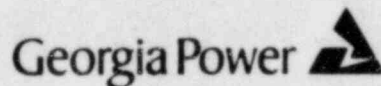


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BT

NATURALLY OCCURRING PHENOMENON

NOTE

(This procedure supersedes: HNP-4300, Revision 4 approved 7/25/80; HNP-4301, Revision 4 approved 9/18/79; HNP-4302, Revision 1 approved 9/18/79.)

A. CONDITION: EARTHQUAKE

The plant accelerographs indicate: seismic activity, and ground motion is felt, or outside sources report ground motion.

B. OPERATOR ACTIONS

1. For a seismic shock with only annunciator D076 (Seismic Instrumentation Triggered) in panel H11-P657 and the RED INDICATOR LIGHT (L51-DS001) on the TIME HISTORY ACCELERGRAPH (L51-R600) in panel H11-P701 which is less than OBE (0.08g), continue to operate and proceed with plant inspection. Follow Figure 1. Declare a NOTIFICATION OF UNUSUAL EVENT EMERGENCY and refer to procedures HNP-4420, 4422, 4423 or 4430 for the appropriate response.
2. For a seismic shock with annunciation as stated in B-1 and any of the following:
 - a. Unit I
 - (1) Seismic peak shock recorder high G level alarms. (D070 in panel H11-P657 is set to actuate when 100% OBE of 0.08g vertical has been exceeded).

NOTE


One or more amber lights on peak shock annunciator panel (L51-R620 on panel H11-P701) will be on. These annunciator lights are set for 100% OBE level at 4 frequencies and 3 directions (North/South, East/West, Vertical). This info will be recorded in C.1.A.

b. Unit II

- (1) Seismic peak shock recorder high G level alarms. (D068 in panel 2H11-P657 is set to actuate when 100% OBE (.08g) vertical has been exceeded.

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NOTE

One or more red lights on peak shock annunciator panel (L51-R620 on panel H11-P701) will be on. These annunciators are set for 100% OBE level for 4 frequencies by 3 directions (12 total) (North/South, East/West, Vertical) This info will be recorded in C.1.A.

- (2) "Seismic switch tripped" alarm (D069 on panel 2H11-P657) which is set at OBE level of .08g.

Shut down the affected unit(s) and declare an "Alert" emergency. Follow Figure 1. Refer to procedures HNP-4520, 4522, 4523 or 4530 for appropriate response.

NOTE

If any of the situations in section 2 occur, the operator should play back the Time History Recorder tapes to determine the actual maximum g acceleration magnitude. (For instructions on retrieval of seismic data, see HNP-1-3980 M - section G.2.)


- (3) For a seismic shock with annunciation as stated in B.1 and B.2 above and the maximum g level measured by the time/history accellograph recorders is greater than OBE levels (0.15g), shut down the affected unit(s) and declare a site area emergency. Follow Figure 1. Refer to procedures HNP-4620, 4622, 4623 or 4630 for appropriate response.
- (4) For a seismic shock resulting in massive damage to the ECCS system, refer to procedures HNP-4720, 4722, 4723 or 4730 for appropriate response.
- (5) Notify Plant Management.

C. SUBSEQUENT OPERATOR ACTION

1. A post earthquake instrumentation review will be conducted as follows:
 - a. Record the Peak Acceleration recorder lights (Red and Yellow) on Data Package 1. Have three qualified operators verify the lights before resetting the panel.
 - b. Check the feedwater to steam flow for a mismatch.

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- c. Check the applicable neutron range monitors for abnormal readings.
 - d. Check all systems for abnormal power changes.
 - e. Check the drywell for temperatures, humidity, pressure and the sample system for abnormal activity levels.
 - f. Check the drywell sumps for high level and/or flow.
 - g. Check all other equipment drains and sumps for high level and/or high flow rates.
 - h. Check the torus water level recorder for high or low level.
 - i. Check all area radiation monitors for excessive activity levels.
 - j. Check the 4160 volt and 600 volt auxilliary equipment for trips.
 - k. Check the turbine generator instrumentation.
2. Notify the Test Shop to do each of the following as required by Figure 1.
- a. Retrieve record plates from the Peak Shock Recorder (L51-N105) per HNP-1-5631 and record data. Install new record plates to record after shocks.
 - b. Retrieve record plates and tapes from the Teledyne PRA-103 Peak Recording Accelerometers per HNP-1-5625 and Engdahl PAR400 Peak Acceleration Recorders per HNP-2-5626. Install new record plates and tapes to record after shocks.
 - c. Retrieve magnetic tapes from the Time History Accelerograph recorder, L51-R600, per HNP-1-3980. Make hard copy records and install new tapes.
 - d. Restore all instrumentation to operable status with 24 hours. (Unit 2 Tech. Specs. 4.3.6.2.2).
 - e. Recalibrate all seismic monitoring instruments actuated during a seismic event within 30 days. Notify Kinematics, Inc. (telephone 213-795-2220) to perform calibration of the Time-History Accelerograph System and the Peak Shock Annunciator System (Unit 2 Tech. Specs. 4.3.6.2.2).

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3. A plant inspection should include but not be limited to the following:
 - a. Inspect the main steam lines and turbine extraction steam lines for damage.
 - b. Inspect the condensate piping and pumps for leaks and damage.
 - c. Inspect the feedwater piping and pumps for leaks and damage.
 - d. Inspect the turbine oil system for leaks or damage.
 - e. Inspect the RWCCW and service water for external leaks. Check for an internal leak by monitoring the RBCCW surge tank level.
 - f. Inspect the intake structure and associated equipment for damage.
 - g. Inspect the off-gas stack and equipment for leaks.
 - h. Visually inspect the diesel generators and their switchgear to assure the units are intact. Perform the routine surveillance test to prove the system is operable. Tie each diesel generator onto its bus and isolate its bus from the system one at a time. Minimize operation of the diesel generator in parallel with the system because a major transmission line fault, which is probable during this event, could cause damage to a parallel diesel generator.
 - i. Inspect the switchyard for damage.
 - j. Inspect the turbine pedestal for damage.
 - k. Inspect instrument racks and control panels for damage.
 - l. Inspect CSCS components for damage.
 - m. Inspect fuel pool for damage.
 - n. Inspect all plant batteries for damage.
 - o. Inspect instrument and service air system.
 - p. Inspect plant communications for damage.
4. Evaluate the post earthquake instrumentation review and plant inspection.

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5. Completer analysis of seismic data.

NOTE

The results of the plant inspection will immediately be reviewed by the Plant Review Board and appropriate surveillance testing will be specified. A special report must be submitted to the NRC within 10 days.

D. REFERENCE

Unit 2 Technical Specifications - para. 3.3.6.2

E. CONDITION: TORNADO


The plant shall normally be alerted by outside communications and/or local indications of a tornado condition in the area which may disrupt the transmission system or present a hazard to the station facilities. The plant will remain at full availability unless dictated to be otherwise by deteriorating conditions. As evaluated by supervision.

F. OPERATOR ACTION

1. Thoroughly inspect the plant for loose materials which may be blown about.
2. Instruct contractor personnel of the event and advise them to commence preparations for the securing of construction materials and equipment.
3. Remove or secure all outside scaffolding and swinging stages.
4. Close and secure all Reactor, Turbine Building, Switchyard and Off-Gas Filter Building doors.
5. Plant personnel shall seek refuge within buildings and report to their supervisors for specific instructions.
6. Perform routine surveillance test of the standby Diesel-Generators in anticipation of a potential off site power failure, if a tornado has been sighted in immediate area or known to be headed in direction of site.
7. Arrange for additional assistance to provide continuous inspections of buildings and roofs.
8. Install door braces on all roll-up doors equipped for braces.
9. Notify plant management.

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10. For any tornado onsite causing significant damage affecting plant operations, refer to procedures HNP-4420, 4422, 4423 or 4430 for appropriate response.
11. For any tornado striking the facility incurring damage affecting safety systems, refer to procedures HNP-4520, 4522, 4523 or 4530 for appropriate response.
12. For any tornado or sustained winds in excess of design level (300 mph), refer to procedures HNP-4620, 4622, 4623 or 4630 for appropriate response.

G. SUBSEQUENT OPERATION ACTION

1. In the event buildings have been damaged or the reactor power level has become abnormal, internal damage to the process system may be suspected. Proceed with an instrumentation review and plant inspection per HNP-4858 section C.
2. Perform continuous building inspections.
3. If the plant instrumentation review and plant inspection evaluation indicates damage to the process system, follow the applicable annunciator response or emergency procedure.
4. If the plant is not damaged and is operationally intact following an alert, resume normal operations and inform Load Dispatcher.

H. CONDITION: HIGH WINDS (HURRICANE)


The plant shall normally be alerted by outside communications and/or local indication of high wind conditions which may disrupt the transmission system, or present a hazard to the plant facilities. The plant personnel shall prepare for plant load reduction as may be required. In the event winds reach hurricane velocities (sustained wind speed greater than 75 mph) near the plant site and/or a plant load rejection is imminent, notify the load dispatcher and reduce to load as directed.

I. OPERATOR ACTIONS

1. Thoroughly inspect the plant for loose materials which may be blown about.
2. Instruct contractor personnel of the event and advise them to commence preparations for the securing of construction equipment and materials.
3. Remove or secure all outside scaffolding and swinging stages.

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4. Close and secure all reactor, turbine building, switchyard and off-gas filter building doors.
5. Plant personnel shall seek refuge within the plant buildings and report to their supervisors for specific instructions.
6. Perform the routine surveillance test of the standby emergency diesel generators in anticipation of a potential off-site power failure when winds reach hurricane velocities near the site.
7. Arrange for additional assistance to provide continuous inspection of buildings and roofs.
8. At the direction of plant management or the Operations Supervisor reduce power to 25% rated when winds reach hurricane velocities near the site and a plant load rejection is imminent.
9. Install door braces on all roll-up doors equipped for braces.
10. Notify plant management.
11. For any hurricane (wind speed greater than 75 mph) onsite causing significant damage affecting plant operations, refer to procedures HNP-4420, 4422, 4423 or 4430 for appropriate response.
12. For hurricane winds near design basis level (300 mph), refer to procedures HNP-4520, 4522, 4523 or 4530 for appropriate response.
13. For hurricane winds greater than design level, refer to procedures HNP-4620, 4622, 4623 or 4630 for appropriate response.

J. SUBSEQUENT OPERATOR ACTION

1. In the event buildings have been damaged or the reactor power level has become abnormal, internal damage to the process system may be suspected. Proceed with an instrumentation review and plant inspection per HNP-4858 section C.
2. Perform continuous building inspections.
3. If the plant instrumentation review and plant inspection evaluation indicates damage to the process system, follow the applicable annunciator response or emergency procedure.

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4. If the plant is not damaged and is operationally intact following an alert, resume normal operations and inform Load Dispatcher.

K. CONDITION: FLOOD

The plant shall normally be alerted by outside communications and/or local indications of river elevation greater than or equal to 88.6 ft Mean Sea Level which may present a hazard to the plant facilities. The plant personnel shall prepare for plant load reduction as may be required.

L. OPERATOR ACTIONS

1. For (50 year) flood causing significant damage affecting plant operations, refer to procedures HNP-4420, 4422, 4423 or 4430 for appropriate response.
2. For flood near design level (greater than 100 ft. Mean Sea Level), refer to procedures HNP-4520, 4522, 4523 or 4530 for appropriate response.
3. For flood or hurricane surge greater than design levels (greater than 120 ft. Mean Sea Level), refer to procedures HNP-4620, 4622, 4623 or 4630 for appropriate response.

M. SUBSEQUENT OPERATOR ACTION

1. In the event buildings have been damaged or the reactor power level has become abnormal, internal damage to the process system may be suspected. Proceed with an instrumentation review and plant inspection per HNP-4858 section C.
2. Perform continuous building inspections.
3. If the plant instrumentation review and plant inspection evaluation indicates damage to the process system, follow the applicable annunciator response or emergency procedure.
4. If the plant is not damaged and is operationally intact following an alert, resume normal operations and inform Load Dispatcher.

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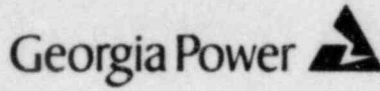
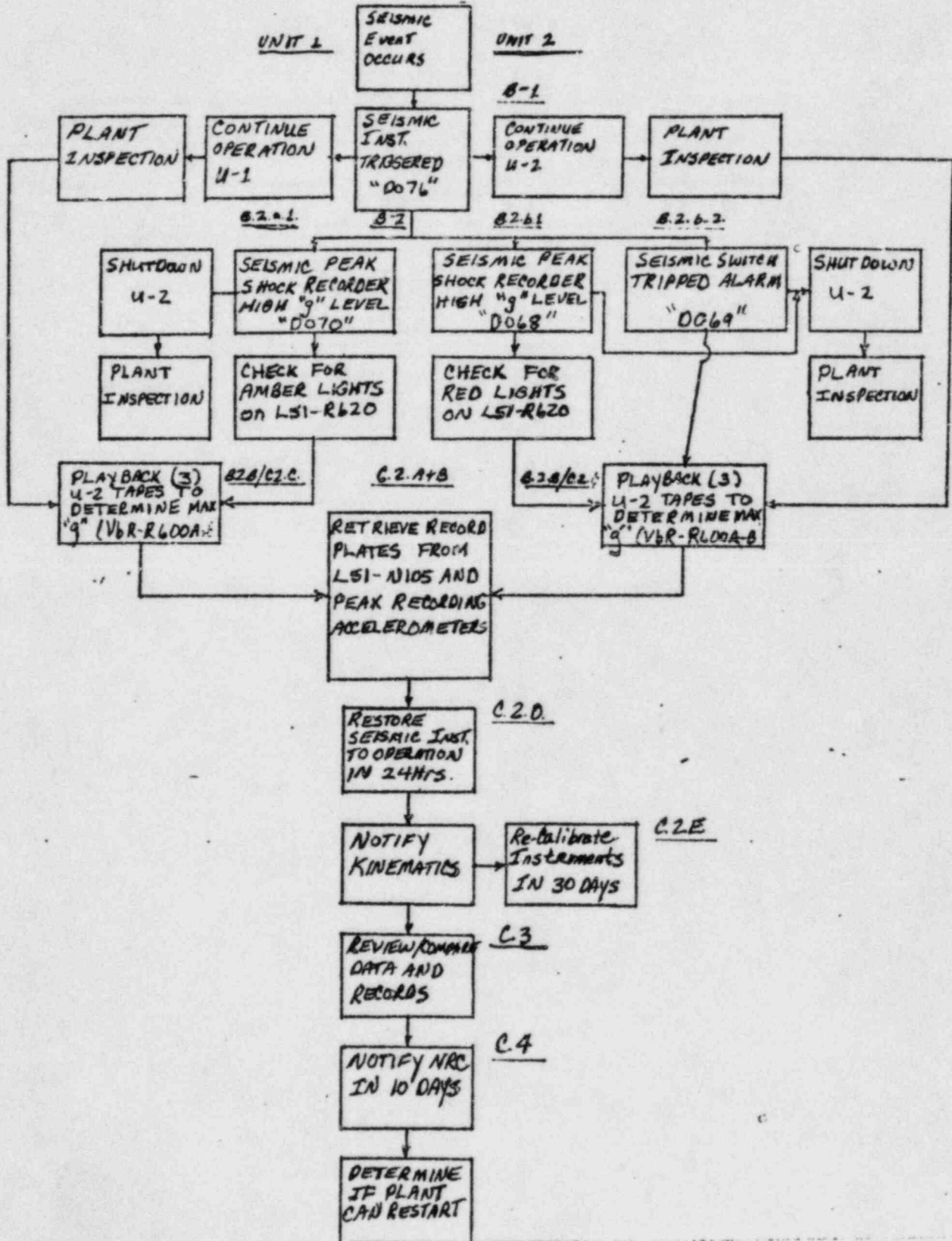
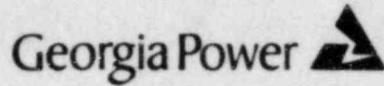


FIGURE 1
EARTHQUAKE RESPONSE FLOW CHART



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PROCEDURE DATA PACKAGE

DOCUMENT NO: HNP-4858-1

SERIAL NO: R04-

MPL NO: _____

RTYPE: G15.03

XREF: _____

TOTAL SHEETS: 2

FREQUENCY: As Required

COMPLETED BY: _____

DATE COMPLETED: _____

I HAVE REVIEWED THIS DATA PACKAGE FOR COMPLETENESS
AND AGAINST ACCEPTANCE CRITERIA IN ACCORDANCE WITH HNP-830.

ACCEPTABLE _____

UNACCEPTABLE _____

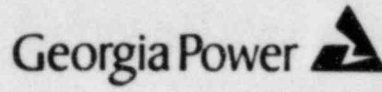
REVIEWED BY: _____

DATE REVIEWED: _____

REMARKS: _____

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DATA PACKAGE 1

PEAK ACCELERATION RECORDER STATUS

Date of Seismic Event _____ Time of Event _____

X - Lamp is Lighted

O - Lamp is not Lighted

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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LAMPS RESET BY	DATE/TIME
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The undersigned certify that the above indications are correct.

_____ Name	_____ Date	_____ Time
_____ Name	_____ Date	_____ Time
_____ Name	_____ Date	_____ Time