
Licensee Event Report (LER) Compilation

For month of October 1984

Oak Ridge National Laboratory

Prepared for
U.S. Nuclear Regulatory
Commission

Available from

NRC/GPO Sales Program

Superintendent of Documents
Government Printing Office
Washington, D. C. 20402

A year's subscription consists of 12 issues for
this publication.

Single copies of this publication
are available from National Technical
Information Service, Springfield, VA 22161

Microfiche of single copies are
available from NRC/GPO Sales Program
Washington, D. C. 20555

Licensee Event Report (LER) Compilation

For month of October 1984

Manuscript Completed: November 1984
Date Published: November 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

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 (and revisions to those events) occurring prior to 1984 are described in NRC Regulatory Guide 1.16 and NUREG-0161, *Instructions for Preparation of Data Entry Sheets for Licensee Event Reports*. For those events occurring on and after January 1, 1984, LERs are being submitted in accordance with the revised rule contained in Title 10 Part 50.73 of the Code of Federal Regulations (10 CFR 50.73 - Licensee Event Report System) which was published in the Federal Register (Vol. 48, No. 144) on July 26, 1983. NUREG-1022, *Licensee Event Report System - Description of Systems and Guidelines for Reporting*, provides supporting guidance and information on the revised LER rule.

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

G. 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

Questions regarding LER searches should be directed to:

W. P. Poore (same address as above)
Telephone: 615/574-0325, FTS Number 624-0325

CONTENTS

	<u>Page</u>
Licensee Event Reports	1
Component Index	54
System Index	56
Keyword Index	57
Vendor Code Index	63

[1] ARKANSAS NUCLEAR 1 DOCKET 50-313 LER 82-017 REV 1
 UPDATE ON EDG COOLING WATER ISOLATION VALVE FAILURE.
 EVENT DATE: 071482 REPORT DATE: 081084 NSSS: BW TYPE: PWR
 VENDOR: DARLING VALVE & MFG CO.

(NSIC 191039) WHILE PERFORMING THE REACTOR BLDG ISOLATION AND MISCELLANEOUS VALVE STROKE TEST, IN ACCORDANCE WITH PROCEDURE NUMBER 1304.70, CONTROL VALVE CV-3807 (SERVICE WATER TO #2 DG) CLOSED BUT FAILED TO OPEN DUE TO A CIRCUIT BREAKER TRIP. THE VALVE WAS OPENED MANUALLY AND LOCKED. THE #2 DG COULD STILL FUNCTION ALTHOUGH THIS VALVE WOULD REQUIRE MANUAL OPERATION. THE #1 DG REMAINED FULLY AVAILABLE AND OPERABLE. THIS IS REPORTABLE UNDER TECH SPEC 6.12.3.2.B. NO SPECIFIC CAUSE WAS DETERMINED. BOTH CV-3807 AND THE CIRCUIT BREAKERS WERE TESTED BY ELECTRICAL MAINTENANCE AND FOUND TO BE WORKING PROPERLY. THE VALVE WAS SUBSEQUENTLY STROKED THROUGH OPEN AND CLOSED POSITIONS THREE TIMES BY OPERATIONS. AN ENGINEERING EVALUATION CONCLUDED THAT THE EVENT WAS AN ISOLATED CASE, AND SINCE SUBSEQUENT MONITORING OF VALVE PERFORMANCE DID NOT REVEAL A SIMILAR FAILURE, NO ACTION TO PREVENT RECURRENCE WAS NECESSARY.

[2] ARKANSAS NUCLEAR 2 DOCKET 50-368 LER 84-015
 BREACH OF FIRE BARRIERS.
 EVENT DATE: 030284 REPORT DATE: 072384 NSSS: CE TYPE: PWR

(NSIC 191020) A BREACH OF A REQUIRED FIRE BARRIER WAS IDENTIFIED BY PLANT ENGINEERING PERSONNEL WHILE ASSISTING IN ACHIEVING AN ACCEPTABLE REPAIR OF WHAT HAD ORIGINALLY BEEN CONSIDERED A COSMETIC DEFECT. IT HAS BEEN DETERMINED THAT THIS DEFICIENCY SHOULD HAVE BEEN IDENTIFIED AS A BREACH DURING AN EARLIER WALKDOWN OF FIRE BARRIER PENETRATIONS. AS A RESULT, A REVIEW OF CONTROLLED DOCUMENTATION OF THE WALKDOWN RESULTS IS BEING PERFORMED BY AP&L'S FIRE PROTECTION COORDINATOR. AT THIS TIME, ONE ADDITIONAL BREACH HAS BEEN IDENTIFIED. CONTINUOUS FIRE WATCHES WERE ESTABLISHED AS REQUIRED. REPAIR EFFORTS ARE UNDERWAY.

[3] ARKANSAS NUCLEAR 2 DOCKET 50-368 LER 84-013
 DROPPED CONTROL ELEMENT ASSEMBLY CAUSES A REACTOR TRIP.
 EVENT DATE: 061784 REPORT DATE: 071784 NSSS: CE TYPE: PWR
 VENDOR: COMBUSTION ENGINEERING, INC.
 GENERAL ELECTRIC CO.

(NSIC 191018) ON 6-17-84, AT 1249 HRS THE REACTOR TRIPPED FROM 100% FULL POWER ON LOW DEPARTURE FROM NUCLEATE BOILING RATIO (DNBR) DUE TO PENALTY FACTORS GENERATED BY THE CORE PROTECTION CALCULATORS (CPC) AS A RESULT OF A DROPPED CONTROL ELEMENT ASSEMBLY (CEA). MODERATOR TEMPERATURE COEFFICIENT (MTC) TESTING HAD BEEN COMPLETED AND POWER HAD BEEN RETURNED TO 100% FP AT 1243. CEAS WERE BEING USED TO STABILIZE REACTOR POWER WHEN CEA #1 DROPPED. DURING THE AUTOMATIC TRANSFER OF AUX POWER FROM THE UNIT AUX TRANSFORMER TO STARTUP TRANSFORMER #3 INITIATED BY THE TRIP, FAST TRANSFER TO 6900 VOLT BUS 2H2 WAS UNSUCCESSFUL LEAVING THE BUS DE-ENERGIZED. THIS RESULTED IN A LOSS OF 2 REACTOR COOLANT PUMPS. THE OTHER 2 PUMPS MAINTAINED FORCED CIRCULATION WHILE THE TRIPPED PUMPS WERE RETURNED TO SERVICE. POST-TRIP PARAMETERS WERE ACCEPTABLE AND POSED NO OPERATIONAL PROBLEMS. TROUBLESHOOTING DID NOT REVEAL THE CAUSES OF THE EQUIPMENT MALFUNCTIONS. SUBSEQUENT TESTING/OPERATION OF THE EQUIPMENT WAS SATISFACTORY.

[4] ARKANSAS NUCLEAR 2 DOCKET 50-368 LER 84-014
 REACTOR TRIP ON HIGH STEAM GENERATOR LEVEL WHEN MPW REG VALVE MALFUNCTIONED.
 EVENT DATE: 061884 REPORT DATE: 071784 NSSS: CE TYPE: PWR
 VENDOR: FISHER CONTROLS CO.

(NSIC 191019) ON JUN 18, 1984, AT 1334 ANO-2 TRIPPED DURING STARTUP AT APPROX 8%

TO SUPPLY CNMT WITH INSTRUMENT AIR. THIS WAS DONE DUE TO THE LOSS OF COOLING TO THE CNMT INSTRUMENT AIR COMPRESSORS. AT 2318 HRS, CNMT TEMPERATURE REACHED 106.38 DEGREES. A MANUAL SHUTDOWN TO HOT STANDBY WAS COMMENCED. THE CAUSE FOR THE CHILLED WATER SYSTEM ISOLATION VALVE FAILING SHUT WAS DUE TO A FAILED PNEUMATIC VALVE DIAPHRAGM. THIS DIAPHRAGM WAS REPLACED. THERE WERE NO SAFETY IMPLICATIONS BECAUSE THE REACTOR WAS PLACED IN A SAFE, CONTROLLED SHUTDOWN CONDITION AND THE RIVER WATER SYSTEM WAS OPERABLE AT ALL TIMES AS AN ADDITIONAL SOURCE OF COOLING IF NECESSARY.

[11] BEAVER VALLEY 1 DOCKET 50-334 LER 84-008
 TESTING ERROR CAUSES INADVERTENT REACTOR TRIP.
 EVENT DATE: 070684 REPORT DATE: 080184 NSSS: WE TYPE: PWR

(NSIC 191068) AT 2140 HRS, DURING THE PERFORMANCE OF MAINTENANCE SURVEILLANCE PROCEDURE 26.01 (P-446, TURBINE FIRST STAGE PRESSURE PROTECTION CHANNEL III TEST), THE REACTOR SHUTDOWN BANK RODS TRIPPED ON A PRESSURIZER LOW PRESSURE TRIP SIGNAL. THE TRIP OCCURRED WHEN THE TECHNICIANS INPUT A TEST SIGNAL FOR THE TURBINE FIRST STAGE PRESSURE CHANNEL. WHEN THIS WAS DONE, THE P-7 INTERLOCK (WHICH UNLOCKS THE PRESSURIZER LOW PRESSURE REACTOR TRIP ABOVE 10% POWER) WAS ACTIVATED AND CAUSED THE REACTOR TRIP. BECAUSE THE PLANT WAS IN COLD SHUTDOWN, NO ACTION BEYOND THE IMMEDIATE VERIFICATION OF THE TRIP WAS NECESSARY. IT WAS LATER DISCOVERED THAT, CONTRARY TO THE INITIAL CONDITIONS OF MSP 26.01, THE TEST WAS PERFORMED WITH THE REACTOR TRIP BREAKERS CLOSED. THE SHIFT SUPERVISOR AND I&C PERSONNEL HAVE BEEN COUNSELED AS TO THE IMPORTANCE OF THOROUGHLY REVIEWING ALL PROCEDURES PRIOR TO THEIR PERFORMANCE. AN EVALUATION OF THE PROCEDURE IN QUESTION HAS BEEN MADE AND IT WAS JUDGED THAT IN THIS CASE, A PROCEDURE CHANGE IS NECESSARY FOR CLARIFICATION.

[12] BEAVER VALLEY 1 DOCKET 50-334 LER 84-009
 MISSED OPERATIONS SURVEILLANCE TEST REQUIRED BY TECH SPECS.
 EVENT DATE: 070684 REPORT DATE: 081784 NSSS: WE TYPE: PWR

(NSIC 191159) ON 3-22-84, WITH THE PLANT OPERATING AT 100% POWER, OST 1.33.16 (SMOKE DETECTION INSTRUMENTATION TEST) WAS PERFORMED AS PER THE PROCEDURE. THE PROCEDURE STATES THAT THE CONTAINMENT SMOKE DETECTORS ARE TO BE TESTED ONLY WITH THE STATION SHUT DOWN AND CONTAINMENT AT ATMOSPHERIC CONDITIONS. THEREFORE, THE CONTAINMENT SMOKE DETECTORS WERE NOT CHECKED AT THAT TIME. A FORCED OUTAGE OCCURRED ON 7-4-84 IN WHICH THE PLANT WAS PLACED IN MODE 5 (COLD SHUTDOWN). DURING THE PREPARATION FOR THE SUBSEQUENT STARTUP ON 7-6-84, A REVIEW OF THE OST'S NECESSARY TO LEAVE MODE 5 WAS PERFORMED. THIS REVIEW SHOWED OST 1.33.16 TO BE ONLY PARTIALLY COMPLETE, SINCE THE CONTAINMENT SMOKE DETECTORS HAD NOT BEEN TESTED. A CONFLICT BETWEEN TECH SPECS AND OST 1.33.16 WAS NOTED AT THIS TIME. THE TECH SPEC PERTAINING TO FIRE DETECTION INSTRUMENTATION REQUIRES TESTING OF ALL SMOKE DETECTORS, INCLUDING THE ONES IN CONTAINMENT ON A 6 MO FREQUENCY, REGARDLESS OF OPERATING CONDITIONS. OST 1.33.16 WAS PERFORMED SATISFACTORILY TO VERIFY THE OPERABILITY OF THE CONTAINMENT SMOKE DETECTORS. A TECH SPEC CHANGE IS CURRENTLY IN PREPARATION WHICH WILL PRECLUDE INCIDENTS OF THIS NATURE FROM OCCURRING IN THE FUTURE. THIS REPORT IS SUBMITTED AT A TIME PERIOD LONGER THAN 30 DAYS PER 10 CFR 50.73 DUE TO A MISINTERPRETATION OF THE REPORTABILITY.

[13] BIG ROCK POINT DOCKET 50-155 LER 84-009
 TURBINE BYPASS VALVE CLOSING RESULTS IN REACTOR SCRAM.
 EVENT DATE: 072684 REPORT DATE: 082284 NSSS: GE TYPE: BWR
 VENDCR: GENERAL ELECTRIC CO.

(NSIC 191137) ON JULY 26, 1984, AT 2234 HRS, A REACTOR SCRAM FROM HIGH PRESSURE OCCURRED WITH THE PLANT AT A POWER LEVEL OF APPROX 13%. THE TURBINE LOAD HAD BEEN TRIPPED AS PART OF A ROUTINE OVERSPEED TEST AT 2230 HRS AND THE MAIN

[27] CALLAWAY 1 DOCKET 50-483 LER 84-021
 TECHNICAL SPECIFICATION VIOLATION.
 EVENT DATE: 071984 REPORT DATE: 081784 NSSS: WE TYPE: PWR

(NSIC 191180) ON 7-19-84 AT 1300 CDT, WHILE PERFORMING ESPAS TESTING, PLANT PERSONNEL DISCOVERED TRAIN 'A' OF SSPS IN THE INHIBIT MODE WITH TRAIN 'B' IN TEST. THIS RENDERED THE AUTOMATIC ACTIONS OF BOTH TRAINS OF SOURCE RANGE FLUX DOUBLING INOPERABLE. THE ALARM ASSOCIATED WITH EACH SOURCE RANGE CHANNEL FOR FLUX DOUBLING REMAINED OPERABLE. INVESTIGATION REVEALED THAT THIS HAD BEEN DONE AT APPROX 0806 ON THIS DATE IN ACCORDANCE WITH THE SURVEILLANCE PROCEDURE FOR THE ESPAS TESTING. UPON DISCOVERY, THE SHIFT SUPERVISOR WAS NOTIFIED, AND THE 'B' TRAIN WAS RETURNED TO NORMAL AT 1325. THE SURVEILLANCE PROCEDURE WAS ALSO CHANGED TO PERMIT THE REQUIRED TESTING WITHOUT REQUIRING THIS CONDITION TO EXIST. ALTHOUGH BOTH TRAINS OF SOURCE RANGE FLUX DOUBLING WERE INOPERABLE, THE HIGH FLUX ALARMS AND SOURCE RANGE HIGH FLUX TRIP WERE OPERABLE, AND THE REACTOR MAKEUP WATER SYSTEM WAS ISOLATED FROM THE REACTOR COOLANT SYSTEM. THIS ELIMINATED THE POSSIBILITY OF A BORON DILUTION ACCIDENT.

[28] CALVERT CLIFFS 1 DOCKET 50-317 LER 83-009 REV 3
 UPDATE ON MISLABELED AND UNTESTED SNUBBERS.
 EVENT DATE: 021083 REPORT DATE: 073084 NSSS: CE TYPE: PWR
 VENDOR: ITT GRINNELL

(NSIC 191135) DURING NORMAL OPERATION AT 1000, WHILE CONDUCTING A REVIEW OF THE UNIT 1 AND 2 SNUBBER SURVEILLANCE TEST PROCEDURES (STPS), THE FOLLOWING DISCREPANCIES WERE DISCOVERED: (1) SNUBBER 2-15-10 WAS NOT INCLUDED IN BOTH THE UNIT 2 TECH SPEC AND STPS, AND (2) A MISSED SURVEILLANCE HAD OCCURRED ON SNUBBER 1-15-8. THIS IS CONSIDERED REPORTABLE IN ACCORDANCE WITH TECH SPEC 4.7.8.1. SIMILAR EVENTS: NONE. SNUBBER 2-15-10 WAS INCORRECTLY TAGGED 1-15-8. THIS RESULTED IN MISSED SURVEILLANCE ON THE ACTUAL SNUBBER 1-15-8. BOTH SNUBBERS WERE EXAMINED AND PASSED THE VISUAL INSPECTION CRITERIA. SNUBBER 2-15-10 HAS BEEN CORRECTLY TAGGED AND ADDED TO THE UNIT 2 TECH SPEC AND STPS. NO FURTHER CORRECTIVE ACTION IS NECESSARY.

[29] CALVERT CLIFFS 2 DOCKET 50-318 LER 84-006
 RCP SEAL BLEEDOFF LINE WELD FAILURE.
 EVENT DATE: 070984 REPORT DATE: 080684 NSSS: CE TYPE: PWR
 VENDOR: BYRON JACKSON PUMPS, INC.

(NSIC 191059) WHILE OPERATING IN MODE 1 AT 1545 ON 9 JUL 1984, UNIDENTIFIED REACTOR COOLANT LEAKAGE WAS DETERMINED TO BE GREATER THAN 1.0 GPM. UNIT 2 ENTERED THE ACTION STATEMENT OF TECH SPEC 3.4.5.2B AND COMMENCED POWER REDUCTION FOR SHUTDOWN. AT 2110 ON 9 JUL 1984 THE CAUSE OF THE UNIDENTIFIED LEAKAGE WAS DETERMINED TO BE A CRACKED WELD AT THE INTERFACE OF 22B REACTOR COOLANT PUMP (RCP) CONTROL BLEEDOFF (CBO) LINE AND THE RCP SEAL. AFTER REACHING COLD SHUTDOWN CONDITION THE RCP SEAL WAS REMOVED FROM THE PUMP AND A REPAIR OF THE CBO LINE WAS COMPLETED. SIMILAR WELD FAILURES HAVE OCCURRED TWICE ON UNIT 1 RCP SEALS. SPECIFIC PREVENTIVE MAINTENANCE INSPECTIONS ARE PLANNED TO PERFORM NONDESTRUCTIVE EXAMINATIONS OF THE RCP SEAL CBO LINE WELDS DURING SEAL REPLACEMENT AND EACH COLD SHUTDOWN.

[30] CATAWBA 1 DOCKET 50-413 LER 84-001
 BORIC ACID TRANSFER PUMP FAILURES DUE TO IMPROPER VALVE LINEUP.
 EVENT DATE: 072184 REPORT DATE: 082284 NSSS: WE TYPE: PWR
 VENDOR: CRANE COMPANY

(NSIC 191175) ON 7-22-84, AT 2345 HRS, IT WAS DISCOVERED THAT BORIC ACID TRANSFER PUMPS 1A AND 1B WERE DAMAGED AND INOPERABLE DUE TO EXTENDED OPERATION WITHOUT A

SUCTION OR DISCHARGE FLOW PATH. THE LACK OF PROCESS FLOW ELIMINATED THE PUMP'S ABILITY FOR SELF-COOLING. BORIC ACID TRANSFER (B/A XFER) PUMPS 1A AND 1B WERE OPERATED SEPARATELY FOR 6 HRS AND 2 AND 1/2 HRS, RESPECTIVELY, WITH THE SUCTION AND DISCHARGE VALVES CLOSED. UPON DISCOVERY OF THE OVERHEATING OF B/A XFER PUMP 1B (BY SCENT OF BURNING INSULATION), THE PUMP WAS SECURED, THE VALVE ALIGNMENT FOR RECIRCULATION OF THE BORIC ACID TANK (BAT) WAS RE-VERIFIED, AND UNSUCCESSFUL ATTEMPTS WERE MADE TO RESTART THE PUMPS. (PUMP 1A HAD ALREADY RUN AND WAS SECURED MANUALLY WITHOUT KNOWLEDGE OF THE DAMAGE). CATAWBA UNIT 1 WAS IN MODE 6 - INITIAL FUELING - AT THE TIME OF THIS INCIDENT. THE FIRST FUEL ASSEMBLY WAS LOWERED INTO THE REACTOR VESSEL ON 7-19-84.

[31] CATAWBA 1 DOCKET 50-413 LER 84-004
DAILY SURVEILLANCE OF UNIT VENT FLOW RATE IMPROPERLY PERFORMED.
EVENT DATE: 072684 REPORT DATE: 082984 NSSS: WE TYPE: PWR

(NSIC 191177) FROM JULY 26 THROUGH JULY 30, 1984, DAILY SURVEILLANCES OF THE UNIT VENT FLOW RATE MONITOR CHANNEL CHECK WAS NOT PERFORMED IN ACCORDANCE WITH TECH SPEC 3.3.3.11 AND ACTION STATEMENT 46. PLANT PROCEDURE PT/1/A/4600/02, PERIODIC SURVEILLANCE ITEMS, WAS APPROVED DAILY ALTHOUGH SURVEILLANCE ITEM NUMBER 79 WHICH IS DONE TO VERIFY THAT THE FLOW RATE MONITOR IS IN SERVICE AND HAS AN INDICATED FLOW, WAS NOT PROPERLY COMPLETED. UNIT 1 WAS IN MODE 6, SHORTLY AFTER INITIAL FUEL LOADING, AT THIS TIME. THIS INCIDENT IS CLASSIFIED AS A PERSONNEL ERROR, WITH A CONTRIBUTING CAUSE, ADMINISTRATIVE/PROCEDURAL DEFICIENCY.

[32] CATAWBA 1 DOCKET 50-413 LER 84-002
LIQUID WASTE RELEASES WITHOUT ACCURATE SAMPLE ACTIVITY ANALYSIS.
EVENT DATE: 072884 REPORT DATE: 082784 NSSS: WE TYPE: PWR
VENDOR: ORTEC, INC.

(NSIC 191176) BEFORE RELEASING POTENTIAL RADIOACTIVE LIQUIDS TO THE ENVIRONMENT, SAMPLES ARE TAKEN AND ANALYZED. THE CONCENTRATION OF RADIOACTIVE MATERIAL IN THE LIQUID MUST BE WITHIN A CERTAIN RANGE BEFORE THE RELEASE CAN BE MADE. THREE LIQUID WASTE RELEASES WERE MADE AT CATAWBA WITHOUT AN ACCURATE ANALYSIS OF THE SAMPLE ACTIVITY. LIQUIDS WERE RELEASED FROM THE WASTE MONITOR TANKS INTO LAKE WYLIE THROUGH THE DISCHARGE STRUCTURE OF THE LOW PRESSURE SERVICE WATER SYSTEM. INACCURATE SAMPLE RESULTS WERE CAUSED BY SOFTWARE PROBLEMS IN THE COMPUTER PERFORMING THE ANALYSIS. THE COMPUTER PROGRAM USED IN THE ANALYSIS WAS NOT REVISED AFTER A NEW ANALYSIS ROUTINE WAS ENTERED INTO THE COMPUTER. THEREFORE, THIS INCIDENT IS CLASSIFIED AS EVENT CAUSE CATEGORY B, MANUFACTURE DEFICIENCY. THE SOFTWARE PROBLEMS WERE DISCOVERED AND CORRECTED ON THE MORNING OF 7-28-84. THIS INCIDENT VIOLATES TECH SPEC 3.11.1.1 AND IS REPORTABLE PURSUANT TO 10 CFR 50.73 SECTION (A) (2) (I). UNIT 1 WAS IN MODE 6 AT THE TIME OF THE RELEASES.

[33] CONNECTICUT YANKEE DOCKET 50-213 LER 84-008
INOPERABLE LATCHING MECHANISM ON FIRE DOOR.
EVENT DATE: 072184 REPORT DATE: 081484 NSSS: WE TYPE: PWR

(NSIC 190973) WITH THE PLANT OPERATING AT APPROX 79% POWER LEVEL (COASTDOWN OPERATION), A FIRE DOOR SEPARATING A SAFETY-RELATED FROM A NON-SAFETY-RELATED AREA, WAS DISCOVERED WITH AN INOPERABLE LATCHING MECHANISM. THE DOOR WAS IMMEDIATELY REPAIRED AND RETURNED TO SERVICE. SINCE IT IS BELIEVED THAT THIS CONDITION HAD EXISTED FOR A PERIOD OF TIME GREATER THAN THAT ALLOWED BY TECH SPEC, SECTION 3.22.F, THIS INCIDENT IS REPORTABLE UNDER 10CFR50.73(A)(2)(I).

[34] COOK 1 DOCKET 50-315 LER 84-007 REV 1
 UPDATE ON DISCOVERY OF ERROR IN DETECTOR CODE.
 EVENT DATE: 052284 REPORT DATE: 081084 NSSS: WE TYPE: PWR

(NSIC 191153) THIS IS A REV TO VOLUNTARY LER 84-007 PREVIOUSLY SUBMITTED TO THE USNRC. THE PURPOSE OF THIS REV IS TO CLARIFY THE PREVIOUS LER, ADDRESS QUESTIONS RAISED BY THE NRC INSPECTOR, DISCUSS ADDITIONAL RECOMMENDATIONS FROM OUR CONSULTANT, AND TO ALSO DISCUSS THE STEPS AEPSC HAS TAKEN AND WILL TAKE AS A RESULT OF THESE ITEMS AND FURTHER EVALUATION BY OUR STAFF. THE VOLUNTARY LER AND OUR CONCLUSIONS ARE AS FOLLOWS. DURING THE PROCESS OF MODIFYING THE DETECTOR COMPUTER CODE, WHICH ANALYZES RAW FLUX MAP DATA TO DETERMINE COMPLIANCE WITH POWER DISTRIBUTION TECH SPECS, A CODING ERROR WAS DISCOVERED WHICH UNDER CERTAIN CIRCUMSTANCES WILL AFFECT ONE OF THE OUTPUT EDITS OF DETECTOR. TO PREVENT RECURRENCE, PROCEDURAL CHANGES ARE BEING MADE WHICH WILL REQUIRE: 1) AN INDEPENDENT LINE BY LINE REVIEW OF CODING CHANGES BE PERFORMED, AND 2) STANDARDIZED BENCHMARK INPUT MODELS BE SET UP AND UTILIZED TO VERIFY NEW VERSIONS OF DETECTOR.

[35] COOK 1 DOCKET 50-315 LER 84-011
 BOTH ESP VENTILATION TRAINS INOPERABLE.
 EVENT DATE: 062084 REPORT DATE: 071984 NSSS: WE TYPE: PWR

(NSIC 191001) AT 0725 WHILE IN MODE 3, IT WAS DISCOVERED THAT BOTH TRAINS OF THE ESP VENTILATION SYSTEM WERE INADVERTENTLY MADE INOPERABLE DURING A PERFORMANCE TEST PROCEDURE WHEN THE 'OPERABLE' FAN WAS MADE INCAPABLE OF AUTO STARTING WHILE THE OTHER FAN WAS ADMINISTRATIVELY INOPERABLE DUE TO INCOMPLETE TESTING. THE CONTROL SWITCH FOR THE FAN NOT UNDER TEST WAS PLACED IN STOP INSTEAD OF AUTO. THE TEST PROCEDURE HAS BEEN CHANGED TO REQUIRE THE CONTROL SWITCH FOR THE FAN NOT BEING TESTED BE PLACED IN AUTO. IN ADDITION, THE OPERATIONS DEPARTMENT WILL REVIEW AND INTERFACE ALL OF THE PERFORMANCE TEST PROCEDURES IN ORDER TO CORRECT PROCEDURAL ERRORS SUCH AS THIS.

[36] COOK 1 DOCKET 50-315 LER 84-013
 FAILURE TO MAINTAIN FIRE WATCH.
 EVENT DATE: 070684 REPORT DATE: 073184 NSSS: WE TYPE: PWR

(NSIC 191002) ON 7/6/84 AT 1000 HRS, IT WAS DISCOVERED THAT A FIRE WATCH HAD NOT BEEN MAINTAINED IN AN AREA WHERE FIRE RETARDANT MATERIALS HAD BEEN REMOVED FROM A PREVIOUSLY PROTECTED CONDUIT CONTAINING SAFETY RELATED CABLES. THIS CONDUIT, LOCATED IN THE NORTHWEST CORNER OF AUX. BLDG 573' ELEVATION, HAD BEEN PROTECTED PER THE REQUIREMENTS OF APPENDIX R. A FIRE WATCH HAD BEEN STATIONED IN THE AREA FROM 1320 HRS ON 7/5/84 UNTIL APPROX 0520 HRS ON 7/6/84. UPON DISCOVERY THAT THE FIRE WATCH WAS NO LONGER POSTED, THE UNIT ONE CONTROL ROOM WAS CONTACTED TO VERIFY OPERABILITY OF FIRE DETECTORS IN THE AREA, AND A FIRE WATCH PATROL WAS INITIATED PER THE REQUIREMENTS OF TECH SPECS 3.7.10. A LETTER WAS SENT TO ALL DEPARTMENT HEADS REMINDING THEM THAT CABLE TRAY AND CONDUIT FIRE PROTECTION MATERIALS APPLIED AS REQUIRED UNDER APPENDIX R FALL UNDER THE PROVISIONS OF TECH SPEC 3.7.10 WHEN THE FIRE PROTECTIVE MATERIAL IS REMOVED.

[37] COOK 1 DOCKET 50-315 LER 84-014
 BOTH SAFETY INJECTION PUMPS INOPERABLE.
 EVENT DATE: 071684 REPORT DATE: 081584 NSSS: WE TYPE: PWR

(NSIC 191154) ON 7-16-84 AT 0445 HRS WITH THE REACTOR COOLANT SYSTEM IN MODE 1 AT 100% REACTOR POWER, A VALVING ERROR WAS COMMITTED WHILE IN THE PROCESS OF PERFORMING A SCHEDULED SURVEILLANCE TEST ON THE ECCS. A NON-LICENSED OPERATOR INADVERTENTLY ISOLATED THE NORTH LOW HEAD SI PUMP. THE LICENSED CONTROL ROOM OPERATOR HAD PREVIOUSLY LOCKED OUT THE SOUTH PUMP IN PREPARATION FOR THE

F) WITHIN 1 HR WHENEVER THERE IS LESS THAN 4 RCP'S RUNNING. ADDITIONALLY, TRAINING WILL BE DONE ON THIS SITUATION DURING THE LICENSED OPERATOR REQUALIFICATION PROGRAM.

[41] COOPER DOCKET 50-298 LER 84-009
 APRM FLOW UNIT OPERATION CONFLICTS WITH TECH SPECS.
 EVENT DATE: 071984 REPORT DATE: 081784 NSSS: GE TYPE: BWR
 VENDOR: GENERAL ELECTRIC CORP. (NUCLEAR ENG DIV)

(NSIC 191148) THE OPERATION OF THE APRM FLOW BIASED SCRAM AND ROD BLOCK SYSTEMS IS INCONSISTENT WITH THE DESCRIPTION GIVEN IN THE CNS TECH SPECS. TECH SPECS, SECTION 4.1, BASES, INDICATES THAT WHILE CALIBRATING THE APRM FLOW BIASING NETWORK, "... A ZERO FLOW SIGNAL WILL BE SENT TO HALF OF THE APRM'S RESULTING IN A HALF SCRAM AND ROD BLOCK CONDITION." IN ACTUALITY, WHEN IN THE CALIBRATE MODE, EACH REACTOR RECIRCULATION FLOW UNIT SENDS A FULL FLOW SIGNAL TO HALF OF THE APRM'S AND, THUS, WILL NOT CAUSE A HALF SCRAM (BUT DOES PRODUCE A ROD BLOCK). GE HAS COMPLETELY ANALYZED THIS PROBLEM AND HAS CONCLUDED THAT THE SYSTEM RELIABILITY REMAINS UNAFFECTED. A SUBSTANTIAL MARGIN FROM FUEL DAMAGE IS PROVIDED BY THE 120% HIGH FLUX SCRAM. THE CNS SAFETY ANALYSIS, IN FACT, RELIES ONLY UPON THE 120% HIGH FLUX SCRAM AND DOES NOT TAKE CREDIT FOR THE APRM FLOW REFERENCE SCRAM. GE FURTHER CONCLUDED THAT THERE IS NO LOSS OF SAFETY FUNCTION.

[42] CRYSTAL RIVER 3 DOCKET 50-302 LER 84-015
 AUTO START OF EMERGENCY DIESEL GENERATOR.
 EVENT DATE: 071384 REPORT DATE: 080984 NSSS: BW TYPE: PWR
 VENDOR: NORGREN

(NSIC 191210) ON JULY 13, 1984, A DRAIN PETCOCK ON AN AIR FILTER IN THE 'B' EMERGENCY DIESEL GENERATOR (EGDG-1B) AIR START SYSTEM FAILED. THE FAILURE RESULTED IN A START OF THE DIESEL GENERATOR (ENGINEERED SAFETY FEATURE). ON APR 4, 1984, A FAILURE ON A SIMILAR PETCOCK ALSO RESULTED IN A START OF EGDG-1B. AN ENGINEERING EVALUATION OF THE AIR FILTER WILL BE PERFORMED TO DETERMINE IF THIS FILTER SHOULD BE REPLACED WITH ANOTHER TYPE FILTER.

[43] CRYSTAL RIVER 3 DOCKET 50-302 LER 84-016
 INCORRECT RADIATION MONITOR ALARM/TRIP SETPOINT.
 EVENT DATE: 072084 REPORT DATE: 081584 NSSS: BW TYPE: PWR

(NSIC 190996) ON JUL 20, 1984, A QUALITY PROGRAMS AUDIT DETERMINED THAT THE ALARM/TRIP SETPOINT FOR THE FUEL STORAGE POOL AREA GASEOUS ACTIVITY PROCESS MONITOR (RM-A4) WAS NOT IN ACCORDANCE WITH TECH SPEC 3.3.3.1. THE RM-A4 ALARM/TRIP WAS SET AT 500 COUNTS PER MIN, WHILE TECH SPEC 3.3.3.1 REQUIRES A SETPOINT OF LESS THAN OR EQUAL TO TWO TIMES BACKGROUND. BACKGROUND READING IS PRESENTLY 30-60 COUNTS PER MIN. THE ACTION STATEMENT OF TECH SPEC 3.3.3.1 PROHIBITS ALL OPERATIONS INVOLVING MOVEMENT OF FUEL WITHIN OR LOADS OVER THE FUEL STORAGE POOL WHEN RM-A4 IS INOPERABLE. THESE ACTION REQUIREMENTS WERE NOT FOLLOWED DURING ALL FUEL MOVEMENTS IN THE FUEL STORAGE POOL SINCE JAN 25, 1979, WHEN THE SETPOINT OF 500 COUNTS PER MIN WAS ESTABLISHED. THIS EVENT REQUIRED NO IMMEDIATE CORRECTIVE ACTIONS BECAUSE LICENSE AMENDMENT 69 (EFFECTIVE JUL 1, 1984) OF THE TECH SPECS HAD DELETED ALL REFERENCE TO RM-A4 SEVERAL DAYS PRIOR TO THE DISCOVERY OF THE EVENT.

[44] CRYSTAL RIVER 3 DOCKET 50-302 LER 84-017
 FAILURE TO PERFORM REQUIRED RADIOACTIVE GASEOUS EFFLUENT SAMPLE.
 EVENT DATE: 073084 REPORT DATE: 082984 NSSS: BW TYPE: PWR

(NSIC 191149) DURING A ROUTINE REVIEW OF SURVEILLANCE PROCEDURES, IT WAS

[51] DIABLO CANYON 1 DOCKET 50-275 LER 84-020
 INADVERTENT START OF DIESEL GENERATOR.
 EVENT DATE: 071984 REPORT DATE: 082084 NSSS: WE TYPE: PWR

(NSIC 191201) WHILE IN MODE 4 (HOT SHUTDOWN), DG NO. 1-3 AUTOMATICALLY STARTED DUE TO UNDERVOLTAGE ON UNIT 2'S BUS F (4KV VITAL BUS). WHILE INSTALLING SCAFFOLDING IN THE AREA OF THE RELAY PANEL, CONSTRUCTION WORKERS INADVERTENTLY JARRED THE RELAY PANEL AND ACTUATED AN UNDERVOLTAGE RELAY, CAUSING THE DIESEL TO START. NORMAL POWER WAS RETURNED TO BUS F, AND DG 1-3 WAS SECURED AND RETURNED TO NORMAL STANDBY MODE. TO PREVENT RECURRENCE, FUNCTIONAL LOGIC SIGNALS FROM UNIT 2 WHICH AFFECT UNIT 1, SUCH AS THE START OF DG 1-3, WILL BE DEFEATED UNTIL UNIT 2 FUEL LOAD.

[52] DIABLO CANYON 1 DOCKET 50-275 LER 84-022
 INADVERTENT SAFETY INJECTION AND REACTOR TRIP.
 EVENT DATE: 072884 REPORT DATE: 082784 NSSS: WE TYPE: PWR

(NSIC 191145) WHILE IN MODE 3 (HOT STANDBY), A SI AND REACTOR TRIP OCCURRED, DUE TO A COINCIDENCE OF LOW-LOW T-AVG AND HIGH STEAM FLOW SIGNALS. ALL REQUIRED EQUIPMENT RESPONDED AUTOMATICALLY. AN UNUSUAL EVENT WAS DECLARED BY THE SHIFT FOREMAN, AND EMERGENCY NOTIFICATIONS WERE MADE. UPON RECOGNITION OF THE SPURIOUS NATURE OF THIS ACTUATION, THE SYSTEMS WERE RESET AND REALIGNED TO READY STATUS. THE CAUSES OF THIS EVENT ARE AS FOLLOWS: THE HIGH STEAM FLOW BISTABLES WERE TRIPPED TO PERFORM A SURVEILLANCE TEST USING PROCEDURE I-12B1, "REMOVAL OF STEAM GENERATOR FLOW AND PRESSURE CHANNELS FROM SERVICE." SUBSEQUENT WATER ADDITION TO THE SG'S CAUSED THE AVERAGE TEMPERATURE OF THE REACTOR COOLANT SYSTEM TO DROP BELOW 543 F (LOW-LOW T-AVG). TO PREVENT RECURRENCE, A PLANT ABNORMAL STATUS BOARD HAS BEEN INSTALLED IN THE CONTROL ROOM TO PROVIDE A READY REFERENCE OF EVOLUTIONS THAT COULD AFFECT PLANT OPERATIONS.

[53] DRESDEN 2 DOCKET 50-237 LER 84-014
 HPCI TURBINE TRIP LOW REACTOR PRESSURE SURVEILLANCE PERFORMED LATE.
 EVENT DATE: 010984 REPORT DATE: 080284 NSSS: GE TYPE: BWR

(NSIC 190976) DURING NORMAL OPERATIONS, HPCI TURBINE TRIP LOW REACTOR PRESSURE SURVEILLANCE DIS 2300-3 (TECH SPEC 4.2.1) WAS PERFORMED TWO DAYS PAST THE LATEST DUE DATE. SAFETY SIGNIFICANCE WAS MINIMAL BECAUSE THE SURVEILLANCE WAS IMMEDIATELY PERFORMED AND NO DISCREPANCIES WERE FOUND. PREVIOUS OCCURRENCE REPORTED BY DVR 12-2-83-161. ORIGINALLY THIS EVENT WAS MISCLASSIFIED AS NON-REPORTABLE DUE TO STATION PERSONNEL NOT BEING COMPLETELY FAMILIAR WITH THE RECENTLY REVISED 10 CFR 50.73 RULES. ADDITIONAL TRAINING HAS BEEN PROVIDED TO ALL PERSONNEL INVOLVED IN CLASSIFICATION OF LER'S.

[54] DRESDEN 2 DOCKET 50-237 LER 84-007
 LOSS OF AUTOMATIC CONTROL FOR LPCI/CCSW HEAT EXCHANGER VALVES.
 EVENT DATE: 062884 REPORT DATE: 072584 NSSS: GE TYPE: BWR

(NSIC 190974) DURING THE UNIT HOT STANDBY, WHILE PERFORMING MAINTENANCE ON VALVE A02-2301-65, FUSE 2330-702 WAS REMOVED, WHICH CAUSED THE LOSS OF AUTOMATIC CONTROL FOR THE LPCI/CCSW HEAT EXCHANGER DELTA P (REMOTE CONTROL OF VALVES 2-1501-3A AND 3B). SAFETY SIGNIFICANCE WAS MINIMAL SINCE THE UNIT WAS IN HOT STANDBY AND VALVES 2-1501-3A AND 3B COULD BE OPERATED FROM THE LOCAL CONTROL STATION. THIS IS THE FIRST OCCURRENCE OF THIS TYPE. THE UNIT WAS BROUGHT TO COLD SHUTDOWN, FUSE 2330-702 WAS REPLACED, AND AUTOMATIC CONTROL WAS RETURNED TO THE VALVES. UPON INVESTIGATION OF THE EVENT, IT WAS FOUND THAT BOTH LPCI SYSTEM I AND SYSTEM II DELTA P CONTROLLERS WERE SUPPLIED THROUGH THE SAME FUSED CIRCUIT ON THE 120V AC INSTRUMENT BUS, INDICATING THAT THE CCSW/LPCI SYSTEM DID NOT MEET SINGLE FAILURE CRITERION. UNIT 3 WIRING WAS FOUND IDENTICAL TO UNIT 2.

MODIFICATIONS FOR BOTH UNITS WERE IMMEDIATELY INITIATED TO PROVIDE AN ALTERNATE FEED FOR SYSTEM II FROM 120V AC ESSENTIAL SERVICE BUS. A SPECIAL PROCEDURE WAS WRITTEN TO VERIFY THE POWER SOURCE TO SELECTED LOADS ON BOTH THE ESSENTIAL SERVICE BUS AND THE INSTRUMENT BUS.

[55] DRESDEN 2 DOCKET 50-237 LER 84-011
 DEGRADED FIRE BARRIERS.
 EVENT DATE: 070584 REPORT DATE: 072684 NSSS: GE TYPE: BWR

(NSIC 190975) A FIRE BARRIER INSPECTION OF THE AUXILIARY ELECTRIC EQUIPMENT ROOM, UNIT 2 DIESEL GENERATOR ROOM, UNIT 3 DIESEL GENERATOR ROOM AND UNIT 2/3 DG ROOM WAS CONDUCTED TO ENSURE THAT ALL FIRE WALL PENETRATIONS WERE SEALED. THIS INSPECTION SHOWED THAT SEVERAL MECHANICAL PENETRATIONS WERE NOT SEALED. PER TECH SPECS, A FIRE WATCH WAS ESTABLISHED WITHIN ONE HR OF DISCOVERY. ALL OF THE PENETRATIONS WERE SEALED WITH CERAFIBER AND VIMASCO.

[56] DRESDEN 2 DOCKET 50-237 LER 84-013
 LOW EHC OIL PRESSURE CAUSES TURBINE AND REACTOR TRIPS.
 EVENT DATE: 072284 REPORT DATE: 081584 NSSS: GE TYPE: BWR

(NSIC 191041) DURING NORMAL OPERATION THE FLOW BYPASS VALVE (FV-1) OF THE ELECTRO-HYDRAULIC CONTROL (EHC) SYSTEM WAS OPENED CAUSING THE TURBINE TO TRIP ON LOW EHC OIL PRESSURE; SUBSEQUENTLY RESULTING IN A REACTOR SCRAM. SAFETY SIGNIFICANCE WAS MINIMAL SINCE ALL SAFE SHUTDOWN SYSTEMS OPERATED AS DESIGNED. THIS IS A FIRST OCCURRENCE OF THIS TYPE AT DRESDEN. THE CAUSE OF THE EVENT WAS DUE TO PERSONNEL ERROR. IN TRYING TO START UP THE EHC SYSTEM ON UNIT 3, THE EQUIPMENT ATTENDANT INADVERTENTLY OPENED THE FV-1 ON UNIT 2. A FORMAL INVESTIGATION COMMITTEE CONSISTING OF ONSITE AND OFFSITE PERSONNEL WAS CONVENED TO REVIEW THIS EVENT AND RECOMMEND CORRECTIVE ACTIONS. A SUPPLEMENTAL REPORT WILL BE SUBMITTED WHEN RESULTS OF THE INVESTIGATION ARE ISSUED.

[57] DRESDEN 3 DOCKET 50-249 LER 82-011 REV 1
 UPDATE ON HPCI TURBINE EXHAUST CHECK VALVE LEAKS.
 EVENT DATE: 020382 REPORT DATE: 060382 NSSS: GE TYPE: BWR
 VENDOR: MISSION VALVE AND PUMP COMPANY

(NSIC 191181) WHILE PERFORMING LOCAL LEAK RATE TESTS PER DTS 1600-1, A LEAKAGE RATE OF 284.84 SCFH WAS OBSERVED ON THE HPCI TURBINE EXHAUST CHECK VALVE 3-2301-45. THIS IS IN EXCESS OF TECH SPEC 4.7.A LIMIT OF 29.38 SCFH FOR SINGLE VALVE LEAKAGE. THIS EVENT IS OF MINIMAL SAFETY SIGNIFICANCE SINCE THE THROUGH LEAKAGE WAS WITHIN TECH SPEC LIMITS. LAST OCCURRENCE OF THIS TYPE WAS REPORTED BY R.O. 82-07/03L ON DOCKET 50-249. THE EVENT WAS CAUSED BY A DEFECTIVE VALVE SEAT. THE DEFECTIVE VALVE WAS REPLACED WITH A LIKE FOR LIKE 24 INCH CHECK VALVE MADE BY THE MISSION COMPANY. A LEAK RATE TEST WAS SUBSEQUENTLY PERFORMED SATISFACTORILY WITH A RECORDED LEAK OF 2.89 SCFH. TESTING OF THE VALVE WILL CONTINUE TO BE PERFORMED DURING EACH REFUELING OUTAGE.

[58] DRESDEN 3 DOCKET 50-249 LER 84-001 REV 1
 UPDATE ON REACTOR SCRAM ON LOW WATER LEVEL.
 EVENT DATE: 032384 REPORT DATE: 080984 NSSS: GE TYPE: BWR

(NSIC 190980) DURING A REACTOR STARTUP SUBSEQUENT TO A REFUELING OUTAGE, WITH REACTOR HEAT UP AND PRESSURIZATION UNDER WAY, 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.

(NSIC 191066) DURING NORMAL PLANT OPERATIONS ON JUN 21, 1984, BOTH 4KV EMERGENCY BUS UNDERVOLTAGE RELAYS ON THE 10500 EUS (DIV I) WERE FOUND OUTSIDE OF THE REQUIRED TECH SPEC TOLERANCE. AS FOUND VALUES OF THE RELAY SETPOINT WERE 76 AND 77 VOLTS COMPARED TO AN ALLOWED TECH SPEC TABLE 3.2-2 TOLERANCE OF 85 PLUS OR MINUS 4.25 VOLTS. THE RELAYS WERE IMMEDIATELY ADJUSTED TO WITHIN PROCEDURAL TOLERANCE. HOWEVER, DUE TO AN ADMINISTRATIVE ERROR IT WAS NOT DISCOVERED THAT THE JUN 21, 1984 RELAY SETPOINT DATA HAD BEEN OUTSIDE OF THE TECH SPEC TOLERANCE UNTIL JUL 27, 1984. A CRITIQUE OF THE EVENT INDICATES THAT THE PROCEDURE FORMAT MAY HAVE CONTRIBUTED TO THE ADMINISTRATIVE ERROR. CORRECTIVE ACTIONS ARE: 1) THE PROCEDURE WILL BE PLACED IN A NEW FORMAT THAT HIGHLIGHTS TECH SPEC REQUIREMENTS PRIOR TO THE NEXT PERFORMANCE OF THE SURVEILLANCE. 2) SAFETY-RELATED SURVEILLANCE DATA WILL BE ROUTED THROUGH ONE INDIVIDUAL FOR REVIEW. 3) THE UNDERVOLTAGE RELAYS OF CONCERN HAVE BEEN PLACED ON INCREASED SURVEILLANCE TO TREND POSSIBLE SETPOINT DRIFT.

[64] FITZPATRICK DOCKET 50-333 LER 84-014
 FAILURE TO MAINTAIN PRIMARY CONTAINMENT INTEGRITY.
 EVENT DATE: 062384 REPORT DATE: 072384 NSSS: GE TYPE: BWR
 VENDOR: CHICAGO BRIDGE AND IRON COMPANY

(NSIC 191007) DURING A PLANT SHUTDOWN WITH REACTOR PRESSURE AT APPROX 650 AND THE REACTOR SUBCRITICAL, A VIOLATION OF PRIMARY CONTAINMENT OCCURRED. ON THREE SEPARATE OCCASIONS, TOTALING APPROX 3 MINS, BOTH THE INNER AND OUTER DRYWELL ENTRY HATCH DOORS WERE OPEN FOR PERSONNEL ENTRY AND EXIT. THIS WAS DUE TO A FAILURE IN THE MECHANICAL INTERLOCK DESIGNED TO PREVENT THIS OCCURRENCE AND A FAILURE OF THE PERSONNEL TO RECOGNIZE THAT PRIMARY CONTAINMENT INTEGRITY WAS VIOLATED WHEN REQUIRED AT THE EXISTING PLANT CONDITIONS. THE SHORT TERM CORRECTIVE ACTIONS WERE: A) SHUT THE DOORS. B) COUNSEL THE INDIVIDUALS INVOLVED. SIGNIFICANT LONG TERM CORRECTIVE ACTIONS INCLUDE: A) GENERATION OF A MORE DETAILED PROCEDURE CONCERNING PRIMARY CONTAINMENT ENTRY AND MAINTENANCE PRIOR TO DEC 31, 1984. B) THOROUGH INSPECTION OF LINKAGE TO FIX DEFICIENCIES DURING THE NEXT SCHEDULED CONTAINMENT ENTRY. C) RETRAINING OF PERSONNEL PRIOR TO DEC 31, 1984.

[65] FITZPATRICK DOCKET 50-333 LER 84-015
 HPCI TORUS SUCTION VALVE INOPERABLE.
 EVENT DATE: 071634 REPORT DATE: 081584 NSSS: GE TYPE: BWR
 VENDOR: LIMITORQUE CORP.

(NSIC 191065) DURING A NORMAL SURVEILLANCE OF HIGH PRESSURE COOLANT INJECTION (HPCI) MOTOR OPERATED VALVES THE HPCI TORUS SUCTION VALVE, 23MOV-58, FAILED TO OPEN FULLY. DURING THE SUBSEQUENT TROUBLESHOOTING, THE VALVE CONTINUED FOR SEVERAL ATTEMPTS NOT TO OPEN FULLY. HPCI SYSTEM WAS DECLARED INOPERABLE AND SURVEILLANCE TESTING WAS PERFORMED PER TECH SPEC PARAGRAPH 3.5.C. INVESTIGATION OF THE MOTOR OPERATOR WAS INITIATED. NO CAUSE FOR THE FAILURE OF THE VALVE TO FULLY OPEN COULD BE FOUND. THE OPERABILITY SURVEILLANCE WAS PERFORMED DAILY FOR A WEEK TO ASSURE CONTINUED OPERABILITY. THE VALVE PERFORMED SATISFACTORILY IN THESE TESTS. NO SIGNIFICANT HAZARD EXISTED SINCE THE REDUNDANT ADS SYSTEM WAS AVAILABLE.

[66] FT. CALHOUN 1 DOCKET 50-285 LER 84-015
 LOAD OVER THE RCS VIOLATES TECH SPECS.
 EVENT DATE: 070284 REPORT DATE: 080184 NSSS: CE TYPE: PWR

(NSIC 190994) A LOAD OF APPROX 250 POUNDS WAS CARRIED BY THE POLAR CRANE OVER THE REACTOR COOLANT SYSTEM WHEN THE FLUID IN THE PRESSURIZER WAS GREATER THAN 225 DEGREES F VIOLATING TECH SPEC 2.11(1). PRESSURIZER TEMPERATURE AND PRESSURE AT THE TIME OF THE INCIDENT WERE APPROX 388 F AND 220 PSIA, RESPECTIVELY. WHEN THE

VIOLATION WAS DISCOVERED, THE LOAD WAS SUSPENDED ABOVE GRATING OVER A STEAM GENERATOR CAVITY. THE LOAD WAS SET ON A CONCRETE SUPPORT AND THE POLAR CRANE WAS PLACED IN ITS PARKED POSITION. TO PREVENT SIMILAR EVENTS FROM OCCURRING IN THE FUTURE, A PROCEDURE CHANGE HAS BEEN MADE TO RCS VENT AND LEAK TEST OPERATING INSTRUCTIONS TO TAG OUT THE POLAR CRANE PRIOR TO EXCEEDING 225 DEGREES F IN THE PRESSURIZER.

[67] FT. CALHOUN 1 DOCKET 50-285 LER 84-014
VIAS ACTUATION.
EVENT DATE: 070384 REPORT DATE: 080284 NSSS: CE TYPE: PWR

(NSIC 190993) AN UNPLANNED ACTUATION OF THE VENTILATION ISOLATION ACTUATION SYSTEM (VIAS) OCCURRED AT 1100 ON JUL 3, 1984, DURING THE ROUTINE WEEKLY REPLACEMENT OF AN IODINE-COLLECTION CARTRIDGE ON RM-060, THE VENTILATION DISCHARGE DUCT IODINE MONITOR. AFTER COMPLETION OF THE FILTER REPLACEMENT, VIAS WAS RESET AND NO FURTHER ALARMS OCCURRED. NO EQUIPMENT MALFUNCTIONS WERE NOTED. THE IODINE-COLLECTION CARTRIDGE SHOWED NO IODINE ACCUMULATION, ALL GASEOUS CONTAMINATION CONCENTRATIONS WERE LESS THAN THE MINIMUM DETECTABLE ACTIVITIES. TO PREVENT FUTURE UNPLANNED VIAS ACTUATIONS, AN OPERATIONS MEMORANDUM HAS BEEN WRITTEN REQUIRING RM-060 BE TAKEN OUT OF SERVICE DURING FILTER REPLACEMENT.

[68] FT. CALHOUN 1 DOCKET 50-285 LER 84-012
LOW BORON CONCENTRATION IN SAFETY INJECTION AND REFUELING WATER TANK.
EVENT DATE: 071784 REPORT DATE: 081684 NSSS: CE TYPE: PWR

(NSIC 191050) TECH SPEC 2.3(1)A REQUIRES THAT THE SAFETY INJECTION AND REFUELING WATER TANK (SIRWT) CONTAIN WATER WITH A BORON CONCENTRATION OF AT LEAST 1700 PPM. A ROUTINE SAMPLE WAS DRAWN AT 1345 ON JUL 17, 1984; THE ANALYSIS OF THE SAMPLE YIELDED A BORON CONCENTRATION OF 1656 PPM. THE CONTROL ROOM WAS NOTIFIED AT 1410 AND BORATION OF THE SIRWT WAS INITIATED. A SECOND SAMPLE WAS DRAWN AT 1810 FOLLOWING THE ADDITION OF 1400 GALLONS OF 7.08% BORIC ACID. THE ANALYSIS OF THIS SAMPLE YIELDED A BORON CONCENTRATION OF 1846 PPM. THE SIRWT BORON CONCENTRATION WILL BE MAINTAINED AT A LEVEL SOMEWHAT HIGHER THAN 1700 PPM TO PREVENT THE MEASURED BORON CONCENTRATION FROM FALLING BELOW 1700 PPM DUE TO NORMAL SAMPLE VARIATION.

[69] FT. CALHOUN 1 DOCKET 50-285 LER 84-013
NOISE SPIKES CAUSE INADVERTENT REACTOR TRIP.
EVENT DATE: 072284 REPORT DATE: 082184 NSSS: CE TYPE: PWR

(NSIC 191146) AT APPROX 2150 ON JUL 22, 1984, WHILE OPERATING AT 83% POWER, THE FT. CALHOUN STATION UNIT NO. 1 RECEIVED TRIP SIGNALS ON BOTH 'A' AND 'C' CHANNELS OF THE THERMAL MARGIN LOW PRESSURE (TMLP) REACTOR PROTECTIVE SYSTEM (RPS) TRIP CIRCUITS. SINCE THE RPS ACTS TO TRIP THE REACTOR ON A 2 OUT OF 4 CHANNEL TO TRIP LOGIC, THE REACTOR SUBSEQUENTLY TRIPPED. TRIPPING OF THE 'A' AND 'C' TMLP TRIP CHANNELS OF THE RPS WAS INITIATED BY NOISE SPIKES RECEIVED BY TEMPERATURE LOOPS FEEDING TMLP CALCULATOR INPUTS. THESE NOISE SPIKES OCCURRED WHILE OPERATING THE PRESSURIZER QUENCH TANK VENT VALVE, HCV-155. IT IS IMPORTANT TO NOTE THAT CONDITIONS WHICH WOULD HAVE LEGITIMATELY CAUSED A TMLP TRIP ON 'A' OR 'C' CHANNELS, I.E., LOW PRESSURE ON THE REACTOR COOLANT SYSTEM AS EVIDENCED BY A LOW PRESSURIZER PRESSURE SIGNAL, DID NOT EXIST AT THE TIME OF THE TRIP. THE FOLLOWING CORRECTIVE MEASURES WERE TAKEN TO ALLEVIATE THE NOISE SPIKES ON THE TMLP CHANNEL CALCULATORS: 1) NOISE SUPPRESSORS WERE INSTALLED ACROSS THE HCV-155 SOLENOID VALVE COIL ELECTRICAL LEADS AND ELECTRICAL LEADS OF AN ASSOCIATED CONTROL RELAY AND 2) ADMINISTRATIVE CONTROLS WERE ESTABLISHED TO BYPASS RPS CHANNELS 'A' AND 'C' TEMPERATURE INPUTS PRIOR TO OPERATING HCV-155. ADDITIONAL CORRECTIVE MEASURES ARE PLANNED.

[70] FT. CALHOUN 1 DOCKET 50-285 LER 84-017
 VIAS ACTUATION DUE TO FALSE CONTAINMENT ACTIVITY INDICATION.
 EVENT DATE: 080384 REPORT DATE: 090284 NSSS: CE TYPE: PWR

(NSIC 191208) DURING NORMAL PLANT OPERATION AT 100% POWER, AN UNPLANNED ACTUATION OF THE VENTILATION ISOLATION ACTUATION SYSTEM (VIAS) OCCURRED AT 1645 ON AUG 3, 1984. THE VIAS ACTUATION (AN ENGINEERED SAFETY FEATURE (ESF)) WAS INITIATED BY THE CONTAINMENT AIR ACTIVITY PARTICULATE PROCESS MONITOR, RM-050. JUST PRIOR TO THE ACTUATION, RM-050 WAS RETURNED TO SERVICE AFTER A WEEK LONG CALIBRATION. AFTER BEING PLACED IN SERVICE, RM-050'S INDICATED ACTIVITY INCREASED TO THE HIGH ALARM SETPOINT AND THE MONITOR TRIPPED, THUS ACTUATING VIAS. A CONTAINMENT ENTRY WAS MADE TO INSPECT ALL AREAS OF THE BLDG OUTSIDE OF THE BIOLOGICAL SHIELD. NO EVIDENCE OF PRIMARY LEAKAGE WAS FOUND. IN ADDITION, A REVIEW OF RELATED PLANT PARAMETERS REVEALED NO EVIDENCE OF ABNORMAL PRIMARY LEAKAGE. AN ISOTOPIC LAB ANALYSIS OF CONTAINMENT AIR GRAB SAMPLES REVEALED ONLY SLIGHTLY HIGHER LEVELS OF CS-137 AND RB-88 THAN LAST OPERATING CYCLE. AFTER IT WAS DETERMINED FROM THE CONTAINMENT AIR GRAB SAMPLE ANALYSIS THAT THERE WAS NO SIGNIFICANT INCREASE IN PARTICULATE ACTIVITY FROM THE PREVIOUS WEEK'S SAMPLE, THE DISCRIMINATOR SENSITIVITY OF THE RM-050 MONITOR WAS ADJUSTED TO BRING THE METER INDICATIONS BACK ON SCALE AND BELOW THE ALARM SETPOINT SO THAT VIAS COULD BE RESET. THE MONITOR WAS RETURNED TO SERVICE FULLY CAPABLE OF TRENDING CONTAINMENT ACTIVITY LEVELS AND ALARMING/INITIATING VIAS IF SIGNIFICANT INCREASES IN CONTAINMENT ACTIVITY WERE NOTED.

[71] GINNA DOCKET 50-244 LER 84-008
 INOPERABLE FIRE SUPPRESSION SYSTEM WITHOUT FIRE WATCH.
 EVENT DATE: 072584 REPORT DATE: 082484 NSSS: WE TYPE: PWR
 VENDOR: DRESSER INDUSTRIAL VALVE & INST DIV

(NSIC 191139) ON JUL 25, 1984, FIRE DETECTION SYSTEM AND SUPPRESSION SYSTEM (S-29) "TURBINE BLDG/CONTROL ROOM WALL SPRAY SYSTEM" WAS DISCONNECTED AND THE SUPPRESSION SYSTEM ISOLATION VALVES 9274 AND 9275 WERE HELD IN THE CLOSED POSITION FOR STATION MODIFICATION ACTIVITIES AND A CONTINUOUS FIRE WATCH WAS ESTABLISHED. SUBSEQUENT TO MODIFICATION ACTIVITIES BEING TERMINATED FOR THE DAY, THE FIRE DETECTION AND SUPPRESSION SYSTEM WAS RECONNECTED, HOWEVER THE ISOLATION VALVES WERE LEFT IN THE CLOSED POSITION AND THE FIRE WATCH WAS REMOVED, THUS RESULTING IN A VIOLATION OF TECH SPEC 3.14.2.2, WHICH REQUIRES A CONTINUOUS FIRE WATCH WHEN THE SUPPRESSION SYSTEM IS INOPERABLE.

[72] GRAND GULF 1 DOCKET 50-416 LER 84-032
 VESSEL LEVEL TRANSMITTERS EXCEED TECH SPEC LIMITS.
 EVENT DATE: 062884 REPORT DATE: 072784 NSSS: GE TYPE: BWR
 VENDOR: ROSEMOUNT, INC.

(NSIC 191037) REACTOR VESSEL LEVEL TRANSMITTER CALIBRATION PROCEDURES WERE RECENTLY REVISED TO COMPENSATE FOR THE EFFECT OF CONDENSATE POT MOVEMENT DURING VESSEL HEATUP TO OPERATING TEMPERATURE AND TO INCLUDE MORE ACCURATE LEVEL ELEVATION VALUES. WHEN THE REVISED CALIBRATION PROCEDURES WERE PERFORMED, 3 TRANSMITTERS WERE FOUND TO HAVE BEEN OUTSIDE TECH SPEC LIMITS DUE TO THE VALUES USED IN THE PREVIOUS CALIBRATION.

[73] GRAND GULF 1 DOCKET 50-416 LER 84-033
 REACTOR SCRAM ON LOSS OF INSTRUMENT AIR.
 EVENT DATE: 070284 REPORT DATE: 073184 NSSS: GE TYPE: BWR

(NSIC 191038) A REACTOR SCRAM AND A SECONDARY CONTAINMENT ISOLATION OCCURRED DURING COLD SHUTDOWN WHEN THE INSTRUMENT AIR PRESSURE DROPPED AFTER TRANSFERRING AIR SERVICE FROM THE UNIT 2 AIR COMPRESSOR TO THE UNIT 1 AIR COMPRESSOR. THE

UNIT 1 AIR COMPRESSOR FAILED TO MAINTAIN SYSTEM PRESSURE AND THE UNIT 2 COMPRESSOR COULD NOT BE RESTARTED IN TIME TO RESTORE PRESSURE. AN INVESTIGATION REVEALED THE UNIT 1 AIR DRYER OUTLET VALVE TO BE CLOSED. THE REASON OR TIME THE VALVE WAS CLOSED COULD NOT BE DETERMINED. INSTRUCTIONS WILL BE REVISED TO REQUIRE THE VALVE TO BE LOCKED OPEN ON EACH UNIT. THIS IS THE ONLY MANUAL VALVE BETWEEN THE AIR DRYER TROUBLE ALARM (INDICATIVE OF LOW PRESSURE AT THE DRYER OUTLET) AND THE UNIT 1/UNIT 2 CROSS CONNECTION.

[74] GRAND GULF 1 DOCKET 50-416 LER 84-034
SHUTDOWN COOLING SYSTEM ISOLATION.
EVENT DATE: 071984 REPORT DATE: 082084 NSSS: GE TYPE: BWR

(NSIC 191178) WHILE PERFORMING A NON-ROUTINE TEST, AN ELECTRICIAN INADVERTENTLY BUMPED A BREAKER HANDLE CAUSING THE 'A' RPS MOTOR GENERATOR SET OUTPUT BREAKER TO TRIP RESULTING IN THE ISOLATION OF BOTH SHUTDOWN COOLING LOOPS (A SUCTION VALVE CLOSED ISOLATING BOTH LOOPS.) THERE WERE NO SAFETY CONSEQUENCES AS CORE DECAY HEAT WAS MINIMAL. THE REACTOR COOLANT TEMPERATURE WAS 127 F. THE REACTOR WATER CLEANUP SYSTEM WHICH PROVIDES AN ALTERNATE METHOD OF COOLANT CIRCULATION WAS IN OPERATION PRIOR TO AND DURING THE EVENT. OPERATORS RESTORED POWER BY SWITCHING TO THE RPS 'A' ALTERNATE SUPPLY. THE SHUTDOWN COOLING SYSTEM WAS UNAVAILABLE FOR APPROX 15 MINS.

[75] GRAND GULF 1 DOCKET 50-416 LER 84-036
TWO CHANNELS OF AN RWCU TRIP SYSTEM INOPERABLE.
EVENT DATE: 072784 REPORT DATE: 082784 NSSS: GE TYPE: BWR

(NSIC 191179) DURING CALIBRATION, BOTH THE A AND B CHANNELS OF THE REACTOR WATER CLEANUP (RWCU) SYSTEM DIFFERENTIAL FLOW ISOLATION TRIP WERE FOUND TO EXCEED THE TECH SPEC SETPOINT LIMIT. THE CAUSE OF THE NONCONFORMANCE WAS DUE TO A CHANGE IN THE CALIBRATION DATA MADE IN DEC OF 1983. THE PROCEDURE WAS NOT PERFORMED IMMEDIATELY AFTER THE REV. SURVEILLANCE PROCEDURES ARE BEING REVIEWED FOR SIMILAR SITUATIONS. ANY SURVEILLANCES REQUIRING REPERFORMANCE WILL BE COMPLETED PRIOR TO THE NEXT STARTUP.

[76] HATCH 1 DOCKET 50-321 LER 84-005
CONTROL ROOM PANEL CABLES IMPROPERLY TERMINATED AND REPORTED.
EVENT DATE: 072084 REPORT DATE: 081484 NSSS: GE TYPE: BWR

(NSIC 191212) ON FRI, JUN 29, 1984, FOLLOWING A CONCERN THAT MAINTENANCE PERSONNEL WORKING IN CONTROL ROOM PANELS HAD BEEN SHOCKED BY CABLE ENDS WHICH WERE NOT TERMINATED OR PROPERLY IDENTIFIED, A PRELIMINARY REVIEW BY PERSONNEL INDICATED THAT NUMEROUS CABLE LEADS WERE LIFTED AND NOT PROPERLY TAGGED IN THE UNIT 2 CONTROL ROOM. ALSO, IMPROPER CABLE SEPARATION PROBLEMS WERE NOTED. FROM THE CONCERN ON 6/29/84 THE INITIAL DEFICIENCY ON THIS EVENT WAS WRITTEN ON 7/2/84 AND DID NOT INDICATE A REPORTABLE OCCURRENCE, HOWEVER, THE DEFICIENCY WRITTEN AFTER FURTHER INVESTIGATION ON 7/20/84 DID INDICATE A REPORTABLE OCCURRENCE. THE CAUSE OF THIS EVENT WAS PERSONNEL ERROR AND INADEQUATE ADMINISTRATIVE CONTROLS (I.E., INADEQUATE SPARED WIRE INSTRUCTIONS AND UNCLEAR DESIGN CHANGE REQUEST INSTRUCTIONS). WORK HAS STOPPED IN CONTROL ROOM PANELS TO REESTABLISH AND UPGRADE ADMINISTRATIVE CONTROLS. PROCEDURES WERE REVIEWED TO MAKE NECESSARY REVISIONS. PERSONNEL WERE RETRAINED ON PROCEDURE REVISIONS. ALSO, PRIOR TO WORKING IN CONTROL ROOM PANELS, PLANT PERSONNEL REVIEW DCR PACKAGES TO DETERMINE IF CLARIFICATION ON INSTALLATION INSTRUCTIONS FOR ROUTING CABLES, TERMINATION, AND SEPARATION REQUIREMENTS IS NECESSARY.

[77] HATCH 2 DOCKET 50-366 LER 84-009
EMERGENCY DIESEL GENERATOR AND CORE SPRAY START-UP DURING TIME RESPONSE TESTING.
EVENT DATE: 071184 REPORT DATE: 081084 NSSS: GE TYPE: BWR

(NSIC 191166) AT APPROX 0745 CDT ON 7-11-84 WITH UNIT 2 IN A RECIRCULATION PIPE REPLACEMENT OUTAGE AND NO FUEL IN THE VESSEL, THE PLANT HAD AN UNPLANNED LOGIC ACTUATION FOR MORE THAN ONE ENGINEERED SAFETY FEATURE (ESF). DURING PERFORMANCE OF THE 'CHANNEL LOGIC TIME RESPONSE TESTING' PROCEDURE (HNP-2-3191) ON REACTOR WATER LEVEL TRANSMITTER (2B21-N091B), LOGIC ACTUATION WAS ACTIVATED FOR CORE SPRAY, ADS, RHR, AND HPCI. ALSO, WHEN THE DEFICIENCY REPORT REPORTED THE UNPLANNED ESF LOGIC ACTUATION, PERSONNEL DID NOT MAKE THE REQUIRED 4 HR NOTIFICATION AS REQUIRED BY 10CFR 50.72(B)(2). THE 4 HR NOTIFICATION FOR THIS EVENT WAS MADE BY PERSONNEL ON 7-19-84 AT 1350 CDT. THE CAUSE OF THIS EVENT WAS A DEFECTIVE REV TO HNP-2-3191. THE PERSONNEL WHO SHOULD HAVE MADE THE 4 HR NOTIFICATION TO THE NRC FAILED TO DO SO BECAUSE THEY THOUGHT THIS EVENT WAS NON-REPORTABLE PER 10CFR 50.72 BECAUSE THERE WAS NO FUEL IN THE REACTOR VESSEL.

[78] HATCH 2 DOCKET 50-366 LER 84-006
FAILURE TO TEST REFUELING PLATFORM FRAME MOUNTED AUXILIARY HOIST.
EVENT DATE: 071684 REPORT DATE: 081484 NSSS: GE TYPE: BWR

(NSIC 191071) ENGINEERING PERSONNEL DETERMINED THAT A CONTROL ROD HAD BEEN MOVED WITHIN THE REACTOR PRESSURE VESSEL WITH THE REFUELING PLATFORM FRAME MOUNTED AUXILIARY HOIST PRIOR TO DEMONSTRATING OPERATION OF THE HOIST'S LOADED INTERLOCK AS REQUIRED BY TECH SPECS SECTION 4.9.7.B. UPON DETERMINING THAT HOIST OPERATION WAS CONTRARY TO TECH SPECS SURVEILLANCE REQUIREMENTS, FURTHER HOIST USE WAS SUSPENDED. A PROCEDURE REV WILL BE MADE BEFORE THE HOIST USE IS RESUMED. THIS EVENT IS REPORTABLE PER 10 CFR 50.73(A)(2)(I)(B), BECAUSE AN OPERATION OCCURRED WHICH WAS PROHIBITED BY THE PLANT'S TECH SPECS.

[79] INDIAN POINT 2 DOCKET 50-247 LER 84-008
SPURIOUS ACTUATION OF MANUAL SAFETY INJECTION CHANNEL.
EVENT DATE: 071384 REPORT DATE: 081284 NSSS: WE TYPE: PWR

(NSIC 190979) ON JUL 13, 1984, WHILE AT COLD SHUTDOWN CONDITIONS WITH THE FUEL UNLOADED FROM THE REACTOR CORE FOR A REFUELING OUTAGE, ONE CHANNEL OF THE MANUAL SAFETY INJECTION CIRCUITRY SPURIOUSLY AND PARTIALLY ACTUATED CAUSING PARTIAL INITIATION OF ENGINEERED SAFEGUARDS EQUIPMENT.

[80] KEWAUNEE DOCKET 50-305 LER 84-002 REV 1
UPDATE ON REACTOR TRIPS ON HIGH STEAM GENERATOR LEVEL SIGNAL.
EVENT DATE: 031684 REPORT DATE: 060184 NSSS: WE TYPE: PWR
VENDOR: BLACK-SIVALS-BRYSON

(NSIC 190608) AT 2345 ON MARCH 16, 1984, WITH THE REACTOR AT 2% POWER (MAIN GENERATOR OFF LINE), THE TURBINE OVERSPEED TRIP TEST WAS BEGUN. LOW ELECTROHYDRAULIC (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.

[81] KEWAUNEE DOCKET 50-305 LER 84-015
 REQUIRED WATER STORAGE TANK BELOW MINIMUM TECH SPEC LEVEL.
 EVENT DATE: 072884 REPORT DATE: 082784 NSSS: WE TYPE: PWR

(NSIC 191152) AT 2105 ON JUL 28, 1984, THE AUX OPERATOR, ON HIS ROUTINE TOUR, DISCOVERED THAT THE REFUELING WATER STORAGE TANK (RWST) LEVEL WAS APPROX 1.5% BELOW THE MINIMUM LEVEL REQUIRED BY TECH SPECS. THE LOW TANK LEVEL WAS CAUSED BY A VALVE MISALIGNMENT WHICH OCCURRED WHEN AN OPERATOR WAS ISOLATING THE SPENT FUEL POOL DEMINERALIZER POST FILTER FOR MAINTENANCE. THIS VALVE MISALIGNMENT ALLOWED THE REFUELING WATER PURIFICATION PUMP TO FEED BOTH THE RWST AND THE WASTE HOLDUP TANK. AT 2126 FILLING OPERATIONS WERE STARTED AND AN ORDERLY SHUTDOWN WAS INITIATED. THE REQUIRED RWST LEVEL WAS REACHED AT 2206 AND LOAD DECREASE TERMINATED. THE PLANT WAS BACK AT FULL POWER BY 2238. THIS INCIDENT HAS BEEN DISCUSSED WITH THE OPERATOR INVOLVED, ALL OTHER AUX OPERATORS, ALL AUX OPERATOR TRAINEES, AND THE EQUIPMENT/AUX OPERATOR TRAINER. A DESCRIPTION OF THIS INCIDENT HAS BEEN ROUTED TO THE OPERATIONS DEPARTMENT AND TRAINING GROUP FOR THEIR INFORMATION. FURTHERMORE, A MEMORANDUM CLARIFYING EQUIPMENT STATUS CONTROL REQUIREMENTS FOR AUX BLDG FILTERS HAS BEEN WRITTEN BY THE PLANT OPERATORS' SUPERINTENDENT AND CIRCULATED TO OPERATIONS PERSONNEL. THESE ACTIONS SHOULD PREVENT A RECURRENCE OF THIS TYPE OF EVENT.

[82] LA SALLE 1 DOCKET 50-373 LER 84-032
 REACTOR WATER CLEANUP SYSTEM ISOLATES ON HIGH DIFFERENTIAL FLOW.
 EVENT DATE: 061284 REPORT DATE: 070684 NSSS: GE TYPE: BWR
 VENDOR: LONERGAN, J.E., CO.

(NSIC 191073) ON JUN 12, 1984, AT 1432 HRS, UNIT 1 REACTOR WATER CLEANUP SYSTEM ISOLATED ON HIGH DIFFERENTIAL FLOW. AT THE TIME OF THE ISOLATION, THE 'A' HEAT EXCHANGER STRING WAS BEING VALVED IN. EXCESSIVE FLOW OUT THE VENT LINE DURING THE FILL AND VENT OF THE HEAT EXCHANGER WAS THE CAUSE OF THE ISOLATION. THE EVENT WAS OF MINIMAL SIGNIFICANCE AS REACTOR WATER CLEANUP OPERATED ACCORDING TO DESIGN.

[83] LA SALLE 1 DOCKET 50-373 LER 84-038
 UNSEALED FIRE PENETRATION/SLEEVE.
 EVENT DATE: 062284 REPORT DATE: 071784 NSSS: GE TYPE: BWR

(NSIC 191024) IN APR 1984, AN OPEN, UNSEALED PENETRATION WAS FOUND DURING A PLANT WALKDOWN. AS CORRECTIVE ACTION, A WORK REQUEST WAS GENERATED TO SEAL THE PENETRATION. AT THE TIME OF THE DISCOVERY, THE PENETRATION WAS NOT IDENTIFIED AS A REQUIRED FIRE STOP. UPON CLOSEOUT OF THE WORK REQUEST, THE PENETRATION WAS FOUND TO BE IMPROPERLY SEALED. LATER THE PENETRATION WAS IDENTIFIED AS REQUIRING FIRE STOP. ANOTHER WORK REQUEST WAS GENERATED, AND IN ACCORDANCE WITH THE ACTION STATEMENT OF TECH SPEC 3.7.6, AN HOURLY FIRE WATCH PATROL WAS ESTABLISHED. THE PENETRATION SHOULD BE RESEALED BY JULY 23, 1984. A RE-EXAMINATION AND INSPECTION OF ALL ACCESSIBLE FIRE WALLS WILL BE CONDUCTED, AND THE SLEEVE SCHEDULE AND SURVEILLANCE PROCEDURE WILL BE UPDATED TO REFLECT ANY ADDITIONAL CHANGES.

[84] LA SALLE 1 DOCKET 50-373 LER 84-033
 REACTOR WATER CLEANUP DIFFERENTIAL FLOW ISOLATION.
 EVENT DATE: 062484 REPORT DATE: 071984 NSSS: GE TYPE: BWR

(NSIC 191023) ON 6-24-84, AT 1730 WITH UNIT 1 IN HOT SHUTDOWN AT 620 PSIG AN ISOLATION OF THE REACTOR WATER CLEANUP SYSTEM (RWCU, CE) OCCURRED DUE TO HIGH DIFFERENTIAL FLOW. THE RWCU SYSTEM WAS OPERATING IN THE BLOWDOWN MODE AT THE TIME OF THE EVENT. NO SYSTEM LEAKS COULD BE FOUND INDICATING THE DIFFERENTIAL FLOW ISOLATION WAS CAUSED BY DIFFERENCES IN WATER TEMPERATURE (DENSITY) AT THE

INLET AND OUTLET PORTIONS OF THE SYSTEM. THE RWCU SYSTEM WAS THEN PLACED BACK IN OPERATION WITH NO FURTHER PROBLEMS OCCURRING THAT DAY.

[85] LA SALLE 1 DOCKET 50-373 LER 84-040
 SPURIOUS REACTOR WATER CLEANUP DIFFERENTIAL FLOW ISOLATION.
 EVENT DATE: 062584 REPORT DATE: 071984 NSSS: GE TYPE: BWR

(NSIC 191025) ON JUN 25, 1984, AT 1030 HRS WITH UNIT 1 AT 3% POWER, AND IN STARTUP MODE, UNIT 1 REACTOR WATER CLEANUP (CE) SYSTEM ISOLATED ON HIGH DIFFERENTIAL FLOW. THERE WERE NO FLOWPATH CHANGES OR EQUIPMENT ROTATIONS IN PROGRESS AT THE TIME OF THE ISOLATION. THE REACTOR STARTUP ACCOUNTED FOR THE ISOLATION DUE TO THE TEMPERATURE AND PRESSURE DIFFERENCES BETWEEN ACTUAL STARTUP OPERATION AND INSTRUMENT CALIBRATIONS. SAFE PLANT CONDITIONS WERE MAINTAINED AT ALL TIMES.

[86] LA SALLE 1 DOCKET 50-373 LER 84-041
 MECHANICAL FIRE PENETRATIONS NOT SEALED PROPERLY.
 EVENT DATE: 062884 REPORT DATE: 072384 NSSS: GE TYPE: BWR

(NSIC 191026) ON JUN 28, 1984, AT APPROX 1400 THE TECHNICAL STAFF IDENTIFIED 3 MECHANICAL PENETRATIONS ON FIRE RATED WALLS/FLOORS THAT WERE NOT SEALED PROPERLY. THE PENETRATIONS WERE LOCATED IN THE 815' AUX BLDG FLOOR AT COLUMN LINES 14-L AND 16-L, AND IN THE 786' AUX/TURBINE BLDG WALL AT 18-R. THE AFFECTED WALLS/FLOORS SEPARATE FIRE AREAS WITH SAFETY-RELATED EQUIPMENT. THE PENETRATIONS WERE IDENTIFIED DURING THE PERFORMANCE OF A WALKDOWN OF ACCESSIBLE FIRE WALLS IN UNITS 1 AND 2. THE WALKDOWN WAS BEING PERFORMED TO IDENTIFY ANY FIRE PENETRATIONS THAT WERE NOT ON THE SLEEVE/PENETRATION SCHEDULE AND WAS SPECIFIED AS CORRECTIVE ACTION IN LER 373/84-038-00. THE PENETRATIONS WERE SEALED ON JUL 3, 1984, UNDER WORK REQUEST L38390 IN ACCORDANCE WITH TECH SPECS 3.7.6 ACTION A. HOURLY FIRE WATCHES ARE IN EFFECT IN THESE AREAS AT ALL TIMES.

[87] LA SALLE 1 DOCKET 50-373 LER 84-042
 HIGH RADIATION AREA UNSECURED AND UNPOSTED.
 EVENT DATE: 070384 REPORT DATE: 073084 NSSS: GE TYPE: BWR

(NSIC 191027) DURING ROUTINE SURVEYS, ON 7/3/84, A RADIATION CHEMISTRY TECHNICIAN (RCT) SURVEYED THE REACTOR WATER CLEANUP OUTBOARD ISOLATION VALVE ROOM ON THE 774' ELEVATION OF THE REACTOR BLDG, UNIT 1. THE ENTRANCE DOOR #463 WAS POSTED AS A 'CAUTION RADIATION AREA.' AT 1340 THE VALVE WAS FOUND TO READ 480 MR/HR AT ONE FOOT. THE LAST PREVIOUS SURVEY, PERFORMED ON 2/21/84, AT 1400, INDICATED THAT THE VALVE READ 40 MR/HR AT ONE FOOT. THIS AREA WAS OVERLOOKED FOR ROUTINE SURVEYS PRIOR TO 7/3/84 AND NEVER WAS UPGRADED TO HIGH RADIATION AREA STATUS. UPON DISCOVERY, THE RCT POSTED DOOR #463 AS A 'DANGER HIGH RADIATION AREA' AND HAD THE SECURITY STATUS LEVEL UPGRADED TO HIGH RADIATION STATUS.

[88] LA SALLE 2 DOCKET 50-374 LER 84-034
 HIGH RADIATION AREA UNSECURED AND UNPOSTED.
 EVENT DATE: 070384 REPORT DATE: 072484 NSSS: GE TYPE: BWR

(NSIC 191028) A RADIATION CHEMISTRY TECHNICIAN (RCT) SURVEYED THE UNIT 2 OFFGAS CARBON BED VAULT, AT 1530 ON JUL 3, 1984, AND DETERMINED THAT THE ROOM CONTAINED A HIGH RADIATION AREA. THE DOSE RATE NEAR THE INLET CARBON BED WAS APPROX 400 MR/HR AT ONE FOOT. DOOR 565 WAS POSTED AS A 'CAUTION RADIATION AREA' AND WAS ON PRODUCTION SECURITY STATUS LEVEL. THE UNIT 2 OFFGAS CARBON BED VAULT AREA WAS LAST SURVEYED ON JUN 12, 1984, AND THE HIGHEST DOSE RATE FOUND WAS 40 MR/HR. THE ROOM WAS SCHEDULED FOR ANOTHER ROUTINE SURVEY ON JULY 6, 1984. BASED ON EXPERIENCE IT WAS KNOWN THAT THE AREA DID NOT BECOME A HIGH RADIATION AREA UNTIL

OPERATING ABOVE THE 50% POWER LEVEL. A LACK OF MANAGEMENT COMMUNICATION AND FOLLOW-UP RESULTED IN THE ROOM REMAINING AS A RADIATION AREA EVEN AFTER UNIT 2 WENT ABOVE THE 50% POWER LEVEL. UPON DISCOVERY, AN RCT POSTED DOOR 565 AS 'DANGER HIGH RADIATION AREA' AND HAD THE SECURITY STATUS LEVEL UPGRADED TO HIGH RADIATION STATUS.

[89] LA SALLE 2 DOCKET 50-374 LER 84-036
 REACTOR WATER CLEANUP ISOLATES ON HIGH DIFFERENTIAL FLOW.
 EVENT DATE: 070684 REPORT DATE: 073084 NSSS: GE TYPE: BWR
 VENDOR: HILLS-MCCANNA COMPANY

(NSIC 191075) ON JUL 6, 1984, AT 0120 HRS, THE UNIT 2 REACTOR WATER CLEANUP SYSTEM ISOLATED ON HIGH DIFFERENTIAL FLOW. AT THE TIME OF THIS ISOLATION THE 'B' REACTOR WATER CLEANUP FILTER DEMINERALIZER HAD BEEN PRECOATED AND WAS BEING PLACED ON LINE. LEAKAGE THROUGH NORMALLY ISOLATED VALVES IN THE SYSTEM CAUSED THE ISOLATION AND THE SYSTEM SHUT DOWN AS DESIGNED.

[90] LA SALLE 2 DOCKET 50-374 LER 84-035
 MAINTENANCE ERROR CAUSES EHC FAILURE AND REACTOR SCRAM.
 EVENT DATE: 070984 REPORT DATE: 072484 NSSS: GE TYPE: BWR

(NSIC 191074) WHILE TROUBLESHOOTING A PROBLEM WITH THE SIGNAL FROM THE ELECTROHYDRAULIC CONTROL (EHC) SYSTEM TO THE REACTOR RECIRCULATING SYSTEM, AS PART OF THE STARTUP TEST PROGRAM, AN INSTRUMENT TECHNICIAN'S PROBE SLIPPED CAUSING A MOMENTARY LOSS OF THE 30 VOLT POWER SUPPLY TO THE EHC SYSTEM. THIS CAUSED THE REACTOR TO SCRAM ON HIGH PRESSURE DUE TO CYCLING OF THE MAIN TURBINE BYPASS, CONTROL AND INTERMEDIATE STOP VALVES. NO ECCS ACTIONS WERE REQUIRED AND REACTOR PRESSURE AND LEVEL WERE STABILIZED WITHIN NORMAL LIMITS.

[91] LA SALLE 2 DOCKET 50-374 LER 84-038
 UNSECURED DOOR TO HIGH RADIATION AREA (RWCU ROOM).
 EVENT DATE: 071784 REPORT DATE: 081084 NSSS: GE TYPE: BWR

(NSIC 191169) THE GATE (DOOR 430) ALLOWING ACCESS TO THE UNIT 2 REACTOR WATER CLEANUP (RWCU) HEAT EXCHANGER 'B' ROOM (HIGH RADIATION AREA) WAS AJAR FROM 1446 HRS 7-17-84, TO 0640 HRS 7-18-84. SECURITY CONTACTED THE DUTY RAD/CHEM FOREMAN AT 1500 HRS 7-17-84, INFORMING HIM THAT DOOR 430 WAS ALARMING, INDICATING AN AJAR POSITION. AN RCT WAS DISPATCHED TO CHECK THE DOOR. HOWEVER, HE CHECKED THE WRONG DOOR AND REPORTED DOOR 430 TO BE SECURED. SECURITY CALLED ONCE AGAIN ON 7-18-84 AT 0640 HRS TO INFORM THE RAD/CHEM DEPARTMENT THAT THE DOOR WAS STILL ALARMING. ANOTHER RCT WAS DISPATCHED TO THE AREA, AT WHICH TIME HE DISCOVERED THAT DOOR 430 WAS INDEED AJAR. THE DOOR WAS IMMEDIATELY SECURED. SEVERAL ENGINEERING CONTROLS WILL BE INVESTIGATED TO CURB THE FREQUENCY OF EVENTS OF THIS NATURE.

[92] LA SALLE 2 DOCKET 50-374 LER 84-037
 REACTOR WATER CLEANUP ISOLATES ON HIGH DIFFERENTIAL FLOW.
 EVENT DATE: 071884 REPORT DATE: 073184 NSSS: GE TYPE: BWR

(NSIC 191076) ON JUL 18, 1984, AT 2108, WHILE PLACING THE UNIT 2 'B' REACTOR WATER CLEANUP SYSTEM FILTER IN SERVICE, THE REACTOR WATER CLEANUP SYSTEM ISOLATED ON HIGH DIFFERENTIAL FLOW. THE ISOLATION WAS A RESULT OF A COMBINATION OF FACTORS: A DAMAGED OPERATOR ON A SYSTEM BOUNDARY VALVE, AND A POSSIBLE IMPROPER FILL AND VENT OF THE DEMINERALIZERS. THE EVENT WAS OF MINIMAL SIGNIFICANCE. SAFE PLANT CONDITIONS WERE MAINTAINED AT ALL TIMES. THE SYSTEM WAS RESTARTED AT 2140 WITH NO DIFFICULTIES.

[93] LA SALLE 2 DOCKET 50-378 LER 84-039
 RCIC ISOLATION SWITCHES DRIFTED.
 EVENT DATE: 071984 REPORT DATE: 081384 NSSS: GE TYPE: BWR
 VENDOR: STATIC-O-RING

(NSIC 191077) ON 7/19/84 LA SALLE STATION UNIT 2 WAS IN OPERATIONAL CONDITION 1 AT APPROX 80% POWER. AT 2315 WHILE PERFORMING CALIBRATION AND FUNCTIONAL TEST (LIS-NB-10) PRESSURE SWITCHES 2E31-N022A, B, C AND D WERE FOUND OUT OF TOLERANCE IN THE NONCONSERVATIVE DIRECTION AND EXCEEDING TECH SPECS LCO OF 53 PSIG. THE CAUSE FOR THE INSTRUMENT DRIFT HAS NOT BEEN DETERMINED. BOTH DIV 1 AND 11 RCIC REACTOR LOW PRESSURE ISOLATION SIGNALS WOULD HAVE BEEN FUNCTIONAL BUT AT A SLIGHTLY REDUCED PRESSURE (48 PSIG AND 47.5 PSIG RESPECTIVELY). PRESSURE SWITCHES 2E31-N022A, B, C AND D WERE IMMEDIATELY RECALIBRATED. THEY HAVE BEEN TRENDED VIA THE TRENDED PROGRAM SINCE 4/4/83. IT IS PLANNED TO REPLACE THE SWITCHES AS PART OF THE ENV QUALIFICATION PROGRAM.

[94] LA SALLE 2 DOCKET 50-374 LER 84-043
 DRYWELL PURGE.
 EVENT DATE: 081284 REPORT DATE: 081684 NSSS: GE TYPE: BWR

(NSIC 191078) PRIMARY CONTAINMENT VENT AND PURGE WAS STARTED ON AUG 11, 1984, AT 0830 TO PURGE THE UNIT 2 PRIMARY CONTAINMENT. THIS WAS TO PROVIDE COOLING AND ADEQUATE OXYGEN FOR PERSONNEL WORKING INSIDE WITH NITROGEN SUPPLIED PNEUMATIC TOOLS. THE ACTION REQUIREMENT OF TECH SPEC 3.6.1.8 ALLOWS THE PURGE FOR 1 HR PLUS REQUIRES BEING IN COLD SHUTDOWN WITHIN 24 HRS THEREAFTER IF PURGE IS NOT COMPLETED. THE PURGE WAS NOT STOPPED FOR 26 1/2 HRS, EXCEEDING THE ALLOWABLE TIME BY 1 1/2 HRS. THE UNIT WAS IN HOT SHUTDOWN AT APPROX 300 F THROUGHOUT THE EVENT. THE PURGE WAS IMMEDIATELY SECURED WHEN THE VIOLATION WAS OBSERVED, THUS ENDING THE VIOLATION. NO RELEASE RATES WERE VIOLATED.

[95] MAINE YANKEE DOCKET 50-309 LER 84-009
 ERRONEOUS STARTUP RATE TRIPS REACTOR.
 EVENT DATE: 062284 REPORT DATE: 072684 NSSS: CE TYPE: PWR
 VENDOR: ELECTRO - MOTIVE DIV. OF GM

(NSIC 190998) THIS LER DESCRIBES 2 UNSCHEDULED REACTOR TRIPS ON JUN 22, 1984. WHILE PERFORMING A REACTOR STARTUP WITH 1 REACTOR PROTECTIVE SYSTEM HIGH RATE OF CHANGE OF POWER CHANNEL IN TRIP, A NOISE SPIKE IN ANOTHER CHANNEL PROVIDED THE REQUIRED 2 OUT OF 4 COINCIDENCE AND TRIPPED THE REACTOR. PRIOR TO COMPLETION OF THE REQUIRED POST TRIP REVIEW, THE REACTOR OPERATOR (RO) BEGAN A REACTOR RESTART BY WITHDRAWING THE FIRST SHUTDOWN GROUP OF CONTROL ELEMENT ASSEMBLIES (CEAS). AFTER BEING INFORMED THAT POST TRIP REVIEW WAS NOT YET COMPLETE AS REQUIRED PRIOR TO STARTUP, THE RO UNSUCCESSFULLY ATTEMPTED TO DRIVE IN THE SINGLE WITHDRAWN SHUTDOWN CEA GROUP. THE CEA GROUP WAS MANUALLY TRIPPED.

[96] MCGUIRE 1 DOCKET 50-369 LER 84-021
 INADVERTENT ACTUATION OF REACTOR TRIP BREAKER.
 EVENT DATE: 070284 REPORT DATE: 080784 NSSS: WE TYPE: PWR

(NSIC 191022) ON JUL 2, 1984, AT 1430 HRS, THE REACTOR TRIP BREAKER OF TRAIN A (RTB-A) WAS INADVERTENTLY OPENED DURING TESTING. THE TRAIN HAD BEEN DECLARED INOPERABLE FOR THE TESTING AND BYPASS BREAKER A OF THE SOLID STATE PROTECTION SYSTEM (BYB-A) HAD BEEN CLOSED; THEREFORE THE UNIT WHICH WAS OPERATING AT 100% POWER DID NOT TRIP. THE CAUSE OF THE EVENT WAS TWOFOLD: 1) AN INSTRUMENTATION AND ELECTRICAL (IAE) SPECIALIST MISREAD A PROCEDURE, AND 2) THE PROCEDURE WAS DEFICIENT IN THAT IT USED MANY 'NOTES' AND 'CAUTIONS' WHICH MAY REQUIRE ACTIONS TO BE TAKEN. THE PROCEDURE HAS BEEN REWRITTEN, AND ALL IAE PERSONNEL HAVE REVIEWED THE INCIDENT.

[97] MCGUIRE 2 DOCKET 50-370 LER 84-015
 MAINTENANCE ERROR CAUSES INADVERTENT CLOSURE OF MSIV.
 EVENT DATE: 070384 REPORT DATE: 080284 NSSS: WE TYPE: PWR

(NSIC 191072) IN THE PERFORMANCE OF A QUARTERLY TEST, A TEST INDICATOR LAMP ON A MAIN STEAM ISOLATION VALVE (MSIV) FAILED TO LIGHT. WHILE TROUBLESHOOTING THIS PROBLEM, A TECHNICIAN ERRONEOUSLY LIFTED A LEAD IN THE NORMAL CURRENT PATH FOR THE SOLENOID VALVE WHICH CONTROLS THE MSIV. THE SOLENOID DEENERGIZED, CAUSING THE MSIV TO CLOSE. THE UNIT 2 TRIPPED FROM 100% POWER ON LO-LO LEVEL IN SG 'C'. THE RESULTANT TRANSIENT BEHAVED AS EXPECTED, WITH REACTOR COOLANT TEMPERATURE STABILIZING AFTER ABOUT 15 MINS. WITH THE SG 'C' PORV'S UNAVAILABLE AS A RESULT OF THE TEST, TWO SG CODE SAFETY VALVES LIFTED BRIEFLY. AS SG LEVELS DROPPED, ALL 3 AUXILIARY FEEDWATER PUMPS STARTED. MAIN FEEDWATER (MPW) WAS ISOLATED AND THE MPW PUMPS TRIPPED. ALL INSTRUMENTATION PERSONNEL HAVE REVIEWED THIS EVENT.

[98] MCGUIRE 2 DOCKET 50-370 LER 84-016
 REACTOR TRIP DURING TEST OF REACTOR TRIP BYPASS BREAKERS.
 EVENT DATE: 071984 REPORT DATE: 082084 NSSS: WE TYPE: PWR

(NSIC 191168) ON 7-19-84, A REACTOR TRIP OCCURRED ON UNIT 2 WHEN, DURING TESTING, A REACTOR TRIP BREAKER (RTB) WAS OPENED FROM THE CONTROL ROOM RATHER THAN FROM THE BREAKER CABINET WHERE THE TESTING WAS TAKING PLACE. THE CAUSE OF THE TRIP IS ATTRIBUTED TO A DEFICIENCY IN THE PROCEDURE BY WHICH THE TESTING IS PERFORMED, IN THAT FOR THOSE INSTANCES WHEN ONLY THE BYPASS BREAKERS ARE TO BE TESTED (AS WAS THE CASE IN THIS EVENT), SEVERAL PROCEDURE STEPS ARE OMITTED. THE STEPS WHICH WERE OMITTED CONTAINED NECESSARY CLARIFYING INFORMATION WHICH WOULD HAVE PREVENTED THE ERROR. ALL REACTOR SYSTEMS OPERATED AS DESIGNED, AND THE TRANSIENT BEHAVED AS EXPECTED. NO SAFETY VALVES OR PORVS LIFTED AND THERE WAS NO SAFETY INJECTION. THE RTB TEST PROCEDURE WILL BE REWRITTEN FOR CLARIFICATION AND THE APPROPRIATE PERSONNEL HAVE REVIEWED THE EVENT.

[99] MILLSTONE 1 DOCKET 50-245 LER 84-014
 ISOLATION CONDENSER PRIMARY CONTAINMENT ISOLATION VALVE FAILURE.
 EVENT DATE: 070984 REPORT DATE: 072784 NSSS: GE TYPE: BWR
 VENDOR: TELEDYNE CORP.

(NSIC 190978) ON JUL 9, 1984, AT 1315 HRS, WHILE RESTORING THE ISOLATION CONDENSER VALVE LINEUP FOLLOWING AN ISOLATION CONDENSER FUNCTIONAL AND CALIBRATION TEST, THE ISOLATION CONDENSER CONTAINMENT ISOLATION VALVE MOTOR OVERLOAD AND 125V DC GROUND ALARM ANNUNCIATED IN THE CONTROL ROOM. OPERATIONS IMMEDIATELY ASCERTAINED 1-IC-3 (THE OUTBOARD CONDENSATE RETURN VALVE) TO BE INOPERATIVE AND PLACED 1-IC-4 (THE REDUNDANT ISOLATION VALVE FOR 1-IC-3) IN THE CLOSED POSITION. THE ISOLATION CONDENSER WAS DECLARED INOPERABLE AND AN INVESTIGATION INITIATED. INSPECTION OF 1-IC-3 REVEALED AN OUT OF ADJUSTMENT LIMIT SWITCH CAUSED THE MOTOR TO CONTINUE TO RUN BEYOND THE FULL CLOSED POSITION AND OVERHEAT. THIS DAMAGED THE MOTOR EXTENSIVELY AND SUBSEQUENTLY FAILED 1-IC-3 IN THE FULL CLOSED POSITION. THE MOTOR/CIRCUIT BREAKER FOR 1-IC-3 WAS REPLACED AND ALL LIMIT SWITCHES AND POSITION SWITCHES READJUSTED. THE VALVE WAS SATISFACTORILY RETESTED AND THE ISOLATION CONDENSER PLACED BACK INTO SERVICE.

[100] MILLSTONE 1 DOCKET 50-245 LER 84-018
 ISOLATION CONDENSER CONTAINMENT ISOLATION VALVE FAILS.
 EVENT DATE: 080384 REPORT DATE: 083184 NSSS: GE TYPE: BWR
 VENDOR: TELEDYNE CORP.

(NSIC 191140) ON 8-3-84, AT 0156 HRS, WHILE STROKING 1-IC-3 (THE OUTBOARD ISOLATION CONDENSER CONDENSATE RETURN VALVE) FOR THE CONTAINMENT ISOLATION VALVE OPERABILITY TEST, OPERATION OF 1-IC-3 BECAME ERRATIC. SUBSEQUENTLY THE MOTOR

OVERLOADED AND THE CIRCUIT BREAKER BEGAN TO SMOKE. THE CIRCUIT BREAKER WAS IMMEDIATELY OPENED AND A FIRE WATCH ESTABLISHED. 1-IC-4 (THE REDUNDANT ISOLATION VALVE FOR 1-IC-3) WAS PLACED IN THE CLOSED POSITION AND THE ISOLATION CONDENSER DECLARED INOPERABLE. INVESTIGATION REVEALED AN OUT OF ADJUSTMENT LIMIT SWITCH CAUSED THE MOTOR TO CONTINUE TO RUN BEYOND THE FULL CLOSED POSITION AND OVERHEAT. THIS DAMAGED THE MOTOR EXTENSIVELY AND SUBSEQUENTLY FAILED THE VALVE IN THE FULL CLOSED POSITION. THE MOTOR/CIRCUIT BREAKER FOR 1-IC-3 WAS REPLACED AND ALL LIMIT SWITCHES AND POSITION SWITCHES READJUSTED. THE VALVE WAS SATISFACTORILY RETESTED AND THE ISOLATION CONDENSER PLACED BACK INTO SERVICE. A PROJECT ASSIGNMENT HAS BEEN GENERATED TO REVIEW THE DESIGN OF THIS VALVE TO ITS PRESENT APPLICATION AND TO REPLACE THE MOTOR OPERATOR AND VALVE AS DEEMED NECESSARY.

[101] MILLSTONE 2 DOCKET 50-336 LER 84-009
 FIRE BARRIER VIOLATION.
 EVENT DATE: 070384 REPORT DATE: 073084 NSSS: CE TYPE: PWR

(NSIC 191009) DURING A WALK-THROUGH FIRE INSPECTION ON JUL 3, 1984 AT 1400 HRS, WHILE THE PLANT WAS AT 75% POWER IT WAS DISCOVERED THAT THE DOOR BETWEEN THE EAST AND WEST 480 VOLT SWITCHGEAR ROOMS DID NOT HAVE THE REQUIRED FIRE RATING. IMMEDIATELY AFTER THE FINDING A CONTINUOUS FIRE WATCH WAS ESTABLISHED IN ACCORDANCE WITH TECH SPEC SECTION 3.7.10, ACTION A. SUBSEQUENT TO POSTING THE FIRE WATCH, AN ENGINEERING REVIEW DETERMINED THE DOOR AS IS, MINUS A U-L RATING, CONSTITUTED A TEMPORARY FIRE BARRIER OF EQUAL EFFECTIVENESS AND THAT A FIRE WATCH WAS NOT REQUIRED. FOR THE COMPLETE ENGINEERING REVIEW PLEASE SEE THE TEXT. CORRECTIVE ACTION TAKEN WAS REPLACEMENT OF THE DOOR WITH A U-L RATED 3 HR FIRE DOOR. TO PREVENT A RECURRENCE, ENGINEERING PERSONNEL HAVE BEEN REMINDED THAT ALL PLANNED CHANGES IN FIRE BARRIERS MUST HAVE A FIRE PROTECTION ENGINEERING REVIEW, BEFORE MAKING THE CHANGES.

[102] MONTICELLO DOCKET 50-263 LER 84-024
 REACTOR BUILDING ISOLATION BY WIDE RANGE GAS MONITOR'S POWER LOSS.
 EVENT DATE: 062784 REPORT DATE: 072784 NSSS: GE TYPE: BWR

(NSIC 190987) .E CHANNEL A REACTOR BLDG VENT WIDE RANGE GAS MONITOR ISOLATED THE REACTOR BLDG VENTILATION AND STARTED THE STANDBY GAS TREATMENT SYSTEM WHEN THE MAIN POWER TO THE MONITOR WAS MISTAKENLY TURNED OFF. POWER WAS RESTORED AND TRIPS WERE SUBSEQUENTLY RESET. THE MAIN POWER SWITCH WAS RELABELLED TO CLARIFY ITS PURPOSE.

[103] NINE MILE POINT 1 DOCKET 50-220 LER 84-011
 REACTOR SCRAM WHEN MODE SWITCH WAS PUT IN SHUTDOWN.
 EVENT DATE: 060384 REPORT DATE: 070384 NSSS: GE TYPE: BWR

(NSIC 190977) ON JUN 3, 1984, DURING A REFUELING OUTAGE, A REACTOR SCRAM OCCURRED WHEN THE REACTOR MODE SWITCH WAS CHANGED FROM THE 'REFUEL' POSITION TO THE 'SHUTDOWN' POSITION. REACTOR PROTECTION SYSTEM (RPS) CHANNEL 12 WAS IN A MANUAL TRIP CONDITION AT THE TIME DUE TO MAIN STEAM LINE RADIATION MONITOR CABLE MODIFICATION. THE MANUAL SCRAM SIGNAL WHICH IS DESIGNED TO OCCUR WHEN THE MODE SWITCH IS MOVED TO 'SHUTDOWN' WAS JUMPERED ON EACH CHANNEL OF THE REACTOR PROTECTION SYSTEM. AN IMPROPER CONNECTION ON THE RPS CHANNEL 11 JUMPER ALLOWED RPS CHANNEL 11 TO TRIP AND INITIATE A REACTOR SCRAM SIGNAL WHEN THE REACTOR MODE SWITCH WAS CHANGED FROM THE 'REFUEL' POSITION TO THE 'SHUTDOWN' POSITION. SINCE RPS CHANNEL 12 WAS ALREADY IN A TRIPPED STATE, A FULL REACTOR SCRAM RESULTED. THE RPS CHANNEL 11 JUMPER WAS REMOVED AND CHECKED FOR CONTINUITY AND FOUND TO BE SATISFACTORY. THE SCRAM SIGNAL WAS RESET SHORTLY AFTER THE INCIDENT OCCURRED. THE JUMPER WAS RECONNECTED TO RPS CHANNEL 11 ON JUN 4, 1984. THE REACTOR MODE SWITCH WAS THEN CHANGED FROM THE 'REFUEL' POSITION TO THE 'SHUTDOWN' POSITION WITHOUT THE INITIATION OF A REACTOR SCRAM.

[104] NINE MILE POINT 1 DOCKET 50-220 LER 84-009
 BOTH FUEL ZONE WATER LEVEL MONITORING CHANNELS INOPERABLE.
 EVENT DATE: 071384 REPORT DATE: 081384 NSSS: GE TYPE: BWR

(NSIC 191040) DURING NORMAL OPERATIONS ON 7/13/84, AT APPROX 0750 HRS, THERE WAS A SHORT LOSS OF THE PLANT PROCESS COMPUTER. WHEN THE COMPUTER WENT DOWN, IT CAUSED EACH ACUREX CHANNEL TO BECOME INOPERABLE. EACH CHANNEL WAS DISCONNECTED FROM THE COMPUTER, AND MANUALLY RESTORED TO AN OPERABLE STATUS APPROX 15 MINS AFTER THE EVENT OCCURRED. SOFTWARE CHANGES HAVE BEEN IMPLEMENTED TO PREVENT THIS TYPE OF EVENT FROM RECURRING.

[105] NORTH ANNA 1 DOCKET 50-338 LER 81-063 REV 2
 UPDATE ON REACTOR TRIP BREAKER FAILS TO OPEN DURING TESTS.
 EVENT DATE: 080881 REPORT DATE: 041884 NSSS: WE TYPE: PWR
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 190966) ON 8-8-81, WITH UNIT 1 AT 100% POWER, THE 'B' REACTOR TRIP BREAKER FAILED TO OPEN WHEN A HIGH PRESSURIZER PRESSURE SIGNAL WAS SIMULATED. THE 'A' REACTOR TRIP BREAKER WAS AVAILABLE IN THE EVENT OF AN AUTOMATIC REACTOR TRIP. THIS IS REPORTABLE PER TECH SPEC 3.3.1.1 AND 6.9.1.9.B. A METAL LATCH IN THE UNDERVOLTAGE TRIP ATTACHMENT FAILED WHICH PREVENTED THE TRIP SIGNAL FROM OPENING THE 'B' REACTOR TRIP BREAKER. THE MANUAL REACTOR TRIP SWITCHES IN THE CONTROL ROOM AND LOCALLY WERE NOT AFFECTED. THE UNDERVOLTAGE TRIP ATTACHMENT WAS REPLACED AND THE REACTOR TRIP BREAKER RETESTED.

[106] NORTH ANNA 1 DOCKET 50-338 LER 84-005
 IMPROPER ELECTRICAL SEALING OF SOLENOID VALVES.
 EVENT DATE: 020284 REPORT DATE: 050584 NSSS: WE TYPE: PWR
 OTHER UNITS INVOLVED: NORTH ANNA 2 (PWR)
 VENDOR: ASCO VALVES
 VALCOR ENGINEERING CORP.

(NSIC 190558) ON FEB 2, 1984, A QC INSPECTOR DISCOVERED THAT A CONDUIT SEAL, REQUIRED BY VALCOR TO MAINTAIN IEEE-323 QUALIFICATIONS OF THEIR VALCOR SERIES 526 SOLENOID VALVES, HAD NOT BEEN INSTALLED PROPERLY IN AT LEAST ONE CONTAINMENT ISOLATION VALVE. UNIT 1 WAS IN MODE 5 AND UNIT 2 WAS AT 100% POWER WHEN THE DISCOVERY WAS MADE. AN INITIAL INVESTIGATION MADE IN FEB 1984 REVEALED THAT 22 VALCOR VALVES ON EACH UNIT (TOTAL OF 44 VALVES) HAD BEEN INSTALLED UNDER 4 DESIGN CHANGES IN 1981 AND 1982. A SUBSEQUENT INVESTIGATION CONDUCTED IN MAY 1984 REVEALED THAT THE DESIGN CHANGES ALSO SPECIFIED THE SAME CONDUIT SEALING METHOD FOR 16 ASCO SOLENOID VALVE CONTROLLERS. ALL OF THE VALVES ARE ASSOCIATED WITH EITHER THE HYDROGEN CONTROL SYSTEM OR THE POST ACCIDENT SAMPLING SYSTEM. ALL EXCEPT 4 VALVES SERVE AS CONTAINMENT ISOLATION VALVES. ALL 60 VALVES (44 VALCOR AND 16 ASCO SOLENOID VALVES) HAVE BEEN INSPECTED AND RESEALED AS REQUIRED. ALL VALVES ARE OF THE FAIL CLOSED TYPE; THEREFORE, THE RELIABILITY OF CONTAINMENT ISOLATION SYSTEM WAS NOT AFFECTED. THE RELIABILITY OF BOTH THE POST ACCIDENT SAMPLING SYSTEM AND HYDROGEN CONTROL SYSTEM MAY HAVE BEEN REDUCED BY THIS EVENT. SIX VALCOR VALVE FAILURES HAVE BEEN ATTRIBUTED TO MOISTURE INTRUSION. THIS EVENT IS BEING REPORTED AT THE REQUEST OF REGION II.

[107] PALISADES DOCKET 50-255 LER 84-008
 PERSONNEL AIRLOCK LEAKS.
 EVENT DATE: 062884 REPORT DATE: 072684 NSSS: CE TYPE: PWR
 VENDOR: WOOLLEY, W. J. COMPANY

(NSIC 190983) WITH THE PLANT AT SHUTDOWN BORON CONCENTRATION AND BEING MAINTAINED AT 250 F, LEAK RATE TESTING OF THE PERSONNEL AIR LOCK DOOR SEALS YIELDED UNACCEPTABLE RESULTS. THE LEAK RATE VALUE, WHEN ADDED TO THE TOTAL LEAKAGE FROM

ALL CONTAINMENT PENETRATIONS, EXCEEDED THE ALLOWABLE LEAKAGE, LA. ADJUSTMENTS WERE SUBSEQUENTLY COMPLETED ON THE SEALS, RESULTING IN ACCEPTABLE LEAKAGE VALUES. DUE TO A CALCULATION ERROR, THE OCCURRENCE WAS NOT DISCOVERED UNTIL JULY 10, 1984.

[108] PALISADES DOCKET 50-255 LER 84-010
THERMAL DEGRADATION OF CABLE INSULATION.
EVENT DATE: 070384 REPORT DATE: 081384 NSSS: CE TYPE: PWR

(NSIC 191045) ON JUL 3, 1984, A SECTION OF CABLE TRAY WHICH WAS ENCLOSED BY A FIRE BARRIER WAS DISCOVERED TO BE EXTREMELY HOT TO THE TOUCH. FURTHER INVESTIGATION OF THE CONDITION REVEALED THAT THE INSULATION ON MANY OF THE CABLES IN THE CABLE TRAY HAD SUSTAINED DAMAGE DUE TO THE EXCESSIVE TEMPERATURES. SUBSEQUENT EVALUATION DETERMINED THE CAUSE TO BE LONG TERM THERMAL DEGRADATION. THE DAMAGED CABLE WAS REMOVED AND REPLACED WITH NEW CABLE. THE FIRE BARRIER WAS REDESIGNED AND RELOCATED ALONG THE CABLE TRAY.

[109] PALISADES DOCKET 50-255 LER 84-009
SPURIOUS SAFETY INJECTION ACTUATION.
EVENT DATE: 070484 REPORT DATE: 080384 NSSS: CE TYPE: PWR

(NSIC 190982) WITH THE PLANT SHUTDOWN ON JUL 4, 1984, AT 0940, MAINTENANCE WORK ACTIVITY ON THE SHUTDOWN SEQUENCERS (EK) RESULTED IN A SPURIOUS LEFT CHANNEL SAFETY INJECTION SIGNAL (SIS) ACTUATION. THE INCIDENT OCCURRED WHILE A TECHNICIAN WAS REMOVING LEADS PER THE APPROVED PROCEDURE FOR THE WORK ACTIVITY. ONE OF THE TERMINALS FOR WHICH A LEAD WAS TO BE REMOVED ALSO CONTAINED AN ADDITIONAL LEAD PROVIDING POWER TO THE LEFT CHANNEL SIS BLOCK RELAY (RLY;JE). THE PROCEDURE WAS INADEQUATE IN THAT IT DID NOT ADDRESS THE ADDITIONAL LEAD, OR THE FACT THAT A LOSS OF CONTACT BETWEEN THE TWO LEADS WOULD RESULT IN POWER INTERRUPTION TO THE LEFT CHANNEL SIS BLOCK CIRCUITRY. WHEN THE LEAD WAS LIFTED, THE RESULTING POWER INTERRUPTION CAUSED THE SIS BLOCK RELAY TO DROP OUT, ALLOWING A PRESENT PCS LOW PRESSURE SIGNAL TO INITIATE A LEFT CHANNEL SIS. THE PROCEDURE WAS REVISED TO PRECLUDE RECURRENCE. THE PERSONNEL WILL BE COUNSELLED REGARDING THE INCIDENT AND ITS CONSEQUENCES. THE INCIDENT WAS QUICKLY TERMINATED BY OPERATIONS PERSONNEL WITH NO ADVERSE CONSEQUENCES. AT POWER OPERATION, THE SIS BLOCK FEATURE WOULD NOT BE IN USE, AND A NORMAL 2 OUT OF 4 LOGIC MUST BE PRESENT FOR AN SIS ACTUATION TO OCCUR.

[110] PALISADES DOCKET 50-255 LER 84-012
PRIMARY COOLANT SYSTEM LEAKAGE GREATER THAN 1 GPM.
EVENT DATE: 072584 REPORT DATE: 082084 NSSS: CE TYPE: PWR

(NSIC 191197) ON JULY 25, 1984, WITH THE PLANT IN HOT STANDBY CONDITION, THE RESULTS OF PRIMARY COOLANT LEAK RATE CALCULATIONS INDICATED UNIDENTIFIED PRIMARY COOLANT SYSTEM (PCS) (AB) LEAKAGE TO BE GREATER THAN 1 GPM. THE LEAK RATE MEASUREMENT WAS TAKEN OVER THE 14 HR TIME PERIOD FROM 2000 ON JULY 24, 1984 TO 1000 ON JULY 25, 1984. SYSTEM WALKDOWNS WERE IMMEDIATELY INITIATED IN AN ATTEMPT TO IDENTIFY THE SOURCE OF THE UNIDENTIFIED LEAKAGE. AN UNUSUAL EVENT WAS DECLARED AT 1035 ON JULY 25, 1984. THE REACTOR (RCT;AB) WAS PLACED IN HOT SHUTDOWN CONDITION AT 1353 ON JULY 25, 1984. INVESTIGATION DETERMINED THE SOURCE OF THE LEAKAGE TO BE PAST LOOP CHECK VALVES (V;BP) CK-3146 AND CK-3116 INTO THE RESPECTIVE SAFETY INJECTION LINES. THE CHECK VALVES WERE FLUSHED TO FACILITATE IMPROVED SEATING. THE PCS LEAK RATE WAS SUBSEQUENTLY VERIFIED TO BE LESS THAN 1 GPM UNIDENTIFIED. THE PLANT SECURED FROM THE UNUSUAL EVENT AT 1730 ON JULY 25, 1984.

[111] PALISADES DOCKET 50-255 LER 84-015
 REACTOR TRIP DUE TO LOSS OF ELECTROHYDRAULIC FLUID PRESSURE.
 EVENT DATE: 080484 REPORT DATE: 083184 NSSS: CE TYPE: PWR
 VENDOR: ALLIS CHALMERS

(NSIC 191142) ON AUG 4, 1984, LOSS OF ELECTROHYDRAULIC CONTROL (EHC) FLUID PRESSURE RESULTED IN A TURBINE TRIP, AND AN AUTOMATIC REACTOR TRIP. THE LOSS OF EHC FLUID PRESSURE ALLOWED ALL MAJOR TURBINE OPERATION VALVES TO CLOSE. SUBSEQUENT INVESTIGATION DETERMINED THAT A FITTING ON THE DISCHARGE LINE FROM EHC PUMP P-19A HAD BACKED COMPLETELY OFF, RESULTING IN A LOSS OF EHC FLUID INVENTORY. THE EHC FLUID WAS PUMPED DIRECTLY OUT OF THE SYSTEM THROUGH THE OPEN DISCHARGE LINE. THE FITTING HAD WORKED LOOSE AS THE RESULT OF EXCESSIVE SYSTEM VIBRATION. A BRACKET WHICH PROVIDES RIGID SUPPORT TO THE DISCHARGE LINE WAS NOTED TO BE MISSING. THE BRACKET HAD BEEN REMOVED DURING THE 1983-1984 REFUELING OUTAGE AND WAS INADVERTENTLY NOT REPLACED DURING SYSTEM REASSEMBLY. THE BRACKET WAS SUBSEQUENTLY REATTACHED IN THE APPROPRIATE LOCATION. THE REACTOR PROTECTION SYSTEM FUNCTIONED AS DESIGNED TO SHUT DOWN THE REACTOR. SAFEGUARDS BUS 1-C DID NOT FAST TRANSFER TO START-UP POWER, BUT WAS PICKED UP BY EMERGENCY DIESEL GENERATOR 1-1. INVESTIGATION REVEALED A BLOWN FUSE IN THE UNDERVOLTAGE FEATURE OF BUS 1-C SUPPLY BREAKER 152-106. THE FUSE WAS SUBSEQUENTLY REPLACED, AND BUS 1-C WAS TRANSFERRED TO START-UP POWER.

[112] PEACH BOTTOM 2 DOCKET 50-277 LER 84-008 REV 1
 UPDATE ON STANDBY GAS TREATMENT DAMPERS FAIL TO OPEN.
 EVENT DATE: 042784 REPORT DATE: 072484 NSSS: GE TYPE: BWR
 VENDOR: ASCO VALVES

(NSIC 190991) ON APR 27, 1984, THE STANDBY GAS TREATMENT (SBGT) SYSTEM WAS MANUALLY STARTED TO DEINERT THE UNIT 2 DRYWELL. SOLENOID VALVE, SV-00009, FAILED TO PROPERLY OPERATE PREVENTING THE 'A' FAN INLET AND OUTLET DAMPERS FROM OPENING. THE FAILED SOLENOID ON THE 'A' FAN WAS REPLACED AND THE SBGT SYSTEM WAS PLACED IN SERVICE TO CONTINUE DEINERTING OPERATIONS.

[113] PEACH BOTTOM 2 DOCKET 50-277 LER 84-011 REV 1
 UPDATE ON ACETYLENE LEAK IN DRYWELL.
 EVENT DATE: 060884 REPORT DATE: 080684 NSSS: GE TYPE: BWR

(NSIC 191203) ON JUNE 8, 1984, DURING THE PRESENT REFUELING OUTAGE CONTRACTOR PERSONNEL WERE PREPARING TO PERFORM PREHEAT FOR WELDING IN THE UNIT 2 DRYWELL. AN ACETYLENE LEAK OCCURRED AT THE POINT WHERE THE HOSE IS CRIMPED ONTO THE STANDARD SCREW CONNECTION AT THE CUTTING TORCH AND RESULTED IN A MEASURED COMBUSTIBLE GAS (ACETYLENE) CONCENTRATION OF 8% LOWER EXPLOSIVE LIMIT (LEL) AND AN OXYGEN DEFICIENT ATMOSPHERE IN THE DRYWELL. ALL PERSONNEL IN THE DRYWELL WERE EVACUATED AND ADDITIONAL VENTILATION WAS UTILIZED TO EXPEL THE ACETYLENE GAS AND RETURN A NORMAL OXYGEN LEVEL TO THE DRYWELL. AS A RESULT OF THIS EVENT, SEVERAL STEPS HAVE BEEN TAKEN REGARDING THE HANDLING OF ACETYLENE IN THE DRYWELL.

[114] PEACH BOTTOM 2 DOCKET 50-277 LER 84-012
 INOPERABLE FIRE DAMPER IN PBAPS CABLE SPREADING ROOM.
 EVENT DATE: 062884 REPORT DATE: 072784 NSSS: GE TYPE: BWR
 VENDOR: AIR BALANCE, INC.

(NSIC 190992) ON JUN 28, 1984, WITH UNIT 2 IN COLD SHUTDOWN FOR REFUELING AND UNIT 3 AT 99% FULL POWER, SURVEILLANCE TESTING DISCOVERED AN INOPERABLE HORIZONTAL FIRE DAMPER IN THE CABLE SPREADING ROOM (CSR). APPLICABLE TECH SPEC IS 3.14.D.1. A CONTINUOUS FIRE WATCH WAS IN PLACE AT THE TIME OF DISCOVERY. THE OTHER SIMILAR HORIZONTAL DAMPERS IN BOTH THE CABLE SPREADING ROOM AND THE CONTROL ROOM WERE SURVEILLANCE TESTED AND FOUND OPERABLE. THE SMOKE DETECTORS IN THE

CABLE SPREADING ROOM ARE OPERABLE AND AN HOURLY FIRE WATCH PATROL WAS INITIATED AND WILL BE MAINTAINED UNTIL A REPLACEMENT DAMPER IS INSTALLED.

[115] PEACH BOTTOM 2 DOCKET 50-277 LER 84-014
 CABLE SPREADING ROOM CARDOX SYSTEM OUT-OF-SERVICE WITHOUT CONTINUOUS FIREWATCH.
 EVENT DATE: 071984 REPORT DATE: 081784 NSSS: GE TYPE: BWR

(NSIC 191204) ON FEB 10, 1984, A CONTINUOUS FIREWATCH WAS NEEDED IN THE CABLE SPREADING ROOM BECAUSE OF SEPARATE TECH SPEC REQUIREMENTS DEALING WITH BOTH A NON-FUNCTIONAL FIRE BARRIER AND AN OUT-OF-SERVICE CARDOX SYSTEM. ON JUN 20, 1984, THE COMMISSION APPROVED A TECH SPEC AMENDMENT WHICH ALLOWED FOR AN HOURLY FIREWATCH INSTEAD OF A CONTINUOUS FIREWATCH IN AREAS WITH NON-FUNCTIONAL FIRE BARRIERS. IN AN EFFORT TO REDUCE THE NUMBER OF PERSONNEL SERVING AS CONTINUOUS FIREWATCHES WITHIN THE PLANT AS A RESULT OF THE ON-GOING SEAL UPGRADE PROGRAM, AN HOURLY FIREWATCH WAS ESTABLISHED IN SEVERAL AREAS INCLUDING THE CABLE SPREADING ROOM ON JUL 1, 1984. AS A RESULT OF A DEFECT IN THE FIREWATCH ACCOUNTING SYSTEM, ON JUL 16, 1984 THE CONTINUOUS FIREWATCH WAS REMOVED FROM THE CABLE SPREADING ROOM WITHOUT REALIZING THAT IT WAS STILL NEEDED DUE TO AN OUT-OF-SERVICE CARDOX SYSTEM. ON JUL 19, 1984, THE CONTINUOUS FIREWATCH WAS RE-ESTABLISHED. THE PROCEDURE WHICH DEALS WITH THE REMOVAL OF FIREWATCHES AND THE FIREWATCH LOG SHEETS WHICH ACCOUNT FOR FIREWATCHES, WILL BE MODIFIED TO PREVENT RECURRENCE.

[116] POINT BEACH 1 DOCKET 50-266 LER 84-003
 REACTOR TRIP ON ERRONEOUS HIGH NEUTRON FLUX.
 EVENT DATE: 072184 REPORT DATE: 082084 NSSS: WE TYPE: PWR

(NSIC 191047) WHILE PERFORMING A PLANT SHUTDOWN, A HIGH NEUTRON FLUX WAS GENERATED BY SOURCE RANGE INSTRUMENTATION, CHANNEL 32, THUS ACTIVATING THE REACTOR PROTECTION SYSTEM. THE CAUSE OF THIS ACTUATION WAS A DETECTOR MALFUNCTION AFTER THE SOURCE RANGE INSTRUMENTS WERE AUTOMATICALLY ENERGIZED WHEN UNBLOCKED. THE REACTOR WAS SUBCRITICAL WHEN THE ACTUATION OCCURRED.

[117] QUAD CITIES 1 DOCKET 50-254 LER 84-014
 TWO LOW PRESSURE COOLANT INJECTION VALVES FAIL TO OPEN.
 EVENT DATE: 080884 REPORT DATE: 081484 NSSS: GE TYPE: BWR

(NSIC 191044) DURING THE CYCLE 7 REFUELING OUTAGE, ON AUG 8, 1984, AT 4:25 PM, IT WAS DISCOVERED THAT BOTH THE 1-1001-29A AND 1-1001-29B LOW PRESSURE COOLANT INJECTION VALVES WOULD NOT OPEN. THIS WAS DISCOVERED AS THE OPERATOR WAS IN THE PROCESS OF STARTING THE SHUTDOWN COOLING MODE OF THE RESIDUAL HEAT REMOVAL SYSTEM. THE CORE SPRAY AND FEEDWATER SYSTEMS WERE AVAILABLE TO MAINTAIN LEVEL. RESIDUAL HEAT REMOVAL COULD BE ACCOMPLISHED USING THE REACTOR WATER CLEAN-UP SYSTEM AND THE RESIDUAL HEAT REMOVAL SYSTEM WITH THE 1-1001-29B VALVE STILL 25% OPEN.

[118] QUAD CITIES 2 DOCKET 50-265 LER 84-008
 HPCI COOLING WATER RETURN VALVE FAILURE.
 EVENT DATE: 070484 REPORT DATE: 072084 NSSS: GE TYPE: BWR
 VENDOR: CRANE COMPANY
 LIMITORQUE CORP.

(NSIC 190988) AT 2330 HRS, AFTER PERFORMING THE HPCI MONTHLY AND QUARTERLY SURVEILLANCES, THE NORMAL HPCI COOLING WATER RETURN VALVE, MO 2-2301-48, COULD NOT BE RE-OPENED FROM THE CONTROL ROOM. HPCI WAS DECLARED INOPERABLE. THE VALVE WAS THEN MANUALLY OPENED AND HPCI WAS DECLARED OPERABLE. THE ELECTRICAL MAINTENANCE DEPARTMENT INVESTIGATED THE FAILURE BUT COULD NOT DUPLICATE THE

PROBLEM. THE VALVE WAS CYCLED SEVERAL TIMES WITHOUT ANY PROBLEMS. THIS EVENT IS CONSIDERED AN ISOLATED OCCURRENCE.

[119] ROBINSON 2 DOCKET 50-261 LER 84-009
CONTAINMENT PRESSURE CHANNELS OUT OF CALIBRATION.
EVENT DATE: 070984 REPORT DATE: 080984 NSSS: WE TYPE: PWR

(NSIC 190986) ON JUL 9, 1984, THE PLANT WAS IN A SHUTDOWN MODE WITH FUEL REMOVED TO THE SPENT FUEL PIT FOR THE SG REPLACEMENT OUTAGE. DURING AN ANNUAL CALIBRATION OF THE CONTAINMENT PRESSURE CHANNELS, A REVIEW OF THE 'AS FOUND' DATA REVEALED A NON-LINER ERROR OVER THE RANGE OF THE INSTRUMENTS. THIS ERROR ON THREE OF THE SIX INSTRUMENTS WAS IN THE NONCONSERVATIVE DIRECTION. THIS TYPE OF ERROR IS INCONSISTENT WITH THE NORMALLY EXPECTED DRIFT OR FAILURE OF THIS PARTICULAR TYPE INSTRUMENT. ALSO, THE REVIEW OF EACH INSTRUMENT HISTORY DID NOT INDICATE ANY PREVIOUS DRIFT PROBLEMS. IT WAS CONCLUDED THAT THE MOST LIKELY CAUSE WAS PERSONNEL ERROR IN THE TEST EQUIPMENT SETUP OR IN THE ACTUAL COLLECTION OF THE 'AS FOUND' DATA.

[120] SALEM 1 DOCKET 50-272 LER 84-018
TESTING ERROR RESULTS IN INADVERTENT SIAS.
EVENT DATE: 071384 REPORT DATE: 081084 NSSS: WE TYPE: PWR
VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 191048) ON JUL 13, 1984, DURING A REFUELING OUTAGE, SOLID STATE PROTECTION SYSTEM MULTIPLEXING TESTING WAS IN PROGRESS. THE PROCEDURE WAS COMPLICATED BY TROUBLESHOOTING PROBLEMS WHEN THE CORRECT COMPUTER OUTPUT FOR "PRESSURIZER PRESSURE SI BLOCK" DID NOT REGISTER ON THE SEQUENCE OF EVENTS PRINTER. UPON RESOLUTION OF THE PROBLEM, TESTING RESUMED. HOWEVER, WHEN THE TESTING PROCEDURE WAS REENTERED, THE STEP FOR POSITIONING THE SOLID STATE PROTECTION SYSTEM MEMORY SWITCH TO THE "OFF" POSITION WAS OMITTED. WHEN THE ERROR WAS DISCOVERED, THE SWITCH WAS RETURNED TO THE "OFF" POSITION BY THE TECHNICIAN IN TRAINING. REPOSITIONING OF THE SWITCH, AT THAT POINT IN THE PROCEDURE, RESULTED IN A FALSE SAFETY INJECTION ACTUATION SIGNAL (SIAS). DUE TO THE UNIT BEING IN MODE 6, ALL EMERGENCY CORE COOLING SYSTEM INJECTION SYSTEMS WERE INOPERABLE, AND THE ACTUATION SIGNAL DID NOT RESULT IN ANY INJECTION INTO THE CORE. ANALYSIS OF THE EVENT INDICATES THAT A SPURIOUS SAFETY INJECTION POSES NO HAZARD TO THE INTEGRITY OF REACTOR COOLANT SYSTEM, EVEN WITH THE UNIT OPERATING AT FULL POWER. THE PERSONNEL INVOLVED WERE COUNSELED; BETTER "TRAINEE" CONTACT WAS EMPHASIZED. IN ADDITION, THE INCIDENT WILL BE DISCUSSED IN DETAIL WITH ALL MEMBERS OF THE RESPONSIBLE DEPARTMENT.

[121] SALEM 1 DOCKET 50-272 LER 84-017
FOREIGN MATERIAL IN CHARGING PUMP SUCTION LINES.
EVENT DATE: 071684 REPORT DATE: 081684 NSSS: WE TYPE: PWR
VENDOR: PACIFIC PUMPS

(NSIC 190989) ON JUL 16, 1984, NO. 12 CHARGING PUMP WAS DISASSEMBLED FOR INSPECTION AND REPAIR, DUE TO SEIZURE OF THE PUMP DURING SURVEILLANCE TESTING ON JUL 13, 1984. A SMALL AMOUNT OF RESIN PARTICLES AND METAL FILINGS WERE DISCOVERED IN THE PUMP CASING. FURTHER INSPECTION REVEALED SIMILAR MATERIAL IN THE SUCTION LINES TO ALL CHARGING PUMPS. BECAUSE OF THE EXTREMELY CLOSE INTERNAL TOLERANCES OF THE CENTRIFUGAL CHARGING PUMPS, IT IS FELT THAT THE METAL FILINGS PROBABLY CAUSED THE SEIZURE OF THE PUMP. IF THIS WAS ACTUALLY THE CAUSE, AND NOT AN ISOLATED CASE OF PUMP FAILURE, IT IS REASONABLE TO ASSUME THAT IF THE REDUNDANT CENTRIFUGAL CHARGING PUMP HAD BEEN OPERATING, IT COULD POSSIBLY HAVE EXPERIENCED A SIMILAR FAILURE. SINCE THIS EVENT COULD BE INTERPRETED AS A CONDITION WHICH ALONE COULD HAVE PREVENTED THE FULFILLMENT OF THE SAFETY FUNCTION OF A SYSTEM TO MITIGATE THE CONSEQUENCES OF AN ACCIDENT, THE OCCURRENCE IS BEING

CONSERVATIVELY REPORTED IN ACCORDANCE WITH 10CFR50.73(A)(2)(V)(D). IT IS FELT THAT THE METAL FILINGS ORIGINATED FROM MAINTENANCE ACTIVITIES, AND WERE ENTRAINED IN THE SPENT FUEL PIT DEMINERALIZER OR THE MIXED RESIN BED DEMINERALIZER. THESE WERE THEN RELEASED (ALONG WITH RESIN PARTICLES) DURING PREVIOUS RESIN FLUSHING OPERATIONS. AN INVESTIGATION IS CONTINUING, AND A SUPPLEMENTAL REPORT WILL BE ISSUED, IDENTIFYING THE CAUSE AND CORRECTIVE ACTIONS TAKEN.

[122] SALEM 2 DOCKET 50-311 LER 84-010
 REACTOR TRIPS TWICE FROM HIGH STEAM GENERATOR LEVEL.
 EVENT DATE: 042384 REPORT DATE: 052384 NSSS: WE TYPE: PWR
 VENDOR: BAILEY INSTRUMENT CO., INC.

(NSIC 190999) ON APR 23, 1984, A TURBINE TRIP AND REACTOR TRIP OCCURRED DURING UNIT STARTUP OPERATIONS, DUE TO HIGH-HIGH LEVEL IN NO. 23 SG. THE EVENT WAS ATTRIBUTED TO SLUGGISH RESPONSE OF THE FEEDWATER LEVEL CONTROL SYSTEM DURING LOW POWER OPERATION, WITH MINOR BINDING OF THE FEEDWATER CONTROL VALVE BYPASS VALVE SUSPECTED OF CONTRIBUTING TO THE MAGNITUDE OF SG LEVEL SWING. THE VALVE WAS REPAIRED AND A FALSE LOAD WAS ESTABLISHED WITH THE MAIN STEAM ATMOSPHERIC VENTS DURING THE SUBSEQUENT STARTUP. ON APR 27, A SIMILAR EVENT OCCURRED. BECAUSE THE PREVIOUS CORRECTIVE ACTIONS HAD FAILED TO REMEDY NO. 23 SG LEVEL INSTABILITY PROBLEM, THE ENTIRE FEEDWATER LEVEL CONTROL SYSTEM WAS EXTENSIVELY TESTED. THE SYSTEM WAS INSTRUMENTED IN ORDER TO CONTINUE THE TESTING AT LOW POWER WITH THE TURBINE NOT LATCHED. DURING THIS TESTING, ON APR 28, NO. 23 SG FEEDWATER FLOW INDICATION FAILED TO RESPOND. THE FEEDWATER FLOW CHANNELS WERE DECLARED INOPERABLE, AND A UNIT SHUTDOWN WAS PERFORMED. RADIOGRAPHY REVEALED THAT THE FEEDWATER FLOW NOZZLE HAD MOVED FROM ITS DESIGNED LOCATION. THIS APPARENTLY OCCURRED AS A RESULT OF A FEEDWATER WATER HAMMER INCIDENT WHICH OCCURRED ON APR 6, 1984. THE FEEDWATER FLOW NOZZLE WAS REPLACED, AND ALL SYSTEMS PERFORMED AS DESIGNED DURING THE SUBSEQUENT STARTUP ON MAY 5, 1984.

[123] SALEM 2 DOCKET 50-311 LER 84-016
 CONTROLLED SHUTDOWN DUE TO CHARGING LINE LEAK.
 EVENT DATE: 070584 REPORT DATE: 080384 NSSS: WE TYPE: PWR

(NSIC 191000) ON JULY 5, 1984, DURING ROUTINE POWER OPERATION, A LEAK WAS DISCOVERED ON THE COMMON SUCTION LINE TO THE CHARGING PUMPS. A UNIT SHUTDOWN WAS INITIATED, DUE TO THE QUESTIONABLE OPERABILITY OF ALL CHARGING PUMPS AND BOTH EMERGENCY CORE COOLING SYSTEM SUBSYSTEMS. THE NRC WAS NOTIFIED OF THE COMMENCEMENT OF THE UNIT SHUTDOWN. INVESTIGATION REVEALED A CRACK IN THE SCHEDULE 10 SUCTION HEADER PIPING, OF 3" IN LENGTH, AND ORIGINATING IN THE TOE OF THE WELD WHERE VENT VALVE 2CV372 PIPING IS ATTACHED TO THE MAIN SUCTION HEADER. INDEPENDENT LAB TESTS SHOWED THAT THIS WAS AN OUTSIDE DIAMETER TO INSIDE DIAMETER FATIGUE FAILURE, ATTRIBUTED TO NORMAL SYSTEM VIBRATION OF THE VENT VALVE PIPING. THE AFFECTED PIPING WAS REPLACED, AND THE WELD AREAS OF 33 VENT AND DRAIN CONNECTIONS WERE INSPECTED, PRIOR TO AUTHORIZING A UNIT STARTUP. DESIGN CHANGE REQUESTS HAVE BEEN ISSUED, WHICH WILL REDUCE THE LENGTH OF CERTAIN CHARGING SYSTEM VENT AND DRAIN VALVE PIPING, REDUCING THE MOMENT ARM AND THE STRESS ON THE WELD AREA CAUSED BY VIBRATION. DUE TO THE COMPLETION OF A SHUTDOWN WHICH IS REQUIRED BY TECH SPECS, THIS EVENT IS REPORTABLE PER 10CFR50.73(1)(2)(I)(A).

[124] SAN ONOFRE 1 DOCKET 50-206 LER 84-008
 INTAKE STRUCTURE REINFORCING STEEL CORROSION.
 EVENT DATE: 073084 REPORT DATE: 090584 NSSS: WE TYPE: PWR

(NSIC 191191) ON JULY 30, 1984, AT 1629 WILCOX UNIT 1 IN AN EXTENDED MODE 5 OUTAGE, THE OBSERVED CORROSION OF THE STRUCTURE'S REINFORCING STEEL RAISED CONCERNS THAT THE STRUCTURE MAY NOT BE ABLE TO MEET SEISMIC DESIGN CRITERIA. THE FINAL SAFETY ANALYSIS REPORT (FSAR), SECTION 9.2.3 CLASSIFIES THE INTAKE STRUCTURE AS SEISMIC

[127] SAN ONOFRE 2 DOCKET 50-361 LER 84-035
 CONTAINMENT PURGE ISOLATION SYSTEM ACTUATION.
 EVENT DATE: 062584 REPORT DATE: 072584 NSSS: CE TYPE: PWR

(NSIC 191014) ON JUN 25, 1984, AT 1318, WITH UNIT 2 IN MODE 5 AND A MAIN PURGE IN PROGRESS, THE CONTAINMENT AREA RADIATION MONITOR 2RE-7804 (EIIIS IDENTIFIER RT) REACHED ITS ALARM SETPOINT AND INITIATED THE TRAIN 'A' CONTAINMENT PURGE ISOLATION SYSTEM (CPIS) (EIIIS IDENTIFIER VA) DUE TO A BRIEF INCREASE IN AIRBORNE ACTIVITY FOLLOWING REMOVAL OF THE STEAM GENERATOR (EIIIS IDENTIFIER SG) PRIMARY MANWAY DIAPHRAGM FOR TUBE LEAK REPAIR WORK. ALL CPIS ACTUATED COMPONENTS FUNCTIONED PROPERLY. AT 1349, A NEW SETPOINT WAS INSTALLED BASED ON A NEW RELEASE PERMIT AND CONTAINMENT NORMAL PURGE WAS REESTABLISHED. OUR INVESTIGATION IS CONTINUING TO ASSESS THIS EVENT UNDER ALTERNATIVE CONDITIONS AND TO IDENTIFY APPROPRIATE CORRECTIVE ACTIONS. THE RESULTS OF OUR INVESTIGATION WILL BE REPORTED IN A REVISION TO THIS LER BY SEPT 7, 1984.

[128] SAN ONOFRE 2 DOCKET 50-361 LER 84-037
 SPURIOUS TOXIC GAS ISOLATION SYSTEM (TGIS) ACTUATIONS.
 EVENT DATE: 062784 REPORT DATE: 072784 NSSS: CE TYPE: PWR

(NSIC 191015) ON JUN 27, 1984, AT 0545, WITH UNITS 2 AND 3 IN MODE 5, A SPURIOUS TOXIC GAS ISOLATION SYSTEM (TGIS) ACTUATION OCCURRED. SUBSEQUENT TO THIS DATE, ADDITIONAL SPURIOUS ACTUATIONS OCCURRED ON JUN 30, JUL 3, 5, 7, 8, AND 9. THE CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM (CREACUS) ACTUATED ON EACH TGIS. FOR EACH OCCURRENCE, THE ACTUATION WAS VERIFIED TO BE SPURIOUS BY CONFIRMING THAT THE METER INDICATIONS ON THE TGIS PANEL WERE LESS THAN THEIR RESPECTIVE SETPOINTS, AND TGIS WAS IMMEDIATELY RESET. SEE ALSO LERS 84-006, 012, 021, 026, AND 032 (DOCKET NO. 50-361). THE SPURIOUS TGIS ACTUATIONS ARE THE RESULT OF OVERLY CONSERVATIVE ALARM SETPOINTS. IN ADDITION, ONE OR MORE OF THE FOLLOWING CONDITIONS ALSO CONTRIBUTE TO SPURIOUS TGIS ACTUATIONS: ELECTRICAL NOISE; RAPID TEMPERATURE AND PRESSURE CHANGES; RADIO TRANSMISSIONS; VIBRATION; AND DUST AND DIRT ACCUMULATION. CORRECTIVE ACTIONS HAVE BEEN IMPLEMENTED AND ARE CONTINUING IN ORDER TO ELIMINATE THESE CONDITIONS. A PROPOSED TECH SPEC AMENDMENT WAS SUBMITTED APR 27, 1984, REQUESTING MORE APPROPRIATE TGIS SETPOINTS. IN ADDITION, A REQUEST FOR EXEMPTION FROM REPORTING SPURIOUS ACTUATIONS OF THE TGIS UNDER 10 CFR 50.72 AND 10 CFR 50.73 IS BEING PREPARED.

[129] SAN ONOFRE 2 DOCKET 50-361 LER 84-038
 SPURIOUS ISOLATIONS OF CONTROL ROOM HVAC.
 EVENT DATE: 070884 REPORT DATE: 080284 NSSS: CE TYPE: PWR

(NSIC 191069) ON JUL 8, 1984, AT 1039 AND 1043, WITH UNIT 2 IN MODE 5 AND UNIT 3 IN MODE 1 AT 32% POWER, THE CONTROL ROOM ISOLATION SYSTEM (CRIS) (EIIIS SYSTEM CODE VA) TRAIN 'A' WAS SPURIOUSLY ACTUATED FROM AN APPARENT NOISE SPIKE ON CONTROL ROOM AIRBORNE RADIATION MONITOR 2/3RE-7824 (EIIIS COMPONENT CODE RIT). ON JUL 23, 1984, AT 1507, AND JUL 26, 1984, AT 0053, THE CRIS TRAIN 'A' WAS AGAIN SPURIOUSLY ACTUATED FROM NOISE SPIKES ON MONITOR 2/3RE-7824. IN EACH INSTANCE, THE CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM (CREACUS) (EIIIS SYSTEM CODE VI) ACTUATED AS REQUIRED. THE ACTUATIONS WERE CONFIRMED TO BE SPURIOUS. OPERATORS USED REDUNDANT CONTROL ROOM AIRBORNE RADIATION MONITOR 2/3RE-7825 AND AIR GRAB SAMPLES TO VERIFY THAT ACTUAL CONTROL ROOM RADIATION LEVELS WERE BELOW THE CRIS ACTUATION SETPOINTS BEFORE RESETTING THE CRIS AND SECURING THE CREACUS. THE CAUSE WAS ELECTRICAL NOISE SPIKES OF UNKNOWN ORIGIN. AS PREVIOUSLY REPORTED IN LER 84-023 (DOCKET NO. 50-361), AN ENGINEERING EVALUATION IS BEING PERFORMED TO DETERMINE THE CAUSE OF THESE SPIKES. THE RESULTS OF THE EVALUATION AND ANY PLANNED CORRECTIVE ACTION WILL BE REPORTED IN A REV TO LER 84-023.

[130] SAN ONOFRE 2 DOCKET 50-361 LER 84-039
 MISSED IN-SERVICE INSPECTION TEST ON SHUTDOWN COOLING HEAT EXCHANGER VALVES.
 EVENT DATE: 071284 REPORT DATE: 081384 NSSS: CE TYPE: PWR

(NSIC 191070) ON 7/12/84, WITH UNIT 2 IN MODE 4 AND UNIT 3 IN MODE 1 AT 75% POWER, IT WAS DETERMINED THAT THE IN-SERVICE INSPECTION TEST (IST) OF THE UNIT 2 AND 3 COMPONENT COOLING WATER OUTLET VALVES (HV-6500 AND HV-6501) FROM THE SHUTDOWN COOLING HEAT EXCHANGERS WAS MISSED. TECH SPEC 4.0.5 REQUIRES TESTING PURSUANT TO ASME BOILER AND PRESSURE VESSEL CODE, SECTION XI, WHICH RESULTS IN TESTING THESE VALVES EVERY COLD SHUTDOWN, BUT NOT MORE FREQUENTLY THAN EVERY 92 DAYS. UPON PERFORMING THE REQUIRED IST, THESE VALVES WERE DEMONSTRATED TO HAVE BEEN OPERABLE. THE VALVES HAD PREVIOUSLY TESTED SATISFACTORILY ON 10/19/83 AND 12/29/83 FOR UNITS 2 AND 3, RESPECTIVELY. THE CAUSE WAS ADMINISTRATIVE OVERSIGHT, IN THAT IST REQUIREMENTS FOR HV-6500 AND HV-6501 WERE NOT PROPERLY TRANSFERRED FROM OPERATING INSTRUCTIONS S02(3)-3-3.30 TO S02(3)-3-3.31, AS INTENDED. AS CORRECTIVE ACTIONS, THESE VALVES HAVE BEEN INCLUDED IN S02(3)-3-3.31 AND ALL PROCEDURAL CONTROLS FOR VALVE IST HAVE BEEN VALIDATED. SINCE TESTING OF THESE VALVES CONFIRMED THEIR OPERABILITY, THERE ARE NO REASONABLE OR CREDIBLE ALTERNATIVE CONDITIONS UNDER WHICH THIS EVENT WOULD HAVE BEEN MORE SEVERE.

[131] SAN ONOFRE 2 DOCKET 50-361 LER 84-040
 INADVERTENT ACTUATION OF MAIN STEAM ISOLATION SYSTEM.
 EVENT DATE: 072384 REPORT DATE: 082284 NSSS: CE TYPE: PWR

(NSIC 191162) ON 7-23-84, AT 1335 WITH UNIT 2 IN MODE 4, WHILE REMOVING THE PLANT PROTECTION SYSTEM (PPS) SIGNAL SIMULATORS, A MAIN STEAM ISOLATION SYSTEM (MSIS) WAS INADVERTENTLY ACTUATED. THE TECHNICIAN IMMEDIATELY PLACED THE ACTUATING CHANNEL OF THE PPS IN BYPASS WHICH REMOVED THE MSIS ACTUATION SIGNAL. THIS INADVERTENT ACTUATION WAS DUE TO TECHNICIAN ERROR AND WEAKNESS WITH PROCEDURAL PRECAUTIONS. AS CORRECTIVE ACTIONS, PROCEDURE S023-II-1.6 HAS BEEN AMENDED TO INCLUDE PRECAUTIONS ENSURING VERIFICATION THAT NO TRIPS EXIST AFTER REMOVAL OF EACH SIMULATOR. THE PROCEDURE WILL BE FURTHER ENHANCED TO INCLUDE EXPLICIT INSTRUCTIONS FOR PERFORMING THE INTENDED ACTIVITIES. ADDITIONALLY, THE I&C PROCEDURE PROGRAM HAS BEEN SURVEYED TO ASSURE THERE ARE NO SIMILAR PLANT EVOLUTIONS AND PROCEDURES WITH RELATED WEAKNESSES. ALL OPERATING PROCEDURES INITIATING THE INSTALLATION OF SIGNAL SIMULATIONS AND THEIR SUBSEQUENT REMOVAL WILL BE REVIEWED AND MODIFIED AS REQUIRED. SINCE THIS PROCEDURE IS IMPLEMENTED DURING MODE 3 THROUGH 6 ONLY, THERE IS NO REASONABLE OR CREDIBLE ALTERNATIVE CONDITION UNDER WHICH THIS EVENT WOULD HAVE BEEN MORE SEVERE.

[132] SAN ONOFRE 2 DOCKET 50-361 LER 84-041
 FIRE PROTECTION PROGRAM DISCREPANCIES.
 EVENT DATE: 072484 REPORT DATE: 072584 NSSS: CE TYPE: PWR

(NSIC 191016) AS REPORTED ON JULY 24, 1984, PURSUANT TO LICENSE CONDITION 2.G, OUT REVIEW ASSOCIATED WITH THE UPDATED FIRE HAZARDS ANALYSIS (FHA) RESULTED IN THE ISSUANCE OF TWO NONCONFORMANCE REPORTS (NCRS) IDENTIFYING DISCREPANCIES INVOLVING CABLE SEPARATION AND FIRE WRAPS. THE CONDITIONS IDENTIFIED IN THESE TWO NCRS CONSTITUTE ADDITIONAL EXAMPLES OF DEFICIENCIES REPORTED PREVIOUSLY IN LERS 84-001, 84-015, 84-024, AND 84-030. CORRECTIVE ACTIONS DESCRIBED IN LER 84-024 WILL BE IMPLEMENTED. COMPENSATORY FIRE WATCHES HAVE BEEN ESTABLISHED IN THE AFFECTED AREAS. THIS REPORT IS ALSO SUBMITTED TO FULFILL THE REQUIREMENTS OF LICENSE CONDITION 2.G RELATING TO LICENSE CONDITION 2.C(14)A AND 2.C(12)A OF OPERATING LICENSES NPF-10 AND NPF-15 FOR UNITS 2 AND 3, RESPECTIVELY.

[133] SAN ONOPRE 3 DOCKET 50-362 LER 83-018 REV 1
 UPDATE ON APW PUMP FAILS TO RUN ON RATED SPEED.
 EVENT DATE: 012483 REPORT DATE: 070684 NSSS: CE TYPE: PWR
 VENDOR: LIMITORQUE CORP.
 RELIANCE ELECTRIC COMPANY

(NSIC 190970) WHILE IN MODE 3 AT 1200, STEAM DRIVEN APW PUMP 3P-140 FAILED TO RUN AT RATED SPEED DURING ISI TESTING AND WAS DECLARED INOPERABLE. ACTION STATEMENT 'A' OF LCO 3.7.1.2 WAS INVOKED AND COOLDOWN TO MODE 4 WAS COMMENCED AT 1200 ON 1/27/83, SINCE THE PUMP COULD NOT BE RETURNED TO OPERABLE STATUS WITHIN 72 HRS. ANY ONE OF THE TWO REMAINING APW OPERABLE PUMPS (EACH ABLE TO PROVIDE 100% OF REQUIRED CAPACITY) WOULD HAVE PERFORMED THE NECESSARY DECAY HEAT REMOVAL FUNCTION. PUMP INOPERABILITY WAS ATTRIBUTABLE TO VALVE BINDING WHICH DAMAGED THE MOTOR ON THE LIMITORQUE VALVE OPERATOR FOR STOP VALVE 3HV-4716. THE MOTOR WAS REPLACED AND THE VALVE WAS REPAIRED. THE PUMP SUCCESSFULLY PASSED ISI TESTING AT 1646 ON 1/27/83 AND MODE 4 COOLDOWN WAS HALTED.

[134] SAN ONOPRE 3 DOCKET 50-362 LER 83-022 REV 1
 UPDATE ON CONTAINMENT COOLING SYSTEM INOPERABLE.
 EVENT DATE: 030483 REPORT DATE: 070684 NSSS: CE TYPE: PWR

(NSIC 190971) WITH UNIT 3 IN MODE 5 AT 190 F AND REQUIREMENTS FOR MODE 4 ENTRY SATISFIED, HEATUP OF THE RCS COMMENCED AT 0925. AT 1027, CONTAINMENT ISOLATION VALVE 3HV6369 FAILED RENDERING CONTAINMENT COOLING SYSTEM TRAIN B INOPERABLE. AT 1157, RCS TEMPERATURE INADVERTENTLY EXCEEDED 200 F, CONSTITUTING ENTRY INTO MODE 4. PER LCO 3.6.2.3, ACTION STATEMENT 'A,' THE UNIT WAS RETURNED TO MODE 5 AT 1333, AND TRAIN B CCS WAS RESTORED TO OPERABILITY AT 1900. LCO 3.0.4 ALSO APPLIED TO THIS OCCURRENCE. THE CAUSE OF THIS EVENT WAS THE FAILURE OF THE OPERATORS TO FOLLOW UP ON THE RCS HEATUP FOLLOWING THE VALVE FAILURE. THE CAUSE OF THE VALVE FAILURE WAS MOTOR BURNUP DUE TO OVERTORQUING. AS CORRECTIVE ACTIONS, OPERATORS INVOLVED IN THIS INCIDENT WERE COUNSELLED ON THEIR ACTIONS AND THE VALVE MOTOR WAS REPLACED. AS FURTHER CORRECTIVE ACTION, THE INCIDENT WAS DISCUSSED IN OPERATOR RETRAINING.

[135] SAN ONOPRE 3 DOCKET 50-362 LER 83-013 REV 1
 UPDATE ON SNUBBER DECLARED INOPERABLE.
 EVENT DATE: 050983 REPORT DATE: 070684 NSSS: CE TYPE: PWR
 VENDOR: PACIFIC SCIENTIFIC COMPANY

(NSIC 190969) A CONTRACTOR QA INSPECTION IDENTIFIED A PARTIAL DISENGAGEMENT OF THE ROD END BUSHING ON THE MECHANICAL SHOCK ARRESTOR (SNUBBER) INSTALLED ON PIPE SUPPORT P/S S3-CS-027-H-026. AS A RESULT, BECHTEL QC INITIATED A NONCONFORMANCE REPORT (NCR) 3-336 ON MAY 4, 1983, WHICH WAS RECEIVED, VALIDATED AND ISSUED BY SCE QA ON MAY 9, 1983. THE SNUBBER WAS INOPERABLE BECAUSE THE BEARING ASSEMBLY WAS NOT PROPERLY SECURED (BY STAKING) AS REQUIRED BY THE CODE. THE SNUBBER WAS REWORKED AND DECLARED OPERABLE AT 0441 ON 5/13/83. AN ENGINEERING EVALUATION IN ACCORDANCE WITH SURVEILLANCE REQUIREMENT 4.7.6.G DETERMINED THAT THE SDCS WAS NOT ADVERSELY AFFECTED BY THE SNUBBER'S INOPERABILITY.

[136] SAN ONOPRE 3 DOCKET 50-362 LER 84-020 REV 1
 UPDATE ON CONDENSER EVACUATION SYSTEM NOT SAMPLED.
 EVENT DATE: 052784 REPORT DATE: 080184 NSSS: CE TYPE: PWR

(NSIC 191163) ON 5-27-84, WITH UNIT 3 IN MODE 1 AT 100% POWER AND WITH CONDENSER EVACUATION SYSTEM RADIATION MONITORS 3RT-7818 AND 3RT-7870 OUT OF SERVICE, 8 HR GRAB SAMPLES WERE BEING TAKEN IN ACCORDANCE WITH LIMITING CONDITION FOR OPERATION 3.3.3.9, ACTION 37. HOWEVER, THE GRAB SAMPLE DUE AT 0800 WAS NOT TAKEN UNTIL 0945. SUBSEQUENT INVESTIGATION DETERMINED THAT LOW RANGE FLOW AT THE SAMPLE

CONDITIONING SKID HAD BEEN DIVERTED FROM FILTER A TO FILTER B, ISOLATING THE SAMPLE PATH AT THE DISCHARGE FROM THE TEMPORARY SAMPLE PUMP. THE FLOW BLOCKAGE CAUSED THE TEMPORARY SAMPLE PUMP TO BLOW A POWER SUPPLY FUSE. ALTHOUGH THE ACTUAL CAUSE OF THE FLOW DIVERSION CANNOT BE DEFINITELY ESTABLISHED, IT APPEARS A REMOTE/LOCAL CONTROL INTERLOCK WAS ACTUATED WHILE CLOSING THE JUNCTION BOX DOOR AT THE SAMPLE CONDITIONING SKID. WHEN THE JUNCTION BOX DOOR WAS CLOSED, SYSTEM CONTROL AUTOMATICALLY REVERTED TO THE REMOTE MODE, IRRESPECTIVE OF THE POSITION OF THE REMOTE/LOCAL SELECTOR SWITCH INSIDE THE LOCAL JUNCTION BOX. THE REMOTE FILTER SELECTOR SWITCH, ALIGNED TO THE 'FILTER B' POSITION, THEN INITIATED THE FILTER LINEUP CHANGE FROM FILTER A TO FILTER B, DEADHEADING THE TEMPORARY SAMPLE PUMP. AN ALTERNATE DISCHARGE PATH IS IN PLACE TO PREVENT DEADHEADING THE TEMPORARY SAMPLE PUMP IN THE FUTURE.

[137] SAN ONOPRE 3 DOCKET 50-362 LER 84-025
CONTAINMENT PRESSURE TRANSMITTER ISOLATION.
EVENT DATE: 061484 REPORT DATE: 071684 NSSS: CE TYPE: PWR

(NSIC 191017) ON JUN 14, 1984, AT APPROX 0230, WITH UNIT 3 IN MODE 5, THE ISOLATION VALVE BETWEEN THE CONTAINMENT AND WIDE RANGE CONTAINMENT PRESSURE TRANSMITTER 3PT-0352-2 WAS FOUND CLOSED. 3PT-0352-2 PROVIDES 1 CHANNEL OF HIGH-HIGH CONTAINMENT PRESSURE TO THE PLANT PROTECTION SYSTEM (PPS) FOR USE IN THE ENGINEERED SAFETY FEATURES ACTUATION (ESFAS) OF THE CONTAINMENT SPRAY SYSTEM. TECH SPEC LIMITING CONDITION FOR OPERATION 3.3.2 REQUIRES THAT WHEN 1 OF 4 CHANNELS OF ESFAS INSTRUMENTATION IS INOPERABLE, IT MUST BE PLACED IN THE BYPASSED OR TRIPPED CONDITION WITHIN 1 HR. IT IS BELIEVED THAT THE ISOLATION VALVE FOR 3PT-0352-2 WAS CLOSED AFTER UNIT 3 WAS SHUT DOWN. HOWEVER, THERE IS UNCERTAINTY IN ESTABLISHING ABSOLUTELY WHEN 3PT-0352-2 WAS ISOLATED. ALL OTHER SAFETY-RELATED CONTAINMENT PRESSURE TRANSMITTER ISOLATION VALVES ON UNITS 2 AND 3 WERE VERIFIED OPEN. TO PREVENT RECURRENCE, ALL SAFETY-RELATED INSTRUMENT MANIFOLD VALVES WILL BE SEAL WIRED IN THEIR PROPER POSITION ON RETURN TO SERVICE FOLLOWING THEIR FIRST CHANNEL CALIBRATION AFTER RECEIPT OF THE SEALS AND INSTALLATION TOOLS.

[138] SAN ONOPRE 3 DOCKET 50-362 LER 84-029
LOSS OF FEEDWATER HEATING CAUSES REACTOR POWER INCREASE.
EVENT DATE: 070984 REPORT DATE: 081484 NSSS: CE TYPE: PWR

(NSIC 191164) THIS REPORT IS SUBMITTED TO PROVIDE INFORMATION CONCERNING A PARTIAL LOSS OF EXTRACTION STEAM FEEDWATER HEATING WHICH RESULTED IN A REACTOR POWER INCREASE ABOVE RATED POWER. ON 7-9-84, AT 1415 WITH UNIT 3 IN MODE 1 AT 100% POWER, DURING AN ADJUSTMENT TO SECOND POINT HEATER 3E-038, A HIGH LEVEL EXCURSION OCCURRED RESULTING IN THE CLOSURE OF EXTRACTION STEAM VALVES 3HV-8808 AND 3HV-8800 AND ISOLATING THE 2ND AND 1ST POINT HEATERS FROM THE STEAM SUPPLY. DUE TO STEAM LOSS, COLDER FEEDWATER TO THE SG'S RESULTED IN A REACTOR POWER INCREASE. CALIBRATED REACTOR POWER INCREASED TO ABOUT 104%. NO PRE-TRIPS WERE ACTUATED, SINCE UNCALIBRATED POWER USED TO PRODUCE THE PRE-TRIP SIGNAL REMAINED BELOW 102.5%. TURBINE POWER WAS REDUCED, AND REACTOR POWER WAS RESTORED TO 100% WITHIN 30 MINS. WHILE THE ACTIONS TAKEN TO REDUCE POWER WERE TIMELY AND ADEQUATE, THE IMPORTANCE OF REDUCING POWER PROMPTLY HAS BEEN REEMPHASIZED TO CONTROL OPERATORS, AND TECHNICIANS HAVE BEEN RE-INSTRUCTED TO NOTIFY THE CONTROL ROOM IMMEDIATELY WHEN EQUIPMENT IS ACTUATED. IN ADDITION, WHILE ALARM RESPONSE PROCEDURE S023-5-2.11 IS ADEQUATE, RELATIVE TO PROCEDURAL ACTIONS, IT WILL BE CHANGED TO INCLUDE LOSS OF FEEDWATER HEATING AS ONE OF THE POTENTIAL CAUSES OF LINEAR POWER LEVEL HI CHANNEL PRE-TRIP. ADDITIONALLY, NRC GUIDANCE ON 'TIMELY MANNER' IN REDUCING REACTOR POWER IS BEING REVIEWED FOR APPLICABILITY.

[139] SEQUOYAH 1 DOCKET 50-327 LER 84-044
 ESP ACTUATION START OF DIESEL GENERATORS.
 EVENT DATE: 070584 REPORT DATE: 080384 NSSS: WE TYPE: PWR
 VENDOR: BRUCE GM DIESEL, INC.

(NSIC 191005) DURING PERFORMANCE OF SI-7, "ELECTRICAL POWER SYSTEMS: DIESEL GENERATORS," THE 1A-A DIESEL GENERATOR WAS STARTED BY A SAFETY INJECTION ACTUATION START SIGNAL AS REQUIRED BY THE TEST. THE 43T (L) SWITCH WAS RETURNED TO THE NORMAL POSITION FROM THE TEST POSITION PRIOR TO RESETTING OF THE SAFETY INJECTION SIGNAL. THIS CONDITION RESULTED IN AUTOMATIC START OF THE REMAINING 3 DG'S.

[140] SEQUOYAH 1 DOCKET 50-327 LER 84-045
 INOPERABLE AUXILIARY CONTROL AIR COMPRESSORS.
 EVENT DATE: 070984 REPORT DATE: 080784 NSSS: WE TYPE: PWR
 VENDOR: INGERSOL-RAND CO.

(NSIC 191061) ON JUN 25, 1984 (WITH BOTH UNITS 1 AND 2 AT 100% POWER), THE A-A AUX CONTROL AIR COMPRESSOR WAS TAKEN OUT OF SERVICE FOR MAINTENANCE. DUE TO INSUFFICIENT SPARE PARTS, IT WAS NOT RETURNED TO SERVICE. ON JUL 9, 1984, AT 0750 CST, THE B-B AUX CONTROL AIR COMPRESSOR WAS REMOVED FROM SERVICE. THESE COMPRESSORS ARE NOT TECH SPEC EQUIPMENT, BUT ARE ATTENDANT EQUIPMENT FOR VARIOUS SAFETY SYSTEMS (AUX FEEDWATER BEING THE MOST LIMITING WITH RESPECT TO ACTION TIMES). WITH BOTH TRAINS INOPERABLE, IT WAS DETERMINED THAT ENTRY INTO 3.0.3 SHOULD BE MADE, AND 3.0.3 WAS ENTERED AT 0750 CST ON JUL 9, 1984. POWER REDUCTION TO MODE 3 WAS INITIATED FOR BOTH UNITS BUT WAS STOPPED AT 88% WHEN THE BB COMPRESSOR WAS RETURNED TO SERVICE.

[141] SEQUOYAH 1 DOCKET 50-327 LER 84-047
 INADVERTENT AUX BLDG AND CONTAINMENT BLDG VENTILATION ISOLATIONS.
 EVENT DATE: 071784 REPORT DATE: 081584 NSSS: WE TYPE: PWR

(NSIC 191157) HIGH RADIATION SIGNALS WERE ACTUATED WHICH RESULTED IN AN AUX BLDG VENTILATION ISOLATION (ABI) AND A CONTAINMENT BLDG VENTILATION ISOLATION (CVI). INVESTIGATION REVEALED THAT WHILE PERSONNEL WERE TROUBLESHOOTING THE CHECK SOURCE CIRCUIT ON THE RADIATION MONITOR, A WIRE SLIPPED LOOSE ONTO THE INPUT OF A POWER SUPPLY AND TRIPPED A BREAKER. THIS LOSS OF POWER CAUSED THE ABI AND CVI TO OCCUR. RADIATION LEVELS WERE NOT ABOVE NORMAL DURING THIS TIME.

[142] SEQUOYAH 1 DOCKET 50-327 LER 84-046
 FAILURE TO COMPLY WITH APPENDIX R OF 10 CFR 50.
 EVENT DATE: 072784 REPORT DATE: 081084 NSSS: WE TYPE: PWR

(NSIC 191156) FOLLOWING AN INSPECTION OF VARIOUS SAFETY-RELATED SYSTEMS AT SEQUOYAH, INTERACTIONS WERE FOUND THAT WERE NOT IN COMPLIANCE WITH APPENDIX R OF 10 CFR 50. INTERACTIONS WERE FOUND THAT INVOLVED POWER FEEDS FROM THE 6900V SHUTDOWN BOARD TO THE 480V SHUTDOWN TRANSFORMERS, REDUNDANT DIVISIONS OF ERW PUMP, FIRE PUMP, COMPONENT COOLING WATER PUMPS, AUX FEEDWATER PUMPS AND PRESSURIZER HEATERS. NO INTERACTIONS WERE FOUND INVOLVING THE CHARGING PUMPS. FIRE WATCHES HAVE BEEN ESTABLISHED AS REQUIRED PER ACTION STATEMENT OF TECH SPEC 3.7.12 AND WILL CONTINUE UNTIL COMPLIANCE WITH APPENDIX R CAN BE MADE. THIS REPORT IS REQUIRED PER LICENSE CONDITION 2.H, 10 CFR 50.73 (A)(2)(II) AND SPECIAL REPORT REQUIREMENTS OF TECH SPEC 3.7.12. AN IMPLEMENTATION SCHEDULE FOR CORRECTIVE ACTIONS WILL BE SUBMITTED TO THE NRC ON JAN 1, 1985.

[143] SEQUOYAH 2 DOCKET 50-328 LER 84-012
 RESIDUAL HEAT REMOVAL SYSTEM INOPERABLE.
 EVENT DATE: 071084 REPORT DATE: 080884 NSSS: WF TYPE: PWR

(NSIC 191063) DURING SURVEILLANCE TESTING FOR EXTERNAL (TO CONTAINMENT) PIPING LEAKAGE, BOTH TRAINS OF THE RESIDUAL HEAT REMOVAL SYSTEM WERE INOPERABLE FOR 2 HRS, 47 MINS ON 7-10-84 WHEN VALVE HCV-74-34 (RHR TO RWST RECIRC LINE ISOLATION VALVE) WAS OPENED AS PART OF THE PROCEDURE FOR CHECKING RHR PIPE LEAKAGE. REVIEW OF THE RHR SYSTEM DETERMINED THAT THE LEAKAGE INSPECTION COULD BE SATISFIED WITH THE RWST HEAD PRESSURE ON THE RHR-RWST RECIRC LINE AND HCV-74-34 NEED NOT BE OPENED. A PROCEDURE CHANGE WAS ISSUED TO DELETE THE REQUIREMENT TO OPEN HCV-74-34, AND THE INSPECTION WAS SATISFACTORILY COMPLETED ON 7-11-84. ALL SIMILAR INSTRUCTIONS PERTAINING TO SECTION XI EXTERNAL LEAKAGE INSPECTIONS ARE BEING REVIEWED TO ENSURE ADDITIONAL IMPROPER VALVE LINEUPS ARE NOT BEING REQUIRED.

[144] SEQUOYAH 2 DOCKET 50-328 LER 84-011
 CONTAINMENT BUILDING VENTILATION ISOLATION.
 EVENT DATE: 071384 REPORT DATE: 081084 NSSS: WE TYPE: PWR

(NSIC 191062) 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 SPURIOUSLY GENERATED BY THE LOW FLOW ALARM SWITCH IN ONE INCIDENT AND THE SOURCE IS UNKNOWN IN 2 OTHER INCIDENTS. 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 DURATION SPIKES ON THE RADIATION MONITOR FROM CAUSING FUTURE CVIS.

[145] ST. LUCIE 1 DOCKET 50-335 LER 84-005
 MSIV CLOSURE CAUSES REACTOR TRIP.
 EVENT DATE: 062684 REPORT DATE: 072584 NSSS: CE TYPE: PWR

(NSIC 191008) DURING NORMAL FULL POWER OPERATION THE 1B MAIN STEAM ISOLATION VALVE (MSIV) FAILED SHUT, CAUSING THE REACTOR TO TRIP AS DESIGNED ON ASYMMETRIC STEAM GENERATOR PRESSURE. THE MSIV APPARENTLY CLOSED DUE TO THE FAILURE OF A RUPTURE DISC IN THE AIR SUPPLY TO THE VALVE OPERATOR. AS CORRECTIVE ACTION THE RUPTURE DISC WAS REPLACED AND THE VALVE WAS TESTED AND RETURNED TO SERVICE. A PREVIOUS MSIV CLOSURE WAS DISCUSSED AS PART OF LER 335-81-56 AND CORRECTIVE ACTION AT THAT TIME WAS A PLANT CHANGE TO MODIFY THE AIR SUPPLY TO THE VALVE OPERATOR. BECAUSE THE RUPTURE DISC IS SUSPECTED AS THE CAUSE OF THIS EVENT, WE REQUESTED OUR ENGINEERING DEPARTMENT TO EVALUATE INSTALLATION OF A HIGHER RATED RUPTURE DISC IN THIS SYSTEM. PCM 134-184 HAS BEEN PREPARED BY ENGINEERING TO REPLACE THE RUPTURE DISCS WITH DISCS RATED FOR HIGHER PRESSURE. WE EXPECT THIS TO BE COMPLETED AT THE NEXT REFUELING OUTAGE.

[146] ST. LUCIE 1 DOCKET 50-335 LER 84-006
 VACUUM TRIP MECHANISM FAILS TRIPPING TURBINE.
 EVENT DATE: 072684 REPORT DATE: 082784 NSSS: CE TYPE: PWR
 VENDOR: FISCHER & PORTER CO.
 WESTINGHOUSE ELECTRIC CORP.

(NSIC 191160) ON 7-26-84, WHILE OPERATING AT 99% POWER, THE REACTOR WAS TRIPPED BY THE RPS ON A LOSS OF LOAD SIGNAL. ALL AUTOMATIC FUNCTIONS PERFORMED AS DESIGNED WITH THE EXCEPTION OF THE STEAM BYPASS AND CONTROL SYSTEM (SBCS) WHICH DID NOT FULLY ACTUATE. AS A RESULT, 5 SG SAFETY RELIEF VALVES LIFTED MOMENTARILY AS REQUIRED. ALL VALVES RESET PROPERLY AND THE UNIT WAS STABILIZED AT HOT STANDBY WITH NO OTHER PROBLEMS. INVESTIGATION REVEALED THAT A LOOSE NUT IN THE VACUUM TRIP MECHANISM ALLOWED PRESSURE TO EQUALIZE ACROSS THE DIAPHRAGM GIVING A

FALSE LOW VACUUM CONDITION TO THE DEH WHICH TRIPPED THE TURBINE. THE RPS THEN TRIPPED THE REACTOR ON LOSS OF LOAD FROM THE DEH. THE NUT WAS REPLACED AND SECURED WITH 'LOCKTITE' AND ALL ASSOCIATED TRIP FUNCTIONS TESTED SATISFACTORILY. INVESTIGATION OF THE SPCS REVEALED A FAILED PRESSURE TRANSMITTER WHICH PROVIDES A HEADER PRESSURE INPUT TO THE 'QUICK OPEN' LOGIC CIRCUIT OF THE SBCS. WITHOUT THIS INPUT, THE SBCS DID NOT QUICK OPEN ON THE TRIP BUT MODULATED ON A T-AVG CONTROL PROGRAM TO BRING RCS TO A HOT STANDBY T-AVG OF 532 F. ONLY 4 OUT OF 5 SBCS VALVES OPERATE ON T-AVG CONTROL, AND THE VALVE STROKE TIME IN THE MODULATE MODE IS 20 SECS VERSUS 3 SECONDS IN THE QUICK OPEN MODE, THEREFORE THE SYSTEM DID NOT REACT FAST ENOUGH TO PREVENT OPENING THE SG SAFETY RELIEFS. THE PRESSURE TRANSMITTER WAS REPAIRED, CALIBRATED AND RETURNED TO SERVICE.

[147] SUMMER 1 DOCKET 50-395 LER 84-029
 DEFECTIVE BROWN BOVERI SPEED AND TRANSFER SWITCHES.
 EVENT DATE: 071383 REPORT DATE: 081084 NSSS: WE TYPE: PWR
 VENDOR: BROWN BOVERI

(NSIC 191081) ON JUL 13, 1983, MAINTENANCE WAS BEING PERFORMED ON THE SERVICE WATER PUMP 7.2 KV SPEED AND TRANSFER SWITCHES. 3 OF THE SPEED AND TRANSFER SWITCH HINGE STUD ASSEMBLIES THAT WERE TORQUED TO THE MANUFACTURER'S RECOMMENDED VALUE OF 100-110 FT/LBS FAILED. THE FAILED HINGE STUD ASSEMBLIES WERE REMOVED AND RETURNED TO THE MANUFACTURER FOR DETERMINATION OF THE CAUSE OF FAILURE AND RECOMMENDED CORRECTIVE ACTION. THE MANUFACTURER RECOMMENDED THAT THE HINGE STUD ASSEMBLIES BE TORQUED TO 100-110 FT/LBS., THEN BACKED OFF AND RETORQUED TO 80-90 FT/LBS. THE LICENSEE SUBSEQUENTLY PERFORMED AN ANALYSIS AND HAS DETERMINED THAT EQUIPMENT OPERABILITY CAN BE MAINTAINED WITH THE HINGE STUD ASSEMBLIES TORQUED TO 60 FT/LBS. DISCUSSIONS WITH THE MANUFACTURER ARE CONTINUING IN AN EFFORT TO RESOLVE THIS ISSUE. THE HINGE STUD ASSEMBLIES WILL REMAIN TORQUED TO AT LEAST 60 FT/LBS AS AN INTERIM MEASURE UNTIL FINAL CORRECTIVE ACTION CAN BE TAKEN.

[148] SUMMER 1 DOCKET 50-395 LER 84-030
 DEFECTIVE HVAC UNIT.
 EVENT DATE: 041284 REPORT DATE: 081084 NSSS: WE TYPE: PWR
 VENDOR: BAHNSON INDUSTRIAL AIR QUALITY DIV

(NSIC 191082) DURING THE WEEK OF APR 9, 1984, WITH THE PLANT IN A MAINTENANCE OUTAGE, AN INSPECTION OF THE BAHNSON SUPPLIED HEATING, VENTILATING AND AIR CONDITIONING (HVAC) UNITS WAS PERFORMED TO VERIFY THAT THE UNITS HAD BEEN FABRICATED IN ACCORDANCE WITH DESIGN REQUIREMENTS ESTABLISHED BY SOUTH CAROLINA ELECTRIC AND GAS COMPANY (SCE&G). ON APR 12, 1984, UNIT XAH-8-VL, ENGINEERED SAFETY FEATURE (ESF) 1DB COOLING UNIT, WAS FOUND TO HAVE BEEN SUPPLIED WITHOUT A COIL V-BRACE STRUCTURAL MEMBER. THE COIL V-BRACE IS CONSIDERED TO BE AN INTEGRAL PART OF THE HVAC UNIT STRUCTURE. SCE&G RESTORED THE UNIT TO ITS ORIGINAL DESIGN CONDITION ON APR 18, 1984, BY INSTALLING THE COIL V-BRACE IN ACCORDANCE WITH BAHNSON COMPANY INSTRUCTIONS. THE HVAC UNIT XAH-8-VL IS NOW IN COMPLIANCE WITH ITS PREVIOUSLY ANALYZED DESIGN BASIS. THIS IS A FINAL REPORT ON THIS MATTER.

[149] SUMMER 1 DOCKET 50-395 LER 84-031
 OMISSION OF OVERCURRENT PROTECTION DEVICES.
 EVENT DATE: 071784 REPORT DATE: 081684 NSSS: WE TYPE: PWR

(NSIC 191031) DURING THE REVIEW OF THE FIRE PROTECTION QUALITY RELATED PLAN, SEVEN (7) ELECTRICAL CIRCUITS WERE IDENTIFIED THAT PENETRATE THE CONTAINMENT WHICH ARE NOT INCLUDED IN TABLE 3.8-1 OF TECH SPEC 3.8.4, "CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTION DEVICES." THREE OF THE CIRCUITS ARE ASSOCIATED WITH SMOKE DETECTORS AND HAVE OVERCURRENT PROTECTION DEVICES. THE REQUIRED SURVEILLANCE TEST WAS PERFORMED ON THESE CIRCUITS AND FOUND TO BE

SATISFACTORY. FOUR CIRCUITS ARE ASSOCIATED WITH LIGHTING INSIDE THE PERSONNEL AIRLOCK AND PERSONNEL ESCAPE AIRLOCK. THESE CIRCUITS DO NOT HAVE OVERCURRENT PROTECTION AND, AS SUCH, THE ELECTRICAL CIRCUIT BREAKERS HAVE BEEN OPEN IN ACCORDANCE WITH TECH SPEC 3.8.4. A PLANT MODIFICATION IS BEING PROCESSED TO INSTALL OVERCURRENT PROTECTION. THE LICENSEE WILL SUBMIT A TECH SPEC CHANGE NO LATER THAN NOV 15, 1984, REQUESTING THAT THE SEVEN CIRCUITS BE ADDED TO TABLE 3.8-1.

[150] SUMMER 1 DOCKET 50-395 LER 84-034
 AGASTAT RELAY CALIBRATIONS AND TESTS NOT PERFORMED.
 EVENT DATE: 072484 REPORT DATE: 082384 NSSS: WE TYPE: PWR

(NSIC 191174) ON 7-24-84, AN INADEQUATE MAINTENANCE PROCEDURE WAS IDENTIFIED. ELECTRICAL MAINTENANCE PROCEDURE (EMP) 300.012, "AGASTAT RELAY REPLACEMENT," DID NOT REQUIRE DELAY TIME CALIBRATION OF RELAYS IN THEIR INSTALLED POSITION. ALL RELAYS TESTED AND INSTALLED UNDER THIS PROCEDURE WERE FOUND TO BE ACCEPTABLE WITH THE EXCEPTION OF 7.2 KV EMERGENCY BUS UNDERVOLTAGE RELAYS, 27 X, Y, AND Z. 'AS FOUND' VALUES FOR THESE RELAYS WERE FOUND TO EXCEED THE TECH SPEC ALLOWABLE SETPOINT VALUE. ON 8-21-84, A FAILURE TO TEST ESP LOADING SEQUENCER TIME DELAY RELAYS WITHIN THE PERIODICITY OF SURVEILLANCE REQUIREMENT 4.3.2.2 WAS ALSO IDENTIFIED. TRAIN 'B' DG WAS DECLARED INOPERABLE AND TESTING WAS SUBSEQUENTLY PERFORMED ON THE RELAYS WITH SATISFACTORY RESULTS. THERE WERE NO ADVERSE CONSEQUENCES RESULTING FROM THIS EVENT. DATA OBTAINED IN THE JUL 24 AND AUG 21 RELAY CALIBRATIONS PROVIDE ASSURANCE THAT THE TOTAL RESPONSE TIME OF LESS THAN OR EQUAL TO 10.3 SECONDS HAS NOT BEEN EXCEEDED. ADDITIONAL CORRECTIVE ACTIONS ARE IDENTIFIED IN THE TEXT OF THIS REPORT.

[151] SUSQUEHANNA 1 DOCKET 50-387 LER 83-046 REV 1
 UPDATE ON DIESEL GENERATOR FUEL OIL LEAK.
 EVENT DATE: 031983 REPORT DATE: 080284 NSSS: GE TYPE: BWR
 VENDOR: COOPER-BESSEMER CO.

(NSIC 190972) DURING A MONTHLY SURVEILLANCE ON THE 'D' DG, A FUEL OIL LEAK DEVELOPED ON THE 1L CYLINDER. THE DIESEL WAS SHUT DOWN, THE REMAINING AC ELECTRICAL POWER SOURCES WERE DETERMINED OPERABLE AND THE OPERABILITY SURVEILLANCE REQUIREMENTS WERE PERFORMED ON THE REMAINING DG'S (TECH SPEC 3.8.1.1). THE LEAKING FUEL INJECTOR WAS SENT TO THE VENDOR FOR EXAMINATION. THE EVENT WAS A NON-VALID TEST PER REG GUIDE 1.108, REV. 1. THE FUEL OIL WAS LEAKING AROUND THE INJECTION PUMP'S METERING SHAFT. THE DIESEL COULD HAVE CONTINUED OPERATING, HOWEVER, IT WAS SHUT DOWN TO REPLACE THE PUMP WITH AN IDENTICAL UNIT. THE REPLACED PUMP WAS SENT TO ITS VENDOR FOR REPAIRS; UPON INSPECTION, NO DAMAGED PARTS COULD BE FOUND. THERE HAVE BEEN NO SIMILAR OCCURRENCES EITHER BEFORE OR SINCE THIS EVENT.

[152] SUSQUEHANNA 1 DOCKET 50-387 LER 84-032
 FIRE DETECTOR SURVEILLANCES NOT PERFORMED.
 EVENT DATE: 032384 REPORT DATE: 080384 NSSS: GE TYPE: BWR

(NSIC 191029) DUE TO INCONSISTENCIES BETWEEN THE UNIT 1 AND UNIT 2 TECH SPECS WITH RESPECT TO SMOKE DETECTORS IN FIRE ZONES COMMON TO BOTH UNITS, AN INCORRECT SURVEILLANCE COMPLETION DATE WAS IDENTIFIED. AS A RESULT, THE INCORRECT COMPLETION DATE WAS USED TO DETERMINE THE NEXT DUE DATE OF THE SURVEILLANCE TESTING FOR THE AFFECTED DETECTORS. UPON DISCOVERY OF THE ERROR, FURTHER INVESTIGATION REVEALED THAT 57 DAYS HAD ELAPSED SINCE THE VIOLATION DATE FOR TESTING THE DETECTORS PER TECH SPEC 4.0.2.B. THE DETECTORS WERE TESTED ON THE DAY THE ERROR WAS CONFIRMED AND THE RESULTS OF THE TESTING WERE SATISFACTORY. ALL SMOKE DETECTORS IN THE AFFECTED ZONES WERE FOUND TO BE OPERABLE PER TECH SPEC 3.3.7.9.A.

[153] SUSQUEHANNA 1 DOCKET 50-387 LER 84-030
 LOW BORON CONCENTRATION IN SBLC TANK.
 EVENT DATE: 062784 REPORT DATE: 080284 NSSS: GE TYPE: BWR

(NSIC 191079) ON JUN 27, 1984, THE 31 DAY SURVEILLANCE OF THE UNIT I STANDBY LIQUID CONTROL (SBLC) SYSTEM INDICATED THAT THE BORON CONCENTRATION IN THE SBLC TANK WAS .4% BELOW THE TECH SPEC 3.1.5 LIMIT FOR THE INDICATED TANK VOLUME AT THE TIME OF SAMPLING. ADDITIONAL INVESTIGATION FOUND THAT THE ACTUAL TANK LEVEL WAS 378 GALLONS LESS THAN THE MINIMUM REQUIRED BY TECH SPEC 3.1.5. THUS, THE AVAILABLE POUNDS OF SODIUM PENTABORATE AVAILABLE FOR INJECTION WERE LESS THAN THE TECH SPEC LIMIT. TANK LEVEL AND CONCENTRATION WERE RETURNED TO WITHIN LIMITS IN 4 HRS.

[154] SUSQUEHANNA 1 DOCKET 50-387 LER 84-031
 HPCI INOPERABLE DUE TO DISCHARGE CHECK VALVE NOT SEATING.
 EVENT DATE: 070384 REPORT DATE: 080284 NSSS: GE TYPE: BWR
 VENDOR: ANCHOR/DARLING VALVE CO.

(NSIC 191080) ON JUL 3, 1984, WITH THE UNIT IN OPERATIONAL CONDITION 3 AND REACTOR POWER AT 0%, THE HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM WAS DECLARED INOPERABLE FOR 15 MINS. THE HPCI PUMP SUCTION RELIEF VALVE HAD LIFTED WHICH WAS AN INDICATION THAT THE PUMP DISCHARGE CHECK VALVE HAD NOT SEATED PROPERLY. INVESTIGATION SHOWED THAT THE CHECK VALVE WAS MECHANICALLY OPERABLE, BUT THE METHOD USED TO SEAT IT WAS NOT ADEQUATE. PROCEDURE CHANGES DETAILING ACTIONS TO BE TAKEN IF THE CHECK VALVE DOES NOT SEAT ARE BEING EVALUATED TO PREVENT RECURRENCE OF THIS EVENT.

[155] SUSQUEHANNA 1 DOCKET 50-387 LER 84-033
 REACTOR SCRAM DUE TO LOW CONDENSER VACUUM.
 EVENT DATE: 071684 REPORT DATE: 081584 NSSS: GE TYPE: BWR

(NSIC 191170) ON 7-16-84 AT 1806, THE UNIT 1 REACTOR SCRAMMED ON TURBINE VALVE FAST CLOSURE CAUSED BY LOSS OF CONDENSER VACUUM. THIS RESULTED IN THE AUTOMATIC ACTUATION OF THE ENGINEERED SAFETY FEATURE (ESF) WHICH CONSISTED OF THE MAIN STEAM ISOLATION VALVES (MSIV) CLOSURE AND ALSO INCLUDED AUTOMATIC ACTUATION OF THE REACTOR PROTECTION SYSTEM (RPS). THE LOSS OF CONDENSER VACUUM WAS CAUSED BY THE INADVERTENT OPENING OF THE LOW PRESSURE CONDENSER VACUUM BREAKER VALVE, HV-10742C, INSTEAD OF EXTRACTION STEAM FEEDWATER HEATER ISOLATION VALVE, HV-10242C. UNIT 1 WAS AT 27% POWER. THE ECCS SYSTEMS WERE AVAILABLE FOR OPERATION, BUT NONE WERE CHALLENGED.

[156] SUSQUEHANNA 1 DOCKET 50-387 LER 84-035
 REACTOR SCRAM DUE TO LOW CONDENSER VACUUM.
 EVENT DATE: 071884 REPORT DATE: 081784 NSSS: GE TYPE: BWR
 VENDOR: BIF

(NSIC 191171) AT 0514 HRS ON 7-18-84 WITH UNIT 1 AT 25% POWER, A TURBINE CONTROL VALVE FAST CLOSURE INITIATED BY LOW CONDENSER VACUUM PRESSURE RESULTED IN A TRIP OF THE REACTOR. LATER IT WAS DISCOVERED THAT THE SUDDEN LOSS OF VACUUM EXPERIENCED BY THE CONDENSER WAS THE RESULT OF ACTIONS TAKEN IN ESTABLISHING A VALVE LINE-UP THAT WAS TO HAVE TRANSFERRED WATER FROM THE UNIT 1 FUEL POOL TO THE FUEL POOL STORAGE TANK VIA THE UNIT'S SKIMMER SURGE TANK. THE REVIEW FOR THIS PARTICULAR VALVE LINE-UP HAD USED A DRAWING THAT, UPON REEXAMINATION, SHOWED TWO DIFFERENT VALVES APPARENTLY HAVING THE SAME NUMERICAL DESIGNATION. BASED ON THIS DISCREPANCY, THE VALVE LINE-UP FROM THE UNIT 1 FUEL POOL TO THE FUEL POOL STORAGE TANK INCORRECTLY IDENTIFIED VALVE 0-08-032 TO BE PLACED IN THE CLOSED POSITION. IN ACTUALITY, VALVE 0-08-092, NOT 0-08-032, NEEDED TO BE CLOSED. CONSEQUENTLY, PLANT PERSONNEL CLOSED VALVE 0-08-032, THE CONDENSATE STORAGE TANK (CST) SUPPLY

VALVE TO THE CONDENSER HOTWELL, AT 0513 HRS AS DIRECTED THROUGH THE SPECIFIC LINE-UP. THIS LINE-UP CAUSED THE CONDENSER TO DRAW SUCTION FROM THE TOP OF THE CST; DRAWING AIR INTO THE HOTWELL, RESULTING IN A LOSS OF CONDENSER VACUUM. WHEN THE ERRONEOUS VALVE LINE-UP WAS DISCOVERED AND THE CST SUPPLY VALVE TO THE CONDENSER WAS OPENED, THE CST AND CONDENSER HOTWELL LEVELS RETURNED TO NORMAL. A CHANGE NOTICE HAS BEEN WRITTEN TO CLARIFY THE NUMERICAL DESIGNATION OF THE 2 VALVES ON THE DRAWING THAT HAD BEEN USED FOR VALVE LINE-UP.

[157] SUSQUEHANNA 2 DOCKET 50-388 LER 84-010
 HPCI SUCTION STRAINER FAILS.
 EVENT DATE: 062784 REPORT DATE: 073084 NSSS: GE TYPE: BWR

(NSIC 191030) THE HPCI SYSTEM WAS DECLARED INOPERABLE FOR APPROX 22 HRS TO FACILITATE THE REMOVAL OF A START-UP STRAINER. A BLOCKAGE IN THE START-UP STRAINER WAS NOTED DURING THE HEATUP PLATEAU REVIEW. THE HPCI SYSTEMS PRESSURE AND FLOW RATES WERE WITHIN THE TECH SPEC REQUIREMENTS, AND THE INSTALLATION OF THE START-UP STRAINER DID NOT EFFECT SYSTEM PERFORMANCE.

[158] SUSQUEHANNA 2 DOCKET 50-388 LER 84-011
 FOUR SPURIOUS ACTUATIONS OF SBGT AND CREOASS.
 EVENT DATE: 070584 REPORT DATE: 080384 NSSS: GE TYPE: BWR
 VENDOR: GEN ELECTRIC SUPPLY CO

(NSIC 191172) ON JUL 5 AND 6, 1984, OVER THE SPACE OF 26.5 HRS, THE STATION EXPERIENCED 4 SPURIOUS ACTUATIONS OF THE STANDBY GAS TREATMENT (SBGT) SYSTEM AND THE CONTROL ROOM EMERGENCY OUTSIDE AIR SUPPLY SYSTEM (CREOASS). THEY WERE ALL CAUSED BY A MALFUNCTIONING OUTPUT BREAKER OF THE 'B' REACTOR PROTECTION SYSTEM MOTOR-GENERATOR SET. THE BREAKER WAS REPLACED AND NO FURTHER SPURIOUS ACTUATIONS DUE TO THE BREAKER HAVE OCCURRED.

[159] SUSQUEHANNA 2 DOCKET 50-388 LER 84-014
 HIGH TEMPERATURE IN DEMINERALIZER ROOM CAUSES RWCU ISOLATION.
 EVENT DATE: 072384 REPORT DATE: 082284 NSSS: GE TYPE: BWR

(NSIC 191173) AT 1759 AND 2117 ON 7-23-84, THE REACTOR WATER CLEANUP (RWCU) INLET OUT BOARD ISOLATION VALVE (2F004) CLOSED DUE TO HIGH TEMPERATURE IN THE FILTER DEMINERALIZER ROOM. THE HIGH TEMPERATURE DETECTOR IS A PORTION OF THE LEAK DETECTION SYSTEM. THE HIGH TEMPERATURE IN THE FILTER DEMINERALIZER ROOM WAS CAUSED BY PROBLEMS WITH THE REACTOR BLDG CHILLED WATER SYSTEM, WHICH SERVES AS A HEAT SINK FOR THE VENTILATION SYSTEM. THE 'B' REACTOR BLDG CHILLER WAS REPAIRED. THE CLOSING OF THE REACTOR WATER CLEANUP INLET OUT BOARD ISOLATION VALVE IS AN ENGINEERED SAFETY FEATURES (ESF) ACTUATION SINCE IT IS A CONTAINMENT ISOLATION.

[160] THREE MILE ISLAND 1 DOCKET 50-289 LER 84-005
 DG DIFFERENTIAL RELAYS NOT CAPABLE OF WITHSTANDING A SEISMIC EVENT.
 EVENT DATE: 071684 REPORT DATE: 081584 NSSS: BW TYPE: PWR
 VENDOR: GENERAL ELECTRIC CO.

(NSIC 191051) ON JUL 16, 1984, IT WAS DISCOVERED THAT THE DG DIFFERENTIAL RELAYS MAY NOT BE CAPABLE OF WITHSTANDING A SEISMIC EVENT AND COULD RESULT IN BOTH DGS BEING UNAVAILABLE. TMI-1 WAS IN LONG TERM COLD SHUTDOWN WITH THE REACTOR COOLANT SYSTEM AT ATMOSPHERIC PRESSURE AT THE TIME OF DISCOVERY. THIS EVENT WAS DISCOVERED AS A RESULT OF INPO SIGNIFICANT EVENT REPORT (SER):18-84 "DIFFERENTIAL RELAY PROBLEMS IN EMERGENCY DIESEL GENERATOR CONTROL CIRCUITS." ONE OF THE PROBLEMS CITED WAS THAT RELAYS WITH SIMILAR MODEL NUMBERS TO TMI-1 RELAYS HAVE FAILED SEISMIC TESTING IN THE DEENERGIZED STATE. THE SUPPLIER FOR TMI-1 DG DIFFERENTIAL RELAYS (WESTINGHOUSE) WAS UNABLE TO PROVIDE DOCUMENTATION TO SHOW

THAT THE RELAYS ARE QUALIFIED. THE MANUFACTURER (GE) DOES NOT RECOMMEND THESE RELAYS FOR SEISMIC SERVICE. DG DIFFERENTIAL RELAYS WILL BE REPLACED WITH RELAYS WHOSE QUALIFICATION IS KNOWN. UNTIL REPLACEMENTS ARE OBTAINED AND THE RELAYS ARE CHANGED, TMI-1 DGS WILL REMAIN IN STANDBY AND THE DIFFERENTIAL RELAY TRIP FUNCTION WILL BE DEFEATED PRIOR TO CRITICALITY EXCEPT FOR DG TESTING. NO INCORRECT OPERATION OF THE RELAYS HAS BEEN NOTED AND THE SEISMIC ACCELERATION REQUIRED TO CAUSE MISOPERATION IS UNKNOWN.

[161] THREE MILE ISLAND 1 DOCKET 50-289 LER 84-006
 DEGRADED GRID UNDERVOLTAGE RELAYS.
 EVENT DATE: 071884 REPORT DATE: 082184 NSSS: BW TYPE: PWR
 VENDOR: BROWN BOVERI

(NSIC 191052) THIS REPORT IS BEING SUBMITTED VOLUNTARILY AS INFO. OF POTENTIAL INTEREST TO OTHER LICENSEES. ON 7/18 & 19, 1984, DURING THE PERFORMANCE OF A TMI-1 SURVEILLANCE PROCEDURE, THE SETPOINTS FOR 3 ITE 27H RELAYS (27) IN THE 4160V BUS 1E WERE FOUND OUT OF CALIBRATION. THE 3 RELAYS WERE INSTALLED AND CALIBRATED ON 7/24/81. OVER TIME, THE RELAYS CONTINUED TO DRIFT OUT OF TOLERANCE WITH THE SURVEILLANCE FREQUENCY BEING INCREASED FROM REFUELING INTERVAL TO 6 MONTHS TO QUARTERLY. THE SUPPLIER (BROWN BOVERI) INDICATES THAT THESE RELAYS ARE USED IN AN IMPROPER APPLICATION AND CANNOT CERTIFY THAT THE ITE 27H RELAYS ARE CAPABLE OF MEETING THE SPECIFIED TOLERANCES, AND FIELD EXPERIENCE HAS SHOWN THAT THESE RELAYS OVER THE LONG TERM CANNOT MEET THE SETPOINT TOLERANCES PER TECH SPEC 3.5.3.1. BECAUSE OF THE CONSERVATIVE ASSUMPTIONS USED IN SELECTING THE SETPOINTS (DEGRADED GRID, SINGLE AUX TRANSFORMER AND FULL STATION SERVICE LOAD) THE SAFETY OF THIS DRIFT IS MINIMAL. SHORT TERM CORRECTIVE ACTION IS TO REPLACE THE RELAYS THAT HAVE A TENDENCY TO DRIFT WITH SPARE RELAYS THAT HAVE BEEN CHECKED FOR STABILITY. LONG TERM CORRECTIVE ACTION IS TO REPLACE THE RELAYS WITH RELAYS THAT ARE CERTIFIED TO MEET THE TOLERANCES PER TECH SPEC 3.5.3.1. IF UNABLE TO REPLACE THE RELAYS PRIOR TO CRITICALITY, THE SURVEILLANCE FREQUENCY WILL BE INCREASED TO PROVIDE ASSURANCE THAT THE RELAYS DO NOT DRIFT OUT OF TECH SPEC REQUIREMENTS.

[162] THREE MILE ISLAND 2 DOCKET 50-320 LER 84-011
 DEFEAT OF RADIATION MONITOR INTERLOCK IN THE CONTROL ROOM EMERGENCY AIR CLEANUP.
 EVENT DATE: 071384 REPORT DATE: 081084 NSSS: BW TYPE: PWR

(NSIC 191003) DURING THE PERFORMANCE OF TECH SPEC SURVEILLANCE PROCEDURE 2612-R2, "ATMOSPHERIC RADIATION MONITOR CALIBRATION," THE CONTROL ROOM AIR INLET RADIATION MONITOR HP-R-220 INTERLOCK WAS PLACED IN DEFEAT AT 0815 ON JUL 13, 1984. THE ACTION STATEMENT OF TECH SPEC 3.7.7.1(E) REQUIRED THAT EITHER THE MONITOR BE RETURNED TO SERVICE WITHIN 4 HRS OR THE CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM BE PUT IN RECIRCULATION MODE WITHIN 4 HRS. THE INTERLOCK FOR RADIATION MONITOR HP-R-220 REMAINED IN DEFEAT FOR 23 HRS (UNTIL 0715 ON JUL 14, 1984). AS A RESULT OF PERSONNEL ERRORS (INADEQUATE COMMUNICATION AND PROCEDURAL NONCOMPLIANCE), NEITHER REQUIREMENT OF THE ACTION STATEMENT WAS INITIATED. NONCONFORMANCE WITH THE REQUIREMENTS OF THE TECH SPEC ACTION STATEMENT IS REPORTABLE PER TO 10 CFR 50.73(A)(2)(I)(B). UPON REALIZATION OF THE SITUATION, THE RADIATION MONITOR INTERLOCK WAS TAKEN OUT OF THE DEFEAT MODE. THE OPERATIONS PERSONNEL INVOLVED IN THIS INCIDENT HAVE BEEN EXTENSIVELY COUNSELED ON PROCEDURAL COMPLIANCE AND ADEQUATE COMMUNICATIONS.

[163] THREE MILE ISLAND 2 DOCKET 50-320 LER 84-012
 FAILURE TO TEST A FIRE SYSTEM DETECTOR OF THE CONTROL BLDG.
 EVENT DATE: 072784 REPORT DATE: 082784 NSSS: BW TYPE: PWR

(NSIC 191004) AT 1000 HRS ON JUL 27, 1984, WHILE REVIEWING THE MOST RECENT RESULTS OF RECOVERY OPERATIONS PLAN (ROP) SURVEILLANCE TEST PROCEDURE 4333-SA1, "FIRE SYSTEM DETECTOR INSTRUMENT FUNCTIONAL TEST," A REPORTABLE CONDITION WAS

IDENTIFIED. AT THIS TIME, IT WAS DISCOVERED THAT AN IONIZATION TYPE FIRE SYSTEM DETECTOR REQUIRED BY TECH SPEC LIMITING CONDITION FOR OPERATION 3.3.3.8 HAD NOT BEEN TESTED WITHIN THE REQUIRED INTERVAL IN ACCORDANCE WITH THE SURVEILLANCE REQUIREMENTS OF ROP SECTION 4.3.3.8. THIS DETECTOR IS LOCATED ON THE 280' 6" ELEVATION OF THE CONTROL BLDG. THIS EVENT RESULTED FROM A MISJUDGEMENT ON THE PART OF THE SHIFT FOREMAN/SUPERVISOR WHO CLOSED OUT THE TEST PACKAGE WITHOUT TESTING THE SUBJECT DETECTOR OR COMPLYING WITH THE APPLICABLE TECH SPEC ACTION STATEMENT. THE LACK OF TESTING WAS ENTERED ON THE SIGNOFF FORM BY THE SHIFT FOREMAN/SUPERVISOR AS AN EXCEPTION. THIS PLACED THE UNIT INTO A CONDITION NOT PERMITTED BY THE TECH SPECS. ONCE THIS CONDITION WAS IDENTIFIED, THE SUBJECT DETECTOR WAS TESTED SATISFACTORILY AND PLACED BACK IN SERVICE. THE SHIFT FOREMAN/SUPERVISOR WHO WAS RESPONSIBLE FOR THIS EVENT HAS BEEN COUNSELED.

[164] TURKEY POINT 3 DOCKET 50-250 LER 84-020
 ROOT VALVE ON PRESSURIZER LEVEL INSTRUMENT LEAKS.
 EVENT DATE: 071284 REPORT DATE: 081084 NSSS: WE TYPE: PWR
 VENDOR: ROCKWELL-INTERNATIONAL

(NSIC 191042) ON JUL 12, 1984, UNIT 3 WAS SHUT DOWN FROM 100% POWER DUE TO A REACTOR COOLANT SYSTEM (RCS) LEAK OF APPROX 13.5 GPM. THE CAUSE WAS LEAKAGE DUE TO A BROKEN GLAND FLANGE ON VALVE 3-538, THE LOWER ROOT VALVE ON THE PRESSURIZER LEVEL INSTRUMENT SENSING LINE TO LT-3-459. THE AFFECTED LOOP BISTABLES WERE TRIPPED IN ACCORDANCE WITH OPERATING PROCEDURE 0208.14. THEREFORE, THE TECH SPEC REQUIREMENT FOR MINIMUM DEGREE OF REDUNDANCY FOR REACTOR TRIP SIGNALS ON PRESSURIZER HIGH WATER LEVEL WAS SATISFIED. DURING A RCS COOLDOWN TO AFFECT REPAIRS, VALVE 3-538 WAS MANUALLY BACKSEATED AND THE LEAK STOPPED. IMMEDIATE CORRECTIVE ACTIONS INCLUDED: 1) A MANUAL UNIT SHUTDOWN AND SUBSEQUENT COOLDOWN TO REPAIR VALVE, 2) ORIGINAL VALVE PACKING GLAND FLANGE WAS REPLACED WITH A 'STRONG-BACK' PLATE AND WASHER, 3) AN INSPECTION OF ALL ROCKWELL 3/4 INCH VALVES ON UNITS 3 AND 4 WITH BOTH UNITS SHUT DOWN AND, 4) AN OVERPRESSURE TEST AND VISUAL LEAK CHECK OF THE RCS WERE PERFORMED AND SATISFACTORILY COMPLETED. THE LONG TERM CORRECTIVE ACTION TO BE TAKEN IS TO HAVE ENGINEERING EVALUATE THESE FAILURES FOR THE ROOT CAUSE AND PROVIDE PERMANENT FIX RECOMMENDATIONS. SIMILAR OCCURRENCES: 250-84-019.

[165] TURKEY POINT 3 DOCKET 50-250 LER 84-021
 MAINTENANCE ERROR CAUSES REACTOR TRIP.
 EVENT DATE: 071484 REPORT DATE: 081384 NSSS: WE TYPE: PWR

(NSIC 191043) ON JUL 14, 1984, UNIT 3 EXPERIENCED A REACTOR TRIP FROM A SUBCRITICAL CONDITION. THE REACTOR TRIP SIGNAL WAS CAUSED BY A POWER INTERRUPTION OF THE SOURCE RANGE NUCLEAR INSTRUMENTATION CONTROL POWER WHILE MAINTENANCE PERSONNEL WERE TROUBLESHOOTING THE CIRCUITRY. ALL EQUIPMENT FUNCTIONED AS DESIGNED ON INITIATION OF THE ENGINEERED SAFETY FEATURE ACTUATION SIGNAL (ESFAS). IMMEDIATE ACTIONS INCLUDED: 1) VERIFICATION THAT AN ACTUAL REACTOR POWER EXCURSION HAD NOT OCCURRED VIA THE OTHER SOURCE RANGE CHANNEL N-31 AND, INTERMEDIATE RANGE CHANNELS N-35 AND N-36. 2) VERIFICATION THAT A POWER INTERRUPTION OF THE N-32 CIRCUITRY HAD OCCURRED BY MAINTENANCE PERSONNEL TROUBLESHOOTING THE EQUIPMENT. 3) PERFORMED OFF-NORMAL OPERATING PROCEDURE 208.1 FOR REACTOR TRIP. 4) IN ACCORDANCE WITH 10 CFR 50.72(B)(2)(II), NOTIFICATION OF A SIGNIFICANT EVENT WAS MADE TO THE NRCOC AND THE RESIDENT INSPECTOR. IMMEDIATE CORRECTIVE ACTION WAS TO COUNSEL MAINTENANCE PERSONNEL ON THE NEED TO EXERCISE CAUTION WHEN TROUBLESHOOTING THE NUCLEAR INSTRUMENTATION WITH THE REACTOR PROTECTION EQUIPMENT IN SERVICE. SIMILAR OCCURRENCES: 251-84-14.

[166] TURKEY POINT 4 DOCKET 50-251 LER 84-015
 INADVERTENT SAFETY INJECTION PUMP ACTUATION.
 EVENT DATE: 071684 REPORT DATE: 081084 NSSS: WE TYPE: PWR

(NSIC 190981) ON JUL 16, 1984, WHILE AT COLD SHUTDOWN CONDITIONS, UNIT 4 EXPERIENCED AN UNEXPECTED START OF THE 4A HIGH HEAD SAFETY INJECTION (HHSI) PUMP. THE ROOT CAUSE WAS DETERMINED TO STEM FROM CONSTRUCTION PERSONNEL INSTALLING SCAFFOLDING IN THE VICINITY OF THE BREAKER AND DUE TO THE LIMITED SPACE BETWEEN THE SCAFFOLDING AND SWITCHGEAR, THEY BRUSHED AGAINST THE LOCAL SWITCH STARTING THE PUMP. NO ENGINEERED SAFETY FEATURE ACTUATION SIGNAL (ESFAS) WAS PRESENT, THEREFORE, THE VALVES DID NOT LINE UP AND NO FLOW WAS DELIVERED TO THE CORE. IMMEDIATE CORRECTIVE ACTIONS INCLUDED: 1) THE 4A HHSI PUMP WAS STOPPED AND IN AN ATTEMPT TO VERIFY THE ROOT CAUSE, PLANT PERSONNEL RECREATED THE EVENTS AT THE BREAKER CUBICLE WHICH INDEED STARTED THE PUMP, AND 2) CONSTRUCTION PERSONNEL WERE CAUTIONED ABOUT THE IMPORTANCE OF BEING CAREFUL WHEN WORKING IN THE VICINITY OF ELECTRICAL BREAKERS. SIMILAR OCCURRENCES: LER 250-84-007, LER 250-84-012, AND LER 251-84-006.

[167] VERMONT YANKEE DOCKET 50-271 LER 84-013
 STANDBY LIQUID CONTROL RELIEF VALVES HAVE LOW SETPOINTS.
 EVENT DATE: 072184 REPORT DATE: 082084 NSSS: GE TYPE: BWR
 VENDOR: CROSBY VALVE

(NSIC 191200) DURING ROUTINE MAINTENANCE ON THE SLC SYSTEM, RELIEF VALVES SR-11-38 A AND B WERE FOUND TO HAVE THEIR SETPOINTS BELOW THE REQUIRED RANGE, AS PER TECH SPEC 4.4.A.2. THE MOST PROBABLE CAUSE FOR THE LOW SETPOINT WAS ATTRIBUTED TO THE TESTING TECHNIQUE. THE VALVES WERE RESET, RETESTED, AND REINSTALLED. THE TEST PROCEDURE USED FOR CALIBRATION WILL BE UPDATED.

[168] VERMONT YANKEE DOCKET 50-271 LER 84-014
 ENVIRONMENTAL AIR SAMPLING STATION INOPERABLE.
 EVENT DATE: 072384 REPORT DATE: 082084 NSSS: GE TYPE: BWR

(NSIC 191143) DURING WEEKLY ENV AIR SAMPLE COLLECTIONS ON 7/22/84, IT WAS DISCOVERED THAT A CONTINUOUS SAMPLE WAS NOT BEING DRAWN AT SAMPLE STATION AT 1.2. TECH SPECS TABLE 3.9.1 REQUIRES THAT CONTINUOUS AIR SAMPLING BE PERFORMED. LOW PLANT RELEASE LEVELS WERE MONITORED DURING THIS PERIOD AND PAST EXPERIENCE HAS INDICATED THAT THESE LEVELS ARE DETECTABLE BY ENV AIR SAMPLING. THE MAIN FUSE FOR THE SAMPLING STATION HAD BLOWN OUT APPROX 8 HRS INTO SAMPLING CYCLE. A SEVERE ELECTRICAL STORM WAS REPORTED IN THE AREA AT THIS TIME. A NEW FUSE WAS INSTALLED IN THE SAMPLE STATION AND A SUBSEQUENT FUNCTIONAL CHECK OF THE STATION WAS PERFORMED. NO FURTHER DAMAGE WAS NOTED. A PREVIOUS SIMILAR OCCURRENCE WAS REPORTED AS LER 80-28/3L.

[169] VERMONT YANKEE DOCKET 50-271 LER 84-015
 REACTOR SCRAM WHILE SHUT DOWN DUE TO LOSS OF VITAL BUS.
 EVENT DATE: 072484 REPORT DATE: 082384 NSSS: GE TYPE: BWR

(NSIC 191144) ON 7-24-84 THE REACTOR WAS SHUT DOWN WITH THE MODE SWITCH IN THE SHUT DOWN POSITION. A HALF SCRAM SIGNAL WAS PRESENT DUE TO REPAIR WORK ON 'B' RPS MG SET. WHILE PERFORMING A SECOND VERIFICATION THAT THE 'B' DIESEL GENERATOR 4KV POT FUSE DRAWER WAS RACKED IN, THE OPERATOR INADVERTENTLY WITHDREW THE DRAWER. THIS RESULTED IN A LOSS OF NORMAL POWER TO BUS 3 WHICH CAUSED A REACTOR SCRAM ON LOSS OF POWER TO THE 'A' RPS MG SET. THE OPERATOR IMMEDIATELY INSERTED THE DRAWER ALLOWING THE 'G' DG TO AUTO SYNC TO SUPPLY BUS 3 LOADS.

[170] WPPSS 2 DOCKET 50-397 LER 84-073
 AUTO START OF THE CONTROL ROOM EMERGENCY FILTRATION SYSTEM ON HI CHLORINE.
 EVENT DATE: 030884 REPORT DATE: 080284 NSSS: GE TYPE: BWR

(NSIC 191034) A SPURIOUS HI CHLORINE ALARM FROM WOA-SR-15 CAUSED THE CONTROL ROOM EMERGENCY FILTRATION SYSTEM TO AUTO START. THIS IS CONSIDERED AN AUTOMATIC ACTUATION OF AN ESF SYSTEM. THE HI CHLORINE ALARM WAS CAUSED BY A COMPONENT FAILURE IN THE ELECTRONICS MODULE ON THE CHLORINE ANALYZER. THE IMMEDIATE CORRECTIVE ACTION WAS TO RESET THE ALARM AND TO RETURN THE CONTROL ROOM VENTILATION TO ITS NORMAL CONFIGURATION.

[171] WPPSS 2 DOCKET 50-397 LER 84-064
 REACTOR PROTECTION SYSTEM - CHANNEL 'B' CIRCUIT BREAKER TRIP.
 EVENT DATE: 062384 REPORT DATE: 071284 NSSS: GE TYPE: BWR
 VENDOR: GENERAL ELECTRIC CO.

(NSIC 191032) ON 6/23/84 A 100 AMP CIRCUIT BREAKER (CB2B) IN RPS POWER DISTRIBUTION PANEL (C72-P001) TRIPPED CAUSING A 1/2 SCRAM AND FULL INITIATION OF BOTH FAZ (BOP ISOLATIONS). THE EVENT WAS REPORTED UNDER THE REQUIREMENTS OF 10CFR50.72(B)(2)(II). THE BREAKER WAS RESET AND SYSTEMS RESTORED TO NORMAL STATUS. A FEW HOURS LATER THE SAME BREAKER TRIPPED AGAIN AND WOULD NOT RESET. ELECTRICIANS FOUND A BAD CONNECTION ON CABLE BPRPS-9026 AT THE BREAKER WHICH CAUSED THE BREAKER TO OVERHEAT. THE CABLE CONNECTION WAS REWORKED AND BREAKER RESET.

[172] WPPSS 2 DOCKET 50-397 LER 84-070
 DIESEL GENERATORS TESTED WITHOUT PRELUBE/WARMUP.
 EVENT DATE: 063084 REPORT DATE: 071984 NSSS: GE TYPE: BWR
 VENDOR: GENERAL MOTORS

(NSIC 191083) ON TWELVE OCCASIONS (FROM 06/30/84 THROUGH 07/11/84) TESTING WAS PERFORMED ON STANDBY DG'S WITHOUT A PRELUBE/WARMUP. THIS VIOLATES TECH SPEC 4.8.1.1.2.A.4. THESE EVENTS ARE THE RESULT OF THE FINAL TECH SPEC BEING ISSUED WITH A CHANGE REQUIRING A PRELUBE/WARMUP OF THE DIESEL ENGINES PER THE MANUFACTURER'S RECOMMENDATION. THIS WOULD INVOLVE RUNNING THE ENGINES AT IDLE SPEED. THE INSTALLED STANDBY DIESEL ENGINES WERE DESIGNED AND TESTED TO THE REQUIREMENTS OF REG. GUIDE 1.108 AND 1.9 AND ASSOCIATED IEEE STANDARDS AND DO NOT HAVE THE CAPABILITY TO RUN AT IDLE SPEED. THE NRC PROJECT MANAGER WAS NOTIFIED BY TELEPHONE AND A TECH SPEC CHANGE REQUEST INITIATED PRIOR TO THE VIOLATION.

[173] WPPSS 2 DOCKET 50-397 LER 84-072
 ISOLATION OF REACTOR WATER CLEANUP.
 EVENT DATE: 070584 REPORT DATE: 072684 NSSS: GE TYPE: BWR
 VENDOR: ROSEMOUNT, INC.

(NSIC 191033) DURING PLANT OPERATION, REACTOR WATER CLEANUP SYSTEM (RWCU) ISOLATIONS OCCURRED DUE TO ERRONEOUS RWCU HIGH DELTA FLOW TRIPS. (ISOLATION OF RWCU IS AN ESF ACTUATION.) A TOTAL OF 3 ISOLATIONS OCCURRED, 1 ON 7/5/84 AND 2 ON 7/6/84. PRIOR TO THESE TRIPS, RWCU DELTA FLOW WAS FUNCTIONING JUST BELOW ITS TRIP SETPOINT (58.5 GPM). THE RWCU DELTA FLOW INSTRUMENTS WERE CHECKED FOR PROPER CALIBRATION. ON THE RETURN LINE TO REACTOR VESSEL, TRANSMITTER RWCU-FT-41, WAS FOUND TO HAVE INADEQUATE RESPONSE. THE TRANSMITTER WAS REPLACED. THE SENSING LINES FOR THE BLOWDOWN FLOW TRANSMITTER RWCU-FT-15 WERE FOUND PARTIALLY FILLED. THE SENSING LINES WERE REFILLED AND VENTED AT THEIR HIGH POINTS. THESE ISOLATIONS WERE REPORTED TO THE NRC AT 2210 HRS ON 7/5/84 AND TWICE ON 7/6/84.

[174] WPPSS 2 DOCKET 50-397 LER 84-075
 STANDBY DIESEL GENERATOR FAILURE.
 EVENT DATE: 070984 REPORT DATE: 080284 NSSS: GE TYPE: BWR
 VENDOR: PARSONS PEEBLES-ELEC PRODS INC

(NSIC 191036) ON 7/9/84, DURING MONTHLY SURVEILLANCE TESTING, STANDBY DG 1B INCURRED A HIGH VIBRATION ALARM. FOLLOW-UP INVESTIGATION REVEALED THAT THE SLIP RING END BEARING HAD TURNED ON THE SHAFT INSULATION, THUS DESTROYING THE INSULATION AND ALLOWING THE SHAFT TO DROP SLIGHTLY AND RUB ON THE BEARING HOUSING. THE PLANT WAS SHUT DOWN, PLACED IN MODE IV, AND AN INSPECTION OF STANDBY DG 1A COMMENCED CONCURRENT WITH REPAIRS TO DG 1B. ON 7/13/84 DG 1A WAS DECLARED INOPERABLE AFTER PRELIMINARY CHECKS REVEALED IT MAY HAVE SUFFERED A SIMILAR FAILURE. THE 500 KV:25 KV ELECTRICAL SYSTEM WAS THEN SETUP TO PROVIDE BACKFEED CAPABILITY, THUS ASSURING AVAILABILITY OF 3 INDEPENDENT OFFSITE POWER SOURCES. VERBAL NOTIFICATION, VIA ENS, WAS PROVIDED AT 1741 HRS ON 7/13/84. CORRECTIVE ACTION INCLUDED MODIFICATION OF THE BEARING INSULATION.

[175] WPPSS 2 DOCKET 50-397 LER 84-074
 INAPPROPRIATE RELEASE OF LIQUID EFFLUENT.
 EVENT DATE: 071284 REPORT DATE: 080284 NSSS: GE TYPE: BWR

(NSIC 191035) RADWASTE TANKS EDR-TK-4B AND FDR-TK-9 WERE BOTH SCHEDULED FOR RELEASE TO THE ENVIRONMENT. ANALYSIS DATA FOR EDR-TK-4B WAS ENTERED ON THE FDR-TK-9 DATA SHEET RESULTING IN THE INAPPROPRIATE RELEASE OF FDR-TK-9 WITHOUT CORRECT SUPPORTING DATA. 6300 GALLONS WERE DISCHARGED PRIOR TO THE ERROR BEING DISCOVERED AND THE RELEASE TERMINATED. COMPLETED ANALYSIS OF FDR-TK-9 INDICATED THE RELEASE WAS ALLOWABLE, WITH NO DILUTION REQUIRED, AND ALL ISOTOPES WERE BELOW THE LIMITS OF 10CFR50 APPENDIX I AND 10 CFR20 APPENDIX E, TABLE II, COLUMN II. THIS RELEASE WAS REPORTED TO THE NRC AT 2248 HRS ON 7/12/84.

[176] WPPSS 2 DOCKET 50-397 LER 84-077
 UNSCHEDULED ACTUATIONS OF CONTROL ROOM EMERGENCY FILTRATION UNIT.
 EVENT DATE: 072084 REPORT DATE: 080884 NSSS: GE TYPE: BWR
 VENDOR: KAMAN SCIENCES CORP.

(NSIC 191084) A CONTROL ROOM EMERGENCY FILTRATION UNIT (AN ESP SYSTEM) WAS AUTOMATICALLY ACTUATED ON 7/20/84 AND 7/21/84 DUE TO SPIKES ON A CORRESPONDING CONTROL ROOM OUTSIDE AIR RADIATION MONITOR. IN RESPONSE TO EACH EVENT, AFTER VERIFYING THAT RADIATION LEVELS WERE NOT ABOVE NORMAL BACKGROUND, THE EMERGENCY FILTRATION UNIT AND THE RADIATION MONITOR WERE RESET AND RETURNED TO A NORMAL LINEUP. THESE EVENTS WERE VERBALLY REPORTED TO THE NRC (2339 HRS 7/20/84 AND 1250 HRS 7/21/84) IN ACCORDANCE WITH 10CFR50.72(B)(2)(II).

[177] YANKEE ROWE DOCKET 50-029 LER 84-013
 480 VOLT BUS FAILURE.
 EVENT DATE: 080284 REPORT DATE: 083184 NSSS: WE TYPE: PWR
 VENDOR: WESTINGHOUSE ELECTRIC CORP.

(NSIC 191136) DURING NORMAL OPERATION IN MODE 1 A FAULT OCCURRED IN THE 480 VOLT SUPPLY ACB TO BUS 4-1 THAT RESULTED IN 4-1 BUS ISOLATION, FIRE DETECTION INITIATION AND HALON DISCHARGE. THE FIRE BRIGADE RESPONDED AS REQUIRED, AND AN ALERT CONDITION WAS DECLARED AND TERMINATED APPROX 70 MINS LATER. A CONTROLLED PLANT SHUTDOWN IN ACCORDANCE WITH TECH SPECS WAS INITIATED TO AFFECT REPAIRS. THE CAUSE OF THE FAULT HAS BEEN ATTRIBUTED TO HIGH RESISTANCE IN THE MAIN DISCONNECTING CONTACTS OF THE CENTER PHASE OF THE ACB WHICH CAUSED AN ARC TO PROPAGATE TO THE OUTSIDE PHASES. THE HIGH RESISTANCE WAS PROBABLY CAUSED BY FAILURE OF THE CONTACT RETAINER RING ON THE FINGER CLUSTER OF THE WESTINGHOUSE DB-50 ACB. TWO DB-50 ACBS WERE REPLACED ALONG WITH ASSOCIATED CUBICLES, RELAYS,

SWITCHES AND WIRING. FINGER CLUSTERS ON 3 MORE DB-50 ACBS WERE REPLACED WITH A NEW TYPE NOT SUBJECT TO THIS TYPE OF FAILURE. ALL OTHER DB-50 AND DB-25 ACBS WERE GIVEN A COMPLETE INSPECTION TO VERIFY THAT NO FAILURE PRONE TYPE FINGER CLUSTERS ARE NOW IN SERVICE.

[178] ZION 1 DOCKET 50-295 LER 84-020
 LOSS OF PRESSURE IN GAS DECAY TANK 2B WHILE RELEASING GAS DECAY TANK 1C.
 EVENT DATE: 051484 REPORT DATE: 081584 NSSS: WE TYPE: PWR
 VENDOR: ROTO HAMMER COMPANY, INC.

(NSIC 191147) WHILE RELEASING GAS DECAY TANK 1C (THE GDT'S ARE COMMON TO UNITS 1 AND 2) IT WAS OBSERVED THAT THE 2B GAS DECAY TANK HAD DECREASED FROM A READING OF 100 PSIG, TAKEN EARLIER ON 3RD SHIFT, TO A VALUE OF 60 PSIG. THE RELEASE WAS THEN PROMPTLY SECURED. AN INVESTIGATION OF THE GAS DECAY TANK VALVE LINE-UP SHOWED THAT 3 VALVES THAT HAD FULLY CLOSED INDICATIONS AT THEIR REACH ROD HANDLES WERE ACTUALLY OPEN. BECAUSE OF THIS IMPROPER VALVE LINE-UP, THE 1C AND 2B GAS DECAY TANKS WERE CROSS-TIED. THIS RESULTED IN THE RELEASE OF A PORTION OF THE CONTENTS OF THE 2B GAS DECAY TANK PRIOR TO COMPLETING THE TECH SPEC REQUIRED 45 DAY HOLD-UP PERIOD. WORK REQUESTS HAVE BEEN WRITTEN FOR THE REPAIR OF THE FAULTY REACH RODS. AN ADDITIONAL PRECAUTIONARY MEASURE WILL BE ADDED TO THE GAS DECAY TANK RELEASE PROCEDURE. THE STATION IS ALSO INVESTIGATING THE POSSIBILITY OF ADDING CERTAIN WASTE GAS SYSTEM REACH RODS TO THE PREVENTIVE MAINTENANCE PROGRAM.

[179] ZION 1 DOCKET 50-295 LER 84-017
 FAILURE OF CONTAINMENT NOBLE GAS MONITOR.
 EVENT DATE: 062284 REPORT DATE: 072084 NSSS: WE TYPE: PWR
 VENDOR: EBERLINE INSTRUMENT CORP.

(NSIC 191053) WHILE PERFORMING PT-0 APPENDIX N (DAILY SURVEILLANCE) THE LOW RANGE NOBLE GAS DETECTOR OF THE UNIT 1 CONTAINMENT AIR MONITOR (1RIA-PR40) FAILED TO RESPOND TO THE CHECK SOURCE. AN ATTEMPT TO BUG THE DETECTOR LOCALLY WAS UNSUCCESSFUL DUE TO THE USE OF A HIGHER SOURCE STRENGTH THAN NECESSARY, CAUSING A 'FAIL-HI' CONDITION TO OCCUR, WHICH WAS NOT INTERPRETED AS SUCH. IN FACT, THE DETECTOR WAS OPERATIONAL THE ENTIRE TIME AND THE PROBLEM WAS CAUSED BY A DEFECTIVE CHECK SOURCE MECHANISM. THE MECHANISM WAS REPAIRED AND THE DETECTOR RETURNED TO SERVICE. THERE WERE NO SAFETY IMPLICATIONS.

[180] ZION 2 DOCKET 50-304 LER 84-004 REV 1
 UPDATE ON PLANT CONDITIONS NOT BOUNDED BY SAFETY ANALYSIS.
 EVENT DATE: 012084 REPORT DATE: 071284 NSSS: WE TYPE: PWR

(NSIC 191054) ZION HAS NOW RECEIVED A NEW LOSS OF FEEDWATER ANALYSIS FROM WESTINGHOUSE. ENOUGH MARGIN EXISTS IN THE ANALYSIS SUCH THAT BY INPUTTING AN INITIAL REACTOR POWER OF 102% RATHER THAN 102% OF THE 118% ENGINEERED SAFETY FEATURE POWER NO ADDITIONAL ACTIONS ARE REQUIRED AND THE STANDING ORDER CAN BE CANCELLED. THE METHODOLOGY FOR THE LOSS OF FEEDWATER TRANSIENT ANALYSIS IS THE SAME AS THE ORIGINAL PSAR. THE REDUCTION IN INITIAL REACTOR POWER IS LESS CONSERVATIVE BUT CONSISTENT WITH THE NRC STANDARD REVIEW PLAN (NUREG-0800). BASED ON THE NEW ANALYSIS ZION STATION'S PRACTICE OF THROTTLING AUX FEEDWATER FLOWS IS WITHIN THE SAFETY ANALYSIS. NO FURTHER CORRECTIVE ACTION IS REQUIRED AT THIS TIME.

[181] ZION 2 DOCKET 50-304 LER 84-019
 PRESSURIZER PRESSURE TRANSMITTERS LEFT ISOLATED.
 EVENT DATE: 070184 REPORT DATE: 081584 NSSS: WE TYPE: PWR

(NSIC 191150) ON 7-1-84 WITH UNIT 2 IN HOT SHUTDOWN AND RX PRESSURE BEING

INCREASED, A CONTROL ROOM OPERATOR DISCOVERED 2 PRESSURIZER PRESSURE CHANNELS DID NOT RESPOND AT THE LOW END OF THEIR RANGE. UPON INVESTIGATION, INSTRUMENT MAINTENANCE TECHNICIANS FOUND BOTH TRANSMITTER'S UPSTREAM ISOLATION VALVES CLOSED. UPON UNISOLATING THE VALVES, THE CHANNELS RESPONDED NORMALLY TO PRESSURE CHANGES. THE TRANSMITTERS WERE RETURNED TO SERVICE. THESE VALVES ARE NOT NORMALLY CLOSED BUT HAD BEEN CLOSED IN ORDER TO PERFORM A MODIFICATION TO THE SYSTEM AND HAD NOT BEEN REALIGNED. THESE UPSTREAM ISOLATION VALVES HAVE BEEN ADDED TO THE OPERATING DEPARTMENT VALVE LINEUP SHEET.

[182] ZION 2 DOCKET 50-304 LER 84-017
 REACTOR TRIP DURING PHYSICS TESTING.
 EVENT DATE: 070484 REPORT DATE: 080384 NSSS: WE TYPE: PWR

(NSIC 190997) WHILE CONDUCTING PHYSICS TESTS ON UNIT 2, NUCLEAR INSTRUMENTATION SYSTEM (NIS) CHANNEL 41 WAS OUT OF SERVICE FOR THE TEST WITH THE OVERPOWER AND OVERTEMPERATURE DELTA T BISTABLES TRIPPED. INSTRUMENT INVERTER 214 WAS IN THE PROCESS OF BEING RETURNED TO SERVICE TO SUPPLY THE INSTRUMENT BUS WHICH FEEDS NIS CHANNEL 44. PER THE TEST SCENARIO, NIS CHANNEL 41 FUSES WERE REINSTALLED, BUT THE ABOVE BISTABLES WERE STILL TRIPPED. WHEN INSTRUMENT BUS 214 WAS MOMENTARILY DEENERGIZED TO SWITCH POWER SOURCES, OVERPOWER DELTA T AND OVERTEMPERATURE DELTA T TRIPS ON NIS CHANNEL 44 WERE ALSO MADE UP, AND THE A, B, AND C SHUTDOWN BANKS WERE TRIPPED INTO THE REACTOR. DURING THE EVENT, REACTOR PROTECTION SYSTEM FUNCTIONED PROPERLY.

[183] ZION 2 DOCKET 50-304 LER 84-016
 INSTRUMENT INVERTER FAILURE CAUSES REACTOR TRIP.
 EVENT DATE: 070984 REPORT DATE: 080684 NSSS: WE TYPE: PWR
 VENDOR: SOLA ELECTRIC COMPANY

(NSIC 191055) A REACTOR TRIP FROM HOT STANDBY, MODE 2, OCCURRED DUE TO AN INSTRUMENT INVERTER FAILURE AND CONSEQUENTIAL LOSS OF A NUCLEAR INSTRUMENTATION SYSTEM INTERMEDIATE RANGE MONITOR CHANNEL. THE INVERTER FAILURE WAS CAUSED BY A SHORT CIRCUIT IN AN OUTPUT REGULATING TRANSFORMER. THE TRANSFORMER INSULATION FAILED DUE TO PREVIOUS OVERHEATING CAUSED BY LONG-TERM CIRCULATING CURRENT PROBLEMS. THESE PROBLEMS HAVE BEEN ADDRESSED AS A RESULT OF PREVIOUS NON-REPORTABLE OCCURRENCES. ALL DAMAGED TRANSFORMERS IN THIS APPLICATION ARE BEING REPLACED AS REPLACEMENT PARTS BECOME AVAILABLE. PREVENTATIVE MAINTENANCE AND SURVEILLANCES TO PREVENT RECURRENCE OF THE OVERHEATING PROBLEMS ARE BEING PERFORMED. THE UNIT TRIP WOULD NOT HAVE OCCURRED IF THE UNIT HAD BEEN AT POWER WHEN THE TRIPS INVOLVED ARE BLOCKED.

[184] ZION 2 DOCKET 50-304 LER 84-020
 CONTAINMENT TEMPERATURE LIMIT EXCEEDED.
 EVENT DATE: 081484 REPORT DATE: 082984 NSSS: WE TYPE: PWR
 VENDOR: WESTINGHOUSE ELEC CORP.-NUCLEAR ENERGY SYS

(NSIC 191151) DURING NORMAL POWER OPERATION OF UNIT 2 IN MODE 1 THE CONTAINMENT BLDG TEMPERATURE EXCEEDED THE TECH SPEC LIMIT (3.10.6) OF 120 DEGREES. LOCAL READINGS INDICATED CONTAINMENT TEMPERATURE AS HIGH AS 120.48 DEGREES. AN 'UNUSUAL EVENT' WAS DECLARED AS THE UNIT WAS PLACED IN HOT SHUTDOWN WITHIN 4 HRS AS IS REQUIRED BY TECH SPECS. ON 8-15-84 A COMPLETE TEMPERATURE SURVEY WAS CONDUCTED AND A VOLUME WEIGHTED AVERAGE TEMPERATURE WAS CALCULATED. THE NEW TEMPERATURE VALUE OF 113 DEGREES WAS DETERMINED TO BE A MORE ACCURATE VALUE FOR BULK CONTAINMENT TEMPERATURE. DURING THIS PERIOD LAKE (COOLING WATER) TEMPERATURE WAS 72-76 DEGREES AND 1 CONTAINMENT FAN COOLER WAS NOT AVAILABLE FOR SERVICE. AFTER THE NEW METHOD OF CALCULATING CONTAINMENT TEMPERATURE DETERMINED THE CONTAINMENT WAS AT LESS THAN 120 DEGREES, THE UNIT WAS RETURNED TO SERVICE.

COMPONENT INDEX

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

AIR 148
 BEARING 135, 174
 BLOWERS 35, 49, 112, 148
 BREAKER 1, 3, 9, 11, 74, 96, 100, 105, 111, 141, 158, 169, 171, 177
 BYPASS 56, 58, 60
 CABLES AND CONNECTORS 3, 9, 17, 22, 24-26, 51, 76, 90, 97, 108, 109, 132, 141, 142, 165, 169, 171, 182
 COMPONENTS 7, 14, 20, 30, 33, 39, 45, 96, 105, 111, 114, 122, 124, 140, 147, 174, 178, 179
 COMPUTER, DIGITAL 3, 9, 32, 34, 53, 69, 104, 120, 125
 CONDENSER 99, 155, 156
 CONTAINMENT AIR LOCK 14, 64, 107
 CONTRACTOR PERSONNEL 36, 41, 76, 91, 113, 175
 CONTROL 4, 13, 15, 18, 19, 23, 47, 54, 80, 122, 134, 138, 146, 156, 180
 CONTROL ROD DRIVES 95
 CONTROL RODS 3, 39, 95
 COOLING DEVICE 10, 159, 184
 CRANE 66, 78
 DEMINERALIZERS 92
 DRAINAGE 42
 DRIVE 117, 121, 140
 ELECTRIC POWER 1, 3, 9, 11, 74, 90, 96, 100, 105, 111, 141, 158, 169, 171, 177
 ELECTRONIC FUNCTION UNITS 4, 7, 11, 22, 41, 47, 52, 90, 120, 122, 131, 141, 182, 183
 ENGINES, INTERNAL COMBUSTION 19, 51, 150, 172, 174
 EQUIPMENT 36, 77, 146
 FAILURE, COMPONENT 7, 14, 20, 30, 33, 39, 45, 96, 105, 111, 114, 122, 124, 140, 147, 174, 178, 179
 FAILURE, EQUIPMENT 1-11, 13-15, 17-20, 22-26, 28-30, 32-37, 39-42, 44-49, 51-61, 64-66, 68, 69, 71, 73, 74, 76-78, 80-92, 95-97, 99-102, 104-114, 117, 118, 120-122, 124-127, 129-146, 148, 150, 151, 153-159, 164-167, 169, 171-178, 180-184
 FAILURE, INSTRUMENT 3, 7-9, 11-19, 22-26, 31, 35, 38, 39, 41, 43, 46, 49-51, 53, 54, 63, 64, 67, 69, 70, 72, 75, 77, 79, 84, 85, 93, 95-100, 102-105, 111, 112, 116, 119, 120, 122, 125, 127-129, 131, 136-139, 141, 144, 146, 147, 149, 150, 152, 153, 158-164, 166, 168, 170, 173, 176, 178, 179, 181
 FAILURE, PIPE 21, 29, 48, 55, 80, 82, 111, 121, 123, 126, 154
 FAILURE, TUBING 6, 153
 FASTENER 14, 113, 140, 146
 FILTERS 42, 136, 157
 FIRE 12, 152, 163
 FIRE PROTECTION 108
 FLOW 4, 18, 19, 23, 47, 80, 134, 156, 180
 FLUX DISTRIBUTION 24, 25, 95, 116
 FUEL ELEMENTS 15, 90, 125, 138
 FUSE 54, 111, 136, 168
 GENERATOR, DIESEL 1, 19, 42, 51, 139, 150, 151, 172, 174
 GENERATOR, MOTOR 9, 169
 HEAT EXCHANGERS 4, 10, 80, 97, 99, 122, 138, 145, 148, 155, 156, 159, 184
 HEATERS 46
 HOSE 113
 HYDRAULIC SYSTEM 13
 INDICATORS 7, 22, 24-26, 31, 38, 39, 43, 69, 95, 97, 104, 122, 125, 129, 136, 141, 144, 153, 162, 176, 178
 INSTRUMENT LINE 46, 122, 173
 INSTRUMENT, ALARM 12, 152, 163
 INSTRUMENT, CONTROL 35, 98, 103, 166
 INSTRUMENT, CURRENT 149
 INSTRUMENT, FLOW 122, 173
 INSTRUMENT, INTERLOCK 3, 14, 64
 INSTRUMENT, LIQUID LEVEL 72, 77, 164
 INSTRUMENT, POSITION 15, 18, 19, 22, 39, 95, 99, 100, 178
 INSTRUMENT, SPEED 147
 INSTRUMENT, SWITCH 8, 9, 11, 16, 18, 19, 22, 35, 53, 67, 70, 75, 84, 85, 93, 95, 96, 98-100, 102, 103, 112, 120, 127, 128, 139, 144, 147, 159, 166, 170
 INSTRUMENT, TESTING 96, 139
 INSTRUMENT, VOLTAGE 9, 51, 63, 105, 111, 150, 161
 INSTRUMENTS, MISC. 97, 122
 INSULATION 108, 132, 174, 183
 INVERTER 183
 MONITOR 128, 170
 MOTORS 99, 100, 133, 134
 NEUTRON 24, 25, 95, 116
 NOZZLE 122
 OPERATOR ACTION 2, 6, 8, 11-15, 17, 19, 23, 24, 26-30, 32-34, 38, 42-44, 46-48, 50-54, 56, 58, 59, 61-64, 66, 67, 71, 72, 74-79, 81, 83, 84, 86-88, 90, 91, 94, 96-98, 101-103, 106, 108, 109, 111, 112, 114, 115, 117, 119, 120, 130, 131, 135, 136, 138, 141-143, 145, 147-150, 152, 154-156, 158, 160-167, 169, 172-174, 178, 179, 181, 182
 PENETRATION 6, 14, 48, 55, 64, 83, 86, 107
 PENETRATION, ELECTRICAL 55
 PENETRATION, PIPE 48, 55
 PIPES AND PIPE FITTINGS 21, 29, 80, 82, 111, 121, 123, 126, 154
 PNEUMATIC SYSTEM 4, 10, 42, 73, 112, 145

COMPONENT INDEX

PRESSURE DROP 13, 23, 54, 146
PRESSURE RELIEF 80, 82, 145, 154, 167,
177
PRESSURE VESSELS 8, 13, 58, 90
PRESSURE, INTERNAL 13, 23, 54, 146
PUMPS 3, 10, 19, 23, 29, 30, 37, 40,
58, 73, 80, 121, 126, 133, 136, 140,
151, 166
RADIATION MONITORS 7, 26, 31, 38, 43,
49, 67, 70, 102, 103, 127, 129, 136,
141, 144, 162, 168, 176, 179
REACTOR 8, 13, 58, 90
RECORDERS 168
RELAYS 3, 9, 17, 50, 51, 63, 79, 102,
105, 111, 149, 150, 158, 160, 161
RESPONSE TIME 150
SAMPLING 44
SEAL 2, 6, 47, 48, 55, 83, 86, 106,
107, 164
SENSORS, FLOW 16, 31, 41, 75, 84, 85,
122, 144, 173
SENSORS, LEVEL 46, 72, 77, 104, 153,
164
SENSORS, PRESSURE 8, 11, 53, 93, 112,
119, 120, 137, 146, 181
SENSORS, TEMPERATURE 9, 69, 125, 159
SERVOMECHANISM 65, 99, 100, 117, 133,
134
SHOCK ABSORBER 28, 135
SMOKE 12, 152, 163
SOLENOID 97, 112
SOLID STATE DEVICE 7, 22, 47, 183
STEAM GENERATOR 4, 80, 97, 122, 145
STEEL, STAINLESS 177
STORAGE CONTAINER 15, 153, 175, 178
STRUCTURE 124, 169
SUPPORT STRUCTURE 28, 111, 135, 148
SYSTEM CAPACITY 122, 138
TRANSFORMERS 183
TUBING 6, 153
TURBINE 4, 9, 15, 53, 56, 122, 146, 156
VALVE OPERATORS 4, 10, 13, 18, 19, 42,
54, 60, 65, 73, 92, 97, 99, 100, 112,
117, 118, 133, 134, 145
VALVE, CHECK 57, 110, 122, 154
VALVES 1, 4, 5, 7, 9, 10, 13-15, 17-20,
23, 26, 30, 33, 37, 42, 45, 47, 49,
54, 56-61, 64, 65, 71, 73, 74, 80-82,
84, 85, 87-92, 97, 99-102, 106, 107,
110-112, 114, 117, 118, 122, 126, 127,
129-131, 133, 134, 136-138, 141, 143-
146, 154-156, 159, 164, 167, 173, 176-
178, 180, 181

SYSTEM INDEX

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

CONTAINMENT ISOLATION 106
FAILURE, INSTALLATION ERROR 106

KEYWORD INDEX

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

ACTUATION 8, 9, 17, 26, 42, 49-52, 60, 67, 77, 79, 82, 84, 85, 89, 92, 97, 102, 109, 120, 127, 129, 131, 139, 141, 144, 155, 158, 159, 166, 169, 171, 173, 176

ACTUATOR 11, 17, 46, 47, 52, 77, 79, 84, 85, 102, 109, 120, 128, 137, 150, 171, 173

ADMINISTRATIVE PERSONNEL ERROR - SEE FAILURE, ADMINISTRATIVE CONTROL

AIR 148

ANNUNCIATORS 25, 42, 46, 49, 70, 84, 89, 91, 99, 120, 127, 138, 141, 144, 158, 170, 174, 176

ARKANSAS NUCLEAR 1 (PWR) 1

ARKANSAS NUCLEAR 2 (PWR) 2-6

ARNOLD (BWR) 7-9

AUXILIARY 14, 35, 36, 44, 48, 83, 86, 107, 123, 133, 141, 148, 157, 180

BEARING 135, 174

BEAVER VALLEY 1 (PWR) 10-12

BIG ROCK POINT (BWR) 13-15

BLOWERS 35, 49, 112, 148

BREAKER 1, 3, 9, 11, 74, 96, 100, 105, 111, 141, 158, 169, 171, 177

BROWNS FERRY 1 (BWR) 16-19

BROWNS FERRY 2 (BWR) 16, 19

BROWNS FERRY 3 (BWR) 16, 17, 19

BRUNSWICK 1 (BWR) 20-23

BRUNSWICK 2 (BWR) 23, 24

BUILDING 7, 14, 26, 35, 36, 38, 42-45, 48-50, 71, 80, 83, 86, 88, 107, 111, 123, 128, 129, 141, 148, 151, 157, 158, 162, 163, 170, 176

BWR REACTOR - SEE REACTOR, BWR

BYPASS 13, 15, 56, 58, 60, 90, 146

CABLES AND CONNECTORS 3, 9, 17, 22, 24-26, 51, 76, 90, 97, 108, 109, 132, 141, 142, 165, 169, 171, 182

CALIBRATION 2, 11, 12, 19, 27, 28, 35, 37, 38, 43, 44, 50, 53, 61, 64, 72, 75, 77, 83, 86, 96, 98, 114, 119, 120, 130, 136, 139, 143, 150, 152, 162, 163, 167, 172, 175, 179, 182

CALLAWAY 1 (PWR) 25-27

CALVERT CLIPPS 1 (PWR) 28

CALVERT CLIPPS 2 (PWR) 28, 29

CATAWBA 1 (PWR) 30-32

COMMUNICATION 17, 38, 87, 88, 139, 162

COMPONENT COOLING SYSTEM 130

COMPONENT FAILURE - SEE FAILURE, COMPONENT

COMPONENTS 7, 14, 20, 30, 33, 39, 45, 96, 105, 111, 114, 122, 124, 140, 147, 174, 178, 179

COMPUTER, DIGITAL 3, 9, 32, 34, 53, 69, 104, 120, 125

CONCENTRATION 68, 113, 153

CONDENSATION 25

CONDENSER 99, 155, 156

CONDENSER COOLING SYSTEM 3, 156

CONNECTICUT YANKEE (PWR) 33

CONSTRUCTION 8, 113, 114, 166

CONTAINMENT 10, 12, 14, 16, 29, 47, 59, 64, 66, 70, 94, 102, 107, 108, 112, 113, 119, 127, 134, 137, 141, 144, 154, 158, 159, 164, 179, 184

CONTAINMENT AIR LOCK 14, 64, 107

CONTAINMENT ATMOSPHERE 106

CONTAINMENT ISOLATION 14, 17, 23, 57, 64, 73, 84, 85, 89, 92, 97, 99, 100, 102, 106, 107, 127, 131, 137, 141, 144, 145, 155, 159, 173

CONTAINMENT PURGE 94

CONTAINMENT PURGE/TSP 94

CONTAINMENT/SSF 70, 137, 154, 159

CONTAINMENT/TSP 10, 113, 127, 164, 184

CONTAMINATION 32, 127, 154

CONTRACTOR PERSONNEL 36, 41, 5, 91, 113, 175

CONTROL 4, 7, 13, 15, 18, 19, 23, 26, 47, 49, 50, 54, 71, 90, 106, 122, 128, 129, 134, 138, 146, 156, 158, 162, 163, 170, 176, 180

CONTROL PANEL/ROOM 76

CONTROL ROD DRIVES 11, 22, 39, 73, 95, 96, 105

CONTROL RODS 3, 39, 95

CONTROL SYSTEM 4, 11, 13, 15, 22, 39, 50, 56, 80, 90, 95, 111, 120, 122, 138, 139, 146

COOK 1 (PWR) 34-38

COOK 2 (PWR) 38-40

COOLANT PURIFICATION SYSTEM 29, 30, 46, 68, 75, 81, 82, 84, 85, 89, 92, 121, 123, 143, 159, 166, 173

COOLANT PURIFICATION SYSTEM/TSP 82, 84, 85, 89, 92

COOLING 1, 10

COOLING DEVICE 10, 159, 184

COOLING SYSTEM, SECONDARY 4, 15, 52, 58, 80, 97, 103, 122, 127, 131, 133, 138, 145, 155, 156, 180

COOLING SYSTEM, SECONDARY/SSF 103, 133

COOLING SYSTEM, SECONDARY/TSP 15, 80, 138, 180

COOPER (BWR) 41

CORE 3, 15, 24, 25, 27, 34, 39, 41, 58, 90, 95, 116, 125, 138, 165, 183

CORE SPRAY 23

CORE/SSF 27, 95, 165, 183

CORE/TSP 27, 58

CORROSION 20, 21, 124

CRACK 6, 10, 14, 21, 80, 122, 124, 140, 145, 164

CRANE 66, 78

CRUD 4, 5, 7, 18, 25, 110, 121, 153, 157

KEYWORD INDEX

- CRYSTAL RIVER 3 (PWR) 42-44
 CYCLING 39
 CYLINDER GAS 113
 DAVIS-BESSE 1 (PWR) 45-48
 DEMINERALIZERS 92
 DESIGN ERROR - SEE FAILURE, DESIGN ERROR
 DIABLO CANYON 1 (PWR) 49-52
 DIABLO CANYON 2 (PWR) 50, 51
 DIESEL GENERATOR - SEE GENERATOR, DIESEL
 DOSE MEASUREMENT, INTERNAL 88
 DRAINAGE 42, 82, 92
 DRESDEN 2 (BWR) 53-56
 DRESDEN 3 (BWR) 54, 55, 57-60
 DRIFT 7, 43, 63, 72, 93, 119, 150, 161
 DRIVE 117, 121, 140
 EARTHQUAKE 124, 160
 EFFECT, PH 113
 ELECTRIC POWER 1, 3, 9, 11, 46, 51, 63, 74, 90, 96, 100, 105, 108, 111, 141, 142, 149, 150, 158, 161, 168, 169, 171, 177
 ELECTRIC POWER/TSP 9
 ELECTRIC POWER, VITAL 9, 26, 54, 136, 141, 158, 165, 169, 182, 183
 ELECTRICAL FAILURE 3, 7, 9, 17, 18, 25, 26, 39, 51, 52, 54, 90, 99, 100, 102, 108, 111, 133, 134, 136, 141, 165, 168, 169, 177, 182, 183
 ELECTRONIC FUNCTION UNITS 4, 7, 11, 22, 41, 47, 52, 90, 120, 122, 131, 141, 182, 183
 EMERGENCY COOLING SYSTEM 37, 109
 EMERGENCY COOLING SYSTEM/SSF 109
 EMERGENCY COOLING SYSTEM/TSP 37
 EMERGENCY POWER, ELECTRIC 1, 19, 42, 51, 139, 150, 151, 160, 172, 174
 EMERGENCY POWER, ELECTRIC/SSF 1, 42, 51, 139, 150, 151, 174
 EMERGENCY POWER, ELECTRIC/TSP 139
 ENGINEERED SAFETY FEATURE 8, 9, 11, 17, 26, 42, 46, 47, 49-52, 60, 67, 77, 79, 82, 84, 85, 89, 92, 97, 102, 109, 120, 127-129, 131, 137, 139, 141, 144, 150, 155, 158, 159, 166, 169, 171, 173, 176
 ENGINEERED SAFETY FEATURE/SSF 46, 109, 137
 ENGINEERED SAFETY FEATURE/TSP 171
 ENGINES, INTERNAL COMBUSTION 1, 19, 42, 51, 139, 150, 151, 172, 174
 ENVIRONMENT/TSP 32, 124, 160
 EQUIPMENT 36, 77, 82, 92, 146
 EQUIPMENT FAILURE - SEE FAILURE, EQUIPMENT
 EXPOSURE - SEE PERSONNEL EXPOSURE, RADIATION
 FABRICATION ERROR - SEE FAILURE, FABRICATION ERROR
 FAILURE 1-184
 FAILURE, ADMINISTRATIVE CONTROL 2, 11, 12, 23, 27, 28, 30, 31, 33, 35-37, 43, 44, 52, 53, 62, 63, 66, 72, 75-78, 86-88, 91, 96, 98, 101, 102, 109, 114, 115, 120, 130, 131, 143, 150, 152, 154, 156, 162, 163, 167, 169, 172, 181
 FAILURE, COMPONENT 7, 14, 20, 30, 33, 39, 45, 96, 105, 111, 114, 122, 124, 140, 147, 174, 178, 179
 FAILURE, DESIGN ERROR 13-15, 23, 26, 29, 41, 42, 53, 54, 84, 108, 112, 114, 117, 142, 145, 147, 160, 161, 164, 173, 174
 FAILURE, EQUIPMENT 1-11, 13-15, 17-20, 22-26, 28-30, 32-37, 39-42, 44-49, 51-61, 64-66, 68, 69, 71, 73, 74, 76-78, 80-92, 95-97, 99-102, 104-114, 117, 118, 120-122, 124-127, 129-146, 148, 150, 151, 153-159, 164-167, 169, 171-178, 180-184
 FAILURE, FABRICATION ERROR 32, 135, 158, 178
 FAILURE, INSTALLATION ERROR 6, 17, 51, 83, 106, 148
 FAILURE, INSTRUMENT 3, 7-9, 11-19, 22-26, 31, 35, 38, 39, 41, 43, 46, 49-51, 53, 54, 63, 64, 67, 69, 70, 72, 75, 77, 79, 84, 85, 93, 95-100, 102-105, 111, 112, 116, 119, 120, 122, 125, 127-129, 131, 136-139, 141, 144, 146, 147, 149, 150, 152, 153, 158-164, 166, 168, 170, 173, 176, 178, 179, 181
 FAILURE, MAINTENANCE ERROR 17, 24, 33, 46, 54, 59, 64, 66, 74, 76, 79, 90, 91, 97, 101-103, 109, 111, 122, 141, 165, 169
 FAILURE, OPERATOR ERROR 30, 31, 40, 47, 52, 56, 58, 67, 71, 78, 80-82, 94, 95, 131, 134, 138, 154-156, 162, 181
 FAILURE, PIPE 21, 29, 48, 55, 80, 82, 111, 121, 123, 126, 154
 FAILURE, TUBING 6, 153
 FARLEY 1 (PWR) 61
 FARLEY 2 (PWR) 62
 FASTENER 14, 113, 140, 146
 FATIGUE 29, 123
 FEEDWATER 4, 58, 122, 133, 138, 180
 FILTERS 42, 136, 157
 FIRE 6, 12, 100, 152, 163, 177
 FIRE PROTECTION 2, 5, 6, 12, 33, 36, 45, 48, 55, 61, 62, 71, 83, 86, 101, 108, 114, 115, 126, 132, 149, 152, 163, 177
 FIRE PROTECTION/SSF 62, 115, 177
 FITZPATRICK (BWR) 63-65
 FLAW 29
 FLOOD 126
 FLOW 4, 18, 19, 23, 47, 80, 82, 112, 134, 136, 156, 180

KEYWORD INDEX

- FLOW BLOCKAGE 46, 122, 153
 FLUX DISTRIBUTION 15, 24, 25, 58, 90, 95, 113, 116, 125, 138
 FT. CALHOUN 1 (PWR) 66-70
 FUEL ELEMENTS 15, 26, 38, 43, 45, 90, 125, 138
 FUSE 54, 111, 136, 168
 GENERATOR, DIESEL 1, 19, 42, 51, 139, 150, 151, 172, 174
 GENERATOR, MOTOR 9, 169
 GENERATORS 4, 11, 13, 15, 56, 58, 60, 80, 90, 111, 122, 146, 155, 156
 GINNA (PWR) 71
 GRAND GULF 1 (BWR) 72-75
 GRAND GULF 2 (BWR) 73
 HATCH 1 (BWR) 76
 HATCH 2 (BWR) 76-78
 HEAT EXCHANGERS 4, 10, 80, 97, 99, 122, 138, 145, 148, 155, 156, 159, 184
 HEATERS 46
 HIGH 13, 15, 47, 80, 82, 90, 97, 113, 122, 126, 145, 146, 154-157
 HIGH TEMPERATURE 1, 10, 30, 39, 108, 159, 171, 183, 184
 HOSE 113
 HPCI 9, 18, 53, 57, 65, 118, 154, 157
 HPCI/TSP 18, 65, 118, 154, 157
 HUMAN FACTORS 6, 13-15, 17, 23, 26, 28, 29, 34, 37, 40-42, 48, 50, 53, 54, 58, 59, 62, 64, 67, 80, 82, 84, 103, 106, 108, 111, 112, 114, 117, 119, 135, 136, 138, 142, 145, 147-149, 158, 160, 161, 164, 165, 173, 174, 178, 179
 HYDRAULIC EFFECT 122
 HYDRAULIC SYSTEM 13
 HYDROGEN 106
 IMPACT SHOCK 8, 24, 51, 74
 INCIDENT, HUMAN ERROR 8, 19, 24, 32, 46, 47, 51, 56, 61, 64, 67, 71, 74, 79, 81, 83, 90, 91, 94, 95, 97, 113, 134, 141, 155, 166, 175, 182
 INDIAN POINT 2 (PWR) 79
 INDICATORS 7, 22, 24-26, 31, 38, 39, 43, 69, 95, 97, 104, 122, 125, 129, 136, 141, 144, 153, 162, 176, 178
 INSPECTION 1, 2, 7, 9, 11, 13, 16, 18, 20, 21, 24, 26, 27, 30, 32, 35-37, 39, 40, 48, 50-53, 55, 57, 62, 63, 65, 68, 72, 75, 77, 78, 80, 83, 84, 86-93, 96-101, 105-108, 110, 114, 117-121, 124, 126, 129-133, 135-137, 139, 141, 143-145, 147, 148, 150, 151, 153-157, 159-162, 164, 165, 167-169, 172, 174, 176, 178, 179, 181, 182
 INSTALLATION ERROR - SEE FAILURE, INSTALLATION ERROR
 INSTRUMENT FAILURE - SEE FAILURE, INSTRUMENT
 INSTRUMENT LINE 46, 122, 173
 INSTRUMENT, ABNORMAL INDICATION 4, 8, 9, 11, 13, 15, 16, 18, 19, 22-27, 31, 32, 34, 39, 41, 46, 49, 50, 53, 67, 69, 70, 77, 79, 84, 85, 95, 97, 100, 102, 104, 116, 120, 122, 125, 127-129, 137, 138, 141, 144, 146, 147, 153, 158, 159, 164-166, 170, 173, 176, 178, 181, 183
 INSTRUMENT, ALARM 12, 25, 42, 46, 49, 70, 84, 89, 91, 99, 120, 127, 138, 141, 144, 152, 158, 163, 170, 174, 176
 INSTRUMENT, CONTROL 35, 98, 103, 166
 INSTRUMENT CURRENT 149
 INSTRUMENT FLOW 122, 173
 INSTRUMENT, IN CORE 24, 25, 27, 41, 95, 116, 165, 183
 INSTRUMENT, IN CORE/SSF 27, 95, 165, 183
 INSTRUMENT, IN CORE/TSP 27
 INSTRUMENT, INTERLOCK 3, 14, 64
 INSTRUMENT, LIQUID LEVEL 72, 77, 164
 INSTRUMENT, NON-NUCLEAR 16, 23, 32, 35, 53, 54, 97, 112, 147, 153, 159, 166, 170
 INSTRUMENT, POSITION 15, 18, 19, 22, 39, 95, 99, 100, 178
 INSTRUMENT, SPEED 147
 INSTRUMENT, SWITCH 8, 9, 11, 16, 18, 19, 22, 35, 53, 67, 70, 75, 84, 85, 93, 95, 96, 98-100, 102, 103, 112, 120, 127, 128, 139, 144, 147, 159, 166, 170
 INSTRUMENT, TESTING 96, 139
 INSTRUMENT, VOLTAGE 9, 51, 63, 105, 111, 150, 161
 INSTRUMENTS, MISC. 97, 122
 INSULATION 108, 132, 174, 183
 INVERTER 183
 KEWAUNEE (PWR) 80, 81
 LA SALLE 1 (BWR) 82-87
 LA SALLE 2 (BWR) 86, 88-94
 LEAK 29, 42, 47, 57, 80, 82, 89, 92, 106, 107, 110, 111, 113, 123, 126, 151, 154, 157, 164, 178
 LEAK DETECTION 9, 70, 75, 93, 102, 127, 136, 141, 144, 159, 179
 LEAK DETECTION/SSF 70
 LIGHTNING 168
 LOCAL CONTROL PANEL 17
 LOW 4, 8, 15, 42, 52, 56, 58, 68, 73, 80, 81, 92, 97, 111, 112, 136, 139, 153, 173, 180
 LPCI 54
 LPCI/TSP 54
 MAIN COOLING SYSTEM 3, 4, 11, 20, 21, 29, 40, 47, 52, 69, 80, 82, 97, 110, 120, 122, 125, 127, 131, 138, 145, 164, 181, 182
 MAIN COOLING SYSTEM/SSF 40
 MAIN COOLING SYSTEM/TSP 47, 52, 110, 138, 164

KEYWORD INDEX

- MAINE YANKEE (PWR) 95
 MAINTENANCE AND REPAIR 4, 6, 7, 10,
 13-15, 17, 18, 20, 22, 25, 26, 29,
 30, 36, 40, 42, 46, 54, 64, 73, 76,
 80, 83, 92, 95, 97, 100, 108, 111,
 112, 120-122, 127, 133, 134, 136,
 140, 145-147, 153, 157-159, 161, 164,
 171, 173, 174, 178, 183
 MAINTENANCE ERROR - SEE FAILURE,
 MAINTENANCE ERROR
 MATERIAL 20, 83
 MATERIAL & EQUIP. HANDLING SYSTEM 66,
 78
 MCGUIRE 1 (PWR) 96
 MCGUIRE 2 (PWR) 97, 98
 MILLSTONE 1 (BWR) 99, 100
 MILLSTONE 2 (PWR) 101
 MODIFICATION 181
 MONITOR 12, 128, 149, 152, 163, 170
 MONITORING SYSTEM, RADIATION 7, 26,
 31, 38, 43, 49, 67, 129, 141, 162,
 168, 176
 MONTICELLO (BWR) 102
 MOTORS 99, 100, 133, 134
 NEUTRON 24, 25, 95, 116
 NINE MILE POINT 1 (BWR) 103, 104
 NOISE 24, 69, 95, 129, 144, 176
 NORTH ANNA 1 (PWR) 105, 106
 NORTH ANNA 2 (PWR) 106
 NOZZLE 122
 NRC-AE 180
 OFF GAS 136
 OFF GAS/TSP 136
 OFF SITE 9, 178
 ON SITE 1, 3, 9, 11, 51, 63, 74, 90,
 96, 100, 105, 108, 111, 142, 149,
 150, 154, 161, 168, 169, 171, 177
 OPERATION 1-8, 10, 14, 16-19, 23, 28,
 29, 33, 34, 36-38, 41-48, 53, 55, 56,
 61-63, 65, 68-71, 73, 81-83, 86-88,
 90-93, 96-99, 101, 104-106, 111, 112,
 114, 115, 118, 123, 126, 129, 130,
 136, 138-148, 151, 153, 156, 159,
 164, 170, 172-174, 177-180, 184
 OPERATOR ACTION 2, 6, 8, 11-15, 17,
 19, 23, 24, 26-30, 32-34, 38, 42-44,
 46-48, 50-54, 56, 58, 59, 61-64, 66,
 67, 71, 72, 74-79, 81, 83, 84, 86-88,
 90, 91, 94, 96-98, 101-103, 106, 108,
 109, 111, 112, 114, 115, 117, 119,
 120, 130, 131, 135, 136, 138, 141-
 143, 145, 147-150, 152, 154-156, 158,
 160-167, 169, 172-174, 178, 179, 181,
 182
 OPERATOR ERROR - SEE FAILURE, OPERATOR
 ERROR
 OXIDATION 20, 21, 124
 PALISADES (PWR) 107-111
 PEACH BOTTOM 2 (BWR) 112-115
 PEACH BOTTOM 3 (BWR) 112, 114
 PENETRATION 6, 14, 48, 55, 64, 83, 86,
 107
 PENETRATION, ELECTRICAL 55
 PENETRATION, PIPE 48, 55
 PERSONNEL EXPOSURE, RADIATION 88
 PH EFFECT - SEE EFFECT, PH
 PIPE FAILURE - SEE FAILURE, PIPE; PIPES
 AND PIPE FITTINGS
 PIPES AND PIPE FITTINGS 21, 29, 80,
 82, 111, 121, 123, 126, 154
 PNEUMATIC SYSTEM 4, 10, 42, 73, 112,
 140, 145
 PNEUMATIC SYSTEM/SSF 42
 PNEUMATIC SYSTEM/TSP 73
 POINT BEACH 1 (PWR) 116
 POISON, SOLUBLE 46, 68, 81, 143, 153
 POISON, SOLUBLE/SSF 46
 POWER DISTRIBUTION 39, 95
 PRECIPITATION 46
 PRESSURE DROP 13, 23, 54, 146
 PRESSURE RELIEF 20, 80, 82, 97, 145,
 154, 167, 177
 PRESSURE VESSELS 8, 13, 53, 58, 72,
 77, 90, 104
 PRESSURE, EXTERNAL 13, 15, 42, 47, 56,
 73, 80, 90, 97, 111, 126, 145, 146,
 154-157
 PRESSURE, INTERNAL 13, 15, 23, 42, 47,
 54, 56, 73, 80, 90, 97, 111, 126,
 145, 146, 154-157
 PRESSURIZER 11, 47, 120, 164, 181
 PROCEDURES AND MANUALS 2, 11, 12, 19,
 23, 27, 28, 30, 31, 34-38, 41, 43,
 44, 53, 61-64, 71, 72, 75-78, 86, 96,
 98, 102, 107, 109, 114, 115, 120,
 130, 131, 143, 149, 150, 152, 154,
 156, 162, 163, 167, 169, 172, 181
 PROCESS MONITORING 3, 8, 9, 40, 41,
 69, 72, 96-98, 103, 104, 119, 125,
 131, 158, 164, 169, 171, 181, 182
 PROPERTY, CHEMICAL 124
 PROPERTY, MECHANICAL 117
 PUMPS 3, 10, 19, 23, 29, 30, 37, 40,
 58, 73, 80, 121, 126, 133, 136, 140,
 151, 166
 PWR REACTOR - SEE REACTOR, PWR
 QUAD CITIES 1 (BWR) 117
 QUAD CITIES 2 (BWR) 118
 RADIATION MONITORS 7, 26, 31, 38, 43,
 49, 67, 70, 102, 103, 127, 129, 136,
 141, 144, 162, 168, 176, 179
 RADIATION PROTECTION PERSONNEL 67, 91
 RADIOACTIVITY RELEASE 32, 127, 154,
 178
 RCIC 93, 99, 100, 176
 RCIC/TSP 100
 REACTOR 8, 13, 58, 90
 REACTOR CONTROL 22, 39, 95
 REACTOR POWER 22
 REACTOR PROTECTION SYSTEM 3, 8, 9, 40,
 41, 69, 72, 96-98, 103, 119, 125,
 131, 158, 164, 169, 171, 181, 182
 REACTOR PROTECTION SYSTEM/SSF 40, 41,
 103, 171

KEYWORD INDEX

- REACTOR PROTECTION SYSTEM/TSF 9
 REACTOR SHUTDOWN 3, 4, 8-11, 13, 15, 24, 25, 29, 47, 52, 56, 58, 69, 73, 80, 90, 95, 97, 98, 103, 111, 116, 122, 123, 145, 146, 155, 156, 164, 165, 174, 182-184
 REACTOR STARTUP 9, 13, 22, 54, 60, 95, 122, 152, 155, 157, 158, 172
 REACTOR STARTUP EXPERIENCE 30-32, 50, 58, 85
 REACTOR, BWR 7-9, 13-24, 41, 53-60, 63-65, 72-78, 82-94, 99, 100, 102-104, 112-115, 117, 118, 151-159, 167-176
 REACTOR, PWR 1-6, 10-12, 25-40, 42-52, 61, 62, 66-71, 79-81, 95-98, 101, 105-111, 116, 119-150, 160-166, 177-184
 RECORDERS 168
 REFUELING 17, 19-21, 23, 57, 76-79, 113, 117, 119-121, 167
 RELAYS 3, 9, 17, 50, 51, 63, 79, 102, 105, 111, 149, 150, 158, 160, 161
 RESPONSE TIME 2, 28, 30, 31, 35, 36, 38, 40, 47, 61-64, 67, 71, 75, 77, 78, 83, 86-88, 91, 94, 111, 114, 115, 120, 130, 131, 136, 146, 148, 150, 152, 154, 162, 167, 181, 182
 REVIEW 12, 19, 23, 28, 31, 34, 38, 41, 43, 44, 53, 61, 63, 64, 75, 107, 115, 130, 149, 150, 152, 162, 163
 RHR 19, 74, 110, 117, 130, 135, 143
 RHR/TSF 74, 110, 117, 143
 ROBINSON 2 (PWR) 119
 SALEM 1 (PWR) 120, 121
 SALEM 2 (PWR) 122, 123
 SAMPLING 44
 SAN ONOPRE 1 (PWR) 124, 126
 SAN ONOPRE 2 (PWR) 125-132
 SAN ONOPRE 3 (PWR) 125, 126, 129, 130, 132-138
 SCRAM, REAL 3, 4, 9, 13, 15, 24, 25, 47, 52, 56, 58, 73, 80, 90, 95, 97, 103, 111, 116, 122, 145, 146, 155, 156, 165, 182, 183
 SCRAM, SPURIOUS 8, 11, 69, 95, 98
 SEAL 2, 6, 47, 48, 55, 83, 86, 106, 107, 164
 SENSORS, FLOW 16, 31, 41, 75, 84, 85, 122, 144, 173
 SENSORS, LEVEL 46, 72, 77, 104, 153, 164
 SENSORS, PRESSURE 8, 11, 53, 93, 112, 119, 120, 137, 146, 181
 SENSORS, TEMPERATURE 9, 69, 125, 159
 SEQUOYAH 1 (PWR) 139-142
 SEQUOYAH 2 (PWR) 140, 143, 144
 SERVICE WATER SYSTEM 19, 54, 124, 147, 184
 SERVICE WATER SYSTEM/TSF 54, 124, 184
 SERVOMECHANISM 65, 99, 100, 117, 133, 134
 SHOCK ABSORBER 28, 135
 SHUTDOWN SYSTEM, SECONDARY 153, 167
 SMOKE 6, 12, 100, 152, 163, 177
 SOLENOID 97, 112
 SOLID STATE DEVICE 7, 22, 47, 50, 120, 183
 SPENT FUEL POOL 38, 81
 SPENT FUEL POOL/TSF 38
 ST. LUCIE 1 (PWR) 145, 146
 STACK 31, 67
 STEAM GENERATOR 4, 80, 97, 122, 127, 131, 138, 145
 STEAM GENERATOR/TSF 138
 STEEL, STAINLESS 177
 STORAGE CONTAINER 15, 46, 68, 81, 143, 153, 175, 178
 STRUCTURE 2, 6, 33, 55, 61, 82, 87, 91, 101, 106, 114, 115, 124, 126, 141, 152, 169
 STRUCTURE/SSF 115
 STRUCTURE/TSF 87, 126
 SUBSYSTEM FAULT 1, 7, 16, 27, 40-42, 46, 51, 62, 70, 95, 103, 109, 112, 115, 133, 134, 137, 139, 150, 151, 154, 159, 165, 170, 171, 174, 176, 177, 183
 SUMMER 1 (PWR) 147-150
 SUPPORT STRUCTURE 28, 111, 135, 148
 SUSQUEHANNA 1 (BWR) 151-156, 158
 SUSQUEHANNA 2 (BWR) 152, 157-159
 SYSTEM CAPACITY 4, 8, 15, 58, 80, 81, 92, 97, 122, 138, 153, 173
 TECHNICAL SPECIFICATIONS 2, 11, 44, 96, 98, 162, 163
 TEMPERATURE 52, 138
 TEST INTERVAL 12, 19, 28, 31, 38, 44, 47, 53, 78, 130, 136, 149, 150, 152, 163, 175
 TEST, SYSTEM OPERABILITY 1, 2, 7, 9, 11, 13, 16, 18, 20, 21, 24, 26, 27, 30, 32, 35-37, 39, 40, 48, 50-53, 55, 57, 62, 63, 65, 68, 72, 75, 77, 78, 80, 83, 84, 86-93, 96-101, 105-108, 110, 114, 117-121, 124, 126, 129-133, 135-137, 139, 141, 143-145, 147, 148, 150, 151, 153-157, 159-162, 164, 165, 167-169, 172, 174, 176, 178, 179, 181, 182
 TESTING 2, 11, 12, 19, 23, 27, 28, 31, 34, 35, 37, 38, 41, 43, 44, 50, 53, 61, 63, 64, 72, 75, 77, 83, 86, 96, 98, 107, 114, 115, 119, 120, 130, 136, 139, 143, 149, 150, 152, 162, 163, 167, 172, 175, 179, 182
 THREE MILE ISLAND 1 (PWR) 160, 161
 THREE MILE ISLAND 2 (PWR) 162, 163
 TORUS 59, 65
 TOTAL SYSTEM FAULT 7, 9, 10, 15, 18, 27, 32, 37, 38, 47, 50, 52, 54, 56, 58, 65, 73, 74, 80, 82, 84, 85, 87, 89, 92, 94, 100, 102, 110-113, 117, 118, 124, 126, 127, 136, 138, 139,

KEYWORD INDEX

TOTAL SYSTEM FAULT 143, 146, 154, 157,
158, 160, 162, 164, 171, 180, 184
TRAINING 120
TRANSFORMERS 183
TRANSIENT 8, 85
TUBING 6, 153
TUBING FAILURE - SEE FAILURE, TUBING
TURBINE 4, 9, 11, 13, 15, 53, 56, 58,
60, 71, 80, 90, 111, 122, 138, 146,
155, 156
TURBINE/TSF 56, 111, 146
TURKEY POINT 3 (PWR) 164, 165
TURKEY POINT 4 (PWR) 164, 166
UPDATE 1, 16, 17, 20-22, 28, 34, 45-
47, 57, 58, 80, 105, 112, 113, 125,
133-136, 151, 180
VALVE OPERATORS 4, 10, 13, 18, 19, 42,
54, 60, 65, 73, 92, 97, 99, 100, 112,
117, 118, 133, 134, 145
VALVE, CHECK 57, 110, 122, 154
VALVES 1, 4, 5, 7, 9, 10, 13-15, 17-
20, 23, 26, 30, 33, 37, 42, 45, 47,
49, 54, 56-61, 64, 65, 71, 73, 74,
80-82, 84, 85, 87-92, 97, 99-102,
106, 107, 110-112, 114, 117, 118,
122, 126, 127, 129-131, 133, 134,
136-138, 141, 143-146, 154-156, 159,
164, 167, 173, 176-178, 180, 181
VENTILATION SYSTEM 5, 7, 10, 16, 26,
35, 44, 49, 50, 94, 102, 112, 127-
129, 134, 141, 144, 148, 158, 159,
162, 170, 176, 184
VENTILATION SYSTEM/SSF 7, 16, 112,
134, 170, 176
VENTILATION SYSTEM/TSF 7, 50, 102,
112, 158, 162
VERMONT YANKEE (BWR) 167-169
VIBRATION 111, 122, 123, 170, 174
WASTE MANAGEMENT 88
WASTE TREATMENT, GAS 178
WASTE TREATMENT, LIQUID 32, 89, 175
WATER 10
WEAR 174
WELDS 29
WPPSS 2 (BWR) 170-176
YANKEE ROWE (PWR) 177
ZION 1 (PWR) 178-180
ZION 2 (PWR) 178, 180-184

VENDOR CODE INDEX

ABEX CORPORATION 60
 AIR BALANCE, INC. 114
 ALLIS CHALMERS 111
 AMERICAN WARMING & VENTILATING INC. 5
 ANCHOR/DARLING VALVE CO. 23, 154
 ASCO VALVES 106, 112
 ASSOCIATED PIPING & ENGINEERING COR 21
 BAHNSON INDUSTRIAL AIR QUALITY DIV 148
 BAILEY INSTRUMENT CO., INC. 122
 BIF 156
 BLACK-SIVALS-BRYSON 80
 BROWN BOVERI 147, 161
 BRUCE GM DIESEL, INC. 139
 BYRON JACKSON PUMPS, INC. 29
 CHICAGO BRIDGE AND IRON COMPANY 14, 64
 CLOW CORP. 126
 COMBUSTION ENGINEERING, INC. 3
 COOPER-BESSEMER CO. 151
 CRANE COMPANY 30, 118
 CROSBY VALVE 167
 DARLING VALVE & MFG CO. 1
 DRESSER INDUSTRIAL VALVE & INST DIV 71
 EBERLINE INSTRUMENT CORP. 179
 ELECTRO - MOTIVE DIV. OF GM 95
 FISCHER & PORTER CO. 146
 FISHER CONTROLS CO. 4
 GEN ELECTRIC SUPPLY CO 158
 GENERAL ELECTRIC CO. 3, 13, 15, 63,
 160, 171
 GENERAL ELECTRIC CORP. (NUCLEAR ENG 41
 GENERAL MOTORS 172
 HILLS-MCCANNA COMPANY 89
 INGERSOL-RAND CO. 140
 ITT GRINNELL 28
 KAMAN SCIENCES CORP. 176
 L N D, INC. 49
 LIMITORQUE CORP. 65, 118, 133
 LONERGAN, J.E., CO. 82
 MASONEILAN INTERNATIONAL, INC. 10
 MCDONNELL & MILLER ITT 16
 MINNEAPOLIS-HONEYWELL 7
 MISSION VALVE AND PUMP COMPANY 57
 NORGREN 42
 NUCLEAR MEASUREMENTS CORP. 7
 ORTEC, INC. 32
 PACIFIC PUMPS 121
 PACIFIC SCIENTIFIC COMPANY 135
 PARSONS PEBBLES-ELEC PRODS INC 174
 RELIANCE ELECTRIC COMPANY 133
 ROCKWELL-INTERNATIONAL 47, 164
 ROSEMOUNT, INC. 72, 173
 ROTO HAMMER COMPANY, INC. 178
 SOLA ELECTRIC COMPANY 183
 STATIC-O-RING 93
 TARGET ROCK CORP. 20
 TELEDYNE CORP. 99, 100
 TYLER PIPE IND INC 126
 VALCOR ENGINEERING CORP. 106
 WESTINGHOUSE ELEC CORP.-NUCLEAR ENE 184
 WESTINGHOUSE ELECTRIC CORP. 105, 120,
 146, 177
 WOOLLEY, W. J. COMPANY 107

BIBLIOGRAPHIC DATA SHEET

SEE INSTRUCTIONS ON THE REVERSE

1. REPORT NUMBER (Assigned by TIDC, add Vol. No., if any)

NUREG/CR-2000, Vol. 3, No. 10
ORNL/NSIC-200

2. TITLE AND SUBTITLE

Licensee Event Report (LER) Compilation
for month of October 1984

3. LEAVE BLANK

4. DATE REPORT COMPLETED

MONTH YEAR

November 1984

6. DATE REPORT ISSUED

MONTH YEAR

November 1984

5. AUTHOR(S)

Prepared by Oak Ridge National Laboratory

7. PERFORMING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code)

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

8. PROJECT/TASK/WORK UNIT NUMBER

9. FIN OR GRANT NUMBER

FIN A9135

10. 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

11. TYPE OF REPORT

Monthly Report

12. PERIOD COVERED (Inclusive dates)

October 1984

12. SUPPLEMENTARY NOTES

13. ABSTRACT (200 words or less)

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 (and revisions to those events) occurring prior to 1984 are described in NRC Regulatory Guide 1.16 and NUREG-0161, Instructions for Preparation of Data Entry Sheets for Licensee Event Reports. For those vents 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. 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.

14. DOCUMENT ANALYSIS - KEYWORDS/DESCRIPTORS

licensee event report (LER)

15. AVAILABILITY STATEMENT

Unlimited

16. SECURITY CLASSIFICATION

(This page)
Unclassified

(This report)
Unclassified

17. NUMBER OF PAGES

18. PRICE

19. IDENTIFIERS - OPEN ENDED TERMS

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

FIRST CLASS MAIL
POSTAGE & FEES PAID
USNRC
WASH. D.C.
PERMIT No. G-67

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

120555078877 1 IANICVINJ11M1
US NRC
ADM-DIV OF TIDC
POLICY & PUB MGT BR-PDR NUREG
W-501
WASHINGTON DC 20555

NOVEMBER 1984