

GINNA STATION
UNIT #1
COMPLETED

DATE :-

TIME :-

ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

CONTROLLED COPY NUMBER 23

PROCEDURE NO. SC-5

REV. NO. 7

EARTHQUAKE EMERGENCY PLAN

TECHNICAL REVIEW

PORC REVIEW DATE 10-12-83

Carl Heuveler
QC REVIEW

Sm Spector
PLANT SUPERINTENDENT

OCT 18 1983
EFFECTIVE DATE

QA NON-QA CATEGORY 1.0

REVIEWED BY: _____

THIS PROCEDURE CONTAINS 2 PAGES

8401250100 840118
PDR ADOCK 05000244
F PDR

SC-5EARTHQUAKE EMERGENCY PLAN1.0 PURPOSE:

- 1.1 To provide instructions for response to an earthquake tremor felt at the plant.
- 1.2 To provide instructions for appropriate notification to authorities of the above in accordance with pre-established classifications.

2.0 REFERENCES:

- 2.1 NUREG 0654, Appendix I, Emergency Action level Guidelines for Nuclear Power Plants.

3.0 INSTRUCTIONS:

- 3.1 In the event an unexplained tremor or earthquake is experienced, evaluate and classify the condition per SC-100 Ginna Station Event Evaluation and Classification and implement applicable emergency procedure.
- 3.2 The Shift Supervisor shall dispatch an Auxiliary Operator to the Intermediate Building sub-basement to check the response of the accelerograph.
 - 3.2.1 Registration of a tremor greater than 0.01g is indicated by a red target on the action indicator at the bottom of the case.
- 3.3 If the above indication occurs perform the following:
 - 3.3.1 The 1A or 1B diesel generator shall be placed in service using procedure T-27.4, Diesel Generator Operation.
 - 3.3.2 The Shift Supervisor shall notify the Plant Superintendent and shall request an I&C Technician to remove the film from the accelerograph.
 - 3.3.3 The operators shall tour all plant areas and shall check all plant instrumentation, piping, equipment and structures with particular emphasis on the following:
 - 3.3.3.1 Check turbine rotor displacement and eccentricity. Verify turbine vibrations are within allowable limits.

- 3.3.3.2 Check control rods for proper position and operability by performing the Periodic Test PT-1, Rod Control System.
- NOTE: Omit this step if reactor trip occurred.
- 3.3.3.3 Check the radiation monitoring system panel for any increases in area radiation levels or process system activity levels.
- 3.3.3.4 Check for any increase in the makeup rate to the primary system.
- 3.3.3.5 Check for an increase in the frequency of containment sump A pump actuation.
- 3.3.3.6 Check the plant outside the containment, including the screen-house, turbine building structures and piping, the intermediate building, and the auxiliary building and all containment penetrations.
- 3.3.3.7 Check the letdown and charging lines that are accessible in the auxiliary building for leaks. Inspect the component cooling system and spent fuel pit system.
- 3.3.3.8 Monitor auxiliary building sump pump actuations for increased frequency and monitor the level rise in the waste holdup tank.
- 3.3.3.9 The Shift Supervisor shall initiate a containment entry and inspection if leakage inside containment is indicated. The reactor coolant system, the main steam and feedwater systems, and other containment piping and associated penetrations shall be examined.
- 3.3.4 The accelerograph film shall be sent to the company photo lab for processing.
- 3.3.5 A thorough radiation survey shall be performed by the Health Physics Department of all plant areas.
- 3.3.6 If any damage to the primary system or safeguards systems is noted or the accelerograph indicates an earthquake of greater than .08G at the plant site, initiate unit shutdown.
- 3.3.7 If it is determined that the reactor cannot be maintained in the hot shutdown condition, the reactor shall be placed in cold shutdown.
- 3.4 The Plant Operations Review Committee shall meet and decide on any further actions.

GINNA STATION
UNIT #1
COMPLETED
DATE :
TIME :

ROCHESTER GAS AND ELECTRIC CORPORATION

GINNA STATION

CONTROLLED COPY NUMBER 23

PROCEDURE NO. SC-5

REV. NO. 8

EARTHQUAKE EMERGENCY PLAN

TECHNICAL REVIEW

PORC REVIEW DATE 11-3-83

[Signature]
QC REVIEW

[Signature]
PLANT SUPERINTENDENT

NOV 9 1983
EFFECTIVE DATE

QA 5 NON-QA _____ CATEGORY 1.0

REVIEWED BY: _____

THIS PROCEDURE CONTAINS 3 PAGES

SC-5EARTHQUAKE EMERGENCY PLAN1.0 PURPOSE:

- 1.1 To provide instructions for response to an earthquake tremor felt at the plant.
- 1.2 To provide instructions for appropriate notification to authorities of the above in accordance with pre-established classifications.

2.0 REFERENCES:

- 2.1 NUREG 0654, Appendix I, Emergency Action level Guidelines for Nuclear Power Plants.

3.0 INSTRUCTIONS:

- 3.1 In the event an unexplained tremor or earthquake is experienced, evaluate and classify the condition per SC-100 Ginna Station Event Evaluation and Classification and implement applicable emergency procedure.
- 3.2 The Shift Supervisor shall dispatch an Auxiliary Operator to the Intermediate Building sub-basement to check the response of the accelerograph.
 - 3.2.1 Registration of a tremor greater than 0.01g is indicated by a red target on the action indicator at the bottom of the case.
- 3.3 If the above indication occurs perform the following:
 - 3.3.1 The 1A or 1B diesel generator shall be placed in service using procedure T-27.4, Diesel Generator Operation.
 - 3.3.2 The Shift Supervisor shall notify the Plant Superintendent and shall request an I&C Technician to remove the film from the accelerograph.
 - 3.3.3 The operators shall tour all plant areas and shall check all plant instrumentation, piping, equipment and structures with particular emphasis on the following:
 - 3.3.3.1 Check turbine rotor displacement and eccentricity. Verify turbine vibrations are within allowable limits.

- 3.3.3.2 Check control rods for proper position and operability by performing the Periodic Test PT-1, Rod Control System.
- NOTE: Omit this step if reactor trip occurred.
- 3.3.3.3 Check the radiation monitoring system panel for any increases in area radiation levels or process system activity levels.
- 3.3.3.4 Check for any increase in the makeup rate to the primary system.
- 3.3.3.5 Check for an increase in the frequency of containment sump A pump actuation.
- 3.3.3.6 Check the plant outside the containment, including the screen-house, turbine building structures and piping, the intermediate building, and the auxiliary building and all containment penetrations.
- 3.3.3.7 Check the letdown and charging lines that are accessible in the auxiliary building for leaks. Inspect the component cooling system and spent fuel pit system.
- 3.3.3.8 Monitor auxiliary building sump pump actuations for increased frequency and monitor the level rise in the waste holdup tank.
- 3.3.3.9 The Shift Supervisor shall initiate a containment entry and inspection if leakage inside containment is indicated. The reactor coolant system, the main steam and feedwater systems, and other containment piping and associated penetrations shall be examined.
- 3.3.4 The accelerograph film shall be sent to the company photo lab for processing.
- 3.3.5 A thorough radiation survey shall be performed by the Health Physics Department of all plant areas.
- 3.3.6 If any damage to the primary system or safeguards systems is noted or the accelerograph indicates an earthquake of greater than .08G at the plant site, initiate unit shutdown.
- 3.3.7 If it is determined that the reactor cannot be maintained in the hot shutdown condition, the reactor shall be placed in cold shutdown.

- 3.4 If an earthquake is reported by radio or other news media to be equal to or greater than 6 on the Richter scale within 30 miles or 7 on the Richter scale within 90 miles of the plant, an inspection of the steam generator tubes per QA Manual Appendix B shall be performed.
- 3.5 The Plant Operations Review Committee shall meet and decide on any further actions.

SC-100
GINNA STATION EVENT EVALUATION
AND CLASSIFICATION

1.0 PURPOSE:

1.1 The purpose of this procedure is to provide guidance to personnel in evaluating situations which may require activation of the SC-1 Emergency Plan and direct them to appropriate implementing procedures. Prompt recognition and classification is necessary to ensure the timely activation of support functions and notification of OFF-SITE organizations.

2.0 REFERENCES:

- 2.1 10CFR50 Appendix E
- 2.2 NUREG-0654
- 2.3 NUREG-0696
- 2.4 SC-1

3.0 INSTRUCTIONS:

- 3.1 In the event of an abnormal condition the Control Room Personnel will:
 - 3.1.1 Perform the immediate responses defined in the appropriate plant procedures.
 - 3.1.2 Classify the situation using the guidelines of Appendix I.
 - 3.1.3 Implement applicable Emergency Plan procedures based on Appendix I guidelines.
 - 3.1.3.1 UNUSUAL EVENT SC-201
 - 3.1.3.2 ALERT SC-202
 - 3.1.3.3 SITE EMERGENCY SC-203
 - 3.1.3.4 GENERAL EMERGENCY SC-204

APPENDIX I GUIDELINES

INITIATING CONDITION	UNUSUAL EVENT PARAMETER GO TO SC-201	ALERT PARAMETER GO TO SC-202	SITE EMERGENCY PARAMETERS GO TO SC-203	GENERAL EMERGENCY PARAMETER GO TO SC-204
REACTOR COOLANT LEAKAGE	a. Safety Injection Initiated and flow on FI-924 or FI-925 b. Unidentified leakage > 1 gpm c. Identified leakage > 10 gpm d. S/G leakage > .1 gpm R-15/19 alarm e. Pipe, vessel, or valve body leak.	a. Unexplained charging pump flow > 50 gpm, FI-128 b. Safety injection flow > 50 gpm FI-924,925	a. Depressurization with accumulator discharge. LI-934, 938 PR-420	
FUEL CLADDING DEGRADATION	a. Sampling indicates coolant activity > 84/E b. R-9 increase of 500 mr/hr in 30 minutes.	a. Coolant activity I 131 > 300 uCi/cc b. R-9 increase of 4000 mr/hr or reading 10,000 mr/hr. c. Fuel damage accident with release of activity.	a. Technical staff evaluation of reactor conditions indicates a degraded core with loss of cooling.	
SECONDARY SYSTEM	a. Rapid depressurization of Steam or Feedwater system indicated on PT-468, 469 or 484	a. Steam line break with primary to secondary leakage greater than T.S. b. Steam Generator Tube leakage > 100 gpm, flow > 120 gpm on FI-128, with loss of offsite power.	a. Steam line break with primary to secondary leakage > 50 gpm and R-9 > 500 mr/hr. b. S/G Tube leak greater than 1000 gpm.	a. Multiple S/G Tube rupture with unisolable secondary relief valve failed open.
CONTAINMENT SYSTEM	a. Loss of containment integrity, as indicated by report of malfunctioning valves, hatches or other equipment.	a. 1R/hr on containment area monitors, R-2 or R-7, except during flux mapping.	a. 10,000 R/hr on containment area monitor. b. Containment monitor reading 100 R/hr with containment pressure > 28 psig.	a. Loss of 2 of 3 fission barriers with potential loss of third: 1. Fuel Cladding 2. Reactor coolant System 3. Containment
EFFLUENT RELEASE	a. Exceeding Tech Spec. limit for liquid or gaseous release. (TS-3.9) R-11 > 5.0×10^4 cpm. R-12 > 4.0×10^4 cpm. R-13 > 2.0×10^4 cpm. R-14 > 1.1×10^4 cpm. b. R-18 > 6.0×10^5 cpm.	a. Greater than 10 times Tech. Spec limit for liquid or gaseous release. b. R-11 > 5.0×10^5 cpm. R-12 > 4.0×10^5 cpm. R-13 > 2.0×10^5 cpm. R-14 > 1.1×10^5 cpm. R-18 > 6.0×10^6 cpm.	a. Offsite teams report > 50 mR/hr whole body for 1/2 hr. or 2 hr. thyroid dose > 500 mrem b. R-11,12,13,14 18 off scale.	a. Offsite Survey Teams report 1 R/hr whole body or 2 hr thyroid dose > 5 rem.

APPENDIX I GUIDELINES

INITIATING CONDITION	UNUSUAL EVENT PARAMETER GO TO SC-201	ALERT PARAMETER GO TO SC-202	SITE EMERGENCY PARAMETERS GO TO SC-203	GENERAL EMERGENCY PARAMETER GO TO SC-204
LOSS OF POWER	a. Loss of Offsite Power. b. Loss of both diesel generators	a. Loss of Offsite Power and loss of both diesel generators. b. Loss of both batteries.	a. Loss of Offsite Power and loss of 1A & 1B Diesel Generators for 15 minutes. b. Loss of both sta. batteries for 15 min.	
OTHER CONDITIONS	a. Shift Super/Emerg. Coord. discretion. Plant conditions that warrant increased awareness on the part of the state and counties.	a. Shift Super/Emerg. Coord. discretion. Plant condition that warrant activation of TSC, EOF, or ESC.	a. Shift Super/Emerg. Coord. discretion. Plant conditions that warrant activation of emergency Centers & precautionary public notification	a. Shift Super/Emerg. Coord. discretion. Plant condition that could lead to large radio-logical release.
LOSS OF INDICATORS ANNUNCIATORS, OR ALARMS	a. Loss of Indication Alarms requiring a plant shutdown.	a. Most annunciators lost.	a. Most or ALL Annunciators and indicators lost during unplanned transient.	
CONTROL ROOM EVACUATION		a. Control Room Evacuation	a. Control Room Evacuation with local shutdown stations not established within 15 minutes.	
LOSS OF ENGINEERED SAFETY FEATURES	a. Exceeding a limiting condition for operation on a safety system requiring a plant shutdown. b. Safety injection system relief valve fails.	a. Inability to achieve cold shutdown.	a. Inability to achieve hot shutdown.	

APPENDIX I GUIDELINES

INITIATING CONDITION	UNUSUAL EVENT PARAMETER GO TO SC-201	ALERT PARAMETER GO TO SC-202	SITE EMERGENCY PARAMETERS GO TO SC-203	GENERAL EMERGENCY PARAMETER GO TO SC-204
NATURAL PHENOMENON BEING EXPERIENCED	a. Earthquake felt in plant or detection on plant seismic instrumentation. b. Lake level above 252 ft. c. Lake level below 242 ft. d. Deer Creek flooding over entrance road bridge. e. Large wave(s) causing water to push over armor stone. f. Tornado on site/hurricane warnings.	a. Earthquake > .08 but <.2 as registered on plant accelerometer. Red target on action indicator which actuates > 0.01g. b. Lake level above 253 ft. c. Lake level below 241 ft. d. Flood or large wave(s) which bring water into the plant. e. Tornado striking plant building f. Hurricane winds > 70 mph. (steady)	Plant NOT in cold shutdown and: a. Earthquake >.2 as registered on plant accelerometer. b. Winds or Flood or large wave(s) which threaten equipment required for cold shutdown.	
HAZARDS BEING EXPERIENCED OR PROJECTED	a. Aircraft crash on site b. Near or onsite explosion. c. Near or onsite toxic or flammable gas release. d. Turbine rotating component failure causing shutdown.	a. Aircraft crash into site building. b. Explosion affecting plant operation. c. Entry of uncontrolled toxic or flammable gas into building. d. Turbine failure causing casing penetration. e. Missile striking building.	Plant NOT in cold shutdown and: a. Aircraft crash into vital area. b. Explosion or missile damaging safety equipment.	
FIRE AND FIRE PROTECTION FEATURES	a. Fire lasting 10 minutes. b. Fire department called. c. Exceeding a limiting condition for operation on the fire sys. requiring a plant shutdown.	a. Fire potentially affecting safety systems.	a. Fire causing loss of a safety system	
CONTAMINATED INJURY	a. Transportation of contaminated patient to a hospital.			
SECURITY	a. Attempted entry to site b. Attempted sabotage c. Security threat (Pickets, Demonstration).	a. On-going Security compromise b. Continuing Security threat	a. Imminent loss of physical control of the plant	a. Loss of physical control of the plant
ABNORMAL COOLANT TEMP. AND/OR PRESS.	a. Exceeding a limiting condition for operation for heatup or cooldown. b. Exceeding a safety limit.			