July 10, 1992

MEMORANDUM FOR: Charles E. Rossi, Director
Division of Operational Events Assessment

FROM: Alfred E. Chaffee, Chief
Events Assessment Branch
Division of Operational Events Assessment

SUBJECT: OPERATING REACTORS EVENTS MEETING
JULY 8, 1992 - MEETING 92-10

On July 8, 1992, we conducted an Operating Reactors Events meeting (92-10) to inform senior managers from the Commission Office, EDO, SECY, AEOD, NRR, and regional offices of selected events that occurred since our last briefing on July 1, 1992. Enclosure 1 lists the attendees. Enclosure 2 presents the significant elements of the discussed events.

Enclosure 3 contains reactor scram statistics for the week ending 07/05/92. No significant events were identified for input into the NRC performance indicator program.

/S/

Alfred E. Chaffee, Chief
Events Assessment Branch
Division of Operational
Events Assessment

Enclosures: As stated

cc w/enclosures:
See next page

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KBaumann:kab	RDennig	DFischer	AChaffee
07/9 /92	07/10/92	07/10/92	07/10/92

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DF03 1/1

IDR-5-1
OPERATING EXPERIENCE

140068 RETURN TO REGULATORY CENTRAL FILES

cc:

T. Murley, NRR (12G18)
F. Miraglia, NRR (12G18)
W. Russell, NRR (12G18)
F. Gillespie, NRR (12G18)
J. Partlow, NRR (12G18)
S. Varga, NRR (14E4)
J. Calvo, NRR (14A4)
G. Lainas, NRR (14H3)
B. Boger, NRR (14A2)
J. Zwolinski, NRR (13H24)
M. Virgilio, NRR (13E4)
D. Crutchfield, NRR (11H21)
W. Travers, NRR (11B19)
J. Richardson, NRR (7D26)
A. Thadani, NRR (8E2)
B. Grimes, NRR (9A2)
F. Congel, NRR (10E2)
J. Roe, NRR (10H5)
M. Pohida, NRR (10E4)
T. Martin, RI
W. Kane, RI
C. Hehl, RI
J. Ebneter, RII
L. Reyes, RII
B. Davis, RIII
E. Greenman, RIII
J. Milhoan, RIV
E. Beach, RIV
J.B. Martin, RV
R. Zimmerman, RV
P. Boehnert, ACRS (P-315)
E. Jordan, AEOD (MN-3701)
T. Novak, AEOD (MN-3701)
L. Spessard, AEOD (MN-3701)
E. Weiss, AEOD (MN-3206)
S. Rubin, AEOD (MN-4106)
M. Harper, AEOD (MN-9112)
J. Grant, EDO (17G21)
R. Newlin, GPA (2G5)
E. Beckjord, RES (NLS-007)
A. Bates, SECY (16G15)
G. Rammling, OCM (16H3)

D. Wigginton (PDIV-1)
J. Larkins (PDIV-1)
J. Shea (PDI-2)
C. Miller (PDI-2)

bcc: INPO
ATTN: J. Cowan
1100 Circle 75, Suite 1500
Atlanta, GA 30339

ENCLOSURE 1

LIST OF ATTENDEES

OPERATING REACTORS EVENTS FULL BRIEFING (92-10)

JULY 8, 1992

NAME	OFFICE	NAME	OFFICE
D. FISCHER	NRR	K. MANOLY	NRR
K. MARCUS	NRR	S. BLOOM	NRR
D. SKEEN	NRR	P. O'CONNOR	NRR
K. BAUMANN	NRR	G. HAMMER	NRR
D. GAMBERONI	NRR	M.J. DAVIS	NRR
E. ROSSI	NRR	G. IMBRO	NRR
S. LONG	NRR	E. DOOLITTLE	OCM/FR
S. ROSENBERG	NRR	M. FLEISHMAN	OCM/KR
N. STINSON	NRR	S. SHANKMAN	EDO
C. THOMAS	NRR	R. CRLENJAK	EDO
B. WHITACRE	NRR	K. HART	SECY
H. RATHBUN	NRR	V. BENAROYA	AEOD
R. SCHAAF	NRR	K. DESAI	NRR
W. HAASS	NRR	J. SHEA	NRR

ENCLOSURE 2

OPERATING REACTORS EVENTS BRIEFING 92-10
EVENTS ASSESSMENT BRANCH
LOCATION: 6 B11, WHITE FLINT
WEDNESDAY, JULY 8, 1992, 11:00 A.M.

FORT CALHOUN	FAILURE OF PRESSURIZER SAFETY VALVE TO RESEAT (AIT)
PEACH BOTTOM, UNIT 3	ALERT DECLARED AFTER A TRANSFORMER EXPLOSION RESULTED IN A REACTOR SCRAM

FORT CALHOUN
FAILURE OF PRESSURIZER SAFETY VALVE TO RESEAT
JULY 4, 1992

PROBLEM

A PRESSURIZER CODE SAFETY VALVE FAILED TO RESEAT FOLLOWING A REACTOR TRIP.

CAUSE

TO BE DETERMINED.

SAFETY SIGNIFICANCE

DEGRADATION OF REACTOR COOLANT SYSTEM PRESSURE BOUNDARY.

DISCUSSION

- O THE LICENSEE WAS TROUBLESHOOTING PROBLEMS WITH AN INVERTER FOR A 120 VAC INSTRUMENT BUS.
- O WHEN THE INVERTER WAS RECONNECTED TO THE BUS, THE BUS VOLTAGE BEGAN TO OSCILLATE.
- O THE VOLTAGE FLUCTUATIONS AFFECTED THE GENERATOR LOSS OF LOAD CIRCUITRY, RESULTING IN INDICATED LOSS OF LOAD.
- O THE INDICATED LOSS OF LOAD RESULTED IN A CLOSURE OF THE TURBINE CONTROL VALVES (LOSS OF HEAT SINK).
- O THE LOSS OF HEAT SINK INITIATED A RISE IN RCS PRESSURE, RESULTING IN A REACTOR TRIP ON HIGH PRESSURE. BOTH PORVS AND ONE CODE SAFETY VALVE LIFTED.
- O CODE SAFETY VALVE (CROSBY) DID NOT RESEAT. [MAXIMUM RCS PRESSURE 2430 PSIA, SETPOINT PRESSURE 2498 PSIA]

CONTACTS: P. HARRELL, RIV/K. MARCUS, NRR/DOEA AIT: YES
REFERENCES: 10 CFR 50.72 #23790, AND SIGEVENT: TBD
PNO-IV-92-30 DATED 07/06/92

- O SAFETY INJECTION INITIATED ON LOW PRESSURE.
- O ALL SAFETY SYSTEMS FUNCTIONED AS EXPECTED.
- O REACTOR COOLANT PUMPS WERE TRIPPED PER PROCEDURE, NATURAL CIRCULATION COOLDOWN WAS INITIATED.
- O THE LICENSEE DECLARED AN ALERT AT 11:52 P.M. (RCS LEAKAGE GREATER THAN 40 GPM).
- O 21,500 GALLONS OF REACTOR COOLANT COLLECTED IN THE CONTAINMENT SUMP (AFTER THE QUENCH TANK DISC RUPTURED).
- O THE ALERT WAS DOWNGRADED TO AN UNUSUAL EVENT AT 6:30 A.M. (RCS LEAKAGE LESS THAN 40 GPM).
- O THE UNUSUAL EVENT WAS TERMINATED AT 6:40 P.M. (ACHIEVED COLD SHUTDOWN).
- O THERE WAS NO RELEASE TO THE ENVIRONMENT.
- O THIS EVENT IS EXPECTED TO BE INCLUDED IN THE AEOD ACCIDENT SEQUENCE PRECURSOR PROGRAM (AN EVALUATION WILL BE MADE AT THE COMPLETION OF THE AIT).

FOLLOWUP

- O NRC REGIONAL AND HEADQUARTERS OPERATIONS CENTERS WERE ACTIVATED IN STANDBY MODE - REGIONAL AND HEADQUARTERS STAFF PERFORMED ENHANCED MONITORING OF LICENSEE ACTIVITIES.
- O AIT DISPATCHED/ARRIVED ON SITE JULY 4, 1992.
- O REGIONAL MANAGEMENT CONDUCTED A PRESS CONFERENCE (IN VICINITY OF SITE) ON JULY 6, 1992.

- A CONFIRMATORY ACTION LETTER (CAL) WAS SENT TO THE LICENSEE ON JULY 4, 1992.

- NUMEROUS GENERIC COMMUNICATIONS ON SAFETY VALVE FAILURES HAVE ALREADY BEEN ISSUED. THE NEED FOR AN ADDITIONAL GENERIC COMMUNICATION WILL BE BASED ON AIT FINDINGS.

PEACH BOTTOM, UNIT 3
ALERT DECLARED AFTER A TRANSFORMER EXPLOSION RESULTED IN A REACTOR SCRAM
JULY 4, 1992

PROBLEM

AN ALERT WAS DECLARED WHEN A TURBINE TRIP/REACTOR SCRAM OCCURRED AS A RESULT OF AN EXPLOSION IN THE #1 STARTUP TRANSFORMER.

CAUSE

THE REACTOR SCRAMMED ON LOW CONDENSER VACUUM AS A RESULT OF A LOSS OF THE OFFGAS SYSTEM. THE OFFGAS SYSTEM LOST POWER WHEN ONE OF THE 4KV BUSES FAILED TO FAST TRANSFER TO ITS ALTERNATE OFFSITE POWER SOURCE FOLLOWING THE LOSS OF THE #1 STARTUP TRANSFORMER AND ITS ASSOCIATED EMERGENCY DIESEL GENERATOR (EDG) FAILED TO RECEIVE A START SIGNAL.

SAFETY SIGNIFICANCE

ONLY 1 OF THE 4 SAFETY RELATED 4KV BUSES WAS LOST. THE OTHER 3 BUSES FAST TRANSFERRED TO THE ALTERNATE OFFSITE SUPPLY AS DESIGNED. IN ADDITION, ALL EDGs WERE AVAILABLE IN CASE OF A LOSS OF ALL OFFSITE POWER.

DISCUSSION

- A DISCONNECT ON THE PRIMARY SIDE OF THE 1000 MVA AUTOTRANSFORMER (#1 STARTUP TRANSFORMER) EXPERIENCED A PHASE TO GROUND FAULT ON THE "B" PHASE.

- A CIRCUIT BREAKER BETWEEN THE DISCONNECT AND THE TRANSFORMER FAILED TO OPEN AND CLEAR THE FAULT.

CONTACT: D. SKEEN, NRR/DOEA
AIT: NO
REFERENCES: MORNING REPORT DATED 07/06/92, AND 10 CFR 50.72 #23791
SIGEVENT: TBD

- O THE FAULT PROPAGATED TO THE TRANSFORMER, RESULTING IN AN EXPLOSION THAT CAUSED THE TOP OF THE TRANSFORMER TO SEPARATE FROM THE TANK.

- O ONE OF THE FOUR SAFETY RELATED 4KV BUSES (E13) FAILED TO FAST TRANSFER TO THE ALTERNATE SOURCE OF OFFSITE POWER AND ITS EDG DID NOT START.

- O THE LOSS OF BUS E13 CAUSED A LOSS OF THE OFFGAS SYSTEM WHICH RESULTED IN THE LOSS OF MAIN CONDENSER VACUUM.

- O A TURBINE TRIP/REACTOR SCRAM OCCURRED ON THE LOSS OF CONDENSER VACUUM. AT 1:50 A.M., AN ALERT WAS DECLARED BY THE LICENSEE BASED ON AN "EXPLOSION THAT SIGNIFICANTLY AFFECTS PLANT OPERATIONS" AS DESCRIBED IN THE LICENSEE'S EMERGENCY PLAN.

- O REACTOR WAS STABILIZED IN MODE 3 (HOT SHUTDOWN) USING RCIC TO SUPPLY COOLANT AND THE BYPASS VALVES TO DISSIPATE HEAT TO THE CONDENSER.

- O THE ALERT WAS TERMINATED AT 6:05 A.M. WHEN THE #1 TRANSFORMER WAS ELECTRICALLY ISOLATED AND THE FEED FOR THE #3 STARTUP TRANSFORMER WAS RESTORED BY RETURNING THE "343" STARTUP TRANSFORMER TO SERVICE.

FOLLOW-UP

- O THE CAUSE OF THE 4KV BUS FAILURE TO FAST TRANSFER AND THE FAILURE OF THE EDG TO START IS BELIEVED TO BE DUE TO A WEAK SPRING IN THE SWITCHGEAR CONTROL SWITCH. THE SWITCH IS A "SPRING RETURN TO NORMAL AFTER CLOSE" TYPE, GE MODEL SB-1. THE SPRING DID NOT ALLOW THE CLOSURE OF CONTACTS IN THE "NORMAL" POSITION SO THAT THE LOSS OF THE PREFERRED OFFSITE POWER SOURCE WAS NOT SENSED.

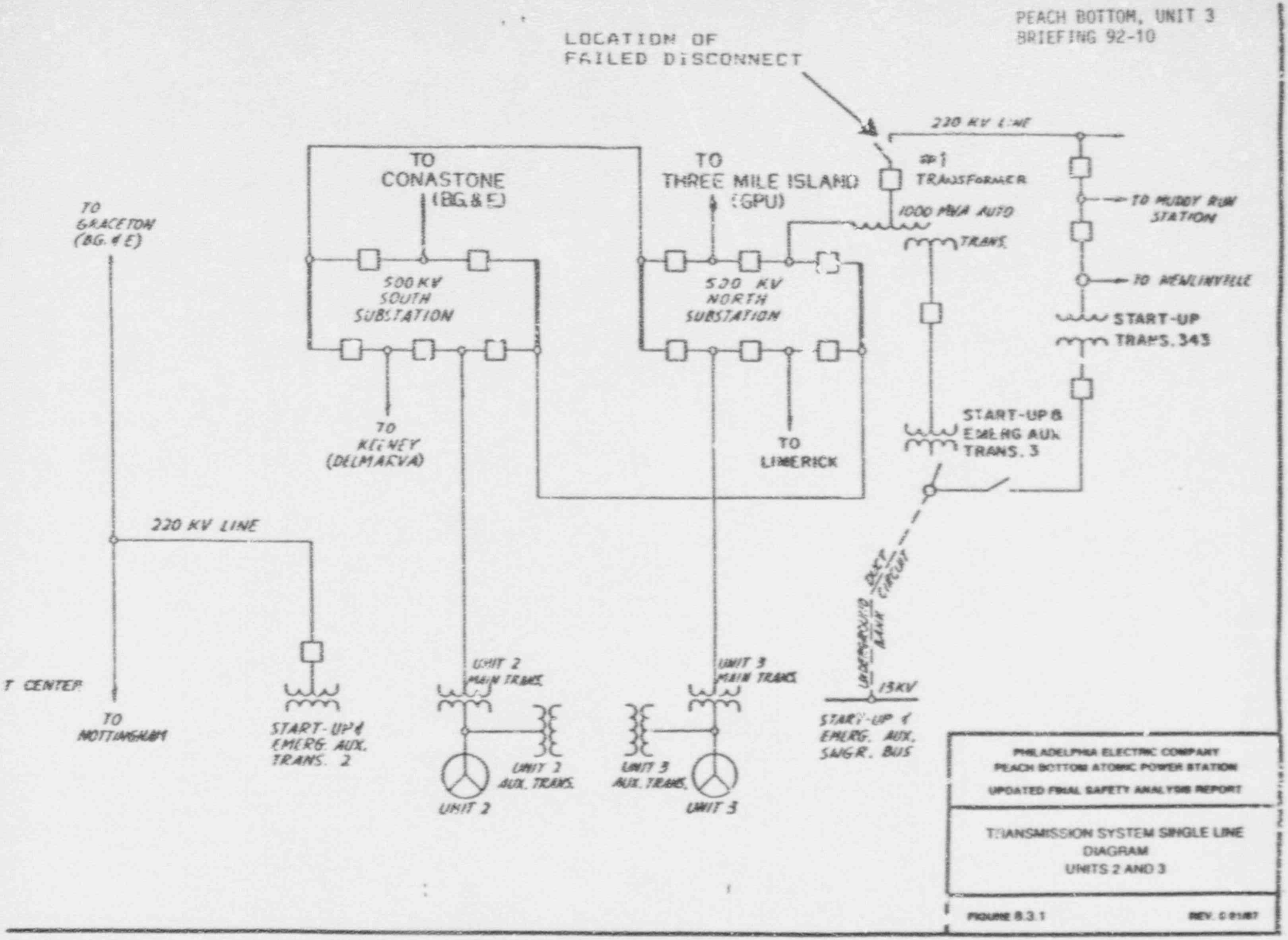
- WHEN AN OPERATOR TURNED THE SWITCH FROM THE "NORMAL" POSITION TOWARDS THE "TRIP" POSITION, THE E13 BUS TRANSFERRED TO ITS ALTERNATE OFFSITE POWER SOURCE.

- 1500 GALLONS OF OIL SPILLED FROM THE #1 TRANSFORMER INTO THE SURROUNDING MOAT.

- UNIT 2 EXPERIENCED A REACTOR WATER CLEANUP (RWCU) ISOLATION AND SHUTDOWN COOLING ISOLATION SIGNAL DURING THE FAST TRANSFER OF THE 4KV BUSES FOLLOWING THE TRANSFORMER EXPLOSION.

- REGION I DISPATCHED A SPECIALIST INSPECTOR TO THE SITE TO REVIEW THE TRANSFORMER FAILURE AND THE FAILURE OF THE E13 BUS TO FAST TRANSFER.

PEACH BOTTOM, UNIT 3
BRIEFING 92-10



PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM ATOMIC POWER STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

TRANSMISSION SYSTEM SINGLE LINE
DIAGRAM
UNITS 2 AND 3

FIGURE 8.3.1 REV. 0 01/87

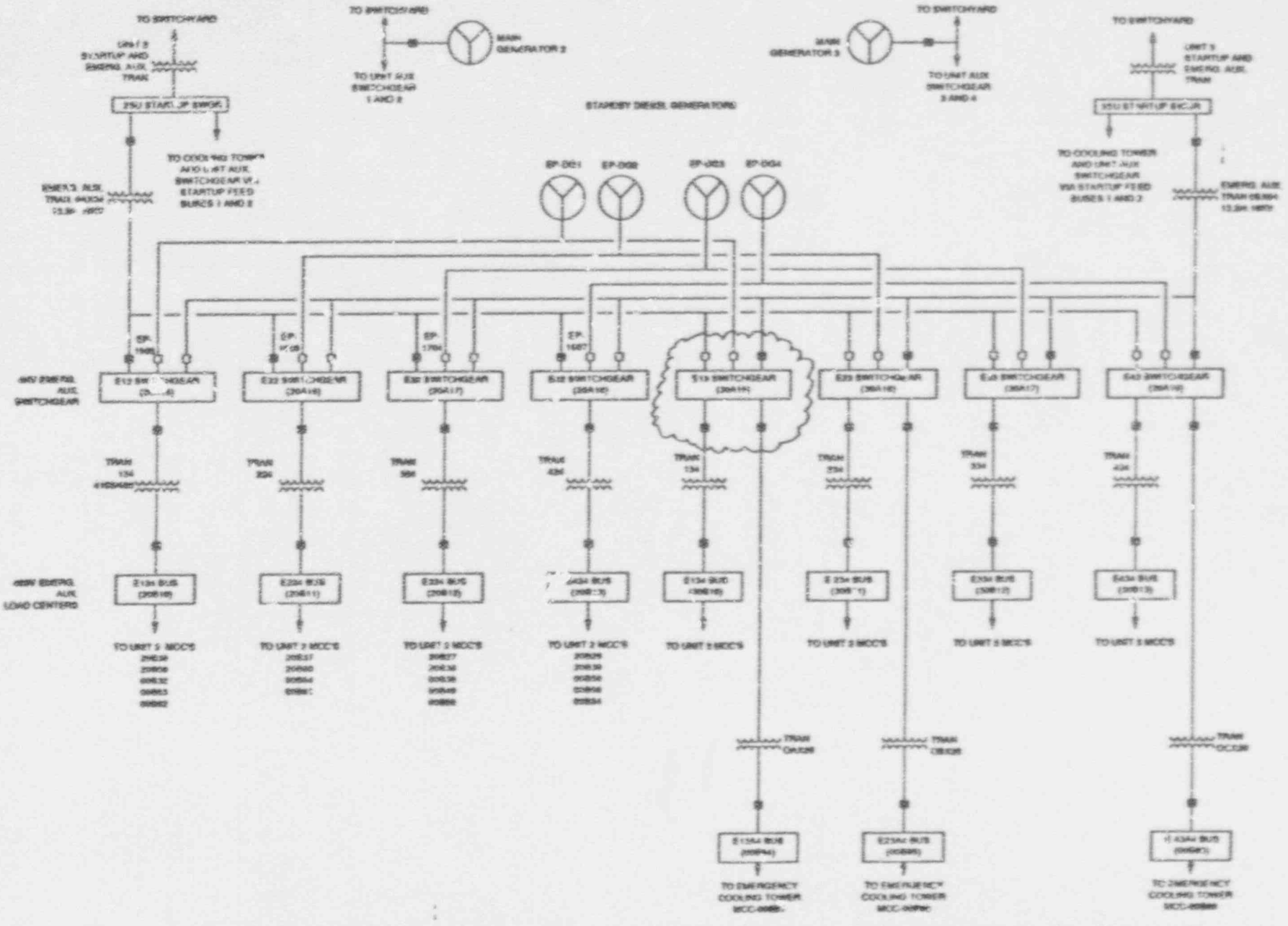


Figure 3.10-1. Peach Bottom 2 and 3 4160 and 480 VAC Electric Power Distribution System

ENCLOSURE 3

REACTOR SCRAM SUMMARY
WEEK ENDING 07/05/92

I. PLANT SPECIFIC DATA (1)

DATE	SITE	UNIT	POWER	SIGNAL	CAUSE	COMPLICATIONS (3)	YTD ABOVE 15%	YTD BELOW 15%	YTD TOTAL
07/01/92	PALISADES	1	100	A	EQUIPMENT	NO	1	0	1
07/02/92	COOK	2	8	A	PERSONNEL	NO	0	1	1
07/03/92	FORT CALHOUN	1	100	A	PERSONNEL	YES	2	0	2
07/04/92	PEACH BOTTOM	3	95	A	EQUIPMENT	YES	1	1	2

SUMMARY OF COMPLICATIONS

SITE	UNIT	COMPLICATIONS
FORT CALHOUN	1	FOLLOWING REACTOR TRIP, PRIMARY SYSTEM SAFETY RELIEF VALVE STUCK OPEN, RELIEVING REACTOR COOLANT TO CONTAINMENT SUMP. ALERT DECLARED.
PEACH BOTTOM	3	TRANSFORMER FAILURE RESULTED IN LOSS OF OFFSITE POWER WHEN EDG FAILED TO START, CAUSING REACTOR TRIP FROM TURBINE TRIP. ALERT DECLARED.

II. COMPARISON OF WEEKLY STATISTICS WITH INDUSTRY AVERAGES

SCRAMS FOR WEEK ENDING
07/05/92

SCRAM CAUSE	NUMBER OF SCRAMS	1992 WEEKLY AVERAGE (YTD)	1991 WEEKLY AVERAGE	1990 WEEKLY AVERAGE	1989 WEEKLY AVERAGE	1988 WEEKLY AVERAGE
POWER GREATER THAN 15%						
EQUIPMENT RELATED	2	2.3	2.9	3.4	3.1	3.0
PERSONNEL RELATED (2)	1	0.9	0.6	0.5	1.0	1.0
OTHER (4)	0	0.0	0.0	0.0	0.1	0.4
Subtotal	3	3.2	3.5	3.9	4.2	4.4
POWER LESS THAN 15%						
EQUIPMENT RELATED	0	0.7	0.3	0.4	0.3	0.6
PERSONNEL RELATED (2)	1	0.2	0.2	0.1	0.3	0.4
OTHER (4)	0	0.0	0.5	0.0	0.0	0.2
Subtotal	1	0.9	0.5	0.5	0.6	1.2
TOTAL	4	4.1	4.0	4.4	4.8	5.6

MANUAL VS AUTO SCRAMS

TYPE	NO. OF SCRAMS	1992 WEEKLY AVERAGE (YTD)	1991 WEEKLY AVERAGE	1990 WEEKLY AVERAGE	1989 WEEKLY AVERAGE	1988 WEEKLY AVERAGE
MANUAL SCRAMS	0	0.9	0.7	1.2	0.9	1.1
AUTOMATIC SCRAMS	4	3.2	3.3	3.2	3.9	4.5

NOTES

1. PLANT SPECIFIC DATA BASED ON INITIAL REVIEW OF 50.72 REPORTS FOR THE WEEK OF INTEREST. PERIOD IS MIDNIGHT SUNDAY THROUGH MIDNIGHT SUNDAY. SCRAMS ARE DEFINED AS REACTOR PROTECTIVE ACTUATIONS WHICH RESULT IN ROD MOTION, AND EXCLUDE PLANNED TESTS OR SCRAMS AS PART OF PLANNED SHUTDOWN IN ACCORDANCE WITH A PLANT PROCEDURE. THERE ARE 111 REACTORS HOLDING AN OPERATING LICENSE.

2. PERSONNEL RELATED PROBLEMS INCLUDE HUMAN ERROR, PROCEDURAL DEFICIENCIES, AND MANUAL STEAM GENERATOR LEVEL CONTROL PROBLEMS.

3. COMPLICATIONS: RECOVERY COMPLICATED BY EQUIPMENT FAILURES OR PERSONNEL ERRORS UNRELATED TO CAUSE OF SCRAM.

4. "OTHER" INCLUDES AUTOMATIC SCRAMS ATTRIBUTED TO ENVIRONMENTAL CAUSES (LIGHTNING), SYSTEM DESIGN, OR UNKNOWN CAUSE.

OEAB SCRAM DATA

Manual and Automatic Scrams for 1987	435
Manual and Automatic Scrams for 1988	291
Manual and Automatic Scrams for 1989	252
Manual and Automatic Scrams for 1990	226
Manual and Automatic Scrams for 1991	206
Manual and Automatic Scrams for 1992 --(YTD 07/05/92)--	109