



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

November 1, 1979

MEMORANDUM FOR: Richard H. Vollmer, Director  
Three Mile Island Task Force

FROM: Harley Silver  
Three Mile Island Task Force

SUBJECT: MEETING WITH METROPOLITAN EDISON COMPANY - SEPTEMBER 24, 1979  
TO SEPTEMBER 27, 1979. EMERGENCY PLANNING FOR THREE MILE ISLAND,  
UNIT 1 (TMI-1)

A series of meetings between the staff and the Metropolitan Edison Company were held on September 25 and 26. A meeting between the staff, Metropolitan Edison and representatives of county and State government agencies was held on September 27. On September 24, the emergency planning review team toured the TMI-1 facility. A public meeting was held during the evening of September 26. The actual agenda and a list of attendees at all the technical meetings are enclosed.

During the meeting with the public many speakers indicated that they were deeply concerned about the emergency planning at TMI. Several members of the public provided written statements. These statements have been reviewed by the staff and are on file with the Emergency Preparedness Task Force.

During the technical meetings, the staff explained the objective of the review and described the NRR Action Plan for Promptly Improving Emergency Preparedness at Power Reactors (SECY 79-450). The staff explained point-by-point the requirements for the upgraded emergency plans that are found in Regulatory Guide 1.101, "Emergency Planning for Nuclear Power Plants;" Review Guideline Number One, "Emergency Planning Acceptance Criteria for Licensed Nuclear Power Plants;" "Basis for Emergency Action Levels" (NUREG-610); and additional staff concerns including implementing procedures. The questions/issues discussed are enclosed.

As a result of the emergency plan review the licensee will modify the emergency plan for TMI-1 in accordance with the guidance the staff discussed in detail. The licensee stated that they will submit for review an upgraded emergency plan within five weeks from the end of the meetings.

Harley Silver  
Three Mile Island Task Force

Enclosure:  
As stated

R. C. Arnold

November 1, 1979

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NRC TASK FORCE MEETING ON EMERGENCY PLANNING

<u>DATE</u>	<u>TIME</u>	<u>LOCATION</u>	<u>ATTENDEES</u>
9/24	0900 - 1200	Local Area	NRC Staff Only
	1300 - 1600	Three Mile Island	Site Tour
9/25	0900 - 1200	Liberty Fire Co. No. 1	NRC, Licensee
	1300 - 1600	Liberty Fire Co. No. 1	NRC, Licensee
9/26	0900 - 1200	Liberty Fire Co. No. 1	NRC, Licensee
	1300 - 1600	Liberty Fire Co. No. 1	NRC, Licensee
	2000 - 2200	Liberty Fire Co. No. 1	Public Comment Meeting
9/27	0900 - 1200	Liberty Fire Co. No. 1	NRC, Licensees, State/County Civil Defense
	1200 - 1600	Tour of State Emer- gency Operations Center	NRC, Licensees, State, Civil Defense

Liberty Fire Co. No. 1  
Adela and Emaus Street  
Middletown, Pennsylvania

Tuesday September 25, 1979

Name	Organization
Jack Roe	USNRC
Dick Vollmer	NRC/TMI
Alexis Tsaggaris	Met-Ed
Ray J. Hallmark	Energy Inc. for Met-Ed
Robert Fahler	Shaw, Pittman, Potts & Trowbridge
Keith Woodard	Pickard, Lowe & Garrick
Len Landry	TMI Unit 1 Health Physicist
Marvin L. Smith	Battelle, PNWL
Richard Roberts	Patriot-News
Karin W. Carter	Assistant Attorney General, Commonwealth of Pa.
Donald F. Cameron	Los Alamos Scientific Laboratory
Dale Donaldson	NRC Region I
John Collins	TMI/NRC
Jane Lee	Etters, York Co.
Pat Street	TMIA/Concerned Citizens
Louise Defour	Limerick Ecology Action
John Garver, Jr.	Middletown

Wednesday September 26th 1979

Name	Organization
Jack Roe	USNRC
Pat Street	Londonderry Twp
Jane Lee	York, Pa.
M. L. Smith	Battelle PNWL
Dale Donaldson	NRC
Donald F. Cameron	LASL
Richard Roberts	Patriot-News
Ray J. Hallmark	Energy Inc. for Met-Ed
Keith Woodard	Pickard, Lowe & Garrick
Robert Fahler	Shaw, Pittman, Potts & Trowbridge
Alexis Tsaggaris	Met-Ed
Wm. H. Zewe	Met-Ed.
Len Landy	Met-Ed.
Bill Johnston	Citizen
Harley Silver (part-time)	NRC

Thursday September 27, 1979

<u>Name</u>	<u>Organization</u>
Jack Roe	USNRC
Rich Roberts	Patriot-News
Hal Gaut	USNRC/SP
Donald F. Cameron	Los Alamos Scientific Lab.
Marvin L. Smith	Batt:lle PNWL.
Eugene W. McPeck	USNRC/OSP
Michael S. Pawlowski	FEMA Region III
John E. Bex	FEMA Region III
Lisa N. Singer	NRC/OELD
J. R. Gray	NRC/OELD
J. Dougherty	PEMA
Kevin J. Molloy	Dauphine County OEP
Dick Lamison	PEMA
C. A. Williamson	PEMA
Margaret A. O'Reilly	PADER/BRP
J. Lothrop	PEMA
C. Crowe	PEMA
T. Gerusky	DER/BRP
D. Butler	DER/BP
W. P. Dornsife	PADER-BRP
Robert Fahler	Shaw, Pittman, Potts & Trowbridge
Alexis Tsaggaris	Met-Ed
William A. Shaffer	EMA, LEB Co.
Robert E. Boyer	Dir.-EMA, LEB Co.
Paul L. Leese	Dir. EMD, Lane Co.
Dale Donaldson	NRC:IE, Region I
Les Jackson	Dir. E.M. York Co.
Pat Street	Londonderry Twp
Jim Tourtellotte	NRC/OELD
John Collins	NRC/TMI Support
Jane Lee	Fairview Twp - York, Co.

SEPTEMBER 19, 1979

QUESTIONS AND COMMENTS CONCERNING  
UPGRADING EMERGENCY PLANNING AT  
THREE MILE ISLAND NUCLEAR STATION



REGULATORY GUIDE 1.101  
EMERGENCY PLANNING FOR NUCLEAR POWER PLANTS

1. Definitions

Provide definitions of any terms that are unique to the power plant under consideration or are given connotations that differ from normally accepted usage.

2. Scope and Applicability

(1) Define the unit, plant, station, or area to which the plan is applicable and present a summary of the plan's interrelationships with (a) its implementing procedures; (b) plant operating, radiological control, and industrial security procedures; (c) other emergency plans of the company (e.g., an overall corporate plan); and (d) emergency plans of other participating agencies, particularly the responsible State agency or other governmental authority having radiological emergency planning responsibilities in the immediate offsite area.

3. Summary of Emergency Plan

(1) Describe the key elements of overall emergency planning logic, incorporating graded emergency classifications of increasing severity and their relationship to the participating status of onsite and offsite personnel and agencies.

#### 4. Emergency Conditions

##### 4.1 Classification System

- (1) Describe the system of classification employed to cover the entire spectrum of possible radiological emergency situations.
- (2) Define the immediate actions to be taken for each classification.
- (3) Describe the classification system used by State and local governments.
- (4) List the implementing procedures associated with each class of emergency.
- (5) Describe the criteria for characterizing each class and the criteria or specific emergency action levels to be used to recognize and declare each class or subclass.
- (6) Describe the methods of early warning of the public and the prompt initiation of protective actions within the emergency planning zone (EPZ).

##### 4.2 Spectrum of Postulated Accidents

- (1) Describe how the postulated accidents are encompassed within the emergency characterization classes and provide a summary analysis of their implications

for emergency planning. Include (a) instrumentation capability for prompt detection and continued assessment and (b) manpower needs in relation to the anticipated sequence and timing of events.

#### 5. Organizational Control of Emergencies

- (1) Describe the emergency organization that would be activated on the site and its augmentation and extension offsite.
- (2) Delineate authorities and responsibilities of key individuals and groups.
- (3) Identify the communication links established for notifying, alerting, and mobilizing emergency personnel.

#### 5.1 Normal Plant Organization

- (1) Describe both day and night shift staffs, indicating clearly who is in the immediate onsite position of responsibility for the plant or station and his authority and responsibility for declaring an emergency.

#### 5.2 Onsite Emergency Organization

- (1) Describe the onsite emergency organization of plant staff personnel for both day and night shift situations.

#### 5.2.1 Direction and Coordination

- (1) Identify the position title of that person onsite who is designated to take charge of emergency control measures.
- (2) Provide a specific line of succession for this authority.
- (3) Provide a policy statement describing the scope of authority and responsibility vested in that role by the company.
- (4) Describe the functional responsibilities assigned to this individual.

#### 5.2.2 Plant Staff Emergency Assignments

(1) Specify the organizational groups to which the following additional functional areas of emergency activity are assigned, including an indication of how the assignments are made for both day and night shifts and for plant staff members both onsite and away from the site. Include at least the following functional areas:

1. Plant systems operations,
2. Radiological survey and monitoring,
3. Firefighting,
4. Rescue operations,

5. First aid,
6. Decontamination,
7. Security of plant and access control,
8. Repair and damage control,
9. Personnel accountability,
10. Recordkeeping, and
11. Communications.

### 5.3 Augmentation of Onsite Emergency Organization

(1) Describe the two categories of offsite support assistance to the plant staff emergency organization.

#### 5.3.1 Licensee Headquarters Support

(1) Describe the headquarters management, administrative, and technical personnel prepared to augment the plant staff in the performance of certain functions required to cope with an emergency. Include at least the following special functions:

1. Environs monitoring,
2. Logistics support for emergency personnel, e.g., transportation, temporary quarters, food and water, sanitary facilities in the field, and special equipment and supplies procurement,

3. Technical support for planning and reentry/recovery operations,
  4. Notification of governmental authorities, and
  5. Release of information to news media during an emergency coordinated with governmental authorities.
- 
- (2) Specify the emergency organization status of supporting headquarters personnel, relative particularly to the person directing the plant emergency organization.
  - (3) Provide the nature and scope of the support services provided by a contractor.
  - (4) Describe the qualifications of the support services contractors.

#### 5.3.2 Local Services Support

- (1) Identify the extension of the organizational capability for handling emergencies to be provided by ambulance, medical, hospital, and fire-fighting organizations.
- (2) Include evidence of the arrangements and agreements reached with such organizations in an appendix.

- (3) Include references to that appendix and to the parts of the plan in which the functions of these organizations are described.

#### 5.4 Coordination with Participating Government Agencies

- (1) Identify the principal State agency (designated State authority) and other governmental agencies (local, county, State, and Federal) having action responsibilities for radiological emergencies in the EPZ.
- (2) Provide subsections for each such agency that include:
  1. The identity of the agency.
  2. A description of the authority and responsibility of the agency for emergency preparedness planning and for emergency response, particularly in relation to those of the licensee and to those of other agencies.
  3. A description for each agency of specific response capabilities in terms of the expertise of personnel and other organizational resources available. Copies of written agreements with such agencies should be included in an appendix. The information should provide a clear concept of radiological response operations.

4. Activation of the agency function, including titles and alternates for both ends of the communication links, and primary and alternative means of communication. Administrative control methods that will ensure the effective coordination and control of the emergency activities of support organizations should be established.
  
5. The designation and location of the Emergency Operations Center of each State/local government agency.

As an alternative method of providing the information requested in these subsections, you may choose to submit copies of such agencies radiological emergency response plans as evidence of acceptable coordination. If this alternative is selected, provide a specific cross reference to the information requested in this section.

#### 6.1 Activation of Emergency Organization

- (1) Describe the communication steps taken to alert or activate emergency personnel under each class of emergency.
  
- (2) Describe action levels (based on readings from a number of sensors including the pressure in containment, the response of the ECCS, etc.) for notification of offsite agencies.
  
- (3) Describe the objectives of a message authentication scheme.



## 6.2 Assessment Actions

(1) Provide a description of the methodologies and techniques to be used to give reasonable assurance that the magnitude of releases of radioactive materials can be determined, that the magnitude of any resulting radioactive contamination can be determined, that projected exposure to persons onsite or offsite can be estimated and that emergency action levels specified can be determined all in a timely manner.

## 6.3 Corrective Actions

(1) Describe the actions can be taken to correct or mitigate the situation at or near the source of the problem (for example, to prevent an uncontrolled release of radioactive materials or to reduce the magnitude of a release).

## 6.4 Protective Actions

(1) Describe the nature of protective actions for which the plan provides, the criteria for implementing these protective actions, the area involved, and the means of notifying or warning the persons or population at risk.

(2) Describe also steps taken (a) to provide to visitors to the plant or site and (b) to inform occupants in the EPZ informatin concerning how the emergency plans provide for notification to them and how they can expect to be advised what to do.

6.4.1 Protective Cover, Evacuation, Personnel Accountability

(1) Describe the plan for timely relocation of persons in order to prevent or minimize exposure to radiation and radioactive materials. Include at least the following items:

1. Plant Site

a. Action criteria.

b. The means and the time required to warn or advise persons involved, i.e.,

(1) Employees not having emergency assignments,

(2) Working and nonworking visitors,

(3) Contractor and construction personnel, and

(4) Other persons who may be in the public access areas on or passing through the site or within the exclusion area.

c. Evacuation routes, transportation of personnel, and reassembly areas, including alternatives for inclement weather and high traffic density.

- d. Missing persons check.
- e. Radiological monitoring of evacuees.

2. Offsite Areas

- a. Actions planned to protect persons in the EPZ and criteria for their implementation.
- b. The means and the time required to warn or advise the persons involved, including:
  - (1) Business, property owners, and tenants;
  - (2) Schools or recreational facilities; and
  - (3) General public.

6.4.2 Use of Onsite Protective Equipment and Supplies

Describe the additional protective actions considered in emergency planning include measures for minimizing the effects of radiological exposures or contamination problems by the onsite distribution of special equipment or supplies. Consider at least the following measures for persons within the exclusion area include:

1. Individual respiratory protection,
2. Use of protective clothing, and
3. Use of radioprotective drugs, e.g., individual thyroid protection.

#### 6.4.3 Contamination Control Measures

(1) Describe provisions made for preventing or minimizing direct or subsequent ingestion exposure to radioactive materials deposited on the ground or other surfaces.

##### 6.4.3.1 Plant Site

(1) Describe the protective actions within the exclusion area but outside of fenced security areas where applicable:

- a. Isolation or quarantine and area access control,
- b. Control of the distribution of affected agricultural products, including milk,
- c. Control of water supplies, and
- d. Criteria for permitting return to normal use.

- (2) Describe the action criteria (Protective Action Guides) and responsibility for implementation of the measures planned.

#### 6.4.3.2 Offsite Areas

- (1) Describe protective actions planned for the EPZ including the same elements as in 6.4.3.1 above.

#### 6.5 Aid to Affected Personnel

- (1) Describe measures that will be used by the licensee to provide necessary assistance to persons injured or exposed to radiation and radioactive material.

##### 6.5.1 Emergency Personnel Exposure

- (1) Specify exposure guidelines for entry or reentry to areas in order to
  - (a) remove injured persons and (b) undertake corrective actions.
- (2) Specify exposure guidelines for emergency personnel who will be providing first aid, decontamination, ambulance, or medical treatment services to injured persons and a description of how these guidelines will be implemented.

#### 6.5.2 Decontamination and First Aid

(1) Describe capabilities for decontaminating personnel, along with a brief description of first aid training and capabilities of appropriate members of the emergency organization.

#### 6.5.3 Medical Transportation

(1) Specify arrangements for transporting injured personnel, who may also be radiologically contaminated, to medical treatment facilities.

#### 6.5.4 Medical Treatment

- (1) Describe arrangements made for local and backup hospital and medical services and the capability for the evaluation of radiation exposure and uptake.
- (2) Incorporate in the plan for both hospital and medical service, assurance not only that the required services are available, but also that persons providing them are prepared and qualified to handle radiological emergencies.
- (3) Include written agreements with respect to arrangements made by you in the appendix.

## 7. Emergency Facilities and Equipment

(1) Identify, describe briefly, and give the locations of items to be used or maintained by the licensee.

### 7.1 Emergency Operations Centers

(1) Describe the principal and alternative locations from which effective emergency control direction is given.

(2) Describe their locations relative to the reactors, prevailing wind direction and evacuation routes.

### 7.2 Communications Systems

(1) Describe both onsite and offsite communications systems, including redundant power sources that would be required to perform vital functions in transmitting and receiving information throughout the course of an emergency.

### 7.3 Assessment Facilities

(1) List monitoring systems that are to be used to initiate emergency measures, as well as those to be used for continuing assessment. The listing should be organized as follows:

### 7.3.1 Onsite Systems and Equipment

1. Geophysical phenomena monitors, e.g., meteorological, hydrologic, seismic.
2. Radiological monitors, e.g., process, area, emergency, effluent, and portable monitors and sampling equipment.
3. Process monitors, e.g., reactor coolant system pressure and temperature, containment pressure and temperature, liquid levels, flow rates, status or lineup of equipment components.
4. Fire detection devices.

### 7.3.2 Facilities and Equipment for Offsite Monitoring

1. Geophysical phenomena monitors.
2. Radiological monitors.
3. Laboratory facilities, fixed or mobile.

### 7.4 Protective Facilities and Equipment

(1) Describe specific facilities and equipment that are intended to serve a protective function, including those features that ensure their adequacy with respect to their capacity for accommodating the number of persons



expected and with respect to shielding, ventilation, and inventory of supplies, including, for example, respiratory protection, protective clothing, portable lighting, and communications equipment.

#### 7.5 First Aid and Medical Facilities

- (1) Provide summary description of onsite facilities.
- (2) Describe offsite medical facilities in the appendix along with the agreements providing for their use.

#### 7.6 Damage Control Equipment and Supplies

- (1) Describe onsite damage control equipment and supplies.

### 8. Maintaining Emergency Preparedness

- (1) Describe the means to be employed to ensure that the plan will continue to be effective throughout the lifetime of the facility.

#### 8.1 Organizational Preparedness

##### 8.1.1 Training

- (1) Describe the specialized initial training and periodic retraining programs to be provided to each of the following categories of emergency personnel:

1. Directors or coordinators of the plant emergency organization.
2. Personnel responsible for accident assessment, including control room shift personnel.
3. Radiological monitoring teams.
4. Fire control teams (fire brigades).
5. Repair and damage control teams.
6. First aid and rescue teams.
7. Local services personnel.
8. Medical support personnel.
9. Licensee's headquarters support personnel.

#### 8.1.2 Drills and Exercises

- (1) Describe provisions for the conduct of periodic drills and exercises to test the adequacy of timing and content of implementing procedures and methods, to test emergency equipment, and to ensure that emergency organization personnel are familiar with their duties.

- (2) Provide for an initial exercise prior to loading of the first unit at any site and for annual exercises thereafter using scenarios appropriate to the Site Emergency or General Emergency classifications.
- (3) Describe the provisions for coordination with and participation of offsite emergency personnel, including those of State and local government agencies.
- (4) Describe the test of the communications links and notification procedures with those offsite agencies to demonstrate that capability for early warning of the public is maintained.
- (5) Describe the quarterly drills for fire team (fire brigade) members, annual fire emergency drills containing provisions for a participation by an offsite fire department, and annual drills of repair and damage control teams.
- (6) Describe the provisions made for critiques of all drills and exercises.
- (7) Describe the methods to evaluate its effectiveness and to correct weak areas through feedback with emphasis on schedules, lesson plans, practical training, and periodic examinations.

### 8.1.3 Emergency Planning Coordinator

- (1) Establish and maintain on the normal plant operating staff an Emergency Planning Coordinator whose responsibility includes the coordination of offsite emergency planning efforts.
- (2) Describe the principal duties of this position.

### 8.2 Review and Updating of the Plan and Procedures

- (1) Provide for an annual review of the emergency plan and for updating and improving procedures to incorporate results of training and drills and to account for changes onsite or in the environs.
- (2) Describe means for maintaining all coordinate elements of the total emergency organization informed of the plan and revisions to the plan or relevant procedures. Describe provisions for reviewing and updating all written agreements at least every two years.

### 8.3 Maintenance and Inventory of Emergency Equipment and Supplies

- (1) Describe the provisions for performing maintenance, surveillance testing, and inventory on emergency equipment and supplies.

9. Recovery

(1) Describe general plans, including applicable criteria, for restoring the plant as nearly as may be possible to a safe status.

10. Appendix

(1) Include in the appendix the following items:

1. Copies of agreement letters with offsite emergency response supporting organizations and copies or summaries of referenced interfacing emergency plans.
2. Plots of calculated time-distance-dose for the most serious design basis accident as called for in the latest revision of Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants," Section 13.3-1.a, -1.b, and -1.c.
3. A map or maps, drawn to suitable scale and clearly legible, that reflect the information called for in Regulatory Guide 1.70, Section 13.3-6.a and -6.b., and display the exclusion area, low population zone and EPZ (10, 50 mile) boundaries.

4. Listings, by title, of written procedures that implement the plan.
  
5. Listings by general category of emergency kits, protective equipment, and supplies that are stored and maintained for emergency purposes. A detailed catalog of individual items should not be included in the plan.

Emergency Planning Acceptance Criteria  
for Licensed Nuclear Power Plants

INTRODUCTION

Confirm that you will submit updated facility plans in accordance with the format of Regulatory Guide 1.101 by (date) together with the appropriate State and local plans, which will be evaluated collectively against the requirements of Appendix E to 10 CFR Part 50, the positions set forth in Regulatory Guide 1.101, and the acceptance criteria contained herein.

ACCEPTANCE CRITERIA

- I. To assure effective coordination of emergency activities among all organizations having a response role
  - A. Licensee plans:
    1. Provide for an emergency coordinator at all times, including one individual onsite at the time of an accident, having the authority and responsibility to initiate any emergency actions within the provisions of the emergency plan, including the exchange of information with authorities responsible for coordinating offsite emergency measures. (5.2.1)

2. Provide for the augmentation of the minimum onsite emergency organization within 60 minutes for all classes of emergencies above the "alert" level. (5.3.X)
  
3. Identify and define by means of a block diagram the interfaces between and among the onsite functional areas of emergency activity, licensee headquarters support, local services support, and State and local government response organizations. The above shall include the onsite technical support center and the operational support center as discussed in NUREG-0578. (5.3.X)
  
4. Describe the location and role of the onsite technical support center. See item 3 of Section 2.2.2.b of Appendix A to NUREG-0578 (e.g., communications with NRC and the offsite emergency operations center). (7.1.X)
  
5. Describe the location and role of the onsite operational support center. Section item 3 of Section 2.2.2.c of Appendix A to NUREG-0578. (7.1.X)
  
6. Provide for the dispatch of a representative to the principal emergency operations center established by the offsite agencies (not required if licensee's offsite emergency operation center is at the same location as that described in item I.B.4). (7.1.X)



B. State/local plans:

1. Identify authorities responsible for coordinating offsite emergency activities for the Emergency Planning Zones discussed in NUREG-0396. (5.4)
2. Designate the authority and specific responsibility for each coordinating authority. (5.4)
3. Describe the concept of operations from the perspective of each official having a coordinating role, including the operational interrelationships of all Federal, State, and local organizations providing emergency support services. (5.4)
4. Identify the predetermined location of the Emergency Operations Center to be used for the coordination of all offsite emergency support activities. (5.4, 7.1)
5. Describe the communication plan for emergencies, including titles and alternates for both ends of the communication links and the primary and backup means of communication (5.4). Where consistent with the agency function, these plans will include:

- a. Provision for prompt and assured activation of the State/local emergency response network.
- b. Provision for administrative control methods for assuring effective coordination and control of Federal, State, and local emergency support activities.
- c. Provision for communications with contiguous State/local governments within the Emergency Planning Zones (10, 50 miles).
- d. Provision for communications with Federal emergency response organizations.
- e. Provision for communications with the nuclear facility, State and/or local emergency operations centers, and field assessment teams.

II. To assure early warning and clear instructions to the population-at-risk in the event of a serious radiological emergency

A. Licensee plans:

- 1. Provide an emergency classification scheme as set forth in Regulatory Guide 1.101. (4.1.X)

2. Establish specific criteria, including Emergency Action Levels (EAL) as appropriate, for declaring each class of emergency.  
(4.1.X)
  - a. EALs for declaring a "site emergency" will include instrument readings and system status indications corresponding to an airborne fission product inventory within containment which, if released, could result in offsite doses equivalent to the lower limit of the EPA Protective Action Guides (PAG) for exposure to airborne radioactive materials.
  - b. EALs for declaring a "general emergency" will include instrument readings and system status indications corresponding to an airborne fission product inventory within containment which, if released, could result in offsite doses equivalent to the upper limit of the EPA Protective Action Guides (PAG) for exposure to airborne radioactive materials.
3. Provide a clear and explicit methodology for relating EALs to PAGs. (4.1)
4. Identify the onsite capability and resources to properly assess and categorize accidents including:

7. Identify prewritten emergency messages for response organizations and the public consistent with the classification scheme.

(5.4)

8. Provisions for testing the overall communications link to assure that the criteria specified in item 5 above is met on a continuing basis. (5.4)

III. To assure continued assessment of actual or potential consequences both onsite and offsite

A. Licensee plans:

1. Identify the onsite capability and resources to provide valid and continuing assessment throughout the course of an accident including:

- a. Post-accident sampling capability. See item 3 of Section 2.1.8.a of Appendix A to NUREG-0578. (7.3)

- b. In-plant iodine instrumentation. See item 3 of Section 2.1.8.c of Appendix A to NUREG-0578. (7.3)

- c. Plots showing the containment radiation monitor reading vs. time following an accident for incidents involving

100% release of coolant activity, 100% release of gap activity, 1% release of fuel inventory, and 10% release of fuel inventory. (10)

2. Identify the capability and resources for field monitoring in the environs of the plant including the additional dosimetry specified in the revised technical position issued by the NRC Radiological Assessment Branch for the environmental radiological monitoring program. (7.3.2)

B. State/local plans:

1. Identify the agencies having a radiological assessment role within the Emergency Planning Zones as discussed NUREG-0396, including the lead agency for data coordination. (5.4)
2. Designate the specific responsibilities for each agency having an assigned assessment role. (5.4)
3. Describe the arrangements established with the Department of Energy Regional Coordinating Office for radiological assistance under the RAP and IRAP programs. (5.4)
4. Designate a centralized coordination center for the receipt and analysis of all field monitoring data. (5.4)

5. Describe the methods and equipment to be employed in determining the magnitude and locations of any radiological hazards following liquid or gaseous radioactivity releases. (5.4)

IV. To assure effective implementation of emergency measures in the environs

A. Licensee plans:

1. Provide written agreements with each Federal, State, and local agency and other support organizations having an emergency response role within the Emergency Planning Zones as discussed in NUREG-0396. The agreements will identify the emergency measures to be provided and the mutually acceptable criteria for their implementation. (5.4, 10)

B. State/local plans:

1. Designate protective action guides and/or other criteria to be used for implementing specific protective actions in accordance with the recommendations of EPA regarding exposure to a radioactive gaseous plume (EPA-520/1-75-001) and with those of HEW/FDA regarding radioactive contamination of human food and animal feeds as published in the Federal Register of December 15, 1978 (43 FR 58790). (5.4)

2. Designate the informational needs (e.g., dose rates, projected dose levels, contamination levels, airborne or waterborne activity levels) for implementing the protective actions identified in item 1 above. (5.4)
  
3. Describe the evacuation plan and/or other protective measures for the Emergency Planning Zone associated with the plume exposure pathway (NUREG-0396) including: (5.4)
  - a. Maps showing evacuation routes as well as relocation and shelter areas.
  
  - b. Population and their distribution around the nuclear facility.
  
  - c. Means for notification of all segments of the transient and resident population.
  
  - d. Plans for protecting those persons whose mobility may be impaired due to such factors as institutional confinement.
  
  - e. Provisions for the use of radioprotective drugs, particularly for emergency workers, including quantities, storage, and means of distribution.

- f. Means of effecting relocation.
  - g. Potential egress routes and their projected traffic capacities under emergency use.
  - h. Potential impediments to use of egress routes, and potential contingency measures.
4. Describe the protective measures to be used for the Emergency Planning Zone associated with the ingestion pathway (NUREG-0396) including the methods for protecting the public from consumption of contaminated foodstuffs. (5.4)
5. Provide for maintaining dose records of all potentially exposed emergency workers involved in response activities. (5.4)
- V. To assure continued maintenance of an adequate state of emergency preparedness
- A. Licensee plans:
- 1. Provide, in addition to the drills and exercises identified in Regulatory Guide 1.101, a joint exercise involving Federal, State, and local response organizations. The scope of such



an exercise should test as much of the emergency plans as is reasonably achievable without involving full public participation. Definitive performance criteria will be established for all levels of participation to assure an objective evaluation. This joint test exercise will be scheduled about once every five years. (8.1 2)

B. State/local plans:

1. Provide for emergency drills and exercises to test and evaluate the response role of the agency, including provisions for critique by qualified observers. (5.4)
2. Provide for participation in the joint Federal, State, local and licensee exercise described in A.1 above. (5.4)
3. Describe the training program for those individuals having an emergency response assignment. (5.4)
4. Provide for periodic review and updating of the emergency response plans of the agency. (5.4)

Provide a specific cross reference in Section 5.4 for information requested in State/local plans.