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11/22/78

THREE MILE ISLAND NUCLEAR STATION
STATION RADIATION EMERGENCY PROCEDURE 1670.2
SITE EMERGENCY PROCEDURE

CENTRAL FILE

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Unit 1 Staff Recommends Approval

Approval NA Date —

Cognizant Dept. Head

Unit 2 Staff Recommends Approval

Approval NA Date —

Cognizant Dept. Head

Unit 1 PORC Recommends Approval

G K Kunder Date 11/16/78

Chairman of PORC

Unit 2 PORC Recommends Approval

R P Warren Date 11/20/78

V- Chairman of PORC

Unit 1 Superintendent Approval

J P O'Reilly Date 11/22/78

Unit 2 Superintendent Approval

J J Kelley 189 342 Date 11/20/78

Manager Generation Quality Assurance Approval NA Date —

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THREE MILE ISLAND NUCLEAR STATION

STATION RADIATION EMERGENCY PROCEDURE 1670.2

SITE EMERGENCY PROCEDURE

1.0 DISCUSSION

A Site Emergency involves an occurrence of a major accident which could result in an uncontrolled release of radioactive material to the immediate environment. Such an emergency may require evacuation of non-essential personnel. This emergency is potential off-site hazard which could result in an off-site radiological dose.

2.0 OBJECTIVE

To outline action required in the event that a Site Emergency is declared.

3.0 EMERGENCY ACTION LEVELS

3.1 Any Vent Gas Monitor (RMA 8 or 9 or HP-R-219) is Off Scale or 100 times High Alarm Set Point.

3.2 The radiation level at the site security fence is 125 mR/hr.

3.3 Loss of primary coolant pressure coincident with a high Reactor Building Pressure and/or high Reactor Building Sump Level.

3.4 Reactor Building evacuation alarm.

3.5 Unexpected Reactor Building high range gamma monitor Alert Alarm.

3.6 The high alarm of the Radiation Monitoring System Area Monitors in two separate buildings due to a single event.

4.0 IMMEDIATE ACTION

NOTE: Designated alternates for essential personnel are on Figure 5.

4.1 Emergency Director (Station Superintendent)

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4.1.1 Report to the affected Unit's Control Room and supervise implementation of Site Emergency Procedures.

NOTE: If both Unit Superintendents are on-site they will report to their respective Unit's Control Room.

4.1.2 Assess the conditions and direct protective and corrective actions.

4.1.3 Direct an appropriate announcement over the paging system (ensure page is in merge to reach both Units).

4.1.4 Contact the Civil Defense Duty Officer as soon as possible (within 5 minutes if practical) after determination of the emergency. Establish communications with off-site support groups as necessary. See Figure 4.

4.1.5 Order assembly and accountability in accordance with 1670.7.

4.1.6 Establish communications with ECS and unaffected Unit's Control Room. (A suggested communications scheme is presented in Figure 1).

4.1.7 Evaluate RMS and meterological data.

4.1.8 Maintain status board in the Control Room.

4.1.9 Dispatch on-site and off-site Radiation Monitoring Teams downwind for surveys in accordance with 1670.5 and 1670.6.

4.1.10 As necessary, initiate notification of Met-Ed personnel in accordance with AP 1014, Recall of Standby Personnel and 1670.14, Emergency Contact List.

4.1.11 Direct evaluation off-site monitoring team data and project off-site dose consequences in accordance with 1670.4.

4.1.12 Evaluate the emergency's impact on the unaffected Unit and determine the need to change its operational status, and take appropriate action.

4.1.13 Institute site evacuation of all non-essential personnel if the level of radioactive gas in the station vent exceeds its high alarm setpoint and two area radiation monitors exceed 10 R/hr and/or dose rates at security fence exceed 125 mR/hr. Evacuation may also take place at the discretion of the Station/Unit Superintendent. Evacuation will be carried out as per Radiation Emergency Procedure 1670.7.

4.2 Accident Assessment Personnel

4.2.1 Shift Supervisor

4.2.1.1 The Shift Supervisor will also be required to assume the appropriate duties, depending on the emergency of the following people:

a. Supervisor of Operations

b. Supervisor of Maintenance

c. Supervisor of Radiation Protection and Chemistry/Radiation Protection Supervisor

4.2.1.2 Report to the affected Unit's Control Room.

4.2.1.3 Ensure that if conditions warrant, the site emergency has been announced over the paging system and the Radiation Emergency Alarm has been sounded. Also, ensure that all non-essential personnel have been directed to report to their assembly areas.

4.2.1.4 Assume key duties of Station Superintendent/Unit Superintendent until properly relieved by him or the Duty Section Head.

4.2.1.5 Direct Auxiliary Operators as required, to assume the duties of the following:

a. Radiation Monitoring Team

b. Emergency Repair Party

4.2.2 Shift Foreman (Affected Unit)

4.2.2.1 Implement the Emergency Procedures (1200 Series-Unit 1 or 2200-Unit 2).

4.2.2.2 Assist the Station Superintendent/Unit Superintendent/Shift Supervisor.

4.2.3 Supervisor of Operations (Affected Unit)

4.2.3.1 Assist Station Superintendent/Unit Superintendent in the supervision and implementation of the Emergency Procedures.

4.2.3.2 Serve as back-up to Station Superintendent/Unit Superintendent.

4.2.3.3 Establish communications with unaffected Unit's Control Room.

4.2.3.4 Provide technical assistance and advice as necessary.

4.2.4 Unaffected Unit - Supervisor of Operations, Shift Foreman, Control Room Operators

4.2.4.1 Maintain Unit's status unless otherwise directed by Station Superintendent/Unit Superintendents/Shift Supervisor.

4.2.4.2 Establish communications with affected Unit's Control Room via Supervisor of Operations.

4.2.5 Nuclear Engineer

4.2.5.1 Provide technical assistance as needed in the Control Room.

4.2.5.2 Check and record readings on the Radiation Monitoring System and relay the readings to the Radiation Protection Supervisor in the Emergency Control Station. Also relay data of plant status.

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4.2.5.3 Assist as directed by the Station Superintendent/Unit Superintendent to determine condition of the Unit.

4.2.6 Supervisor of Radiation Protection and Chemistry

4.2.6.1 Report to Affected Unit's Control Room.

4.2.6.2 Evaluate RMS and meterological data as well as survey data to project off-site radiological doses in accordance with 1670.4.

4.2.6.3 Provide recommendations and status reports to the Station Superintendent/ Unit Superintendent based on dose projections and information from the Radiation Protection Supervisor.

4.2.6.4 Insure dose rates and release rates and other pertinent information are relayed to off-site agencies as necessary.

4.2.6.5 Provide direction to the Radiation Protection Supervisor at the ECS for off-site monitoring team locations and monitoring.

4.2.7 Radiation Protection Supervisor

4.2.7.1 Report to the Emergency Control Station.

4.2.7.2 Establish communications with the affected Unit's Control Room. (See Figure 1)

4.2.7.3 Direct the muster of personnel at the ECS and forward lists to the North Assembly Area.

4.2.7.4 Maintain Emergency Status Board and Emergency Job Board at ECS (See Figure 2 and 3).

4.2.7.5 Assign personnel to Radiation Monitoring Team.

4.2.7.6 Dispatch on-site and off-site Radiation Monitoring Teams in downwind direction as directed by Control Room.

4.2.7.7 Establish and maintain communications with on-site and off-site teams.

4.2.7.8 Establish personnel monitoring for all personnel arriving at the ECS from other areas within the plant.

4.2.7.9 Authorize ingress and egress to Three Mile Island.

4.2.8 Chemistry Supervisor

4.2.8.1 Report to the Emergency Control Station.

4.2.8.2 Supervise performance of chemical and radio-chemical analysis as required.

4.2.8.3 Provide assistance to the Radiation Protection Supervisor as necessary.

4.2.9 Lead Engineers - Electrical, Mechanical, I&C - of Affected Unit

4.2.9.1 Report to Affected Unit's Control Room.

4.2.9.2 Provide technical support and assistance as required.

4.2.10 Lead Engineers - Electrical, Mechanical, I&C - of Unaffected Unit

4.2.10.1 Report to Emergency Control Station.

4.2.10.2 Provide technical support and assistance as required.

4.3 Radiation Monitoring Teams (RMT)

4.3.1 Provide Radiation Monitoring of areas as directed by the Radiation Protection Supervisor in accordance with HPP 1670.5 and 1670.6.

4.4 Repair Party Team

4.4.1 Supervisor of Maintenance

4.4.1.1 Report to the Emergency Control Station.

4.4.1.2 Determine if emergency repairs are required.

4.4.1.3 Supervise actions of the Emergency Repair Party.

4.4.2 Emergency Repair Party (ERP)

4.4.2.1 Report to the Emergency Control Station.

4.4.2.2 Perform emergency repairs as directed by the Supervisor of Maintenance.

4.4.2.3 Specific duties of the ERP will depend upon the nature of the emergency. However, the goal of the ERP is to correct any malfunction and return the plant to normal operating condition as soon as possible.

4.5 Operations Personnel

4.5.1 Control Room Operators (Affected Unit)

4.5.1.1 Notify the Shift Supervisor/Foreman that a Site Emergency exists.

4.5.1.2 As directed by the Shift Supervisor/Foreman, sound the Radiation Emergency Alarm.

4.5.1.3 On orders of the Shift Supervisor/Foreman, announce the following applicable message over the GAI-Tronics paging system in both units.

a. If Emergency is a drill:

"ATTENTION ALL PERSONNEL, THIS IS A DRILL, THIS IS A DRILL. A RADIATION EMERGENCY IN UNIT _____ HAS BEEN DECLARED. ALL NON-ESSENTIAL PERSONNEL IN UNIT #1 REPORT TO THE NORTH ASSEMBLY AREA IN THE SERVICE BUILDING AUDITORIUM. ALL NON-ESSENTIAL PERSONNEL IN UNIT #2 REPORT TO ASSEMBLY AREA AT THE WEST END OF THE UNIT #2 TURBINE BUILDING, 305' ELEVATION. ALL MEMBERS OF THE RADIATION EMERGENCY TEAM REPORT TO THEIR STATIONS. THERE WILL BE NO SMOKING, DRINKING OR EATING UNTIL FURTHER NOTICE. THIS IS A DRILL".

b. If Emergency is not a drill:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL. A RADIATION EMERGENCY IN UNIT _____ HAS BEEN DECLARED. ALL NON-ESSENTIAL PERSONNEL IN UNIT #1 REPORT TO THE NORTH HOLDING AREA IN THE SERVICE BUILDING AUDITORIUM. ALL NON-ESSENTIAL PERSONNEL IN UNIT #2 REPORT TO ASSEMBLY AREA AT THE WEST END OF UNIT #2 TURBINE BUILDING, 305' ELEVATION. ALL MEMBERS OF THE RADIATION EMERGENCY TEAMS REPORT TO THEIR STATIONS. THERE WILL BE NO SMOKING, DRINKING OR EATING UNTIL FURTHER NOTICE".

Repeat above message.

4.5.1.4 Take appropriate operating action in accordance with Emergency Procedures (1200 or 2200 series).

4.5.1.5 Turn on the Met-Ed system short wave radio transmitter and establish contact with the Lebanon Office Dispatcher to ensure that back-up means of communication are available.

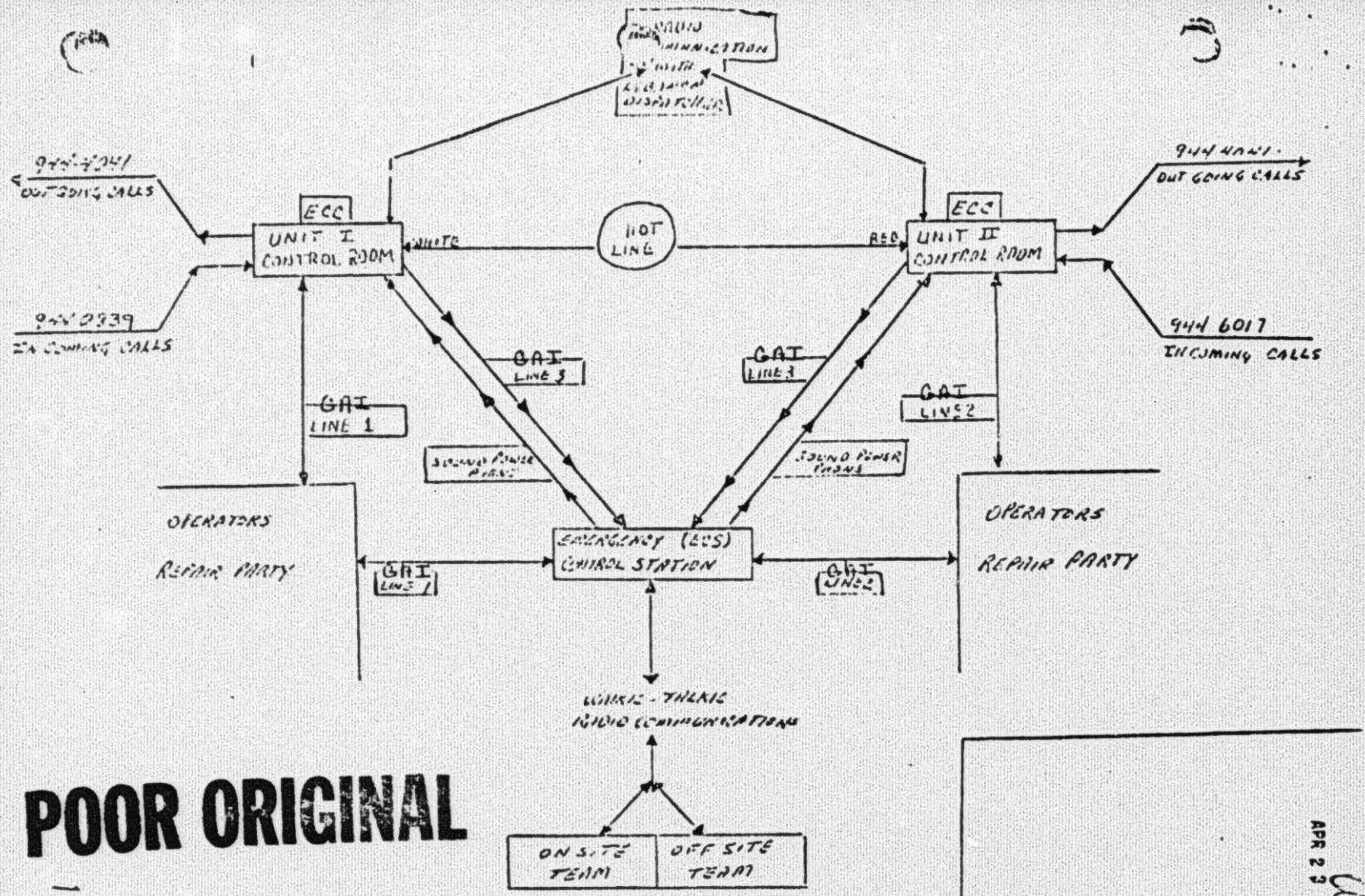
4.6 Security Personnel

4.6.1 North and South Gate and Service Building entrance guards remain on post.

4.6.2 Security Specialist/Security Sergeant reports to North Assembly Area.

4.6.3 Direct accountability in accordance with 1670.7.

4.6.4 Maintain site security in accordance with Security Procedures.



POOR ORIGINAL

LEBANON DISPATCHER NOTIFIED FROM AFFECTED UNIT

FIGURE 1

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EMERGENCY STATUS BOARD

PENNA. BUREAU OF RAD. HEALTH QUESTIONS

1. WHAT TYPE ACCIDENT HAS OCCURRED?
2. HAS THE REACTOR TRIPPED?
3. DID THE EMERGENCY SAFEGUARDS SYSTEMS ACTUATE?
   IF SO, WHICH ONES?
   a. HIGH PRESSURE INJECTION YES___ NO___
   b. LOW PRESSURE INJECTION YES___ NO___
   c. CORE FLOOD YES___ NO___
   d. REACTOR BUILDING ISOLATION YES___ NO___
   e. REACTOR BUILDING COOLING YES___ NO___
4. WHAT IS THE STATUS OF THE PLANT?
   a. AT POWER
   b. HOT STANDBY
   c. HOT SHUTDOWN
   d. COOLING DOWN
   e. COLD SHUTDOWN
5. IS OFF SITE POWER AVAILABLE?
6. ARE THE DIESEL GENERATORS OPERABLE?
7. WHAT IS THE APPROXIMATE RADIOACTIVE DISCHARGE RATE FROM THE PLANT?
   a. NOBLE GASES _____ CI/SEC
   b. IODINES _____ CI/SEC
8. WHAT IS APPROXIMATE WIND SPEED AND DIRECTION?
9. WHAT IS THE APPROXIMATE DOSE RATE TO THE PUBLIC?
10. IS EVACUATION OF DOWNWIND AREAS RECOMMENDED?
11. HAVE ANY PERSONNEL INJURIES OCCURRED? IF SO, WHAT ACTION HAS BEEN TAKEN? WHAT ARE APPROXIMATE RADIATION AND/OR CONTAMINATION LEVELS?

12. ESTIMATED TIME OF RELEASE _____

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Radiation Monitoring Survey

Area monitor readings

Liquid monitor readings

Air monitor readings

ADDITIONAL INFORMATION

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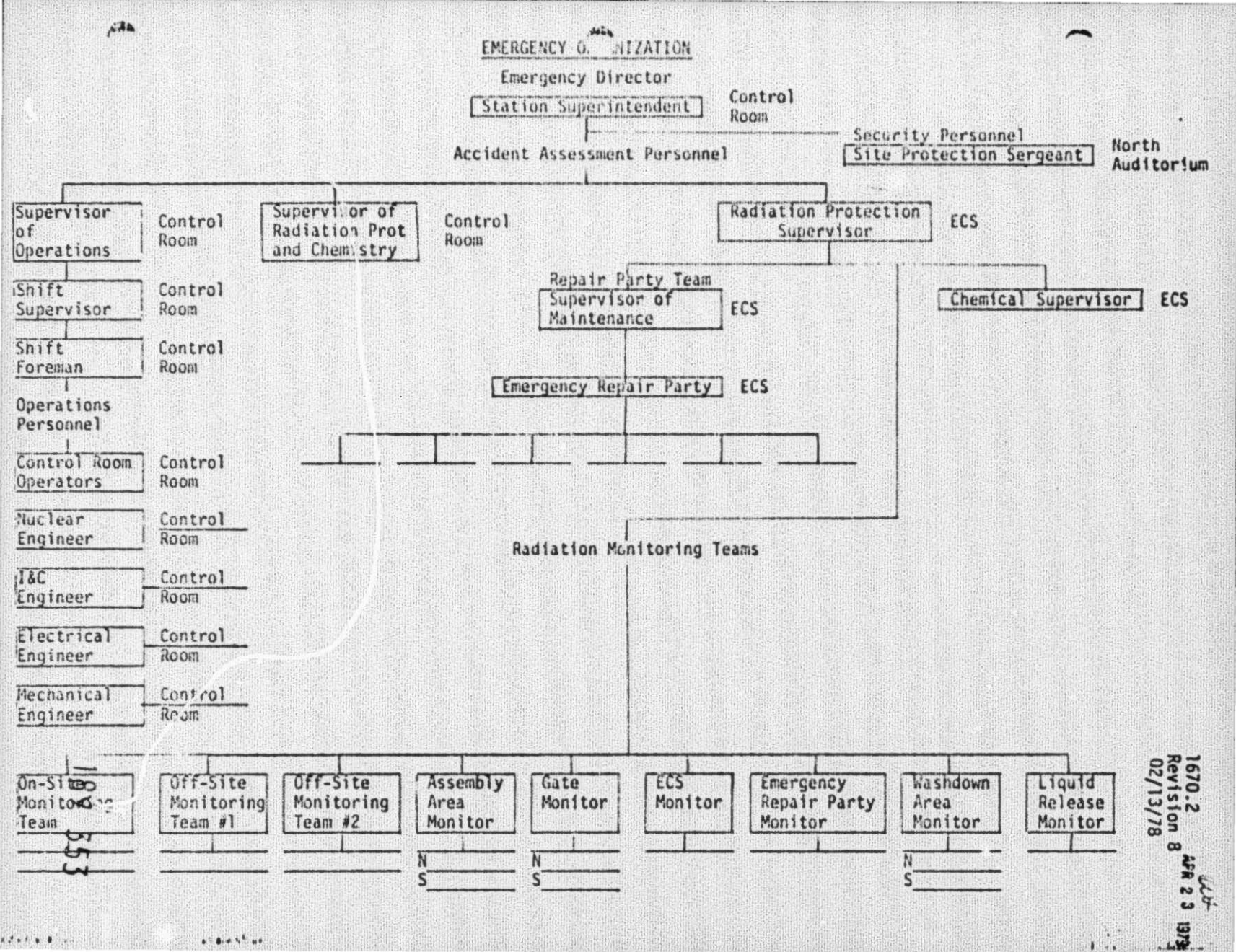
Figure 12



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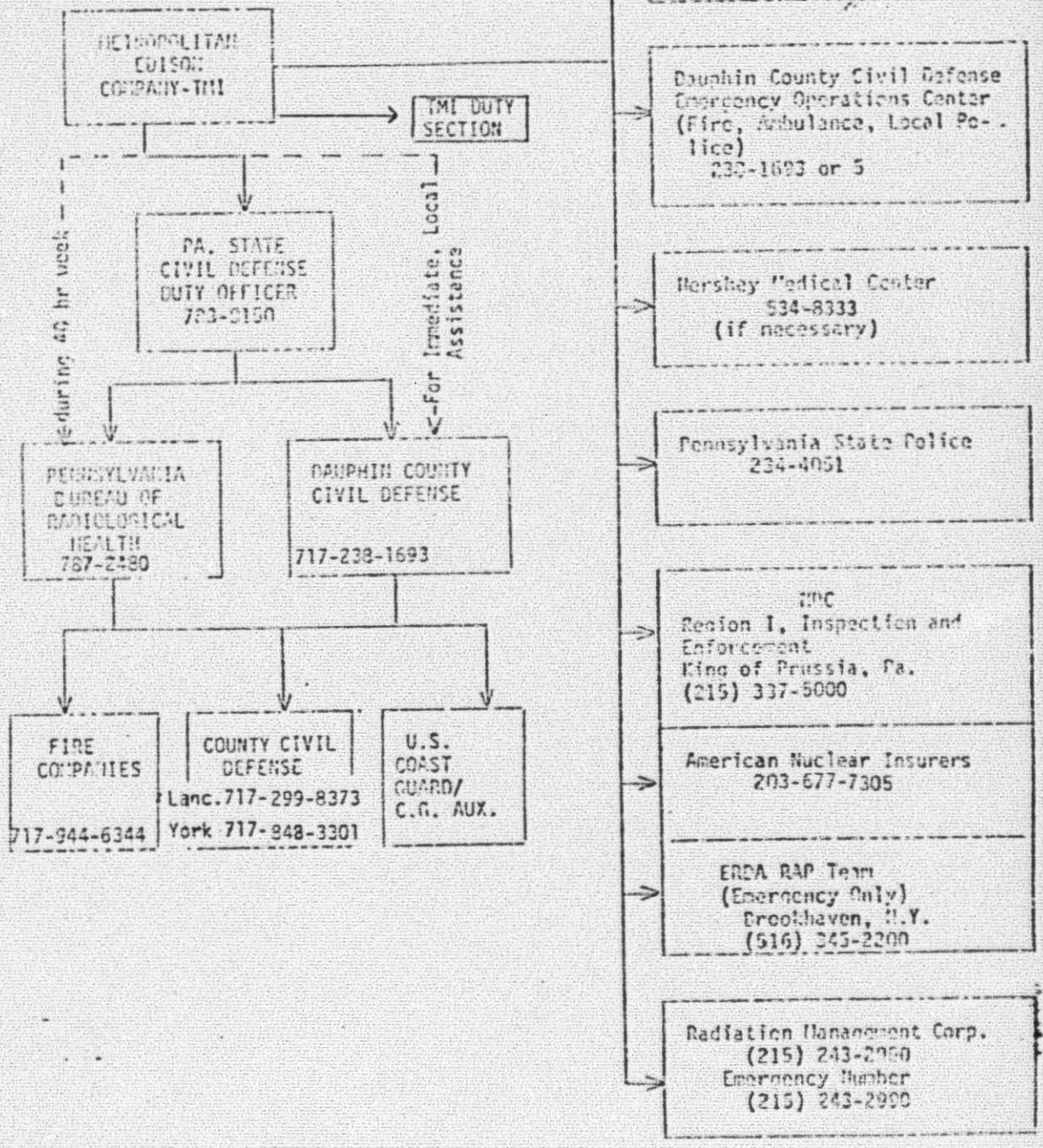

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FIGURE 5

ALTERNATES FOR PERSONNEL WITH EMERGENCY RESPONSIBILITIES

The following list indicates alternates to personnel assigned specific responsibilities in Site Emergency Procedure 1670.2 if those personnel are not on site.

A. Emergency Directors

A1) Primary: Station Superintendent
Alternates:
1) Unit Superintendents (1&2)
2) Unit Superintendents-Technical Support (1&2)
3) Supervisor of Operations
4) Shift Supervisor
5) Shift Foreman

B. Accident Assessment Personnel

B1) Primary: Supervisor Radiation Protection and Chemistry
Alternates:
1) Radiation Protection Supervisor
2) Nuclear Engineer
3) Shift Supervisor

B2) Primary: Radiation Protection Supervisor
Alternates:
1) Radiation Protection Foreman
2) Radiation/Chemistry Technicians

B3) Primary: Supervisor of Operations
Alternate:
1) Shift Supervisor

B4) Primary: Lead Engineers (Nuclear, I&C, Electrical, Mechanical)
Alternate:
1) Shift Supervisor

B5) Primary: Chemistry Supervisor
Alternate:
1) Radiation/Chemistry Technician

C. Repair Party Team

C1) Primary: Supervisor of Maintenance
Alternate:
1) Shift Maintenance Foreman

D. [illegible]ion Monitoring Teams

[illegible]ary: Radiation/Chemistry Technicians/Jr.
Alternate:
1) Auxiliary Operators

TMI DOCUMENTS

DOCUMENT NO: TMI09

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Wilda R. Mullinix, NRC