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EARTHQUAKE

INFORMATION ONLY

1.0 ENTRY CONDITIONS

IF an earthquake is suspected,
AND seismic recorder indicates a seismic event has taken place,
THEN use this procedure.

2.0 IMMEDIATE ACTIONS

NOTE

There are no immediate actions for this procedure.

Approved by MNPO <u><i>[Signature]</i></u> Date <u>1/12/98</u> (SIGNATURE ON FILE)		
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3.0 FOLLOW-UP ACTIONS

ACTIONS

DETAILS

3.1 — Notify personnel of plant conditions.

- — STA
- — Plant Operators
- — SSOD (evaluate plant conditions for potential entry into the Emergency Plan)

3.2 — IF the Rx is NOT critical,
THEN GO TO Step 3.7 in
this procedure.

3.3 — IF any asymmetric control
rod exists,
THEN trip the Rx and
CONCURRENTLY PERFORM
EOP-2, Vital System Status
Verification, beginning
with Step 2.1

3.4 — Verify quadrant power tilt
is within limits.

See COLR.

— IF quadrant power tilt is
NOT within limits,
THEN trip the Rx and
CONCURRENTLY PERFORM
EOP-2, Vital System Status
Verification, beginning
with Step 2.1

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3.0 FOLLOW-UP ACTIONS (CONT'D)

ACTIONS

DETAILS

3.5 — Verify imbalance within limits.

See OP-103D, Withdrawal Limit Curves.

— IF imbalance is NOT within limits,
THEN trip the Rx and
CONCURRENTLY PERFORM
EOP-2, Vital System Status Verification, beginning with Step 2.1

3.6 — IF vibration was NOT due to plant equipment,
THEN start a controlled plant shutdown.

• **CONCURRENTLY PERFORM** AP-510, Rapid Power Reduction, beginning with Step 3.1

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3.0 FOLLOW-UP ACTIONS (CONT'D)

ACTIONS

3.7 ____ Verify RCS integrity.

____ IF RCS integrity is lost,
THEN CONCURRENTLY PERFORM
AP-520, Loss of RCS
Coolant or Pressure.

DETAILS

- Monitor available parameters:
 - ____ RCS PRESS
 - ____ PZR level
 - ____ MUT level
 - ____ RB Sump level
 - ____ RCS level
- ____ Notify PPO to monitor AB Sump level.

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3.0 FOLLOW-UP ACTIONS (CONT'D)

ACTIONS

DETAILS

CAUTION

Explosive conditions may be present in the TB if main generator H₂ containment has been lost.

3.8 — Verify main generator H₂ containment.

1 — Review main generator H₂ pressure.

2 — Determine if Non-IE battery charger is unavailable.

— IF main generator H₂ containment is degraded or lost,
AND the following exist:

— Main generator H₂ pressure exists

— Main generator is not on line

THEN purge the main generator.

1 — IF TB evacuation is required,
THEN perform the following:

— Notify plant personnel over PA.

— Repeat PA announcement.

2 — Notify SPO to **CONCURRENTLY PERFORM** EOP-14, Enclosure 14, Station Blackout Main Generator Purging.

3.9 — Verify BWST is not in recirculation with SF pumps.

— IF the BWST is in recirculation with SF pumps,
THEN stop recirculation.

1 — Stop recirculation.

2 — Notify PPO to ensure SFV-13 "BWST Supply Iso" is closed (119 ft AB by SFPs).

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3.0 FOLLOW-UP ACTIONS (CONT'D)

ACTIONS

DETAILS

3.10 ____ Notify Chemistry to sample
for fuel failure.

- ____ RCS
 - ____ SF pool
-

3.11 ____ Verify SF pool integrity.

- ____ Observe SF pool level
- ____ Notify PPO to inspect SF pool
liner telltale drains (95 ft AB
MUP cubicles).

____ IF SF pool leakage has
increased,
THEN contact TSC for
guidance.

3.12 ____ IF refueling canal level
is lowering,
THEN CONCURRENTLY PERFORM
AP-1080, Refueling Canal
Level Decrease, beginning
with Step 3.1

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3.0 FOLLOW-UP ACTIONS (CONT'D)

ACTIONS

DETAILS

- 3.13 — IF at any time, it becomes necessary to manually energize an electrical bus, THEN ensure bus is capable of being energized.
- — Notify maintenance to inspect switchgear and internals for damage.
 - — Ensure DC power and protective relaying available.

NOTE

Seismic activity may result in spurious operation of the sudden pressure relays for the Off-Site Power Transformer or the BEST resulting in a loss of off-site power.

- 3.14 — Verify ES 4160V buses are energized.

- IF either ES 4160V bus is NOT energized, THEN CONCURRENTLY PERFORM AP-770, Diesel Generator Actuation, beginning with Step 3.1

Applicable carry-over steps:

3.13 <u>IF</u> it becomes necessary to manually energize an electrical bus...

3.0 FOLLOW-UP ACTIONS (CONT'D)

ACTIONS

DETAILS

NOTE

Evaluation of plant alarms should consider spurious actuation due to seismic activity.

3.15 ____ Review available plant parameters.

- ____ Review sump levels, radiation monitors and tank levels for possible leaks.
- ____ Observe control room temperature.
- ____ Review system status relative to alarms, lockouts and configuration that may be a result of relay chatter.

See Enclosure 1, Potential Spurious Alarms.

- ____ Review containment integrity.

3.16 ____ Notify PPO to perform a walk down of the primary plant.

- Verify power is available to any waste gas compressor:

____ WDP-1A (95 ft AB Rad Waste Panel)

____ WDP-1B (95 ft AB Rad Waste Panel)

- ____ Walk down primary plant structures and equipment to determine if damage inhibits the safe operation of plant equipment.

Applicable carry-over steps:

3.13 IF it becomes necessary to manually energize an electrical bus...

3.0 FOLLOW-UP ACTIONS (CONT'D)

ACTIONS

3.17 — Notify SPO to perform a walk down of the secondary plant.

DETAILS

- — Observe H₂ tank for possible leaks.
- — Observe FSTs for leak(s).
- Determine if the following equipment is accessible and manual operation is NOT inhibited:
 - ARV-48 "B Condenser Vacuum Bkr" (119 ft TB Above C Waterbox)
 - ARV-49 "A Condenser Vacuum Pkr" (119 ft TB Above B Waterbox)
 - FSV-918 "FST to CDT-1 Cross-Tie Iso" (119 ft Berm by FST-1A)
 - MSV-25 "A OTSG Atmospheric Dump" (119 ft IB)
 - MSV-26 "B OTSG Atmospheric Dump" (119 ft IB)
 - EFV-36 "EFW & AFW Suction Iso from Hotwell" (95 ft TB between B&C inlet waterboxes)
- Verify proper operation of the in-service IA dryer (95 ft TB):
 - IADR-1
 - IADR-2
- — Walk down secondary plant structures and equipment to determine if damage inhibits the safe operation of plant equipment.

Applicable carry-over steps:

3.13 IF it becomes necessary to manually energize an electrical bus...

3.0 FOLLOW-UP ACTIONS (CONT'D)

ACTIONS

DETAILS

3.18 — Review current plant activities for any actions that may have caused the vibrations.

3.19 — Evaluate results of plant walk downs and initiate necessary actions.

- — IF FST-1A is NOT available, THEN time to begin cooldown based on available water inventory is 8 hours.
- — IF required equipment is NOT accessible or manual operation is inhibited, THEN initiate action to establish access and restore manual operation capability.
- — IF an IA dryer is NOT available, THEN initiate action to periodically blow down air receivers.
- — IF control room temperature is NOT being maintained between 70°F and 80°F, THEN initiate action to operate CHHE-1A or CHHE-1B as required.
- — IF power is NOT available to a waste gas compressor, THEN consider aligning the WG header to the AB ventilation system based on WG header PRESS.
- — IF IB is NOT accessible due to high temperature, AND manual operation of ADVs is required, THEN notify SPO to open IB doors to TB:

— H201 (119 ft TB)

— H202 (119 ft TB)

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Applicable carry-over steps:

3.13 IF it becomes necessary to manually energize an electrical bus...

3.0 FOLLOW-UP ACTIONS (CONT'D)

ACTIONS

DETAILS

3.20 ____ Notify MNPO to determine subsequent actions and additional surveillance requirements based on results of plant reviews and follow-up action.

3.21 ____ Notify I&C Supervisor to perform PT-378, Functional Testing and Calibration of the Triaxial Time-History Accelerographs and Triaxial Seismic Switch, Section 4.2, Action Following a Seismic Event.

3.22 ____ EXIT this procedure.

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5.0 ENCLOSURE 1 POTENTIAL SPURIOUS ALARMS

ALARM POINT	EQUIPMENT DESCRIPTION	CONDITION
0003	EMERG NUCLEAR SERVICE SEA WATER PP A	LOSS OF DC POWER
0008	EMERG NUCLEAR SERVICE SEA WATER PP B	LOSS OF DC POWER
0012	DECAY HEAT SEA WATER PP A	LOSS OF DC POWER
0013	DECAY HEAT SEA WATER PP A	OVERLOAD
0016	DECAY HEAT SEA WATER PP B	LOSS OF DC POWER
0017	DECAY HEAT SEA WATER PP B	OVERLOAD
0059	REACTOR BUILDING SPRAY PUMP A	OVERLOAD
0060	REACTOR BUILDING SPRAY PUMP B	OVERLOAD
0061	REACTOR BUILDING SPRAY PUMP A	LOSS OF DC POWER
0062	REACTOR BUILDING SPRAY PUMP B	LOSS OF DC POWER
0117	CORE FLOOD TANK B	LEVEL HIGH
0137	CIRCULATING WATER PUMP A	DISCH PRESS HIGH
0212	DECAY HEAT CLOSED CYCLE PUMP A	LOSS OF DC POWER
0213	DECAY HEAT CLOSED CYCLE PUMP B	LOSS OF DC POWER
0223	DECAY HEAT REMOVAL PUMP A	OVERLOAD
0224	DECAY HEAT REMOVAL PUMP B	OVERLOAD
0242	DECAY HEAT REMOVAL PUMP A	LOSS OF DC POWER
0556	4160V ES BUS A	PARALLEL FEED
0559	BREAKER 3206	LOSS OF DC POWER
0563	UNIT AUX XFMR 3 BREAKER 3207	LOSS OF DC POWER
0566	UNIT AUX XFMR 3 BREAKER 3208	LOSS OF DC POWER

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5.0 ENCLOSURE 1 POTENTIAL SPURIOUS ALARMS (CONT'D)

ALARM POINT	EQUIPMENT DESCRIPTION	CONDITION
0569	DIESEL GENERATOR A BREAKER 3209	LOSS OF DC POWER
0572	DIESEL GENERATOR B BREAKER 3210	LOSS OF DC POWER
0575	UNIT 1 BREAKER 3211	LOSS OF DC POWER
0578	UNIT 1 BREAKER 3212	LOSS OF DC POWER
0588	ES AUX XFMR B FEEDER BREAKER 3220	LOSS OF DC POWER
0590	ES AUX XFMR A FEEDER BREAKER 3221	LOSS OF DC POWER
0592	PLANT AUX XFMR 3 FEEDER BREAKER 3222	LOSS OF DC POWER
0609	ES BUS B BREAKER 3310	LOSS OF DC POWER
0612	ES BUS A BREAKER 3311	LOSS OF DC POWER
0646	4160V UNIT BUS A POT XFMR	TROUBLE
0650	4160V ES BUS A POT XFMR	TROUBLE
0652	4160V ES BUS B POT XFMR	TROUBLE
0654	480V ES BUS A POT XFMR	TROUBLE
0656	480V ES B POT XFMR	TROUBLE
0664	480V TURB AUX BUS B POT XFMR	TROUBLE
0670	480V PLANT AUX BUS 3 POT XFMR	TROUBLE
0672	480V HEATING AUX BUS 3 POT XFMR	TROUBLE
0673	ES MCC 3B BREAKER 3340	LOSS OF DC POWER
0674	ES MCC A1 BREAKER 3341	LOSS OF DC POWER
0677	ES MCC AB BREAKER 3361	LOSS OF DC POWER

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5.0 ENCLOSURE 1 POTENTIAL SPURIOUS ALARMS (CCNT'D)

ALARM POINT	EQUIPMENT DESCRIPTION	CONDITION
0679	ES MCC AB BREAKER 3360	LOSS OF DC POWER
0713	GEN NEUT GND LOCK OUT RELAY	LOSS OF DC POWER
0714	STEP-UP XFMR/GEN DIFF LOCK OUT RELAY	LOSS OF DC POWER
0715	GEN DIFF LOCK OUT RELAY	LOSS OF DC POWER
0730	BACKUP ES XFMR MASTER TRIP LOCKOUT RLY	LOSS OF DC POWER
0897	STATION AIR COMPRESSOR A	OVERLOAD
0903	STATION AIR COMPRESSOR B	OVERLOAD
0909	INSTRUMENT AIR COMPRESSOR A	OVERLOAD
0915	INSTRUMENT AIR COMPRESSOR B	OVERLOAD
1032	MAKEUP PUMP 1A	LOSS OF DC POWER
1033	MAKEUP PUMP 1A	OVERLOAD
1039	MAKEUP PUMP 1B	OVERLOAD
1044	MAKEUP PUMP 1C	LOSS OF DC POWER
1045	MAKEUP PUMP 1C	OVERLOAD
1098	MAKEUP PUMP 1B	LOSS OF DC POWER
1099	MAKEUP PUMP 1B	OVERLOAD
1175	REACTOR TRIP LOCKOUT RELAY	LOSS OF DC POWER
1184	4160V ES BUS A CROSS TIE LOCKOUT RLY	LOSS OF DC POWER
1185	4160V ES BUS A CROSS TIE CIRCUIT	LOSS OF DC POWER
1188	4160V ES BUS B CROSS TIE LOCKOUT RLY	LOSS OF DC POWER
1189	4160V ES BUS B CROSS TIE CIRCUIT	LOSS OF DC POWER

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5.0 ENCLOSURE 1 POTENTIAL SPURIOUS ALARMS (CONT'D)

ALARM POINT	EQUIPMENT DESCRIPTION	CONDITION
1259	MOTOR DRIVEN EF PUM. A	LOSS OF DC POWER
1260	MOTOR DRIVEN EF PUMP A	OVERLOAD
1554	CNTRL COMPLX WATER CHILLER A CHHE-1A	LOSS OF DC POWER
1555	CNTRL COMPLX WATER CHILLER B CHHE-1B	LOSS OF DC POWER
1824	EMERG NUC SERV CCC PUMP A (SWP-1A)	OVERLOAD
1827	EMERG NUC SERV CCC PUMP B (SWP-1B)	OVERLOAD
1853	EMERG NUC SERV CCC PUMP A	LOSS OF DC POWER
1854	EMERG NUC SERV CCC PUMP B	LOSS OF DC POWER
1991	4160V RX AUX BUS POT XFMR	TROUBLE