICH ARE PRESENTLY REMOVED FROM THE NO. 1 DC BUS.

[163] SAN ONOFRE 1 DOCKET 50-206 LER 84-004  
 DIESEL GENERATOR NONCONFORMANCE.  
 EVENT DATE: 040984 REPORT DATE: 050984 NSSS: WE TYPE: PWR

(NSIC 189602) AS A RESULT OF THE RECEIPT OF A 10 CFR 21 REPORT ORIGINATED BY TRANSAMERICA DELAVAL, DATED JAN 9, 1984, WE CONDUCTED AN INSPECTION OF OUR UNIT 1 DIESELS. AS REQUESTED BY THE NRC RESIDENT INSPECTOR FOR SAN ONOFRE, THIS SUBMITTAL PROVIDES AN INFORMATIONAL LER ON THE RESULTS OF THIS INSPECTION. DURING OUR INSPECTION OF THE TRANSAMERICA DELAVAL DG NO. 2 (EIS SYSTEM CODE EK) CONDUCTED ON APR 12, 1984, WITH UNIT 1 IN AN EXTENDED MODE 5 OUTAGE, THE OVERSPEED GOVERNOR/FUEL TRANSFER PUMP DRIVE FLEXIBLE COUPLING AND THRUST COLLAR WERE OBSERVED TO HAVE MISSING SETSCREWS. THE COUPLING ROLL PIN WAS FOUND SHEARED AND THE COUPLING SPIDER EXHIBITED SIGNS OF EXCESSIVE WEAR. HOWEVER, ALTHOUGH THE COUPLING WAS DEGRADED, IT DID NOT COMPROMISE THE OPERABILITY OF DG NO. 2 BECAUSE LATERAL MOVEMENT OF THE COUPLING WOULD HAVE BEEN RESTRICTED BY THE MOUNTING CONFIGURATION OF THE ACCESSORY DRIVE UNIT AND THE GEAR CASE. ADDITIONALLY, THE COUPLING KEY WAS IN PLACE, THEREFORE PREVENTING FREE ROTATION OF THE OVERSPEED GOVERNOR/FUEL TRANSFER DRIVE SHAFT. A SIMILAR INSPECTION OF DG NO. 1 DID NOT FIND THIS CONDITION. REPLACEMENT OF WORN COMPONENTS AND INSTALLATION OF MISSING PARTS HAS BEEN COMPLETED. THERE WAS NO LOSS OF SAFETY FUNCTION SINCE DG NO. 2 REMAINED FULLY OPERABLE.

[164] SAN ONOFRE 2 DOCKET 50-361 LER 84-002  
 SUSPENDED HOURLY FIRE WATCH PATROLS.  
 EVENT DATE: 010784 REPORT DATE: 020684 NSSS: CE TYPE: PWR  
 VENDOR: FISHER CONTROLS CO.

(NSIC 189299) ON JAN. 7, 1984, AT 1022 AND AT 1645, WITH UNIT 3 IN MODE 3, AND ON JAN. 8, 1984, AT 1440, WITH UNIT 3 IN MODE 5, PRECAUTIONARY PENETRATION BLDG EVACUATIONS WERE INITIATED IN THE PIPING PENETRATION AREA WHEN THE AIRBORNE IODINE AND NOBLE GAS CONCENTRATIONS WERE OBSERVED TO INCREASE ABOVE THE PRECAUTIONARY EVACUATION LEVEL PROVIDED IN PROCEDURE S0123-VII-7.4. CONCENTRATIONS OF IODINE INCREASED TO A MAXIMUM OF 3.4 E-10 MICRO CURIE/CC AND NOBLE GASSES TO A MAXIMUM OF 3.2 E-5 MICRO CURIE/CC. THE AIRBORNE RADIOACTIVITY DID NOT EXCEED REGULATORY OR TECH SPEC LIMITS. TECH SPEC REQUIRED HOURLY FIRE WATCHES IN AREAS CONTAINING SAFETY RELATED EQUIPMENT WERE SUSPENDED FOR ONE HR AND SIXTEEN MINS, TWO HRS AND FIVE MINS, AND ONE HR, RESPECTIVELY. THESE EVENTS WERE INITIALLY REPORTED PURSUANT TO 10 CFR 50.72(B)(1)(VI) AND ARE REPORTED HEREIN PURSUANT TO 10 CFR 50.36 AND 50.73(A)(2)(I)(B). THESE EVENTS DID NOT CAUSE EXPOSURES TO INDIVIDUALS EXCEEDING REGULATORY LIMITS. SCE HAD EARLIER INITIATED AN ENGINEERING EVALUATION TO DETERMINE THE CAUSE AND CORRECTIVE ACTION FOR AIRBORNE RADIOACTIVITY IN THE PENETRATION BLDG. ALTHOUGH THIS EVALUATION HAS IDENTIFIED THE NEED FOR SOME CORRECTIVE ACTION IN THE FORM OF VALVE MAINTENANCE TO MINIMIZE LEAKAGE, THE EVALUATION IS NOT YET COMPLETED. ALL APPROPRIATE CORRECTIVE ACTION WILL BE IMPLEMENTED FOLLOWING COMPLETION OF THE ENGINEERING EVALUATION.

[165] SAN ONOFRE 2 DOCKET 50-361 LER 84-001 REV 0  
 UPDATE ON FIRE PROTECTION PROGRAM DEFICIENCIES.  
 EVENT DATE: 011184 REPORT DATE: 022884 NSSS: CE TYPE: PWR  
 OTHER UNITS INVOLVED: SAN ONOFRE 3 (PWR)  
 VENDOR: AUTOMATIC SPRINKLER CORPORATION

(NSIC 189439) AS REPORTED ON JAN 11, 1984, PURSUANT TO 10 CFR 50.72(B)(1)(II)(B) AND LICENSE CONDITION 2.G., THE PREPARATION OF THE UPDATED FIRE HAZARDS ANALYSIS (PHA) AND THE REVIEW OF ROUTINE FIRE PROTECTION SURVEILLANCE RESULTS, HAVE RESULTED IN THE ISSUANCE OF NONCONFORMANCE REPORTS (NCR'S) IDENTIFYING DEFICIENCIES IN IMPLEMENTING AND MAINTAINING IN EFFECT CERTAIN PROVISIONS OF THE FIRE PROTECTION PROGRAM. THESE DEFICIENCIES INVOLVE: FIRE PROTECTION SPRAY/SPRINKLER AND WATER SUPPLY SYSTEMS; CABLE SEPARATION AND FIRE WRAPS; FIRE BARRIERS; EMERGENCY LIGHTING; AND FIRE/SMOKE DETECTORS. THIS REPORT RESULTS FROM 91 NCR'S IDENTIFYING CONDITIONS WHICH HAVE BEEN DETERMINED TO BE IN NONCONFORMANCE WITH THE LICENSE, CURRENT PHA AND/OR THE TECH SPECS. FOR THE DEFICIENCIES IDENTIFIED HEREIN, COMPENSATORY MEASURES HAVE BEEN ESTABLISHED WHERE REQUIRED BY APPLICABLE TECH SPECS AND WILL REMAIN IN EFFECT UNTIL THE NCR DISPOSITIONS HAVE BEEN IMPLEMENTED. THIS REPORT IS ALSO SUBMITTED TO FULFILL THE REQUIREMENTS OF LICENSE CONDITION 2.G. RELATING TO LICENSE CONDITIONS 2.C(14)A/B AND 2.C.(12)A OF OPERATING LICENSES NPF-10 AND NPF-15 FOR UNITS 2 AND 3, RESPECTIVELY.

[166] SAN ONOFRE 2 DOCKET 50-361 LER 84-014  
 REACTOR COOLANT SYSTEM FLOW RATE VERIFICATION PERFORMED INCORRECTLY.  
 EVENT DATE: 030684 REPORT DATE: 040584 NSSS: CE TYPE: PWR

(NSIC 189369) THE UNIT 2 AND 3 TECH SPEC SURVEILLANCE REQUIREMENT 4.3.1.1, TABLE 4.3-1, TABLE NOTATION 8, REQUIRES VERIFICATION EVERY 31-DAYS WHEN THE REACTOR IS ABOVE 70% OF RATED THERMAL POWER, THAT THE TOTAL REACTOR COOLANT SYSTEM (RCS) (EIS SYSTEM CODE AB) FLOW RATE AS INDICATED BY EACH CORE PROTECTION CALCULATOR (CPC) (EIS COMPONENT CODE CPU) IS LESS THAN OR EQUAL TO THE ACTUAL RCS TOTAL FLOW RATE DETERMINED BY CALORIMETRIC CALCULATIONS. THIS REQUIREMENT WAS BELIEVED TO HAVE BEEN SATISFIED BY COMPARING RCS FLOW RATE IN THE CPC'S TO THAT

GENERATED BY THE PLANT COMPUTER. ON MAR 6, 1984, A REVIEW DETERMINED THAT THE RCS FLOW RATE GENERATED BY THE PLANT COMPUTER IS NOT A FLOW RATE DETERMINATION FROM A CALORIMETRIC METHOD. SUBSEQUENT INVESTIGATION HAS VERIFIED THAT THE RCS FLOW RATES GENERATED BY THE PLANT COMPUTER WERE CONSERVATIVE WHEN COMPARED TO RCS FLOW RATES DETERMINED FROM A CALORIMETRIC METHOD. THEREFORE, FOR ALL PREVIOUS SURVEILLANCE INTERVALS, THE RCS FLOW RATE USED BY THE CPC'S WAS LESS THAN THE RCS TOTAL FLOW RATE FROM A CALORIMETRIC METHOD. TO PREVENT RECURRENCE, A PROCEDURE HAS BEEN ISSUED TO ENABLE RCS FLOW RATE, AS INDICATED BY EACH CPC, TO BE COMPARED TO THE ACTUAL RCS TOTAL FLOW RATE AS DETERMINED BY A CALORIMETRIC CALCULATION. THERE ARE NO CREDIBLE ALTERNATE CIRCUMSTANCES UNDER WHICH THIS EVENT WOULD HAVE RESULTED IN THE PLANT BEING OUTSIDE ITS DESIGN LIMITS.

[167] SAN ONOPRE 2 DOCKET 50-361 LER 84-015  
 FIRE PROTECTION PROGRAM DISCREPANCIES.  
 EVENT DATE: 030784 REPORT DATE: 040584 NSSS: CE TYPE: PWR  
 OTHER UNITS INVOLVED: SAN ONOPRE 3 (PWR)

(NSIC 189440) AS REPORTED ON MAR 7, 1984, PURSUANT TO 10 CFR 50.36 AND 50.72(B)(1)(II)(B) AND LICENSE CONDITION 2.G., THE PREPARATION OF THE UPDATED FIRE HAZARDS ANALYSIS (FHA) AND THE REVIEW OF IE INFORMATION NOTICE (IN) 84-09 HAVE RESULTED IN THE ISSUANCE OF NONCONFORMANCE REPORTS (NCR'S) IDENTIFYING APPARENT DISCREPANCIES BETWEEN THE SCE FIRE PROTECTION PROGRAM AND NRC REQUIREMENTS. THIS REPORT RESULTS FROM 49 NCR'S IDENTIFYING CONDITIONS WHICH HAVE BEEN DETERMINED TO BE IN NONCONFORMANCE WITH THE LICENSE, THE CURRENT FHA AND/OR THE TECH SPECS. THESE APPARENT DISCREPANCIES INVOLVE: I&C CABLE PROTECTION; ASSOCIATED CIRCUIT ANALYSIS; SEPARATION CRITERIA INSIDE CONTAINMENT; ALTERNATIVE SAFE SHUTDOWN ANALYSIS; ALTERNATIVE SAFE SHUTDOWN MONITORING; FIRE HOSES & HOUSES; ELECTRICAL CABLE CONSTRUCTION AND TESTING; VENTILATION SYSTEMS; FIRE PROTECTION EQUIPMENT INSTALLATION; THE USE OF COMBUSTIBLE MATERIALS; CABLE SEPARATION AND FIRE BARRIERS; AND, SMOKE AND FIRE DETECTORS. APPROPRIATE COMPENSATORY MEASURES HAVE BEEN IMPLEMENTED. THIS REPORT IS ALSO SUBMITTED TO FULFILL THE REQUIREMENTS OF LICENSE CONDITION 2.G. RELATING TO LICENSE CONDITIONS 2.C(14)A AND 2.C.(12)A OF OPERATING LICENSES NPF-10 AND NPF-15 FOR UNITS 2 AND 3, RESPECTIVELY.

[168] SAN ONOPRE 2 DOCKET 50-361 LER 84-016  
 INADVERTENT ESF ACTUATIONS.  
 EVENT DATE: 030984 REPORT DATE: 033084 NSSS: CE TYPE: PWR

(NSIC 189370) ON MAR 9, 1984, AT 1933 PST, A TECHNICIAN INADVERTENTLY ACTUATED THE SAFETY INJECTION ACTUATION SYSTEM (SIAS), THE CONTAINMENT COOLING ACTUATION SYSTEM (CCAS) AND THE CONTAINMENT SPRAY ACTUATION SYSTEM (CSAS) DURING A RETEST OF THE ENGINEERED SAFETY FEATURE (ESF) MATRIX SECTION OF THE PLANT PROTECTION SYSTEM. ALL SYSTEMS FUNCTIONED PROPERLY. THE SIAS, CCAS AND CSAS WERE ALL SECURED WITHIN 12 MINUTES. APPROXIMATELY 6000 GAL OF SPRAY WATER WERE RELEASED BY CONTAINMENT SPRAY. DURING THE RECOVERY, THE REACTOR WAS MANUALLY TRIPPED. INSPECTION HAS DETERMINED THAT NO COMPONENT OR SYSTEM DAMAGE RESULTED FROM THE CONTAINMENT SPRAY. THE CAUSE WAS DUE TO A TECHNICIAN MAKING AN ERROR WHILE PERFORMING A 31-DAY SURVEILLANCE ON THE PLANT PROTECTION SYSTEM. APPROPRIATE PROCEDURAL CHANGES WERE MADE TO REQUIRE INDEPENDENT VERIFICATION RESTORATION STEPS.

[169] SAN ONOPRE 2 DOCKET 50-361 LER 84-017  
 SHUTDOWN COOLING VALVE FOUND FULLY OPEN.  
 EVENT DATE: 032184 REPORT DATE: 041284 NSSS: CE TYPE: PWR

(NSIC 189400) AT 1830, ON MARCH 21, 1984, WITH UNIT 2 IN MODE 1 AT 100 PERCENT POWER, SHUTDOWN COOLING HEAT EXCHANGER FLOW CONTROL VALVE 2HV9316 WAS DISCOVERED

LOCKED FULLY OPEN, CONTRARY TO THE REQUIREMENTS OF TECH SPEC SURVEILLANCE REQUIREMENT 4.5.2(A). AN OPERATOR ENGAGED THE HANDWHEEL AND POSITIONED 2HV9316 TO THE REQUIRED LOCKED THROTTLED POSITION. LOCAL HANDWHEEL INDICATION HAS BEEN CONSIDERED A RELIABLE METHOD OF DETERMINING VALVE POSITION. HOWEVER, INVESTIGATION REVEALED THAT THE HANDWHEEL CLUTCH WAS DISENGAGED, ENABLING THE HANDWHEEL TO TURN FREELY. UNDER THESE CIRCUMSTANCES, HANDWHEEL POSITION WOULD INDICATE AN ERRONEOUS VALVE POSITION. THE SURVEILLANCE PROCEDURE DID NOT REQUIRE THE OPERATOR TO VERIFY THAT THE HANDWHEEL WAS ENGAGED PRIOR TO CHECKING VALVE POSITION. THE SURVEILLANCE PROCEDURE WAS REVISED TO VERIFY THAT THE HANDWHEEL IS ENGAGED WHEN CHECKING THE POSITION OF 2HV9316. ADDITIONALLY, ALL OPERATING SHIFTS RECEIVED TRAINING ON THE CIRCUMSTANCES OF THIS EVENT. 2HV9316 POSITION IS PRESET TO LIMIT SHUTDOWN COOLING TO PREVENT LOSS OF SUCTION TO THE LOW PRESSURE SAFETY INJECTION (LPSI) PUMP UNDER CERTAIN POST-ACCIDENT CONDITIONS. HOWEVER, OPERATING PROCEDURES REQUIRE THAT THE OPERATOR VERIFY ADEQUATE SUCTION PRESSURE TO THE LPSI PUMP BEFORE PLACING THE SHUTDOWN COOLING SYSTEM IN SERVICE UNDER THESE CONDITIONS.

[170] SAN ONOFRE 2 DOCKET 50-361 LER 84-018  
 CONTROL ROOM ISOLATION SYSTEM MANUALLY ACTUATED.  
 EVENT DATE: 032484 REPORT DATE: 042384 NSSS: CE TYPE: PWR  
 OTHER UNITS INVOLVED: SAN ONOFRE 3 (PWR)  
 VENDOR: NUCLEAR MEASUREMENTS CORP.

(NSIC 189531) ON MARCH 24, 1984, AT 1800, WITH UNITS 2 AND 3 IN MODE 1 AT 100 PERCENT POWER, WITH RADIATION MONITOR 2/3RT-7824 (EIIIS COMPONENT CODE RIT) INOPERABLE FOR MONTHLY SURVEILLANCE, THE REMAINING CONTROL ROOM ISOLATION SYSTEM (CRIS) RADIATION MONITOR, 2/3RT-7825, WAS DECLARED INOPERABLE WHEN A DIRTY FILTER CAUSED A LOW FLOW ALARM. IN ACCORDANCE WITH LIMITING CONDITIONS FOR OPERATION (LCO) 3.3.2, ACTION STATEMENT 'B', AND 3.3.3.1, ACTION STATEMENT 'B', THE CRIS WAS MANUALLY INITIATED AT 1850, ACTUATING THE CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM (EIIIS SYSTEM CODE VI). THE FILTER WAS CHANGED AND RADIATION MONITOR 2/3RT-7825 WAS DECLARED OPERABLE AT 2040 ON MARCH 24, 1984. THE CRIS WAS SECURED AND THE CONTROL ROOM VENTILATION SYSTEM WAS RETURNED TO NORMAL. THIS INCIDENT IS CONSIDERED TO BE AN ISOLATED OCCURRENCE AND NO FURTHER CORRECTIVE ACTION IS PLANNED. THERE ARE NO REASONABLE OR CREDIBLE CIRCUMSTANCES WHICH COULD HAVE INCREASED THE SEVERITY OF THIS OCCURRENCE.

[171] SAN ONOFRE 3 DOCKET 50-362 LER 84-001  
 RADIOLOGICAL EVACUATION EVENT.  
 EVENT DATE: 010184 REPORT DATE: 013184 NSSS: CE TYPE: PWR  
 OTHER UNITS INVOLVED: SAN ONOFRE 2 (PWR)

(NSIC 189441) ON 1/1/84, AT APPROXIMATELY 1100, WITH UNIT 3 IN MODE 1 AT 100% POWER, PRECAUTIONARY PENETRATION AND RADWASTE BUILDINGS' EVACUATION WAS INITIATED WHEN UNITS 2 AND 3 AREA RADIATION MONITORS AND PLANT VENT STACK MONITORS ALARMED. TECH SPEC REQUIRED FIRE WATCHES IN AREAS CONTAINING SAFETY RELATED EQUIPMENT WERE SUSPENDED FOR TWO HRS AS A RESULT OF THE PRECAUTIONARY EVACUATION. THIS EVENT WAS REPORTED PURSUANT TO 10 CFR 50.72(B)(2)(VI) AND IS REPORTED HEREIN PURSUANT TO 10 CFR 50.73(A)(2)(X). AREA RADIATION MONITORS AND PLANT VENT STACK MONITORS WERE ALARMED WHEN, DURING ROUTINE DRAINING OF THE WASTE GAS HEADER LINE, 110 CUBIC FEET OF GAS WERE RELEASED FROM THE HEADER. 84 CURIES OF NOBLE GAS (XE-133) WERE RELEASED. THIS DID NOT EXCEED REGULATORY OR TECH SPEC LIMITS, OR THE THRESHOLD FOR REPORTING PURSUANT TO 10 CFR 50.72(B)(2)(IV).

[172] SAN ONOFRE 3 DOCKET 50-362 LER 84-004  
 INADVERTENT SAFETY INJECTION AND OTHER ESF ACTUATIONS.  
 EVENT DATE: 022284 REPORT DATE: 032284 NSSS: CE TYPE: PWR

(NSIC 189336) ON 2/22/84, WITH UNIT 3 IN MODE 5 WITH A STEAM BUBBLE IN THE PRESSURIZER, A PLANT PROTECTION SYSTEM SURVEILLANCE WAS BEING PERFORMED. AT 1940, WHEN THE "RELAY HOLD" PUSHBUTTON WAS PUSHED, THE SAFETY INJECTION SYSTEM, THE CONTAINMENT COOLING SYSTEM, THE CONTAINMENT ISOLATION SYSTEM, AND THE CONTROL ROOM ISOLATION SYSTEM WERE INADVERTENTLY ACTUATED. ALL OPERABLE COMPONENTS ACTUATED PROPERLY. ALL HIGH PRESSURE SAFETY INJECTION PUMPS AND ONE LOW PRESSURE SAFETY INJECTION PUMP WERE OUT OF SERVICE. THREE CHARGING PUMPS STARTED AND INJECTED APPROXIMATELY 150 GALLONS OF WATER INTO THE REACTOR COOLANT SYSTEM. THE CAUSE OF THIS INCIDENT IS BELIEVED TO BE DIRTY CONTACTS ON THE "RELAY HOLD" PUSHBUTTON. THE "RELAY HOLD" PUSHBUTTON SHOULD HAVE KEPT THE TRIP PATH RELAYS ENERGIZED DURING TESTING OF THE B-C MATRIX, BUT DIRTY CONTACTS COULD HAVE ALLOWED DE-ENERGIZATION OF THE B-C TRIP PATH RESULTING IN THE SAFETY INJECTION ACTUATION. THE "RELAY HOLD" PUSHBUTTON WAS CYCLED REPEATEDLY WITH NO OTHER MISOPERATION OR MALFUNCTION. OPERATION OF THE PUSHBUTTON COULD HAVE EFFECTIVELY CLEANED DIRTY CONTACTS AND PREVENTED SUBSEQUENT MISOPERATION. THIS EVENT IS CONSIDERED TO BE AN ISOLATED OCCURRENCE AND NO FURTHER CORRECTIVE ACTION IS PLANNED.

[173] SAN ONOFRE 3 DOCKET 50-362 LER 84-006  
 REACTOR PLANT PROTECTION SYSTEM SURVEILLANCE TESTING.  
 EVENT DATE: 022684 REPORT DATE: 032884 NSSS: CE TYPE: PWR

(NSIC 189532) THIS SUBMITTAL PROVIDES AN INFORMATIONAL LICENSEE EVENT REPORT FOR AN OCCURRENCE INVOLVING REACTOR PLANT PROTECTION SYSTEM (PPS) TESTING. ON FEB 26, 1984, WITH UNIT 3 IN A MODE 5 MAINTENANCE OUTAGE, THE 31-DAY PPS SURVEILLANCE WAS IN PROGRESS. DURING THIS SURVEILLANCE, IT WAS OBSERVED THAT THE REACTOR TRIP BREAKER (RTB) #8 UNDERVOLTAGE DEVICE DID NOT ACTUATE. THE AUTOMATIC SHUNT TRIP DEVICE, THE MANUAL UNDERVOLTAGE AND SHUNT TRIP DEVICES FROM THE CONTROL ROOM AND THE LOCAL PUSHBUTTONS WERE NOT AFFECTED AND WERE CAPABLE OF OPENING RTB #8. INVESTIGATION REVEALED METAL FILINGS BETWEEN 2 TERMINALS OF THE CONTROL ROOM PUSHBUTTON. THESE FILINGS PRODUCED A SHORT CIRCUIT BETWEEN THE TERMINALS PREVENTING THE UNDERVOLTAGE DEVICE FOR RTB #8 FROM ACTUATING ON A TRIP SIGNAL FROM THE PPS. EVEN THOUGH THE PUSHBUTTON WAS SHORTED, THE COMPLETE TRIP WOULD HAVE OCCURRED FROM EITHER AN AUTOMATIC OR MANUALLY INITIATED SIGNAL. THIS WAS AN ISOLATED OCCURRENCE AND NO FURTHER CORRECTIVE ACTION IS PLANNED.

[174] SAN ONOFRE 3 DOCKET 50-362 LER 84-011  
 DISCONNECTED LEADS IN PLANT PROTECTION SYSTEM CABINETS.  
 EVENT DATE: 022784 REPORT DATE: 032884 NSSS: CE TYPE: PWR

(NSIC 189401) THIS SUBMITTAL PROVIDES AN INFORMATIONAL LICENSEE EVENT REPORT (LER) FOR A CONDITION RESULTING FROM INCOMPLETE RESTORATION FOLLOWING TESTING OF THE PLANT PROTECTION SYSTEM (PPS). ON FEBRUARY 27, 1984 WITH UNIT 3 IN MODE 4 AND DURING INVESTIGATION OF THE REACTOR TRIP BREAKER (RTB) PUSHBUTTON OCCURRENCE DESCRIBED IN LER 84-006, ONE SET OF LEADS IN EACH OF THE FOUR PPS BAYS WERE FOUND TO BE DISCONNECTED. THESE DISCONNECTED LEADS REMOVED THE AUTOMATIC SHUNT TRIP FEATURE FROM RTB'S #1, #2, #3, AND #4. HOWEVER, THE AUTOMATIC UNDERVOLTAGE FEATURE WAS NOT AFFECTED NOR WERE THE UNDERVOLTAGE AND SHUNT TRIP FEATURES IN THE MANUAL MODE. THE SUBJECT LEADS HAD BEEN DISCONNECTED AND NOT RESTORED DURING 18-MONTH SURVEILLANCE TESTING CONDUCTED EARLIER. BETWEEN THE 18-MONTH SURVEILLANCE AND DISCOVERY OF THE CONDITION, UNIT 3 HAD NOT BEEN OPERATED IN A MODE REQUIRING OPERABILITY OF THE RTB'S. UPON DISCOVERY THE LEADS WERE IMMEDIATELY CONNECTED. PROCEDURAL CHANGES HAVE BEEN MADE, AND TRAINING HAS BEEN PROVIDED TO PREVENT A RECURRENCE.

[175] SAN ONOFRE 3 DOCKET 50-362 LER 84-008  
 LOSS OF LOAD REACTOR TRIP.  
 EVENT DATE: 031084 REPORT DATE: 040984 NSSS: CE TYPE: PWR



(NSIC 189186) ON MARCH 10, 1984, WITH UNIT 3 IN MODE 1 AT 95 PERCENT POWER, OPERATORS RECEIVED INDICATIONS IN THE CONTROL ROOM OF A POSSIBLE SALTWATER LEAK IN ONE OF THE MAIN CONDENSER (EIIIS COMPONENT CODE COND) QUADRANTS. OPERATORS REDUCED POWER TO 75 PERCENT AND STOPPED THE CIRCULATING WATER PUMP (EIIIS COMPONENT CODE P) FOR THE AFFECTED QUADRANT. MAIN CONDENSER BACKPRESSURE STARTED TO INCREASE, AND OPERATORS ATTEMPTED TO RESTART THE CIRCULATING WATER PUMP. BEFORE THE CIRCULATING WATER PUMP COULD BE RESTARTED, THE TURBINE (EIIIS COMPONENT CODE TRB) TRIPPED ON HIGH CONDENSER BACKPRESSURE, THE REACTOR (EIIIS COMPONENT CODE RCT) TRIPPED ON LOSS OF LOAD, AND THE EMERGENCY FEEDWATER SYSTEM (EIIIS SYSTEM CODE BA) ACTUATED ON LOW STEAM GENERATOR LEVEL DUE TO SHRINK. OPERATORS PERFORMED EMERGENCY OPERATING INSTRUCTION, SO23-3-5.1, "EMERGENCY PLANT SHUTDOWN" TO STABILIZE PLANT CONDITIONS. NO SYSTEMS OR COMPONENTS MALFUNCTIONED DURING THIS EVENT. THIS EVENT WAS CAUSED BY WATER IN THE AIR REMOVAL PIPING. INVESTIGATION REVEALED THAT THE DRAIN LINES ON THE AIR REMOVAL PIPING WERE CLOGGED. THE DRAIN LINES WERE CLEANED, AND THE CONDENSER AIR REMOVAL SYSTEM (EIIIS SYSTEM CODE SH) WAS RETURNED TO OPERATION. ADDITIONALLY, LEAKING CONDENSER TUBES WERE REPAIRED. NO FURTHER CORRECTIVE ACTION IS PLANNED. THERE ARE NO REASONABLE OR CREDIBLE ALTERNATIVES UNDER WHICH THIS EVENT WOULD HAVE BEEN MORE SEVERE.

[176] SEQUOYAH 1 DOCKET 50-327 LER 84-014  
CONTAINMENT BUILDING VENTILATION ISOLATION (CVI).  
EVENT DATE: 021484 REPORT DATE: 030984 NSSS: WE TYPE: PWR  
VENDOR: GENERAL ATOMIC CO.

(NSIC 189434) A HIGH RADIATION ALARM WAS ACTUATED WHICH CAUSED A CONTAINMENT VENTILATION ISOLATION (CVI) TO OCCUR. INVESTIGATION REVEALED THAT A VOLTAGE SPIKE OCCURRED AS A RESULT OF ELECTROMAGNETIC INTERFERENCE (EMI) WHICH WAS GENERATED BY A SWITCH ACTUATION ON LOW SAMPLE FLOW. ALSO, A POWER SUPPLY FAILED AND CAUSED A BISTABLE TO FAIL IN THE SAFE DIRECTION INITIATING A CVI. RADIATION LEVELS WERE NOT ABOVE NORMAL DURING THIS TIME. THE INADVERTENT HIGH RADIATION ALARM WAS RESET AND THE MONITOR WAS RETURNED TO SERVICE. EMI PROTECTION HAS BEEN INSTALLED TO HELP PREVENT FUTURE SPURIOUS SPIKES.

[177] SEQUOYAH 1 DOCKET 50-327 LER 84-019  
WEIGHT OF ICE IN ICE CONDENSER BASKET BELOW LIMITS.  
EVENT DATE: 030784 REPORT DATE: 040484 NSSS: WE TYPE: PWR

(NSIC 189175) FOLLOWING THE ICE CONDENSER ICE WEIGHING SURVEILLANCE IN ACCORDANCE WITH TECH SPEC 3.6.5.1., ANALYSIS OF THE ICE WEIGHTS INDICATED ONE GROUP-ROW AVERAGE BASKET WEIGHT WAS BELOW THE DESIGN LIMIT OF 1080 POUNDS WITH A 95% LEVEL OF CONFIDENCE.

[178] SEQUOYAH 1 DOCKET 50-327 LER 84-020  
CONTAINMENT BUILDING VENTILATION ISOLATES TWICE.  
EVENT DATE: 030984 REPORT DATE: 040984 NSSS: WE TYPE: PWR

(NSIC 189526) A HIGH RADIATION ALARM WAS ACTUATED WHICH CAUSED A CONTAINMENT VENTILATION ISOLATION (CVI) TO OCCUR. INVESTIGATION REVEALED THAT A VOLTAGE SPIKE OCCURRED AS A RESULT OF ELECTROMAGNETIC INTERFERENCE (EMI) GENERATED BY SWITCH ACTUATION OF THE LOW FLOW ALARM AND BY THE OPENING OF THE MOTOR-OPERATED DISCONNECTS (MOD) IN THE SWITCHYARD DUE TO A BREAKER FAILURE. RADIATION LEVELS WERE NOT ABOVE SETPOINT DURING THIS TIME. THE INADVERTENT HIGH RADIATION ALARM WAS RESET AND THE MONITOR WAS RETURNED TO SERVICE. SOME EMI PROTECTION HAS BEEN INSTALLED, AND MORE PROTECTION IS BEING IMPLEMENTED TO HELP PREVENT FUTURE SPURIOUS SPIKES.

[179] SEQUOYAH 1 DOCKET 50-327 LER 84-021  
 AUXILIARY BUILDING VENTILATION ISOLATES FIVE TIMES.  
 EVENT DATE: 032284 REPORT DATE: 042084 NSSS: WE TYPE: PWR

(NSIC 189527) A HIGH RADIATION ALARM WAS ACTUATED WHICH CAUSED AN AUXILIARY BUILDING ISOLATION (ABI) TO OCCUR. INVESTIGATION REVEALED THAT THE SPENT FUEL PIT RADIATION MONITOR HAD ALARMED DUE TO THE MOVEMENT OF CONTAMINATED C-ZONE CLOTHING AND TRASH BY THE MONITOR. THIS MONITOR HAS A SETPOINT OF 15 MREM/HR, AND NORMAL BACKGROUND IS 10 TO 12 MREM/HR. UNIT 1 HAS BEEN IN A REFUELING OUTAGE, AND A DRESSOUT AREA FOR CONTAMINATED AREA ENTRY WAS NEARBY. REMOVAL OF THESE CLOTHES AND TRASH BY THE MONITOR WAS ENOUGH TO SET OFF THE ALARM SINCE BACKGROUND WAS ALREADY NEAR SETPOINT.

[180] SEQUOYAH 1 DOCKET 50-327 LER 84-022  
 CONTAINMENT VENTILATION ISOLATION.  
 EVENT DATE: 033084 REPORT DATE: 042784 NSSS: WE TYPE: PWR

(NSIC 189528) A HIGH RADIATION ALARM WAS ACTUATED WHICH CAUSED A CONTAINMENT VENTILATION ISOLATION (CVI) TO OCCUR. INVESTIGATION REVEALED THAT A VOLTAGE SPIKE OCCURRED AS A RESULT OF ELECTROMAGNETIC INTERFERENCE (EMI). ALSO, ANOTHER INCIDENT WAS CAUSED BY A PERSONNEL ERROR DURING A MODIFICATION OF THE CVI CIRCUIT. RADIATION LEVELS WERE NOT ABOVE NORMAL DURING THIS TIME. THE SPURIOUS HIGH RADIATION ALARM WAS RESET AND THE MONITOR WAS RETURNED TO SERVICE. TIME DELAY RELAYS ARE BEING ADDED TO PREVENT A CVI FROM SHORT DURATION RADIATION SPIKES.

[181] SEQUOYAH 1 DOCKET 50-327 LER 84-024  
 MODE CHANGE OUTSIDE OF TECH SPECS.  
 EVENT DATE: 041384 REPORT DATE: 051184 NSSS: WE TYPE: PWR

(NSIC 189619) A LIMITING CONDITION FOR OPERATION (LCO) IN THE TECH SPECS WAS NOT MET AND A CHANGE FROM MODE 4 (LESS THAN 350 DEGREES F) TO MODE 3 (GREATER THAN 350 DEGREES F) WAS MADE. A LEVEL TRANSMITTER (LT) FOR STEAM GENERATOR NUMBER ONE WAS INOPERABLE. THE ASSOCIATED BISTABLES FOR THE LEVEL TRANSMITTER WERE ALREADY TRIPPED DUE TO ANOTHER LCO. PERSONNEL FAILED TO REALIZE THAT MORE THAN ONE LCO APPLIED TO THIS LT. THE LCO THAT WAS RECOGNIZED ALLOWED OPERATION UNTIL THE NEXT REQUIRED FUNCTIONAL TEST IN THE APPLICABLE MODE. ANOTHER LCO WAS OVERLOOKED, AND IT DID NOT PERMIT A MODE CHANGE.

[182] SEQUOYAH 1 DOCKET 50-327 LER 84-025  
 MODE CHANGE WHILE PAM INSTRUMENT INOPERABLE.  
 EVENT DATE: 041584 REPORT DATE: 051484 NSSS: WE TYPE: PWR

(NSIC 189620) AT 1500C ON 4/15/84, SAMPLING OF THE REACTOR COOLANT SYSTEM FOR BORON CONCENTRATION WAS INITIATED. THIS SAMPLING CAUSED PRESSURIZER LEVEL TRANSMITTER 1-LT-68-320 TO BECOME INOPERABLE DUE TO A MODIFICATION MADE DURING THE PREVIOUS OUTAGE WHICH ROUTED THE SENSE LINE FROM THE LOW SIDE TAP OF THE INSTRUMENT. THIS EVENT WAS DETECTED AT 1715C AFTER A CHANGE FROM MODE 3 TO MODE 2 WAS COMPLETED. TWO LCOS ARE INVOLVED WITH THIS EVENT. LCO 3.3.1.1 IS APPLICABLE IN MODE 2, AND LCO 3.0.4 IS NOT APPLICABLE AFTER MODE 2 WAS REACHED, THE BISTABLE WAS NOT TRIPPED AT 1748C WITH THE INSTRUMENT DISCOVERED INOPERABLE AT 1715C. LCO 3.3.3.7 IS FOR ACCIDENT MONITORING INSTRUMENTATION AN ALLOWS 7 DAYS TO RETURN THE INSTRUMENT OPERABLE. BUT 3.0.4 IS APPLICABLE (I.E., NO MODE CHANGE WITH INSTRUMENT INOPERABLE). LCO 3.3.3.7 IS APPLICABLE FOR MODES 1, 2, AND 3 AND THE INSTRUMENT SHOULD HAVE BEEN MADE OPERABLE PRIOR TO MODE CHANGE. THE CAUSE OF THIS EVENT HAS BEEN ATTRIBUTED TO THE FAILURE OF THE OPERATOR TO REALIZE LT-68-320 WAS INOPERABLE.

[183] SEQUOYAH 2 DOCKET 50-328 LER 84-004  
 STANDBY DIESEL GENERATORS START.  
 EVENT DATE: 032684 REPORT DATE: 042484 NSSS: WE TYPE: PWR

(NSIC 189627) THE LOSS OF A 6.9KV UNIT BOARD, CAUSING UNDERVOLTAGE ON A 6.9KV SHUTDOWN BOARD, RESULTED IN THE STANDBY DIESEL GENERATORS STARTING. INVESTIGATION REVEALED THAT UNIT BOARDS 1A AND 1C LOST POWER DUE TO A C-PHASE TO GROUND FAULT ON A 500KV BREAKER WHICH CLEARED THE 500KV SWITCHYARD BUS SECTION 2. IN TWO OTHER INCIDENTS, PERSONNEL BUMPED A CELL SWITCH WHILE WORKING ON A 6.9KV UNIT BOARD BREAKER, AND PERSONNEL CHECKED OPERATION OF A RELAY WITHOUT FIRST PERFORMING A REQUIRED WIRE LIFT WHICH RESULTED IN STARTING THE DIESEL GENERATORS. NO PLANT SAFETY MARGINS WERE EXCEEDED.

[184] SEQUOYAH 2 DOCKET 50-328 LER 84-006  
 CONTAINMENT VENTILATION ISOLATES TWICE.  
 EVENT DATE: 040684 REPORT DATE: 050184 NSSS: WE TYPE: PWR

(NSIC 189529) A HIGH RADIATION ALARM WAS ACTUATED WHICH CAUSED A CONTAINMENT VENTILATION ISOLATION (CVI) TO OCCUR. INVESTIGATION REVEALED THAT A VOLTAGE SPIKE OCCURRED AS A RESULT OF ELECTROMAGNETIC INTERFERENCE (EMI) WHICH WAS SPURIOUS IN ONE INCIDENT AND CAUSED BY A PERSONNEL ERROR IN ANOTHER INCIDENT. RADIATION LEVELS WERE NOT ABOVE NORMAL DURING THIS TIME. THE SPURIOUS RADIATION ALARMS WERE RESET, AND THE MONITOR WAS RETURNED TO SERVICE. A TIME DELAY IS BEING ADDED TO THE ACTUATION SIGNAL TO PREVENT SHORT SPIKES ON THE RADIATION MONITOR FROM CAUSING FUTURE CVIS.

[185] ST. LUCIE 1 DOCKET 50-335 LER 84-001  
 DIESEL GENERATORS POTENTIALLY OVERLOADED.  
 EVENT DATE: 030784 REPORT DATE: 040684 NSSS: CE TYPE: PWR  
 VENDOR: I-T-E CIRCUIT BREAKER

(NSIC 189436) DURING AN EXTENDED REFUELING OUTAGE, A DESIGN PROBLEM WAS DISCOVERED ON THE DIESEL GENERATOR LOADING SEQUENCE UNDER CERTAIN ACCIDENT CONDITIONS. FOLLOWING A LOSS OF OFFSITE POWER OR UNDERVOLTAGE CONDITION SUBSEQUENT TO THE RECEIPT OF A CONTAINMENT ISOLATION SIGNAL (CIS), SAFETY INJECTION ACTUATION SIGNAL (SIAS), OR CONTAINMENT SPRAY ACTUATION SIGNAL (CSAS), THE EMERGENCY DIESEL GENERATORS MAY PICK UP AN ADDITIONAL 780 KW MAXIMUM OF LOAD DUE TO A TIME DELAY RELAY ON THE 480V BUSES. THIS IS NOT CONSIDERED TO BE A SIGNIFICANT PROBLEM, BECAUSE THE DIESEL GENERATORS ARE VIRTUALLY IDENTICAL TO UNIT 2 DIESEL GENERATORS WHICH HAVE BEEN TESTED FOR AND ARE CAPABLE OF ACCEPTING LOADS GREATER THAN THE MAXIMUM ANTICIPATED LOAD FROM THIS POSTULATED EVENT.

[186] SUMMER 1 DOCKET 50-395 LER 83-000S  
 MAIN PLANT VENT RADIATION MONITOR INOPERABLE.  
 EVENT DATE: 060883 REPORT DATE: 062083 NSSS: WE TYPE: PWR

(NSIC 189484) CAUSE - LOOSE COVER ON CIRCUIT BOARDS. MAIN PLANT VENT RADIATION MONITOR RM-A13 WAS DECLARED INOPERABLE WHEN THE CHANNEL BEGAN TO INDICATE HIGH RADIATION AS COMPARED TO THE MAIN PLANT VENT EXHAUST RADIATION MONITOR RM-A3. TECH SPEC 3.3.3.1 APPLIES. PERSONNEL PERFORMING THE REPAIR DISCOVERED THAT THE COVER FOR THE REED SWITCH HOUSING ON ONE OF THE PREAMPLIFIER CIRCUIT BOARDS HAD COME OFF AND WAS IN CONTACT WITH THE ELECTRONIC COMPONENTS. THE COVER WAS RE-INSTALLED. IT IS BELIEVED THAT THIS COVER WAS NOT PROPERLY RE-INSTALLED UPON COMPLETION OF A PREVIOUSLY PERFORMED CHANNEL CALIBRATION AND WAS DISLODGED BY PERSONNEL PERFORMING REPAIRS TO THE ROOF OF THE CONTROL BUILDING AT THE TIME OF THE OCCURRENCE. THE LOOSE COVER IN CONTACT WITH THE ELECTRONIC CIRCUITRY OF THE PREAMPLIFIER CIRCUIT BOARDS APPARENTLY CAUSED THE ERRONEOUS HIGH RADIATION READING AND CHECK SOURCE INOPERABILITY.

[187] SUMMER 1 DOCKET 50-395 LER 84-009  
 REACTOR TRIPS ON LOW SG LEVEL.  
 EVENT DATE: 020884 REPORT DATE: 030584 NSSS: WE TYPE: PWR

(NSIC 189377) AT APPROXIMATELY 2227 HOURS ON FEBRUARY 8, 1984, THE REACTOR TRIPPED FROM 9% POWER ON LO-LO STEAM GENERATOR LEVEL IN THE "C" STEAM GENERATOR. POWER WAS BEING HELD AT 22% POWER WHEN THE FEEDWATER TEMPERATURE DECREASED BELOW 225 F. AS A RESULT OF THE LOW FEEDWATER TEMPERATURE, FEEDWATER ISOLATION OCCURRED DUE TO FEEDWATER TEMPERATURE AND FLOW RESULTING IN THE LO-LO LEVEL. POWER WAS RUN BACK IN AN ATTEMPT TO PREVENT THE TRIP. THIS WAS UNSUCCESSFUL, AND THE PLANT TRIPPED FROM APPROXIMATELY 9% POWER. A POST TRIP REVIEW WAS SATISFACTORILY CONDUCTED AND PLANS WERE MADE TO RESTART THE REACTOR.

[188] SUMMER 1 DOCKET 50-395 LER 84-010  
 REACTOR TRIP.  
 EVENT DATE: 020984 REPORT DATE: 030584 NSSS: WE TYPE: PWR

(NSIC 189378) AT APPROXIMATELY 1254 HOURS ON FEBRUARY 9, 1984, THE REACTOR WAS MANUALLY TRIPPED FROM APPROXIMATELY 8% POWER. A PLANT RESTART WAS IN PROGRESS FOLLOWING A PREVIOUS REACTOR TRIP ON FEBRUARY 8, 1984 (REFERENCE LER-84-009). THE PLANT HAD EXPERIENCED PROBLEMS WITH MAIN TURBINE SPEED CONTROL. ADJUSTMENTS WERE BEING MADE WHICH REQUIRED A TURBINE SPEED OF EXACTLY 1800 RPM. THE GENERATOR SYNCHROSCOPE WAS CHOSEN AS THE MEANS OF SPEED INDICATION WHICH REQUIRED EXCITATION OF THE MAIN GENERATOR. WHEN THE EXCITATION BREAKER WAS CLOSED, GENERATOR SPEED WAS 58 HZ WHICH TRIPPED ALL BALANCE OF PLANT LOADS ON BUS UNDERFREQUENCY. THESE LOADS INCLUDED THE REACTOR COOLANT PUMPS AND THE CONTROL ROD DRIVE MOTOR GENERATORS WHICH RESULTED IN THE SHUTDOWN AND CONTROL RODS DROPPING INTO THE CORE. NATURAL CIRCULATION WAS EFFECTIVELY ESTABLISHED. THE REACTOR COOLANT PUMPS WERE RESTARTED AT THE APPROXIMATELY 1319 HOURS ON FEBRUARY 9, 1984. PLANT MANAGEMENT DETERMINED THE PLANT TO BE IN A STABLE CONFIGURATION AND APPROVED REACTOR RESTART. THE APPROPRIATE OPERATING PROCEDURE WAS REVISED TO BYPASS THE GENERATOR UNDERFREQUENCY TRIP FUNCTION PRIOR TO GENERATOR SYNCHRONIZATION, AND TO RESTORE THE TRIP FUNCTION SUBSEQUENT TO SYNCHRONIZATION.

[189] SUMMER 1 DOCKET 50-395 LER 84-012  
 LEAK RATE TEST ON EMERGENCY ESCAPE HATCH NOT PERFORMED ON TIME.  
 EVENT DATE: 021484 REPORT DATE: 031284 NSSS: WE TYPE: PWR

(NSIC 189379) ON FEBRUARY 14, 1984, IT WAS IDENTIFIED THAT A LEAK RATE TEST WAS NOT PERFORMED ON THE REACTOR BUILDING EMERGENCY ESCAPE HATCH WITHIN 72 HOURS FOLLOWING CLOSURE AS REQUIRED BY SURVEILLANCE REQUIREMENT 4.6.1.3.A, "CONTAINMENT AIR LOCKS." ENTRY WAS MADE AT APPROXIMATELY 1755 HOURS, FEBRUARY 10, 1984, AND THE SURVEILLANCE TEST WAS COMPLETED AT 2030 HOURS, FEBRUARY 14, 1984. THE CAUSE OF THIS EVENT WAS DUE TO PERSONNEL ERROR. IMMEDIATE CORRECTIVE ACTION TAKEN WAS THE PERFORMANCE OF THE REQUIRED SURVEILLANCE TEST. A SPECIAL INSTRUCTION HAS BEEN ISSUED WHICH REQUIRES THAT THE APPLICABLE SURVEILLANCE TEST BE PERFORMED FOLLOWING ANY ENTRY INTO THE CONTAINMENT IN MODES 1 THROUGH 4.

[190] SUMMER 1 DOCKET 50-395 LER 84-007  
 BOMB THREAT.  
 EVENT DATE: 022784 REPORT DATE: 030284 NSSS: WE TYPE: PWR

(NSIC 189376) AT 1907 HOURS ON FEBRUARY 27, 1984, A POTENTIAL BOMB THREAT WAS RECEIVED BY A MEMBER OF THE PLANT SECURITY FORCE VIA A TELEPHONE CALL. THE CALLER STATED THAT A BOMB WAS LOCATED ON THE 412' ELEVATION OF THE CONTROL BUILDING, AND IT WAS TO EXPLODE AT "TEN O'CLOCK." AT 1911 HOURS, SECURITY CONDITION YELLOW WAS DECLARED, AND THE APPROPRIATE PERSONNEL WERE NOTIFIED. AT 1916 HOURS, SECURITY FORCE PERSONNEL WERE DISPATCHED TO THE 412' ELEVATION OF THE

CONTPOB BUILDING TO BEGIN A SEARCH AND TO EVACUATE ALL NONESSENTIAL PERSONNEL. AT 2115 HOURS THE SEARCH OF THE CONTROL BUILDING--412' ELEVATION AND ABOVE--WAS COMPLETED; NO BOMB(S) WAS FOUND. AT 2<sup>30</sup> HOURS, THE PLANT RETURNED TO SECURITY CONDITION GREEN.

[191] SUMMER 1 DOCKET 50-395 LER 84-018  
 STEAM GENERATOR BLOWDOWN SYSTEM HAS BAD SNUBBERS.  
 EVENT DATE: 032384 REPORT DATE: 042784 NSSS: WE TYPE: PWR  
 VENDOR: PACIFIC SCIENTIFIC COMPANY

(NSIC 189640) THIS VOLUNTARY REPORT DESCRIBES THE RESULTS OF SNUBBER INSPECTION OF THE STEAM GENERATOR (S/G) BLOWDOWN SYSTEM FROM MARCH 23 THROUGH APRIL 22, 1984. ALL OF THE THIRTY-TWO (32) SNUBBERS ASSOCIATED WITH THE BLOWDOWN SYSTEM WHICH ARE LOCATED INSIDE CONTAINMENT WERE INSPECTED. ELEVEN (11) SUPPORTS WERE IDENTIFIED BY NUCLEAR ENGINEERING (NE) THAT WOULD NOT MAINTAIN THEIR DESIGN FUNCTION. NINE (9) OF THE ELEVEN (11) SNUBBERS ALSO FAILED THE FUNCTIONAL TEST. INITIAL NE EVALUATION HAS ATTRIBUTED THE FAILURES TO SYSTEM TRANSIENTS APPARENTLY CAUSED BY MISOPERATION OF THE SYSTEM. ALL DEFECTIVE SNUBBERS WERE REPAIRED OR REPLACED. ON APRIL 22, 1984, NE OBSERVED OPERATIONS PERSONNEL ESTABLISH BLOWDOWN IN ACCORDANCE WITH STATION OPERATING PROCEDURE 212, "STEAM GENERATOR BLOWDOWN," AND OBSERVED NO SYSTEM TRANSIENTS. A REACTOR TRIP OCCURRED ON APRIL 25, 1984, AND NE CONDUCTED A WALKDOWN INSPECTION OF THE BLOWDOWN SYSTEM. ONE (1) SNUBBER WAS OBSERVED TO BE UNSTAKED BUT FUNCTIONAL. THIS CONDITION WAS NOT ATTRIBUTED TO A SYSTEM TRANSIENT; THE UNIT WILL BE RESTAKED OR REPLACED AT A LATER DATE. A REINSPECTION OF THE BLOWDOWN SYSTEM WILL BE PERFORMED DURING SHUTDOWN FOR REFUELING (CURRENTLY SCHEDULED FOR SEPTEMBER 1984).

[192] SUMMER 1 DOCKET 50-395 LER 84-015  
 THIRTY-SIX INCH PURGE AND EXHAUST AIR SUPPLY VALVES FOUND OPEN.  
 EVENT DATE: 032584 REPORT DATE: 041084 NSSS: WE TYPE: PWR

(NSIC 189414) ON MARCH 25, 1984, WITH THE PLANT IN MODE 5, OPERATIONS PERSONNEL FOUND ALL FOUR (4) AIR SUPPLY VALVES OPEN TO THE THIRTY-SIX INCH REACTOR BUILDING PURGE VALVES. THE AIR VALVES ARE PHYSICALLY INCAPABLE OF BEING LOCKED; THEREFORE, THEY ARE ENCLOSED IN A "LOCK BOX": THE VALVES ARE CLOSED AND THE "LOCK BOX" IS LOCKED. ON DECEMBER 9, 1983, THE REACTOR BUILDING VENTILATION SYSTEM VALVE LINE UP WAS COMPLETED PER THE APPLICABLE SYSTEM OPERATING PROCEDURE. BECAUSE OF PERSONNEL ERROR, THE AIR VALVES WERE NOT VERIFIED TO BE CLOSED PRIOR TO LOCKING THE "LOCK BOX." A SPECIAL TRAINING SESSION WILL BE CONDUCTED WITH ALL OPERATORS CONCERNING THIS EVENT TO ENSURE THEY ARE AWARE OF VALVE POSITION REQUIREMENTS WHEN A "LOCK BOX" FEATURE IS PRESENT.

[193] SUMMER 1 DOCKET 50-395 LER 84-020  
 LOW FLUID OIL PRESSURE SWITCHES OUT OF CALIBRATION.  
 EVENT DATE: 040784 REPORT DATE: 050784 NSSS: WE TYPE: PWR

(NSIC 189537) ON APR 7, 1984, AN INADEQUATE CALIBRATION PROCEDURE WAS IDENTIFIED DURING THE PERFORMANCE OF SURVEILLANCE REQUIREMENT 4.3.1.1. THE PROCEDURE FAILED TO CLEARLY IDENTIFY AND DOCUMENT CALIBRATION OF THE INDIVIDUAL "TRAIN" RELATED "LOW FLUID OIL PRESSURE" SWITCHES. SURVEILLANCE TEST PROCEDURE (STP) 302.035 WAS REVISED AND A CALIBRATION PERFORMED ON EACH SWITCH. ONE SWITCH IN EACH CHANNEL WAS FOUND TO EXCEED THE TECH SPEC ALLOWABLE LIMIT OF GREATER THAN OR EQUAL TO 750 PSIG. THE PROCEDURE REVISION IS CONSIDERED ADEQUATE CORRECTIVE ACTION TO PREVENT RECURRENCE OF THIS ISOLATED EVENT. THERE WERE NO ADVERSE CONSEQUENCES FROM THIS EVENT. THIS TRIP PROVIDES ADDITIONAL PROTECTION AND CONSERVATISM BEYOND THAT REQUIRED FOR THE HEALTH AND SAFETY OF THE PUBLIC. NO CREDIT IS TAKEN IN ANY OF THE SAFETY ANALYSES (CHAPTER 15 OF THE PSAR) FOR THIS TRIP.

[194] SUMMER 1 DOCKET 50-395 LER 84-019  
 PRESSURIZER SAFETY RELIEF VALVES FAIL TEST.  
 EVENT DATE: 040884 REPORT DATE: 050784 NSSS: WE TYPE: PWR  
 VENDOR: CORSBY VALVE & GAGE CO.

(NSIC 189589) THIS VOLUNTARY REPORT IS BEING SUBMITTED AS A FOLLOW-UP TO A TELEPHONE CONFERENCE WITH NRC REGION II ON APRIL 11, 1984. DURING A SCHEDULED OUTAGE WHICH STARTED MARCH 23, 1984, PRESSURIZER SAFETY RELIEF VALVE (PSRV) XVR-8010-C WAS REMOVED AND TESTED IN ACCORDANCE WITH THE INSERVICE INSPECTION (ISI) PROGRAM. THE VALVE LIFTED AT 2590 PSI, WHICH WAS APPROXIMATELY 3.2% ABOVE TECH SPEC SETPOINT (2485 +/- 1%). THE VALVE WAS DECLARED INOPERABLE AND, IN ACCORDANCE WITH THE ISI PROGRAM, XVR-8010-B WAS TESTED SATISFACTORILY WITH A RELIEF SETPOINT OF 2480 PSI. XVR-8010-C WAS ADJUSTED WITHIN THE TECH SPEC TOLERANCE AND REINSTALLED. DURING THE SPRING 1984 OUTAGE, XVR-8010-A WAS REMOVED BECAUSE OF SUSPECTED LEAKAGE. THE LEAKAGE WAS VERIFIED AND THE VALVE WAS REPLACED WITH AN ACCEPTABLE SPARE RELIEF VALVE.

[195] SUMMER 1 DOCKET 50-395 LER 84-021  
 DAMAGED KAOWOOL FIRE BARRIER.  
 EVENT DATE: 040984 REPORT DATE: 050984 NSSS: WE TYPE: PWR

(NSIC 189590) ON APRIL 9, 1984, OPERATIONS QUALITY CONTROL IDENTIFIED DEGRADATION OF KAOWOOL FIRE WRAP ON THREE (3) CABLE TRAYS AND FOUR (4) CONDUITS LOCATED IN THE CHASE AREA OF THE CONTROL BUILDING (412' AND 435' ELEVATIONS). THE LICENSEE IMMEDIATELY VERIFIED THE OPERABILITY OF THE FIRE SUPPRESSION SYSTEM IN THE AFFECTED AREAS AND ESTABLISHED A ONE (1) HOUR ROVING FIRE WATCH AS REQUIRED BY THE TECH SPEC 3.7.10. INVESTIGATION OF THIS EVENT BY THE FIRE PROTECTION COORDINATOR ATTRIBUTES THE CAUSE TO AGING AND TO PERSONNEL WALKING ON THE WRAP. THE CONSEQUENCES OF THIS EVENT WERE MINIMAL. FIRE SUPPRESSION IN THE AFFECTED AREAS INCLUDES SMOKE DETECTORS AND PREACTION SPRINKLERS WHICH WERE OPERABLE. REPAIR OF THE DEGRADED WRAP HAS BEEN COMPLETED. STATION ORIENTATION TRAINING NOW INCLUDES CARE AND PROTECTION OF FIRE BARRIER MATERIAL LOCATED THROUGHOUT THE PLANT. THE LICENSEE PLANS NO ADDITIONAL CORRECTIVE ACTION.

[196] SUMMER 1 DOCKET 50-395 LER 84-022  
 BORATION FLOW PATH INOPERABLE.  
 EVENT DATE: 041284 REPORT DATE: 051084 NSSS: WE TYPE: PWR

(NSIC 189591) ON APRIL 12, 1984, AT APPROXIMATELY 0200 HOURS, WITH THE PLANT IN MODE 5, REACTOR COOLANT SYSTEM (RCS) AT HALF PIPE, THE DISCHARGE VALVE (XVG-8485A) FOR CHARGING PUMP A WAS DISCOVERED CLOSED. THIS MADE THE BORATION FLOW PATH, AS REQUIRED BY TECH SPEC 3.1.2.1, INOPERABLE. IMMEDIATE CORRECTIVE ACTION WAS TAKEN TO ESTABLISH THE REQUIRED FLOW PATH. THE CAUSE OF THIS EVENT WAS DUE TO PERSONNEL ERROR. CORRECTIVE ACTION TAKEN TO PRECLUDE OCCURRENCE CONSISTED OF THE VERIFICATION OF "ONE OPERABLE BORATION FLOW PATH" IN MODES 5 AND 6 EVERY SHIFT. THE MANAGER OF OPERATIONS DISCUSSED THE NECESSITY OF HAVING AN ADEQUATE SHIFT TURNOVER WITH ALL SHIFT SUPERVISORS.

[197] SURRY 1 DOCKET 50-280 LER 84-001  
 REACTOR TRIP.  
 EVENT DATE: 010684 REPORT DATE: 020384 NSSS: WE TYPE: PWR  
 VENDOR: COPES-VULCAN, INC.

(NSIC 189347) ON JAN 6, A REACTOR TRIP OCCURRED AS A RESULT OF AN OVER TEMPERATURE DELTA-T SIGNAL. PLANT PARAMETERS DID NOT INDICATE A VALID OVER TEMPERATURE DELTA-T CONDITION. AT THE TIME OF THE EVENT, INSTRUMENT TECHNICIANS WERE PERFORMING A PERIODIC TEST WHICH REQUIRED THE CH II OVER TEMPERATURE DELTA-T BISTABLES TO BE IN THE TRIP MODE, AND MAINTENANCE WAS BEING PERFORMED ON THE

PLANT GAITRONICS (P.A.) SYSTEM. THE GAITRONICS SYSTEM IS POWERED FROM THE UNIT I VITAL BUS I. WHEN THE GAITRONICS WAS RE-ENERGIZED AN APPARENT POWER SURGE OCCURRED IN THE GAITRONICS SYSTEM. THE POWER SURGE IS BELIEVED TO HAVE INDUCED A VOLTAGE TRANSIENT IN VITAL BUS I WHICH RESULTED IN TRIPPING THE RELAYS FOR OVER TEMPERATURE DELTA-T REACTOR TRIP CH I. SINCE CH II WAS IN TRIP AT THE TIME IN ORDER TO SUPPORT PERFORMANCE OF P.T. 2.1, THE 2/3 MATRIX WAS COMPLETED AND AS A RESULT, THE REACTOR TRIP OCCURRED. A SPECIAL TEST WILL BE WRITTEN AND PERFORMED TO CHECK THE GAITRONICS SYSTEM FOR LOADS ON ITS VARIOUS BRANCH CIRCUITS. RESULTS OF THIS TEST WILL BE USED TO HELP DEVELOP A PROCEDURE WHICH WILL ALLOW MAINTENANCE TO BE PERFORMED ON THE GAITRONICS SYSTEM WITH MINIMAL EFFECT ON THE VITAL BUS.

[198] SURRY 1 DOCKET 50-280 LER 84-003  
REACTOR TRIP DUE TO LOW STEAM GENERATOR LEVEL.  
EVENT DATE: 020684 REPORT DATE: 030684 NSSS: WE TYPE: PWR  
VENDOR: COPES-VULCAN, INC.  
WESTINGHOUSE ELECTRIC CORP.

(NSIC 189315) ON FEBRUARY 6, WITH THE UNIT AT 100% POWER, A REACTOR TRIP OCCURRED AS A RESULT OF A LOW STEAM GENERATOR LEVEL WITH A STEAM FLOW/FEED FLOW MISMATCH IN "A" STEAM GENERATOR. THIS CONDITION WAS THE CONSEQUENCES OF CLOSING A TRIPPED FEEDER BREAKER IN THE CONDENSATE POLISHING BUILDING THAT CAUSED THE INLET VALVES TO THE DEMINERALIZER BEDS TO CLOSE. THE CLOSED INLET VALVES DECREASED THE CONDENSATE SUPPLY TO THE MAIN FEED PUMPS WHICH RESULTED IN A DECREASE IN MAIN FEED WATER FLOW AND STEAM GENERATOR LEVEL. FOLLOWING THE TRIP, NORMAL VALVE LINEUP WAS ESTABLISHED IN THE CONDENSATE POLISHING BUILDING AND THE TRIPPED BREAKER WAS REPLACED WITH A SPARE.

[199] SURRY 1 DOCKET 50-280 LER 84-005  
INADVERTENT SAFETY INJECTION.  
EVENT DATE: 030184 REPORT DATE: 032984 NSSS: WE TYPE: PWR

(NSIC 189517) ON MAR 1, SAFETY INJECTION SIGNALS WERE INITIATED AS A RESULT OF COMPLETING 3 OF 4 HIGH CONTAINMENT PRESSURE SIGNALS AND COMPLETING 2 OF 3 HIGH STEAM FLOW SIGNALS. AT THE TIME OF THE EVENT, OPERATORS WERE PERFORMING MOP 26.9 (REMOVAL OF VITAL BUS SOLA TRANSFORMER I-I) WHEN VITAL BUS I AND III WERE MISTAKENLY CROSS CONNECTED OUT OF PHASE. THIS RESULTED IN A VOLTAGE TRANSIENT ON VITAL BUS I AND III, WHICH CAUSED SPURIOUS CONTAINMENT HIGH PRESSURE AND HIGH STEAM FLOW SIGNALS. THE VOLTAGE TRANSIENT IN VITAL BUS I AND III IS BELIEVED TO HAVE RESULTED IN TRIPPING 2 OF 4 CONTAINMENT HIGH PRESSURE RELAYS. SINCE CHANNEL II WAS IN TRIP PRIOR TO THE VOLTAGE TRANSIENT, THE 3 OF 4 MATRIX FOR CONTAINMENT HIGH PRESSURE WAS COMPLETED AND SAFETY INJECTION WAS INITIATED. ALSO, THE POWER TRANSIENT RESULTED IN RESETTING THE HIGH STEAM FLOW LOW TAVG OR LOW STEAM PRESSURE SAFETY INJECTION CIRCUITRY. SINCE HIGH STEAM FLOW SIGNALS WERE ALSO GENERATED WITH VOLTAGE TRANSIENT AND BOTH LOW HEADER PRESSURE LOW TAVG WERE PRESENT, SAFETY INJECTION WAS ACTUATED. THE OPERATOR WAS RE-INSTRUCTED IN THE CORRECT MANNER OF REMOVING THE VITAL BUS SOLA TRANSFORMER. LABELS HAVE BEEN MADE FOR BOTH UNIT'S MANUAL TRANSFER SWITCHES. FAN 58B IRIS DAMPER SHALL BE RUN IN THE AUTOMATIC MODE.

[200] SURRY 1 DOCKET 50-280 LER 84-007  
DEGRADED FEEDWATER ISOLATION FUNCTION.  
EVENT DATE: 032884 REPORT DATE: 042784 NSSS: WE TYPE: PWR  
OTHER UNITS INVOLVED: SURRY 2 (PWR)

(NSIC 189623) ON MARCH 28, 1984 WITH UNIT NO. 1 AT 100% POWER, THE INSTRUMENT TECHNICIANS DETERMINED THAT THE MAIN FEED REG. VALVES WOULD NOT HAVE TRIPPED CLOSED UPON RECEIPT OF A FEEDWATER ISOLATION SIGNAL. THE MAIN FEED PUMPS WOULD

HAVE TRIPPED IN THE EVENT OF A SAFETY INJECTION AND WOULD HAVE PROVIDED THE NECESSARY FEEDWATER ISOLATION FUNCTION. THE FRVS WOULD NOT HAVE CLOSED BECAUSE THE INSTRUMENT AIR TUBING FROM THE FRVS' ACTUATOR HAD BEEN CONNECTED TO THE WRONG PORT OF THE 3-WAY SOLENOID VALVES (SOV) THAT DEENERGIZE TO VENT AIR AND THEREBY ALLOW THE FRVS TO CLOSE RAPIDLY. THE PRIMARY CAUSE OF THE INCORRECT AIR ARRANGEMENT WAS THAT WORK WAS PERFORMED ON SAFETY RELATED EQUIPMENT WITHOUT AN APPROVED PROCEDURE AND/OR ENGINEERING WORK REQUEST. THE INSTRUMENT AIR TUBING ARRANGEMENT WAS CORRECTED AND THE ABILITY OF THE SOVS TO VENT AIR FROM THE FRV ACTUATOR WHEN THE SOVS ARE DEENERGIZED WAS TESTED.

[201] SURRY 1 DOCKET 50-280 LER 84-008  
 REACTOR TRIPS DUE TO NEUTRON MONITOR SPIKE.  
 EVENT DATE: 040784 REPORT DATE: 051084 NSSS: WE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 189607) ON APR 7, 1984, WITH UNIT 1 AT 5 X 10<sup>(-11)</sup> AMPERES ON THE INTERMEDIATE RANGE AND INSERTING CONTROL RODS SHUTDOWN, A REACTOR TRIP WAS INITIATED WHEN SOURCE RANGE NI-31 (EIS NO. R1) REINSTATED WITH INDICATION ABOVE THE HIGH FLUX TRIP SETPOINT. IMMEDIATELY FOLLOWING THE TRIP, ALL CONTROL AND PROTECTION SYSTEMS FUNCTIONED AS EXPECTED WITH THE EXCEPTION OF SOURCE RANGE NI-31, WHICH FAILED HIGH. APPROXIMATELY 4.5 HRS FOLLOWING THE REACTOR TRIP, WITH NI-31 FAILED HIGH, SOURCE RANGE NI-32 WAS DECLARED INOPERABLE DUE TO NOISE. WITH THE UNIT AT A HOT SHUTDOWN CONDITION, SOURCE RANGE INDICATION WAS UNAVAILABLE FOR ABOUT 4 HRS. APPROPRIATE ABNORMAL PROCEDURES WERE IMPLEMENTED TO INSURE POSITIVE REACTIVITY WAS NOT ADDED TO THE CORE. THE PREAMP TO NI-31 WAS REPLACED AND SOURCE RANGE INDICATION WAS ESTABLISHED. PRIOR TO THE START-UP, THE SOURCE RANGE DETECTOR FOR NI-32 WAS REPLACED AND THE CHANNEL RETURNED TO SERVICE.

[202] SURRY 1 DOCKET 50-280 LER 84-009  
 IODINE SPIKES FOLLOWING SHUTDOWN.  
 EVENT DATE: 040784 REPORT DATE: 051084 NSSS: WE TYPE: PWR

(NSIC 189608) ON APR 7, 1984, AT 0500 HRS FOLLOWING A UNIT SHUTDOWN FROM 100% POWER, THE SPECIFIC ACTIVITY SAMPLE OF THE REACTOR COOLANT SHOWED A PEAK DOSE EQUIVALENT I-131 LEVEL OF 1.56 MICROCURIES/CC. THIS EXCEEDS THE DOSE EQUIVALENT I-131 LIMIT OF LESS THAN OR EQUAL TO 1.0 MICROCURIES/CC SPECIFIED IN TECH SPECS 3.1.D.2 AND IS BEING REPORTED IN ACCORDANCE WITH THE SPECIAL REPORTING REQUIREMENTS OUTLINED IN TECH SPEC 3.1.D.4.

[203] SURRY 2 DOCKET 50-281 LER 84-005  
 REACTOR TRIP DUE TO RCP TRIP.  
 EVENT DATE: 031684 REPORT DATE: 041384 NSSS: WE TYPE: PWR  
 VENDOR: COPES-VULCAN, INC.  
 WESTINGHOUSE ELECTRIC CORP.

(NSIC 189624) ON MARCH 16, A REACTOR TRIP OCCURRED AS A RESULT OF A REACTOR COOLANT PUMP TRIP. THE RCP TRIP WAS DUE TO WATER IN THE ELECTRICAL PENETRATION FOR ITS MOTOR LEADS. THE WATER GROUNDED THE 'C' PHASE AND TRIPPED THE RCP BREAKER. THE PENETRATION WAS REPLACED WITH A SPARE AND WAS MEGGERED AND TYPE 'B' TESTED SATISFACTORILY. THE WATER IS SUSPECTED TO HAVE ORIGINATED FROM AUXILIARY FEED CHECK VALVE LEAKS ABOVE THE PENETRATIONS. THE AUXILIARY FEED CHECK VALVES HAVE BEEN REPAIRED DURING THE PRESENT OUTAGE.

[204] SURRY 2 DOCKET 50-281 LER 84-012  
 REACTOR TRIPS ON ERRONEOUS HIGH FLUX SIGNAL.  
 EVENT DATE: 042084 REPORT DATE: 051084 NSSS: WE TYPE: PWR



(NSIC 189609) ON APR 20, 1984 AT 0216 HRS, WITH THE UNIT AT HOT SHUTDOWN, A REACTOR TRIP OCCURRED DUE TO A HIGH FLUX ON SOURCE RANGE NI-32. THE REASON FOR THE TRIP WAS PERSONNEL ERROR BY AN INSTRUMENT TECHNICIAN WHILE HE WAS TROUBLESHOOTING NI-32 WHICH HAD A FAILED PREAMP. THE INSTRUMENT TECHNICIAN WAS DISCIPLINED. A REPLACEMENT PREAMP IS ON ORDER AND WILL BE INSTALLED WHEN IT ARRIVES.

[205] SUSQUEHANNA 1 DOCKET 50-387 LER 84-015  
HIGH BACKGROUND RADIATION SURROUNDING SERVICE WATER RADIATION MONITOR.  
EVENT DATE: 012184 REPORT DATE: 040284 NSSS: GE TYPE: BWR  
VENDOR: GENERAL ELECTRIC CO.

(NSIC 189450) BACKGROUND RADIATION IN THE AREA OF THE SERVICE WATER RADIATION MONITOR REACHED LEVELS SUCH THAT THE MONITOR'S HIGH ALARM SETPOINT COULD NOT ENSURE THAT THE MONITOR WOULD DETECT AND ALARM AT 1 MPC CS-137 EQUIVALENT. THE MONITOR WILL BE SHIELDED SO THAT IT CAN PERFORM ITS FUNCTION PROPERLY. BASED ON PLANT CONDITIONS, SERVICE WATER SAMPLES AND WEEKLY COOLING TOWER BLOWDOWN SAMPLES, IT IS CONSIDERED THAT NO DISCHARGES OCCURRED AT OR NEAR THE CS-137 MPC, EXCEPT DURING TIMES OF MONITORED LIQUID RADWASTE RELEASES.

[206] SUSQUEHANNA 1 DOCKET 50-387 LER 84-007  
TRANSVERSE INCORE PROBE EXPLOSIVE SHEAR VALVE CLOSURE CUTS TIP CABLE.  
EVENT DATE: 020284 REPORT DATE: 030284 NSSS: GE TYPE: BWR

(NSIC 189446) WHILE PERFORMING SURVEILLANCE TESTING FOR THE TRANSVERSING INCORE PROBE (TIP) EXPLOSIVE VALVE OPERABILITY, A SHEAR VALVE EXPLOSIVE CARTRIDGE UNEXPECTEDLY FIRED, SHEARING THE D TIP DETECTOR CABLE. THE EXPLOSIVE CARTRIDGE MISFIRE OCCURRED AS THE FIRING CABLE WAS BEING CONNECTED TO A NEW CARTRIDGE THAT HAD JUST BEEN PLACED IN THE D TIP SHEAR VALVE. DURING THE EVENT, THE SHEAR VALVE MONITOR/FIRE KEY LOCK SWITCH REMAINED IN THE MONITOR POSITION, WITH THE KEY REMOVED. INVESTIGATIONS FOUND NO SPECIFIC REASONS FOR THE UNEXPECTED FIRING OF THE EXPLOSIVE CARTRIDGE. THE SHEARED TIP DETECTOR/CABLE WAS REMOVED AND A NEW DETECTOR AND CABLE WAS INSTALLED. PROCEDURAL CHANGES WILL BE INCORPORATED TO PREVENT A RECURRENCE OF THIS EVENT.

[207] SUSQUEHANNA 1 DOCKET 50-387 LER 84-008  
INADEQUATE DESIGN - RHR SEAL WATER COOLERS.  
EVENT DATE: 020984 REPORT DATE: 030984 NSSS: GE TYPE: BWR  
OTHER UNITS INVOLVED: SUSQUEHANNA 2 (BWR)  
VENDOR: GRAHAM MFG CO.

(NSIC 189447) THE RESIDUAL HEAT REMOVAL PUMP SEAL WATER COOLERS WERE INADEQUATELY DESIGNED. THE SHELL SIDE OF THE COOLERS WAS RATED AT 75 PSIG, HOWEVER THE EMERGENCY SERVICE WATER OPERATING PRESSURE IS 152 PSIG. THE SEAL WATER COOLERS WERE REPLACED AND SIMILAR COMPONENT DESIGNS WILL BE REVIEWED.

[208] SUSQUEHANNA 1 DOCKET 50-387 LER 84-009  
REACTOR PRESSURE EXCEEDED 150 PSIG WITH HPCI INOPERABLE.  
EVENT DATE: 022184 REPORT DATE: 032084 NSSS: GE TYPE: BWR  
VENDOR: GENERAL ELECTRIC CO.

(NSIC 189448) AFTER A 79 DAY TIE-IN OUTAGE UNIT 1 WAS BEING RESTARTED ACCORDING TO NORMAL PROCEDURES. AT A REACTOR PRESSURE OF 110 PSIG, WARMING OF THE HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM BEGAN AS SCHEDULED. THE OPERATORS RECOGNIZED A PROBLEM IN THAT THE HPCI STEAM SUPPLY LINE PRESSURE INDICATOR WAS NOT RESPONDING TO THE WARM UP. WHILE THE OPERATORS WERE TROUBLESHOOTING THIS PROBLEM THE HEAT UP WAS CONTINUED AND REACTOR PRESSURE EXCEEDED 150 PSIG.

INVESTIGATION LATER DETERMINED THAT THE INTENT OF THE TECH SPECS IS TO HAVE HPCI OPERABLE AT 150 PSIG. HPCI WAS MADE OPERABLE BEFORE REACTOR VESSEL PRESSURE EXCEEDED 320 PSIG WHICH IS WELL WITHIN THE OPERATING RANGE OF THE LOW PRESSURE SAFETY SYSTEMS. THE PROCEDURES WERE CLARIFIED AND THE EVENT WILL BE REVIEWED WITH ALL LICENSED OPERATIONS PERSONNEL.

[209] SUSQUEHANNA 1 DOCKET 50-387 LER 84-012  
OFF-GAS HYDROGEN ANALYZERS - MISSED SURVEILLANCE.  
EVENT DATE: 022584 REPORT DATE: 040284 NSSS: GE TYPE: BWR

(NSIC 189536) DURING FEB 1984, THE FUNCTIONAL TESTING REQUIREMENTS OF SI-072-201, "MONTHLY FUNCTIONAL TEST OF OFF-GAS HYDROGEN ANALYZERS AIT-06973A,B WERE SCHEDULED TO BE MET BY THE PERFORMANCE OF THE QUARTERLY SURVEILLANCE PROCEDURE, SI-072-301. THE DUE DATE AND VIOLATION DATE WERE, HOWEVER, INADVERTENTLY OMITTED FROM THE SURVEILLANCE AUTHORIZATION (SA) COVER SHEET FOR SI-072-301; AS A RESULT, THE FOREMAN WAS UNAWARE OF THE VIOLATION DATE FOR THE TEST. THE FUNCTIONAL TEST WAS COMPLETED FOR THE HYDROGEN ANALYZER CHANNEL A OF THE OFF-GAS SYSTEM ON 2/23/84 AND FOR CHANNEL B ON 2/29/84. THE VIOLATION DATE WAS 2/25/84. THE MISSED SURVEILLANCE FOR THE CHANNEL B HYDROGEN ANALYZER WAS DISCOVERED AT 1400 HRS ON FEB 29, 1984 UPON COMPLETION OF SI-072-301. CORRECTIVE ACTIONS TO PREVENT A REOCCURRENCE OF THIS EVENT ARE CURRENTLY BEING PURSUED AND WILL BE PROVIDED IN AN UPDATE TO THIS LER. SINCE THE OFF-GAS SYSTEM HYDROGEN RECOMBINER FUNCTIONED PROPERLY, NO ABNORMAL CONCENTRATIONS OF H<sub>2</sub> OCCURRED AND DIVERSE SYSTEM ISOLATION/ALARMS EXISTED.

[210] SUSQUEHANNA 1 DOCKET 50-387 LER 84-011  
UNINTENTIONAL INITIATION OF CREOASS AND SBGT.  
EVENT DATE: 030184 REPORT DATE: 033084 NSSS: GE TYPE: BWR  
OTHER UNITS INVOLVED: SUSQUEHANNA 2 (BWR)

(NSIC 189375) TWO INITIATIONS OF THE CONTROL ROOM EMERGENCY OUTSIDE AIR SUPPLY SYSTEM (CREOASS) AND STANDBY GAS TREATMENT SYSTEM (SBGTS) WERE CAUSED BY PRE-LICENSING WORK ON UNIT 2. UNIT 1 IS OPERATIONAL AND THE CREOASS AND SBGT SYSTEMS ARE COMMON TO BOTH UNITS. THE FIRST INITIATION OCCURRED WHEN A REACTOR PROTECTION SYSTEM (RPS) BUS TRIPPED AS DESIGNED, DUE TO A VOLTAGE DROP. THE BUS WAS CONNECTED TO ITS ALTERNATE POWER SUPPLY. UNLIKE THE PRIMARY SUPPLY, WHICH USES A MOTOR GENERATOR SET, THE ALTERNATE SUPPLY UNDERGOES A VOLTAGE DROP DURING MOTOR STARTS. A PLANT MODIFICATION TO INSTALL A CONSTANT VOLTAGE TRANSFORMER ON THE ALTERNATE POWER SUPPLY AND PREVENT THIS TYPE OF UNINTENTIONAL SAFETY SYSTEM INITIATION IS UNDER INVESTIGATION. THE SECOND INITIATION OCCURRED WHEN A SET OF TEST JUMPER CABLES WERE INCORRECTLY REMOVED, CAUSING A TEMPORARY LOSS OF POWER TO THE RPS BUS. ELECTRICAL PERSONNEL WILL BE COUNSELED ON JUMPER CABLE PROCEDURES.

[211] SUSQUEHANNA 1 DOCKET 50-387 LER 84-013  
AUTOMATIC SCPAM ON MAIN TURBINE CONTROL VALVE FAST CLOSURE.  
EVENT DATE: 030384 REPORT DATE: 040284 NSSS: GE TYPE: BWR  
VENDOR: GENERAL ELECTRIC CO.

(NSIC 189639) DURING THE WEEKLY TURBINE TEST PREVENTIVE MAINTENANCE ACTIVITY, THE MAIN TURBINE TRIPPED ON A SPURIOUS TRIP OF THE TURBINE THRUST BEARING WEAR DETECTOR (TBWD) PRESSURE SWITCHES. THE TURBINE TRIP CAUSED A TURBINE CONTROL VALVE FAST CLOSURE AND AN AUTOMATIC REACTOR SCRAM AS DESIGNED. OPERATOR ACTIONS WERE CORRECT THROUGHOUT THIS EVENT. INVESTIGATION CONCLUDED THAT THE TBWD PRESSURE SWITCH TRIP WAS A SPURIOUS OCCURRENCE. BASED ON ENGINEERING EVALUATION, A BLOCKING RELAY WAS REPLACED IN THE TBWD CIRCUITRY. THROUGHOUT THE TRANSIENT, THE UNIT RESPONDED AS PREDICTED AND THE UNIT PROTECTIVE FUNCTIONS ACTUATED PER DESIGN.

[212] SUSQUEHANNA 1 DOCKET 50-387 LER 84-017  
 EMERGENCY SERVICE WATER SPRAY NETWORKS FROZEN.  
 EVENT DATE: 031084 REPORT DATE: 040984 NSSS: GE TYPE: BWR  
 OTHER UNITS INVOLVED: SUSQUEHANNA 2 (BWR)  
 VENDOR: SPRAY ENGINEERING COMPANY

(NSIC 189451) THE A-1 (89 RISERS) AND B-2 (43 RISERS) SPRAY POND RISER NETWORKS WERE FOUND TO BE FROZEN DURING THE PERFORMANCE OF A WEEKLY PREVENTIVE MAINTENANCE ACTIVITY TO PUMP DOWN THE RISERS. AFTER FOUR DAYS OF MILDER WEATHER, ALL FOUR NETWORKS WERE THAWED OUT AND SUCCESSFULLY PUMPED DOWN. UNIT 1 WAS SHUT DOWN THROUGHOUT THE EVENT; UNIT 2 WAS IN A PRE-FUEL LOAD STATUS. ALL SPRAY HEADERS AND RISERS WERE INSPECTED AND NO DAMAGE WAS FOUND. THE NETWORKS WERE PUMPED DOWN EVERY TWO DAYS AND MONITORED FOR LEAKAGE EVERY DAY UNTIL MAR 31, 1984, WHEN IT WAS CONSIDERED THAT THE PROBABILITY OF THE RISERS FREEZING AGAIN WOULD BE VERY LOW. LONG TERM FIXES ARE BEING INVESTIGATED THAT WILL ENSURE THAT FREEZING OF THE SPRAY NETWORKS DOES NOT OCCUR AGAIN.

[213] TROJAN DOCKET 50-344 LER 84-003  
 INADVERTENT SAFETY INJECTION OCCURS FROM ACCIDENTAL SHORT CIRCUITING OF INSTRUMENT BUS.  
 EVENT DATE: 021884 REPORT DATE: 031684 NSSS: WE TYPE: PWR

(NSIC 189399) DURING THE PERFORMANCE OF A PERIODIC SURVEILLANCE TEST ON FEBRUARY 18, 1984 A CONTAINMENT ATMOSPHERE SAMPLING VALVE (SV-5643) WOULD NOT OPEN FOR TESTING. SINCE THE VALVE COULD NOT BE OPERATED BY THE CONTROL ROOM SWITCH, AN ATTEMPT WAS MADE TO DEACTIVATE IT IN ACCORDANCE WITH TECH SPEC 3.6.3.1. THE CONTROL OPERATOR RESEARCHED THE ELECTRICAL DRAWINGS AND REMOVED A FUSE BUT DISCOVERED IT WAS NOT THE CORRECT ONE FOR THE POWER SUPPLY TO THE VALVE. HE PROCEEDED TO REMOVE ANOTHER FUSE THAT HE THOUGHT MAY DEACTIVATE THE VALVE. WHILE ATTEMPTING TO REPLACE THIS FUSE WHICH WAS POWERED FROM PREFERRED INSTRUMENT BUS Y11, THE FUSE MOMENTARILY SHORT CIRCUITED AGAINST AN ADJACENT FUSE CLIP POWERED FROM PREFERRED INSTRUMENT BUS Y22. THE MOMENTARY SHORT DE-ENERGIZED PROTECTION BISTABLES AND RESULTED IN A REACTOR TRIP AND SAFETY INJECTION. THIS WAS THE NINTH ACTUATION OF THE ECCS AND IS REPORTED IN ACCORDANCE WITH TECH SPEC 6.9.2. THE Y11 AND Y22 FUSE CLIPS AND ASSOCIATED WIRING WERE DISCOVERED NOT TO MEET THE MINIMUM CHANNEL SEPARATION SPECIFIED IN FSAR SECTION 8.3.1.4. CORRECTIVE ACTION TAKEN WAS TO RELOCATE THE APPLICABLE WIRING AND FUSES INSIDE CONTROL PANEL C-41 TO PROVIDE ADDITIONAL SEPARATION (ABOUT 22 INCHES); HOWEVER, THE FSAR 8.3.1.4 SEPARATION CRITERIA OF THREE FEET OR A FIREPROOF BARRIER IS NOT YET MET. CORRECTIVE ACTION WILL BE COMPLETED DURING THE 1984 REFUELING OUTAGE TO RESTORE THE INTENDED SEPARATION.

[214] TROJAN DOCKET 50-344 LER 84-004  
 REACTOR TRIP ON STEAM GENERATOR LOW-LOW LEVEL DUE TO MAIN FEEDWATER PUMP TRIP.  
 EVENT DATE: 030184 REPORT DATE: 032984 NSSS: WE TYPE: PWR

(NSIC 189362) ON MARCH 1, 1984 AT 10:45 AM, A REACTOR TRIP OCCURRED FROM 'B' STEAM GENERATOR LOW-LOW LEVEL FOLLOWING THE TRIP OF THE NORTH MAIN FEEDWATER PUMP. ALL NECESSARY REACTOR PROTECTION SYSTEMS OPERATED PROPERLY AND THE PLANT WAS STABILIZED IN MODE 3. THE MAIN FEEDWATER PUMP TRIP OCCURRED WHILE ELECTRICIANS WERE TROUBLESHOOTING A MINUS 85-VOLT GROUND ON 125-VOLT DC BUS D-10. THE GROUND WAS FOUND TO BE IN THE DC TRIP CIRCUITRY OF THE NORTH MAIN FEEDWATER PUMP AND WAS REPAIRED THE SAME DAY.

[215] TROJAN DOCKET 50-344 LER 84-005  
 ESP AUXILIARY FEEDWATER PUMP AUTO START CAPABILITIES LOST.  
 EVENT DATE: 032084 REPORT DATE: 041884 NSSS: WE TYPE: PWR

(NSIC 189631) ON MARCH 20, 1984 AT 0900 WHILE THE 'B' TRAIN AUXILIARY FEEDWATER PUMP WAS REMOVED FROM SERVICE FOR MAINTENANCE, A PERIODIC INSTRUMENT AND CONTROL TEST (PICT) WAS PERFORMED ON THE 'A' TRAIN AUXILIARY FEEDWATER PUMP. FOR APPROXIMATELY 80 MINUTES DURING THIS SURVEILLANCE TEST, THE SAFETY INJECTION AND STEAM GENERATOR LOW-LOW LEVEL AUTOMATIC START SIGNALS TO THE 'A' AUXILIARY FEEDWATER PUMP WERE DISABLED WHILE THE BUS UNDERVOLTAGE AND CONCURRENT MAIN FEEDWATER PUMP TRIP SIGNALS REMAINED OPERATIONAL. UPON DISCOVERY OF THE PROBLEM, THE 'B' TRAIN AUXILIARY FEEDWATER PUMP WAS IMMEDIATELY RETURNED TO SERVICE. THE INOPERABILITY OF BOTH AUXILIARY FEEDWATER PUMPS VIOLATED TROJAN'S STANDARD TECH SPEC 3.7.1.2 AND SUBSEQUENTLY VIOLATED 3.0.3.

[216] TURKEY POINT 3 DOCKET 50-250 LER 84-010  
BREACH OF FIRE BARRIERS.  
EVENT DATE: 031784 REPORT DATE: 041784 NSSS: WE TYPE: PWR

(NSIC 189511) AS WE REPORTED ON JUNE 16, 1983 (L-83-364) AND OCT 13, 1983 (L-83-519), MANY MODIFICATIONS HAVE NECESSITATED A NUMBER OF FIRE BARRIERS TO BE BREACHED. IN COMPLIANCE WITH TECH SPECS, AN HOURLY FIRE WATCH HAS BEEN ESTABLISHED. APPENDIX R MODIFICATIONS ARE CURRENTLY UNDERWAY WHICH INCLUDE ESTABLISHING SPECIFIC FIRE AREA BOUNDARIES SEPARATED BY RATED FIRE BARRIERS. ALL PENETRATIONS IN A FIRE AREA BOUNDARY WILL BE SEALED IN ACCORDANCE WITH OUR APPENDIX R COMMITMENTS, AND WILL BE INCLUDED AS PART OF THE APPENDIX R BACKFIT SCHEDULES. THE HOURLY FIRE WATCH WILL CONTINUE TO MONITOR THESE AREAS IN ACCORDANCE WITH TECH SPECS.

[217] TURKEY POINT 3 DOCKET 50-250 LER 84-012  
BUMPING RELAY CAUSES BUS TRANSFER.  
EVENT DATE: 032984 REPORT DATE: 043084 NSSS: WE TYPE: PWR

(NSIC 189603) ON MAR 29, 1984, AN AUTOMATIC TRANSFER OF A 480 V POWER SUPPLY OCCURRED. THE ROOT CAUSE WAS DETERMINED TO BE DUE TO THE ACCIDENTAL JARRING OF AN ELECTRICAL AUXILIARY RELAY BY A MEMBER OF THE PLANT CONSTRUCTION WORK FORCE. THE JARRED RELAY, WHICH SENSES LOSS OF VOLTAGE, MOMENTARILY COMPLETED CIRCUITS THAT FUNCTION TO AUTOMATICALLY TRANSFER THE AFFECTED 480 V BUS TO ITS ALTERNATE POWER SUPPLY. ALL EQUIPMENT FUNCTIONED AS DESIGNED. IMMEDIATE CORRECTIVE ACTIONS INCLUDED FUNCTIONAL CHECKS OF ASSOCIATED ELECTRICAL CIRCUITS AND A MANUAL RESET OF THE AUTO-TRANSFER (TELEMAND SWAP) RELAY.

[218] TURKEY POINT 3 DOCKET 50-250 LER 84-013  
ENGINEERING SAFETY FEATURE ACTUATION, TURBINE RUNBACK.  
EVENT DATE: 040384 REPORT DATE: 050384 NSSS: WE TYPE: PWR

(NSIC 189597) ON APRIL 3, 1984, A TURBINE RUNBACK OCCURRED. THE ROOT CAUSE WAS DETERMINED TO BE DUE TO A SPURIOUS ROD DROP SIGNAL POTENTIALLY ORIGINATING IN THE NUCLEAR INSTRUMENTATION SYSTEM (NIS) CHANNEL N-44. ADDITIONAL EQUIPMENT MONITORING, INITIATED AS A RESULT OF A PREVIOUS RUNBACK (LER 250-84-009), PROVIDED RECORDED DATA INDICATING THAT COMPONENTS PREVIOUSLY SUSPECTED DID NOT CAUSE THIS RUNBACK. ALL EQUIPMENT FUNCTIONED AS DESIGNED. IMMEDIATE CORRECTIVE ACTIONS INCLUDED STABILIZING THE PLANT AT APPROXIMATELY 75% POWER WITHOUT PROBLEM, SATISFACTORY OPERATIONAL TESTING OF THE NIS CHANNEL N-44 ROD DROP RATE CIRCUIT, AND PREPARATIONS TO PERFORM A SPECIAL TEST UNDER SIMILAR AND/OR SIMULATED PLANT CONDITIONS TO ISOLATE THE PROBABLE CAUSE OF THE SPURIOUS SIGNAL. SIMILAR OCCURRENCE: LER 250-84-009.

[219] TURKEY POINT 4 DOCKET 50-251 LER 84-004  
 ENGINEERED SAFETY FEATURES ACTUATION - CONTAINMENT AND CONTROL ROOM VENTILATION  
 ISOLATION.  
 EVENT DATE: 030784 REPORT DATE: 040584 NSSS: WE TYPE: PWR

(NSIC 189383) WHILE PERFORMING ROUTINE SHUTDOWN OPERATIONS, OP 0205.2, ON UNIT 4, A CONTAINMENT PURGE WAS INITIATED IN PREPARATION FOR PERSONNEL CONTAINMENT ENTRY. WHILE PURGING, A SPURIOUS SIGNAL (SPIKE), USED TO PROCESS RADIATION MONITOR R-11, ACTUATED THE CONTAINMENT AND CONTROL ROOM VENTILATION SYSTEM'S LOGIC THUS CLOSING THE PURGE VALVES AND PLACING THE CONTROL ROOM VENTILATION SYSTEM IN THE RECIRCULATION MODE. NO ABNORMAL LEVELS OF ACTIVITY WERE DETECTED IN CONTAINMENT. THE R-11 ALARM WAS RESET AND THE CONTAINMENT PURGE WAS REINITIATED. THE CONTROL ROOM VENTILATION SYSTEM WAS RETURNED TO NORMAL OPERATING MODE. A SIGNIFICANT EVENT NOTIFICATION WAS MADE TO NRCOC VIA ENS. SIMILAR OCCURRENCES: NONE.

[220] TURKEY POINT 4 DOCKET 50-251 LER 84-005  
 STEAM GENERATORS' FEEDWATER NOZZLES CRACKING.  
 EVENT DATE: 041284 REPORT DATE: 051484 NSSS: WE TYPE: PWR

(NSIC 189604) DURING IN-SERVICE INSPECTION OF THE 4A STEAM GENERATOR FEEDWATER NOZZLE TO REDUCER WELD AREA, CRACK-LIKE ULTRASONIC INDICATIONS WERE DETECTED IN THE 18" X 14" REDUCER BASE METAL. SUBSEQUENT TO REMOVAL OF THE REDUCER ON APR 12, 1984, A CIRCUMFERENTIALLY ORIENTED CRACK WAS CONFIRMED BY LIQUID PENETRANT. THE CRACK WAS FOUND TO BE IN THE COUNTERBORE THICKNESS TRANSITION APPROXIMATELY 270 DEGREES AROUND THE CIRCUMFERENCE. ADDITIONAL EXAMINATIONS PERFORMED ON THE OTHER STEAM GENERATORS INCLUDING THE ADJACENT HORIZONTAL RUN OF PIPE REVEALED A SIMILAR CONDITION ON THE 4C STEAM GENERATOR. THIS CRACK WAS FOUND TO BE ORIENTED IDENTICAL TO THE ONE ON 4A BUT WITH A LENGTH OF APPROXIMATELY 180 DEGREES. REPAIRS ARE BEING IMPLEMENTED (PC/M 84-80) BY REPLACEMENT OF THE REDUCERS AND ELIMINATION OF INTERNAL THICKNESS TRANSITIONS. UNDER THIS PC/M, THE FEEDWATER NOZZLE EXTENSION IS TO BE REDUCED IN LENGTH (1/2 INCH) TO REMOVE THE COUNTERBORE. THE NOZZLE TO REDUCER AREAS WERE EXAMINED ON THE 4B AND UNIT 3 3A, 3B, AND 3C STEAM GENERATORS AND NO EVIDENCE OF CRACKING WAS FOUND. SIMILAR OCCURRENCES: LER 251-80-08 AND LER 250-80-19.

[221] VERMONT YANKEE DOCKET 50-271 LER 84-002  
 VACUUM BREAKER PRESSURE SWITCHES FOUND OUT OF CALIBRATION.  
 EVENT DATE: 020284 REPORT DATE: 022784 NSSS: GE TYPE: BWR  
 VENDOR: BARTON INSTRUMENT CO., DIV OF ITT

(NSIC 189345) DURING NORMAL OPERATION, WHILE PERFORMING QUARTERLY CALIBRATION OF THE TORUS REACTOR BLDG. VACUUM BREAKER D/P SWITCHES, IT WAS NOTED THAT THE AS FOUND SET POINTS EXCEEDED TECH SPEC LIMITS AS OUTLINED IN SEC. 3.7.A.5.A. THE SWITCH SET POINTS WERE IMMEDIATELY READJUSTED TO MEET THE TECH SPEC REQUIREMENTS AND RETURNED TO SERVICE.

[222] WPPSS 2 DOCKET 50-397 LER 84-003  
 UNINTENTIONAL REACTOR TRIP DURING TROUBLESHOOTING.  
 EVENT DATE: 012084 REPORT DATE: 021684 NSSS: GE TYPE: BWR

(NSIC 189284) DURING INITIAL LOW POWER PHYSICS TESTING THE REACTOR WAS BROUGHT TO CRITICALITY USING PLANT OPERATING PROCEDURES, AND THE INTERMEDIATE RANGE MONITORING (IRM) DETECTORS RESPONSE TO NEUTRON FLUX WAS BEING VERIFIED. IRMS A, B, AND D DID NOT RESPOND TO THE INCREASING NEUTRON FLUX. THE FIVE OTHER IRMS C, E, F, G, AND H ALL RESPONDED SATISFACTORILY. THE REACTOR WAS SHUT DOWN BECAUSE PLANT TECH SPECS REQUIRE A MINIMUM OF THREE OPERABLE IRMS PER TRIP SYSTEM. THIS REQUIRED SHUTDOWN WAS REPORTED TO THE NRC OPERATIONS CENTER PURSUANT TO 10 CFR 50.72 (B)(1)(I)(A). DURING INVESTIGATION OF THIS SITUATION A REACTOR PROTECTION

SYSTEM (RPS) TRIP OCCURRED WHILE THE RPS WAS IN THE NON-COINCIDENCE SCRAM MODE OF OPERATION. THIS LER PROVIDES WRITTEN FOLLOW-UP PURSUANT TO 10 CFR 50.73 (A)(2)(I)(A).

[223] WPPSS 2 DOCKET 50-397 LER 84-009  
DIESEL GENERATORS STARTED WITHOUT PRELUBE/WARMUP.  
EVENT DATE: 020784 REPORT DATE: 022984 NSSS: GE TYPE: BWR  
VENDOR: GENERAL MOTORS

(NSIC 189380) 1) 02/07/84 PERFORMED SURVEILLANCE ON #1 STANDBY DIESEL GENERATOR (DG1A) WITHOUT PRELUBE/WARMUP IN VIOLATION OF TECH SPEC 4.8.1.1.2.A.4. 2) 02/09/84 PERFORMED SURVEILLANCE ON #2 STANDBY DIESEL GENERATOR (DG1B) WITHOUT PRELUBE/WARMUP IN VIOLATION OF THE TECH SPEC 4.8.1.1.2.A.4. EVENTS ARE THE RESULT OF RECENT CHANGES TO TECH SPEC REQUIRING ACTION THAT THE COMPONENT DESIGN CURRENTLY DOES NOT ALLOW. CORRECTIVE ACTION: 1) OBTAIN TECH SPEC CHANGE TO ALLOW STARTING OF D.G. WITHOUT PRELUBE/WARMUP. 2) OBTAIN DESIGN CHANGE AND PERFORM MODIFICATION TO ALLOW OPERATION AT LOWER SPEEDS.

[224] WPPSS 2 DOCKET 50-397 LER 84-010  
FAILURE OF EXCESS FLOW CHECK VALVES.  
EVENT DATE: 021384 REPORT DATE: 030784 NSSS: GE TYPE: BWR  
VENDOR: DRAGON VALVE, INC.

(NSIC 189452) FOUR EXCESS FLOW CHECK VALVES (EFC) FAILED SURVEILLANCE TESTING. INVESTIGATION REVEALED THESE FOUR VALVES WERE DESIGNED FOR WATER SERVICE, BUT INSTALLED IN GAS SERVICE LINES. IT ALSO SHOWED ONE GAS SERVICE VALVE INSTALLED ON A WATER LINE. ALL FIVE VALVES WILL BE REMOVED AND REPLACED WITH THE CORRECT SERVICE VALVE.

[225] WPPSS 2 DOCKET 50-397 LER 84-012  
TECHNICAL SPECIFICATION VIOLATION.  
EVENT DATE: 022184 REPORT DATE: 031984 NSSS: GE TYPE: BWR

(NSIC 189538) 1) 02/21/84 VIOLATION OF TECH SPEC 4.8.1.1.2.D.3. DG FUEL OIL TANKS CHEMISTRY RESULTS NOT RECEIVED IN THE REQUIRED TIME. 2) 02/24/84 VIOLATION OF TECH SPEC 4.8.1.1.2.D.2. NEW DG FUEL OIL CHEMISTRY RESULTS NOT RECEIVED IN THE REQUIRED TIME. 3) 03/02/84 VIOLATION OF TECH SPEC 4.8.1.1.2.D.3. NEW DG FUEL OIL CHEMISTRY RESULTS NOT RECEIVED IN THE REQUIRED TIME. THESE EVENTS ARE THE RESULT OF A MISUNDERSTANDING BETWEEN THE SUPPLY SYSTEM AND THE LABORATORY PERFORMING THE ANALYSIS CONCERNING PAYMENT AND EXPEDITING. ADDITIONALLY, ONE SAMPLE BOTTLE WAS BROKEN IN SHIPMENT, THUS REQUIRING ANOTHER SAMPLE SHIPMENT. CORRECTIVE ACTION: 1) PROBLEMS WITH PAYMENT HAVE BEEN RESOLVED WITH THE LABORATORY, 2) SAMPLES WILL BE MORE CAREFULLY PACKAGED.

[226] WPPSS 2 DOCKET 50-397 LER 84-011  
REACTOR PROTECTION SYSTEM TWICE HAS UNSCHEDULED ACTUATIONS.  
EVENT DATE: 030284 REPORT DATE: 032184 NSSS: GE TYPE: BWR  
VENDOR: GENERAL ELECTRIC CO.

(NSIC 189453) ON 3/2/84, WHILE PERFORMING AN IRM B SURVEILLANCE TEST, A REACTOR PROTECTION SYSTEM ACTUATION OCCURRED WHEN ONLY A 1/2 SCRAM WAS ANTICIPATED. THE RPS LOGICS WERE RESET AND THE SURVEILLANCE REPERFORMED, THIS TIME YIELDING THE EXPECTED RESULTS (1/2 SCRAM ONLY). MAINTENANCE PERSONNEL DISCOVERED A LOOSE CONNECTION IN RPS TRIP SYSTEM A SCRAM DISCHARGE VOLUME HIGH LEVEL TRIP CIRCUITRY, WHICH WAS POSTULATED TO HAVE CAUSED THE INADVERTENT ACTUATION. THE EVENT WAS REPORTED UNDER REQUIREMENTS OF 10 CFR 50.72.B.2(II). ON 3/9/84 THE WEEKLY IRM SURVEILLANCES WERE REPERFORMED AND AGAIN IRM B SURVEILLANCE RESULTED IN A FULL

RPS ACTUATION WHEN ONLY A 1/2 SCRAM WAS ANTICIPATED. WHEN THE SURVEILLANCE WAS REPERFORMED THE FULL RPS ACTUATION WAS REPEATED. TROUBLESHOOTING REVEALED A FAILED AUXILIARY CONTACT IN A TRIP SYSTEM A SCRAM CONTACTOR WHICH SUPPLIED LOGIC TO THE B BACKUP SCRAM SYSTEM. THIS FAILURE, COUPLED WITH A SURVEILLANCE IN TRIP SYSTEM B CAUSED A RPS ACTUATION VIA THE B BACKUP SCRAM SYSTEM. THE EVENT WAS REPORTED UNDER REQUIREMENTS OF 10 CFR 50.72.B.2(II).

[227] WPPSS 2 DOCKET 50-397 LER 84-021  
 SCRAM DISCHARGE VOLUME DRAIN LINE BLOCKED.  
 EVENT DATE: 030684 REPORT DATE: 040584 NSSS: GE TYPE: BWR

(NSIC 189416) LONG SCRAM DISCHARGE VOLUME DRAIN DOWN TIMES RESULTED IN THE DECISION TO DISASSEMBLE SCRAM DISCHARGE VOLUME DRAIN VALVES. DISASSEMBLY REVEALED NINE SMALL PACKETS OF DESICCANT IN ONE VALVE BODY AND THE UPSTREAM PIPING. THESE PACKETS WERE REMOVED, THE PIPING PROBED AND FLUSHED, WITH NO ADDITIONAL PACKETS FOUND. THE VALVES WERE REASSEMBLED AND THE DRAIN DOWN TIME DETERMINED TO BE WELL WITHIN THE NORMAL RANGE. SCRAM DISCHARGE VOLUME DRAIN DOWN TIMES WILL BE MONITORED DURING PLANT OPERATION TO INSURE THAT NO ADDITIONAL BLOCKAGE IS OCCURRING.

[228] WPPSS 2 DOCKET 50-397 LER 84-016  
 UNSCHEDULED ESF ACTUATION.  
 EVENT DATE: 031784 REPORT DATE: 040484 NSSS: GE TYPE: BWR

(NSIC 189415) ON 3/17/84 DURING A ROUTINE CALIBRATION CHECK OF TRANSFER LOGIC RELAYS OF THE PLANT BACKUP TRANSFORMER, OPERATIONS PERSONNEL WERE ATTEMPTING TO TRANSFER THE REACTOR PROTECTION SYSTEM BUS "A" POWER FROM THE ALTERNATE SOURCE TO THE NORMAL SOURCE WHEN A FULL RPS ACTUATION, A FULL NUCLEAR STEAM SUPPLY SYSTEM ISOLATION, AND A DIVISION I AND II BALANCE OF PLANT ISOLATION OCCURRED. THE UNSCHEDULED ESF ACTUATIONS WERE CAUSED BY OPERATOR ERROR IN POSITIONING THE RPS POWER TRANSFER SWITCH. THIS EVENT WAS DEEMED REPORTABLE UNDER REQUIREMENTS FOR 10 CFR 50.72(B) (2) (II).

[229] WPPSS 2 DOCKET 50-397 LER 84-024  
 INADVERTENT INITIATION OF CONTROL ROOM EMERGENCY FILTRATION UNITS.  
 EVENT DATE: 031784 REPORT DATE: 041184 NSSS: GE TYPE: BWR  
 VENDOR: HEWLETT-PARKARD CO.

(NSIC 189539) INITIATION OF THE CONTROL ROOM EMERGENCY FILTRATION UNITS DUE TO THE INADVERTENT DE-ENERGIZATION AND RE-ENERGIZATION OF TEST EQUIPMENT DURING INSTRUMENT CALIBRATION. THIS IS A UNIQUE EVENT AND REQUIRES NO CORRECTIVE ACTION OTHER THAN CONTINUED CAUTIONING OF PERSONNEL.

[230] WPPSS 2 DOCKET 50-397 LER 84-022  
 INADVERTENT START OF HPCS DIESEL GENERATOR.  
 EVENT DATE: 031984 REPORT DATE: 041184 NSSS: GE TYPE: BWR

(NSIC 189454) SYSTEM ENGINEER AND ELECTRICIANS WERE INSPECTING THE INTERNAL WIRING OF THE DIV 3 ESF SWITCHGEAR FOR A NEUTRAL BUS CONNECTION. AN ELECTRICIAN INADVERTENTLY BUMPED THE CLAPPER OF AN AUXILIARY UNDERVOLTAGE RELAY. THIS TRIPPED THE SUPPLY BREAKER TO THE DIV 3 ESF BUS. THE UNDERVOLTAGE LOGIC STARTED THE DIESEL GENERATOR WHICH ENERGIZED THE DIV 3 ESF BUS AS DESIGNED. OPERATORS LATER TRANSFERRED THE ESF BUS TO THE OFFSITE SOURCE AND SECURED THE DIESEL GENERATOR. PERSONNEL HAVE BEEN CAUTIONED TO BE AWARE OF SPECIFIC PRECAUTIONS PRIOR TO WORKING IN OR ON EQUIPMENT WHICH CAUSES ACTUATION OF ESF SYSTEMS.

[231] YANKEE ROWE DOCKET 50-029 LER 84-003  
 DESIGN INADEQUACY AFFECTING CONTAINMENT ISOLATION PRESSURE SWITCH SETPOINT.  
 EVENT DATE: 040384 REPORT DATE: 050384 NSSS: WE TYPE: PWR

(NSIC 189641) ON APRIL 3, 1984 AT 1056 A.M., IN PREPARATION FOR THE CONTAINMENT TYPE "A" INTEGRATED LEAK RATE TEST (ILRT), SOLENOID OPERATED ISOLATION VALVES VD-SOV-301 AND VD-SOV-302 FOR THE "OUTSIDE" MAIN COOLANT SYSTEM LEAKAGE AIR PARTICULATE MONITOR (MCSLAPM) FAILED TO ACTUATE AUTOMATICALLY AT AN INCREASING PRESSURE OF  $< OR = 5$  PSIG FROM ASSOCIATED PRESSURE SWITCH CI-PS-232. THIS IS CONTRARY TO TECH SPEC 3.3.2. THE SOLENOID OPERATED VALVES, WHICH ARE THE CONTAINMENT ISOLATION VALVES FOR THE MCSLAPM SYSTEM, WERE MANUALLY TRIPPED AT 6 PSIG TO PRECLUDE DAMAGE BY OVERPRESSURIZATION OF THE MCSLAPM DETECTOR. THE PLANT WAS IN MODE 5, COLD SHUTDOWN, AT THE TIME THIS PRESSURE SWITCH (CI-PS-232) WAS VERIFIED CORRECT WITH THE SYSTEM ISOLATED. FURTHER INVESTIGATION INTO SYSTEM DESIGN AND LAYOUT REVEALED A DESIGN INADEQUACY. THE DESIGN INADEQUACY WAS THE FAILURE TO ACCOUNT FOR THE VACUUM UNDER WHICH THE PRESSURE SWITCH NORMALLY OPERATES. THE MCSLAPM HAS BEEN RELOCATED INSIDE CONTAINMENT DURING THE REFUELING OUTAGE.

[232] ZION 1 DOCKET 50-295 LER 84-009  
 GOVERNOR VALVES CLOSE AND CAUSE A REACTOR TRIP.  
 EVENT DATE: 022284 REPORT DATE: 032284 NSSS: WE TYPE: PWR

(NSIC 189425) AT 1741 HRS UNIT 1 ANNUNCIATORS FOR SG FEED FLOW MISMATCH, LEVEL DEVIATION AND LO-LO LEVEL CAME IN. WHILE THE OPERATOR WAS VERIFYING PROPER FEEDWATER FLOW AND ADEQUATE SG LEVEL THE REACTOR TRIPPED ON SG LOOP 'A' LO-LO LEVEL. THE OPERATORS FOLLOWED EOP-1 TO ESTABLISH HOT SHUTDOWN CONDITIONS. ALL SYSTEMS FUNCTIONED NORMALLY EXCEPT THE TRANSIENT CAUSED A PRESSURIZER PORV TO CYCLE AND LETDOWN TO ISOLATE. THE PRESSURIZER LEVEL AND PRESSURE WERE RETURNED TO NORMAL AND LETDOWN WAS RE-ESTABLISHED. A REVIEW OF THE "SEQUENCE OF EVENTS" LOG REVEALED ALARMS FROM THE EHC SYSTEM JUST PRIOR TO THE TRIP. AFTER REVIEWING EVENTS LEADING UP TO THE REACTOR TRIP IT WAS FELT BY OPERATIONS THAT THE H.P.-TURBINE GOVERNOR VALVES HAD GONE SHUT, CAUSING THE TRIP. WHILE IN HOT SHUTDOWN THE EHC WAS COMPLETELY TESTED AND FOUND TO BE WORKING PROPERLY. THE ROOT CAUSE COULD NOT BE FOUND. THE STATION WAS THEN GIVEN CORPORATE APPROVAL TO START BACK UP. THE UNIT WAS PLACED BACK ON LINE ON 2/23/84 AT 2110 HRS.

[233] ZION 1 DOCKET 50-295 LER 84-007  
 MANUAL REACTOR TRIP DURING STARTUP.  
 EVENT DATE: 022384 REPORT DATE: 032384 NSSS: WE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELEC CORP.-NUCLEAR ENERGY SYS

(NSIC 189354) DURING A UNIT STARTUP A CONTROL ROD URGENT FAILURE WAS RECEIVED DURING ROD WITHDRAWAL. THIS ALARM PREVENTED ROD MOTION. SINCE FLUX WAS ON A SUSTAINED POSITIVE PERIOD, THE OPERATOR USED THE MANUAL REACTOR TRIP, SHUTTING DOWN THE REACTOR. ALL SYSTEMS PERFORMED NORMALLY. THE ALARM WAS DETERMINED TO BE SPURIOUS.

[234] ZION 1 DOCKET 50-295 LER 84-012  
 REACTOR TRIPS AFTER EHC SPEED CONTROL CIRCUITRY FAILS.  
 EVENT DATE: 040284 REPORT DATE: 050284 NSSS: WE TYPE: PWR  
 VENDOR: WESTINGHOUSE ELEC CORP.-NUCLEAR ENERGY SYS

(NSIC 189519) AT APPROXIMATELY 2205 HRS UNIT 1 ANNUNCIATORS FOR S/G FEED FLOW MISMATCH CAME IN. ALMOST IMMEDIATELY AFTER THESE ALARMS, THE REACTOR TRIPPED ON S/G LOOP A LEVEL LO-LO. THE OPERATORS FOLLOWED EOP-1 TO ESTABLISH HOT SHUTDOWN CONDITIONS. ALL SYSTEMS FUNCTIONED NORMALLY EXCEPT THE TRANSIENT CAUSED A PRESSURIZER PORV TO CYCLE. A REVIEW OF THE "SEQUENCE OF EVENTS" LOG REVEALED A



SPEED CHANNEL ALARM FROM THE EHC SYSTEM JUST PRIOR TO THE TF.P. AFTER REVIEWING EVENTS LEADING UP TO THE REACTOR TRIP, IT WAS DETERMINED BY OPERATING THAT THE H.P. TURBINE GOVERNOR VALVES HAD GONE SHUT, CAUSING THE TRIP. WHILE IN HOT SHUTDOWN THE EHC SYSTEM WAS COMPLETELY CHECKED OUT AND SEVERAL PROBLEMS WERE FOUND. IT WAS A COMBINATION OF 2 PROBLEMS AT THE SAME TIME WHICH CAUSED THE GOVERNOR VALVES TO SHUT AND THE UNIT TO TRIP. THE 2 PROBLEMS WERE A FAILURE IN THE AUX SPEED CHANNEL CIRCUITRY AND A PROBLEM WITH THE SPEED CHANNEL COMPARATOR CIRCUIT. AFTER PROVING THROUGH TESTING THESE 2 PROBLEMS WOULD SHUT THE GOVERNOR VALVES, THE PROBLEMS WERE CORRECTED AND THE UNIT WAS RETURNED TO SERVICE.

[235]        ZION 2                                DOCKET 50-304        LER 84-007  
REACTOR TRIP DURING TURBINE OVERSPEED TEST.  
EVENT DATE: 032784    REPORT DATE: 042684    NSSS: WE            TYPE: PWR

(NSIC 189612) ON MAR 27, 1984 WITH ZION UNIT 2 IN MODE 1 (AT 6% REACTOR POWER), THE OPERATOR BEGAN TO PERFORM PT-100: MAIN TURBINE OVERSPEED TEST. WHEN ACTUATION OF THE OVERSPEED PROTECTION CIRCUIT (OPC) OCCURRED, THE STEAM GENERATOR LEVELS BEGAN TO SHRINK, AND THE STEAM FLOW SURGED. THE COINCIDENCE OF THESE TWO ACTIVITIES INITIATED A REACTOR TRIP. THE UNIT WAS PLACED IN HOT SHUTDOWN PER PROCEDURE EOP-1 WITHOUT INCIDENT. THE SUBSEQUENT INVESTIGATION FOUND NO EQUIPMENT FAILURES. IT IS BELIEVED HOWEVER, THAT OVERSPEED TEST (PT-100) REQUIRES A HIGH DEGREE OF SYSTEM STABILITY WHICH IS DIFFICULT TO OBTAIN AT END-OF-LIFE CONDITIONS. AN EVALUATION OF THE TEST WILL BE CONDUCTED.

## COMPONENT INDEX

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NRC FORM 335 (11-81)		U.S. NUCLEAR REGULATORY COMMISSION <b>BIBLIOGRAPHIC DATA SHEET</b>		1. REPORT NUMBER (Assigned by DDC) NUREG/CR-2000, ORNL/NSIC-200 Vol 3, No. 6	
4. TITLE AND SUBTITLE (Add Volume No., if appropriate) Licensee Event Report (LER) Compilation for month of June 1984				2. (Leave blank)	
7. AUTHOR(S) Prepared by Oak Ridge National Laboratory				3. RECIPIENT'S ACCESSION NO.	
9. PERFORMING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code) Oak Ridge National Laboratory Nuclear Operations Analysis Center Oak Ridge, TN 37831				5. DATE REPORT COMPLETED MONTH: June   YEAR: 1984	
12. SPONSORING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code) Office for Analysis and Evaluation of Operational Data U.S. Nuclear Regulatory Commission Washington, DC 20555				6. (Leave blank)	
13. TYPE OF REPORT Monthly Report				8. (Leave blank)	
15. SUPPLEMENTARY NOTES				10. PROJECT/TASK/WORK UNIT NO.	
16. ABSTRACT (200 words or less) <p>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 this 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 are described in detail in NRC Regulatory Guide 1.16 and NUREG-0161, Instructions for Preparation of Data Entry Sheets for Licensee Event Reports. The LER summaries in this report are arranged alphabetically by facility name and then chronologically by event date for each facility. Component, system keywords, and component vendor indexes follow the summaries. The components, systems, and vendors are those identified by the utility when the LER form is initiated; the keywords are assigned by the computer using correlation tables from the Sequence Coding and Search System.</p>				11. FIN NO. FIN A9135	
17. KEY WORDS AND DOCUMENT ANALYSIS				13. PERIOD COVERED (Inclusive dates) June 1984	
17a. DESCRIPTORS				14. (Leave blank)	
17b. IDENTIFIERS OPEN ENDED TERMS				18. AVAILABILITY STATEMENT Unlimited	
19. SECURITY CLASS (This report) Unclassified				21. NO. OF PAGES 5	
20. SECURITY CLASS (This page) Unclassified				22. PRICE \$	

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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