COMMONWEALTH
OF
MASSACHUSETTS

RADIOLOGICAL EMERGENCY RESPONSE PLAN

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COMMONWEALTH OF MASSACHUSETTS

RADIOLOGICAL EMERGENCY RESPONSE PLAN

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OVERVIEW

The Massachusetts Radiological Emergency Response Plan (MARERP) for Licensed Nuclear Power Plants is an annex to the Massachusetts Comprehensive Emergency Management Plan, which incorporates the National Incident Management System (NIMS) concept of operations and standardization of terminology for consistency in preparedness, response, and recovery activities.

The MARERP includes information such as the breakdown of responsibilities in public and private sectors, a discussion of emergency planning zones, protective action guides and protective actions, concept of operation, and notification and warning. The responsibilities of primary and support agencies (State, local, and Federal) are also identified.

The MARERP also describes the State's emergency preparedness maintenance program. This consists of ongoing activities that are necessary to maintain emergency preparedness. Various elements of the public education and information program, training, drills and exercises, plan maintenance and updating are discussed.

In support of the MARERP, each State agency has developed and maintains procedures that identify how it will carry out its task assignments. Such procedures are generally separately bound documents that complement the MARERP.

Similarly, the Massachusetts Emergency Management Agency Regional plans, 10-mile emergency planning zone community plans, and reception community plans for each of the licensed facilities that could affect Massachusetts, support the MARERP. A complete listing of plans and procedures that support the MARERP may be found in Exhibit 7, Supporting Documents List and Standard Operating Procedures.

SECTION 1
INTRODUCTION

1.1 PURPOSE

The Massachusetts Radiological Emergency Response Plan (MARERP) was developed to provide guidance and assistance to State and local officials with responsibilities for responding to radiological emergencies at nuclear power stations and to Federal or private agencies requested to assist in such response.

1.2 AUTHORITY

General Laws of Massachusetts Chapter 639, Acts of 1950, as amended and codified in Chapter 33 appendix, Section 13-2B, authorizes the Director of the Massachusetts Emergency Management Agency (MEMA) to make plans for response to potential effects of accidents at nuclear power stations. Additionally, Massachusetts Executive Order No. 303 provides that the MEMA Director should develop radiological emergency response plans for the Massachusetts communities adjacent to the Seabrook Nuclear Power Station in conjunction with other state and local officials and that an effective warning and notification system be established.

Massachusetts Executive Order No. 144 provides that the MEMA Director act as State Coordinating Officer in the event of an emergency, and that State agencies make plans for providing emergency services according to their resources.

The administrative authority of the Governor may be delegated to the MEMA Director through the authority of the Secretary of Public Safety and Security (EOPSS). The Director may delegate such authority as provided. Section 4 of the Radiological Emergency Response Plan specifies the responsibilities delegated to MEMA and others.

Following an accident at a nuclear power plant, the Governor may declare a state of emergency under the provisions of Chapter 33, Appendix, Section 13-5. The MEMA Director may then direct State and local agencies, and other designated emergency response organizations, to take appropriate action.

Chapter 33, Appendix, Section 13-2 also authorizes the MEMA Director to coordinate disaster response efforts by local governing authorities who have primary authority and responsibility within their respective jurisdictions.

Sections 5N and 5K of Chapter 111 of the General Laws of Massachusetts authorize the Commissioner of Public Health to determine what actions are required to protect public health whenever an incident involving radioactive substances or sources affects any part of Massachusetts. Section 5B of Chapter 111 authorizes the Massachusetts Department of Public Health (MDPH) to regulate the use, storage, and disposal of radioactive materials. Section H of Chapter 111 authorizes the MDPH to maintain a monitoring and surveillance program for all nuclear reactors in the State.

If the Governor declares a state of emergency in response to an incident that is detrimental to public health, Section 2A of Chapter 17 of the General Laws of Massachusetts authorizes the Commissioner of Public Health with the approval of the Public Health Council, to take such actions necessary to ensure the maintenance of public health and the prevention of disease.

During a state of emergency, the Secretary of Public Safety and Security (EOPSS) acts, through the MEMA Director, as the Governor's coordinator of emergency response actions taken by State and local agencies as set forth in the State's Comprehensive Emergency Management Response Plan. In the state's response plan, the Massachusetts Radiological Emergency Response Plan (MARERP) and Emergency Planning Zone (EPZ) response plans are referenced.

1.3 MASSACHUSETTS POLICY ON EMERGENCY PLANNING

Emergency planning and preparedness activities for natural or man-made disasters, including an accident at a nuclear power plant, in the Commonwealth of Massachusetts shall be guided by the following principles:

First, each and every human life is of equal and inestimable value;

Second, during an emergency, the Commonwealth will make every effort and exhaust every resource, public and private, to save lives, reduce injury and suffering, and protect people from exposure to harm;

Third, during an emergency, protective action judgments will be made on the basis of human need. There is no such thing as an acceptable level of death, injury or suffering.

1.4 GUIDANCE

The general guidance issued by the joint Federal Emergency Management Agency/ Nuclear Regulatory Commission (FEMA/NRC) Steering Committee in NUREG-0654/ FEMA-REP-1, Rev 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" and accompanying guidance memoranda were used in the development of this plan.

The *National Response Framework (NRF)* was also used as a guide on how the federal, state and local governments conduct all-hazards response, including nuclear response.

The Commonwealth has adopted the National Incident Management System (NIMS). Utilizing guidance from NIMS, the MARERP has incorporated standardized terminology and the Incident Command System (ICS), where applicable. The plan is supported by Standard Operating Procedures (SOPs) that include detailed instructions on when and how each of the response actions will be performed.

SECTION 2
PLANNING BASIS

This section summarizes the planning concepts that form the basis for the Radiological Emergency Response Plans that have been developed for the Commonwealth, **and two** of the MEMA's three operating regions, and the local communities.

2.1 FIXED NUCLEAR FACILITIES AFFECTING MASSACHUSETTS

One fixed nuclear facility operates within the borders of Massachusetts: Pilgrim Nuclear Power Station located in Plymouth and operated by Entergy Nuclear Northeast. The other licensed facility is located just over the border from Massachusetts: Seabrook Nuclear Power Station located in Seabrook, New Hampshire, and operated by NextEra Energy Resources. These facilities are mapped on Figure 2-1. An Independent Spent Fuel Storage Installation (ISFSI) at the decommissioned Yankee Rowe plan is located in Rowe, Massachusetts.

2.2 EMERGENCY PLANNING ZONES

The U.S. Nuclear Regulatory Commission (NRC)/U.S. Environmental Protection Agency (EPA) document entitled "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," NUREG-0396 (EPA 520/1-78-016), and the Manual of Protective Action Guides and Protective Actions for Nuclear Incidents (EPA 400-R-17-001) provide the planning basis for radiological emergency response plan development.

Prepared by a Joint NRC and EPA Task Force on Emergency Planning, NUREG-0396 presents the concept of generic emergency planning zones (EPZ) as a basis for planning response actions which would result in dose savings in the environs of nuclear facilities should a serious incident occur at a nuclear reactor.

The NRC and the EPA endorsed the EPZ concept. The Federal Emergency Management Agency (FEMA) has concluded that the guidance in NUREG-0396, in particular the EPZ concept, should be used as a planning basis for emergency preparedness around nuclear power facilities. The EPZ

concept is illustrated in Figure 2-3.

The EPA's protective action guides, accident considerations, and planning needs are factors central to the EPZ concept and development. The EPZs are designated as areas for which plans are prepared to ensure that prompt and effective actions can be taken to protect the public in the event of an incident at a nuclear power plant. EPZs are considered essential for responding to any incident that would produce offsite doses in excess of the protective action guides. For commercial reactors, a radius of about 10 miles was selected for the plume exposure pathway EPZ (plume zone) and a radius of about 50 miles was selected for the ingestion exposure pathway EPZ (ingestion zone). The plume and ingestion EPZs for licensed nuclear facilities affecting Massachusetts are shown in Figure 2-3.

Although the radius for the generic EPZ implies a circular area, the actual shape depends upon the characteristics of a particular area. Adjustments are often made to accommodate existing boundaries, such as town lines, major roads, or rivers.

2.2.1 Plume Zone

Principal exposure pathways in the plume zone are a) external exposure to gamma and beta radiation from the plume and from deposited materials, and b) internal exposure from inhalation of the passing radioactive plume. The time of potential exposure could range in length from hours to days.

2.2.2 Ingestion Zone

Principal exposure pathways in the ingestion zone may result from ingestion of contaminated water or foods, such as milk or fresh vegetables, from areas within the ingestion EPZ. The time of potential exposure could range from hours to months. However, the time available to implement appropriate protective actions prior to a radiological release from a nuclear plant could be of the equivalent duration.

2.3 BIOLOGICAL EFFECTS OF RADIATION

Human exposure to ionizing radiation is measured in millirem (mrem) and rem, which are units of dose equivalent. Dose depends upon the amount and type of radiation being emitted, the distance from the source of radiation, the length of exposure time, and the size of body area exposed. The greater the dose, the greater the potential for biological effect. However, it is impossible to predict precisely how an individual will respond to a particular dose, as effects will vary from one person to another.

The average annual whole body dose equivalent from all natural sources of radiation in the U.S. is about 360 millirem. This dose results from exposure to cosmic, cosmogenic, and terrestrial radiation sources and radiation from internally deposited radionuclides. Most (80%) of natural dose is a result of exposure to radon daughters in the lung. Additionally, the use of x-rays and radioactive materials in medicine and dentistry add to overall population doses.

It is difficult to detect any indication of radiation exposure or permanent damage in humans that have received doses of less than 50 rems. Radiation effects may occur above this amount. However, at doses less than 100 rems, any effects will likely subside within a few weeks. Long-term effects from high dose include an increased chance of developing leukemia or other forms of cancer. At very high doses, there is a 50 percent chance of survival for individuals that have received a dose of 450 rads and almost no chance of survival from a dose of 1,000 rads of ionizing radiation.

2.3.1 Early Effects

Radiation effects can be classified in two categories, early or delayed, but these categories are not mutually exclusive.

Early (acute) effects of radiation exposure are expected to occur within 90 days from exposure, and may include fatalities, symptoms of acute radiation syndrome, or clinically detectable changes in blood and chromosomes. However, emergency protective actions can be taken to prevent or minimize these effects. The basis for protective action decisions for avoiding early health effects is justified in preventing such effects. However, they must be made rapidly and with balanced

consideration of other existing constraints, such as severe weather, that could impact protective action measures such as evacuation.

2.3.2 Delayed Effects

Delayed effects of radiation exposure (i.e., biological effects that can only be observed on a statistical basis) could occur in some members of a population that has been exposed radioactive materials. The effects may be fatalities or disabilities of somatic or genetic origin. The likelihood of incidence for these effects is based upon a statistical evaluation of epidemiological studies of groups of people who have been exposed to ionizing radiation. Decisions concerning statistical effects on populations are more difficult because of the lack of immediacy of the effects. However, in the long run, these effects may cause the greatest impact on the general population.

2.4 RADIATION EXPOSURE PATHWAYS

A radioactive plume released from a nuclear power plant consists of gaseous and/or particulate material. Three dominant modes of exposure have been identified from these atmospheric releases:

- External whole body irradiation, inhalation, and ingestion: External whole body irradiation is direct exposure from gamma radiation in or from the plume.
- Internal exposure occurs primarily as a result of the inhalation of airborne radioactive material in the plume or from breathing in re-suspended material deposited from a passing plume.
- Ingestion is exposure to radiation following the entry of contaminated food or water through the mouth.

2.5 PROTECTIVE ACTION GUIDES

Following an accident involving a release of radioactive material to the atmosphere, there may be a need for rapid action to protect the public from radiation exposure. The **Commonwealth of MA uses the** EPA provide**d** guidance in its **EPA-400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, Revised 1991, Second Printing May 1992.**

After a nuclear incident involving a release of radiation, an estimate is made of the radiation dose,

which affected population groups may potentially receive. This dose estimate is called the projected dose. A protective action is an action taken to avoid or reduce this projected dose when the benefits derived from such action are sufficient to offset any undesirable features of the protective action. Protective action guides are the numerical projected doses that act as trigger points to initiate protective actions. This projected dose does not include any avoidable dose that has already been received prior to the time the projection is made, nor does it include any dose received prior to implementation of the protective action.

A protective action guide does not imply an acceptable level of risk for normal (non-emergency) conditions. Since the protective action guide is based on a projected dose that would be received if the protective action were not implemented, it is used as an effort to minimize the risk from an event that has a high probability of occurrence, or which is occurring or has already occurred. For protective actions to be most effective, they must be implemented as soon as practical after the decision to take the action has been made.

Specific information on Protective Action Guides is detailed in the Massachusetts Department of Public Health Nuclear Incident Advisory Team (NIAT) Handbook.

2.6 PROTECTIVE ACTIONS FOR DIRECT EXPOSURE WITHIN THE PLUME EXPOSURE EMERGENCY PLANNING ZONE

Three protective actions for limiting direct exposure of the general public to radiation are considered for the plume exposure emergency planning zone (EPZ). These are: access control, sheltering-in-place, and evacuation. In addition, precautionary actions, such as closing certain facilities during the early stages of an emergency, may be considered. See Section 8.2 for more information.

2.6.1 Access Control

Access control restricts entry into the plume exposure EPZ. It is a necessary adjunct to sheltering-in-place and/or evacuation. Access control restricts persons from entering an area where they may be exposed to potentially harmful radiation. It also reduces outside traffic on the roads within the EPZ so they may be better used for evacuation and/or emergency vehicles. By restricting entry

points, access control also provides a level of security in areas that have been evacuated. Access control is a State and/or local responsibility and is detailed in local radiological emergency response plans or appropriate traffic management manuals.

2.6.2 Sheltering-in-Place

Sheltering-in-place may be a viable protective action based on evaluation of projected shelter and evacuation doses, as well as factors such as release duration, a Hostile Action Based (HAB) incident or hazardous road/weather conditions that may impact implementation of evacuation. Sheltering-in-place requires individuals to remain indoors, close all doors and windows, and turn off all ventilation systems that draw in outside air, and seal, to the greatest extent possible, all other access to the outdoor air. All these actions limit the exchange of indoor air with outdoor air that may be contaminated with radioactive materials. Heavier construction materials or increased layers of building material increase the amount of protection from exposure to radiation through increased shielding. Therefore, shelter should be sought in the lowest level of the building (e.g., in basements), away from windows. Sheltering-in-place can reduce both whole body and thyroid doses. Representative shielding afforded by various structures is shown in Table 2.1 and Figure 2-2.

Generally, sheltering-in-place can provide significant protection for about 2 hours in small residential structures. Larger masonry structures can provide protection for up to 5 hours. See Figure 2-**2**. Sheltering-in-place is a valuable protective action because it can be implemented quickly, usually in a matter of minutes, and does not encompass the inherent risks found in road travel, including the amount of time it takes to implement evacuation. The dose reduction from which an individual benefits by sheltering is a function of how well the structure is sealed and how long the plume takes to travel over the area.

If there are security concerns related to a HAB incident, sheltering individuals should remain indoors with locked doors and windows.

Specific details on sheltering for permanent and temporary populations can be found in local plans and procedures.

2.6.3 Evacuation

When necessitated, significant radiological exposure may be avoided by implementing a timely evacuation. Factors that must be considered when recommending evacuation are the time required to initiate, implement, and complete the action. Evacuation involves significant displacement of people, families, and economic activities. Evacuation also poses potential problems associated with controlling access and maintaining the security of evacuated areas. Likewise, an evacuation involves some limited potential public safety risk. These difficulties will be considered prior to ordering an evacuation.

2.7 PROTECTIVE ACTIONS FOR INDIRECT EXPOSURE WITHIN THE INGESTION PATHWAY EMERGENCY PLANNING ZONE

Protective actions for indirect exposure are designed to minimize potential for the human consumption of radiological contaminated material. **Protective** actions **are centered on these ingestion exposure pathways: Food, Water, Milk, and Feed**. **Some protective actions could include: Impoundment; Decontamination; Processing; Decay; Product diversion; and Preservation.**

Use of maps, provided by State Department of Agriculture and MDPH Food Protection Control and other agencies, would show detailed crop information with name and location of all facilities, including those that regularly processes milk and other large amounts of food or agricultural products, as well as maps from DEP, for water supply intake and water treatment plants and reservoirs in the 50-mile Ingestion Pathway that would be instrumental to implementing protective actions.

2.7.1 Food Control

Field and orchard crops, or other foods, may be contaminated by deposition of radionuclides from the radioactive plume. Protective actions may require these foods to be stored until the radioactivity has decayed or washed off. In instances where crops have been heavily contaminated, protective actions may require that the food be embargoed and destroyed.

2.7.2 Water Control

Water supplies that receive a significant portion of their water from the power station's surrounding watershed will be the focus of protective actions for water control should there be a release of radioactive materials to the environment. Runoff mixed with potentially contaminated soil may result in concentrated radioactive materials in the water supply. Reservoirs filled by pumping from flowing streams can be protected by prohibiting pumping when runoff causes an increase in contamination. Public surface water supplies may be temporarily condemned until testing for radioactivity levels are conducted to confirm or refute the need for control. Wells and groundwater sources are not likely to be contaminated but will be checked if they are muddy or otherwise suspected of having received runoff from contaminated soils.

2.7.3 Milk Control

Preventing contamination of milk is **a primary concern** of ingestion pathway protective actions. **Radioactive materials enter the human food chain via deposition of radioactive material to pasture land, ingestion and concentration of this radioactive material by lactating animals, and consumption of contaminated milk and further concentration of radioactive materials by the human population. The two-step concentration of radioactive materials plus the short time period between initial deposition of the radioactive materials and its ingestion by the public, amplified by the potential detrimental impact upon children and infants who are most sensitive to the biological effects of radiation, are what make the milk pathway a critical concern.**

Protective actions for controlling consumption of contaminated milk include two approaches. The first involves advising farmers to move dairy animals into barns, place them on ground water supplies, and use only stored feed rather than letting herds graze on contaminated pastures. This protective action is typically recommended before a radiation release occurs. In Massachusetts, contamination of dairy feed is not likely to be a significant problem, since 75 to 80 percent of all feed is stored. Most silos are filled for the year, and emptied daily according to need. Horizontal silos using plastic or other coverings are becoming the dominant method of feed storage.

The second protective action is designed to address milk that has been directly contaminated. This

protective action involves delaying the release of milk to market, or diverting it to other uses, which allow the radioactivity to decay before consumption. In addition, contaminated milk supplies may be condemned and destroyed to prevent distribution to the market.

Section 8.6 of this plan contains further information on the cognizant State agencies that have assigned responsibilities to coordinate and implement protective action restrictions on food, water and milk. Specific details on protective actions resulting in food, water and milk restrictions can be found in the NIAT Handbook, Section D.7, Ingestion Pathway Protective Action Recommendation Formulation.

2.8 PROTECTIVE ACTIONS FOR EXPOSURE TO DEPOSITED RADIOACTIVE MATERIAL

Protective actions for limiting direct long-term exposure of individuals to deposited radioactive material will begin **(Intermediate phase)** when the release of radioactive materials to the environment is **being** brought under control, and the period of deposition of radioactive material has essentially ceased. Activities to be accomplished during this time period will include relocation, re-entry, and return of individuals, as well as **during the Late Phase,** long-term recovery of contaminated areas. Section 11.0 of this plan provides further details on relocation, re-entry, return, and recovery activities. **See Figures 2-3 and 2-4.**

2.9 PROTECTIVE ACTION DETERMINATION

The process for formulation and determination of Protective Action Recommendations based on Protective Action Guides are discussed in depth in the NIAT Handbook, Sections D.6 and D.7. This includes protective actions for the Plume Exposure EPZ as well as the Ingestion Pathway EPZ. Protective Actions for a HAB incident are discussed in Section 8 of this plan.

2.10 TERMINATION OF PROTECTIVE ACTIONS

Controls for protective actions will be lifted when **Massachusetts Department of Public Health – Radiation Control** has determined that health risks have been adequately reduced.

2.11 EMERGENCY CLASSIFICATION

Each nuclear power station addressed by this plan has established site-specific radiological accident classifications in conformance with current federal regulatory guidance. The classification system details Emergency Action Levels (EAL) based upon the potential impact of plant conditions. EALs are determined by predetermined plant parameters, radioactive release potentials, and/or measured offsite radiation levels, and type of incident (such as Hostile Action Based). The classification system also includes the offsite response required by state and local officials with respect to notification, radiological response, and recommended protective measures.

The four emergency classes, in order of increasing severity, are Unusual Event (UE), Alert, Site Area Emergency (SAE), and General Emergency (GE).

Examples of initiating conditions for each accident class established by the NRC and FEMA are contained in NUREG-0654/FEMA-REP-1, Rev. 1, Appendix 1. Specific plant emergency parameters, if exceeded, will initiate the emergency class notification by the power plant operator. For specific initiating conditions and emergency action levels, refer to each nuclear power station's site emergency plan. State and local response to each accident class are discussed in Section 5.

2.11.1 Unusual Event

An Unusual Event (UE) classification applies to an unusual plant condition that either has occurred or is in process, which indicates a potential degradation of the level of plant safety or indicates a security threat to facility protection. Inherently, however, this is a situation in which time is available for the plant operator to take precautionary and constructive steps to prevent a more serious event or to mitigate any consequences that may occur. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

The purpose of the UE classification is to provide offsite notification to 1) ensure that the first step in any response found to be necessary later in the event has been carried out; 2) bring the response staff to a state of readiness; and, 3) provide systematic handling of information and decision making.

2.11.2 Alert

An Alert classification is declared when events at the plant are in process or have occurred which involve an actual or potential degradation of the level of plant safety or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of intentional malicious dedicated efforts of a hostile act. Although the potential for limited releases of radioactivity in excess of plant technical specification limits may exist, the initial assessment leading to this classification indicates that it is unlikely that an offsite hazard will be created. Any releases which do occur would be expected to be limited to a small fraction of the protective action guide levels. The purpose of this classification is to 1) ensure emergency personnel are readily available to respond if the situation becomes more serious; 2) provide offsite authorities with current status information; 3) ensure state, local and plant response centers/emergency operations centers are manned based upon plant conditions; 4) ensure monitoring teams are dispatched; 5) provide consultation between onsite and offsite authorities; and 6) provide information updates for the public through offsite authorities.

2.11.3 Site Area Emergency

The Site Area Emergency (SAE) classification is declared when events at the plant are in progress or have occurred which involve actual or impending failures of plant functions needed for protection of the public or security events that result in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to the likely failure of or; (2) prevent effective access to equipment needed for the protection of the public. At SAE, there is a potential for offsite releases that could impact the public requiring recommendation of protective actions. Any releases, which do occur, would not be expected to exceed protective action guide levels beyond the site boundary.

The purpose of this classification is to ensure personnel required for evacuation are at their duty stations should evacuation is necessary.

2.11.4 General Emergency

The General Emergency (GE) classification indicates that events at the plant are in progress or have occurred which involve actual or imminent substantial core degradation or melting, and a potential for loss of containment integrity or security events that result in an actual loss of physical control of the facility. Releases can reasonably be expected to exceed protective action guide exposure levels

offsite beyond the immediate site area.

The purpose of this classification is to 1) initiate predetermined protective actions; 2) provide continuous assessment of information from onsite and offsite organization measurements;
3) initiate additional measures as indicated by actual or potential releases; 4) provide consultation with offsite authorities; and, 5) provide information updates for the public through offsite authorities.

TABLE 2-1

REPRESENTATIVE SHIELDING FROM PLUME EXPOSURE

Structure or Location	Exposure Reduced by	Relative Protection
Outside	0	less protection
Vehicles	0	|
Wood-frame house (no basement)	10%	|
Basement of wood house	40%	|
Masonry house* (no basement)	40%	|
Basement of masonry house	60%	|
Large office or industrial Building	80%	more protection

* A wood frame house with brick or stone veneer is approximately equivalent to a masonry house for shielding purposes.

SOURCE: Adapted from Public Protection Strategies for Potential Nuclear Reactor Accidents: Sheltering Concepts with Existing Public and Private Structures, SAND 77-1725, February 1978, Sandia Laboratories.

Figure 2-1

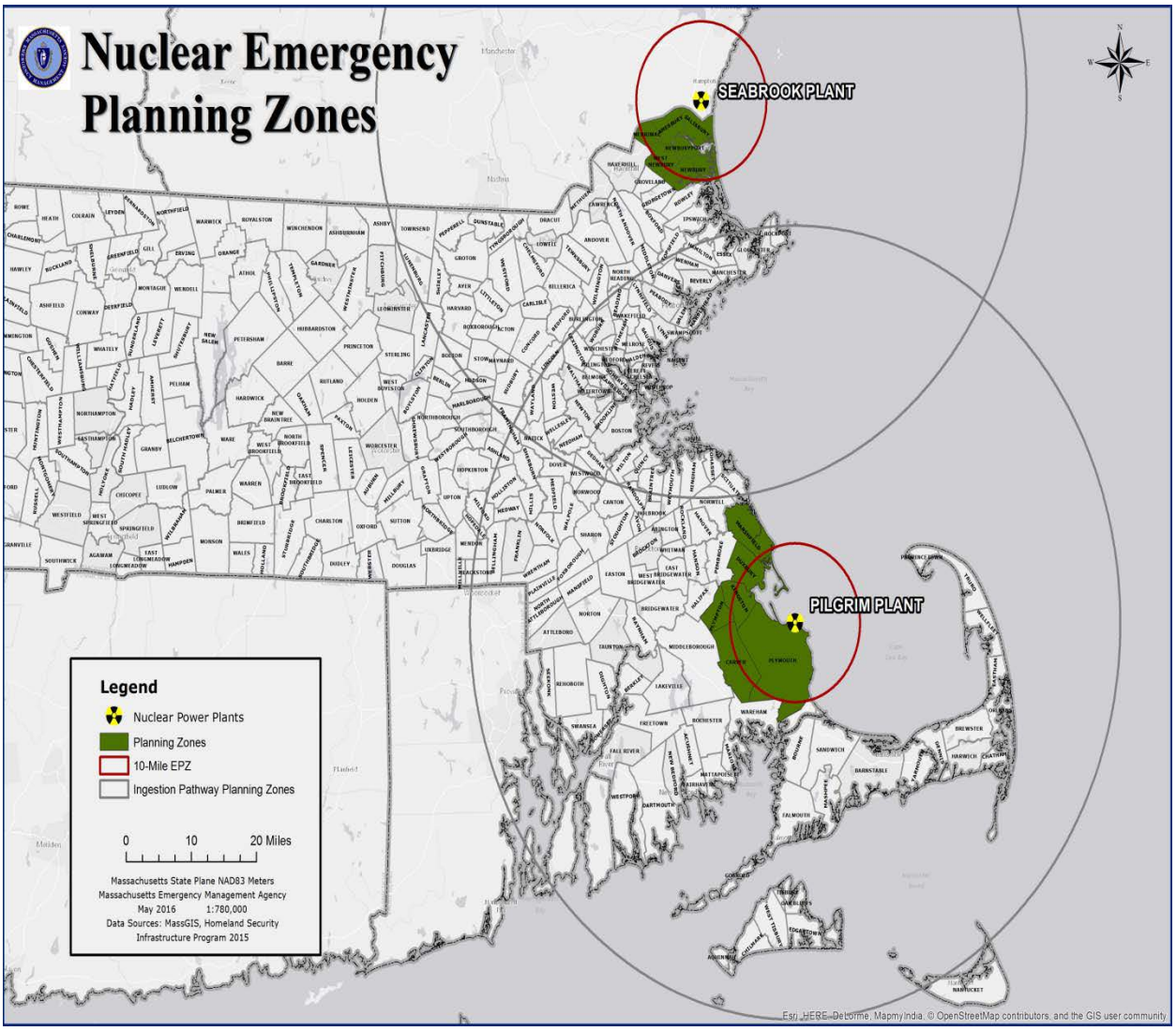

Nuclear Emergency Planning Zones
SEABROOK PLANT
PILGRIM PLANT
Legend
Nuclear Power Plants
Planning Zones
10-Mile EPZ
Ingestion Pathway Planning Zones
0
10
20 Miles
Massachusetts State Plane NAD83 Meters
Massachusetts Emergency Management Agency
May 2016 1:780,000
Data Sources: MassGIS, Homeland Security Infrastructure Program 2015
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Figure 2-**2**
Shelter and Dose Reduction

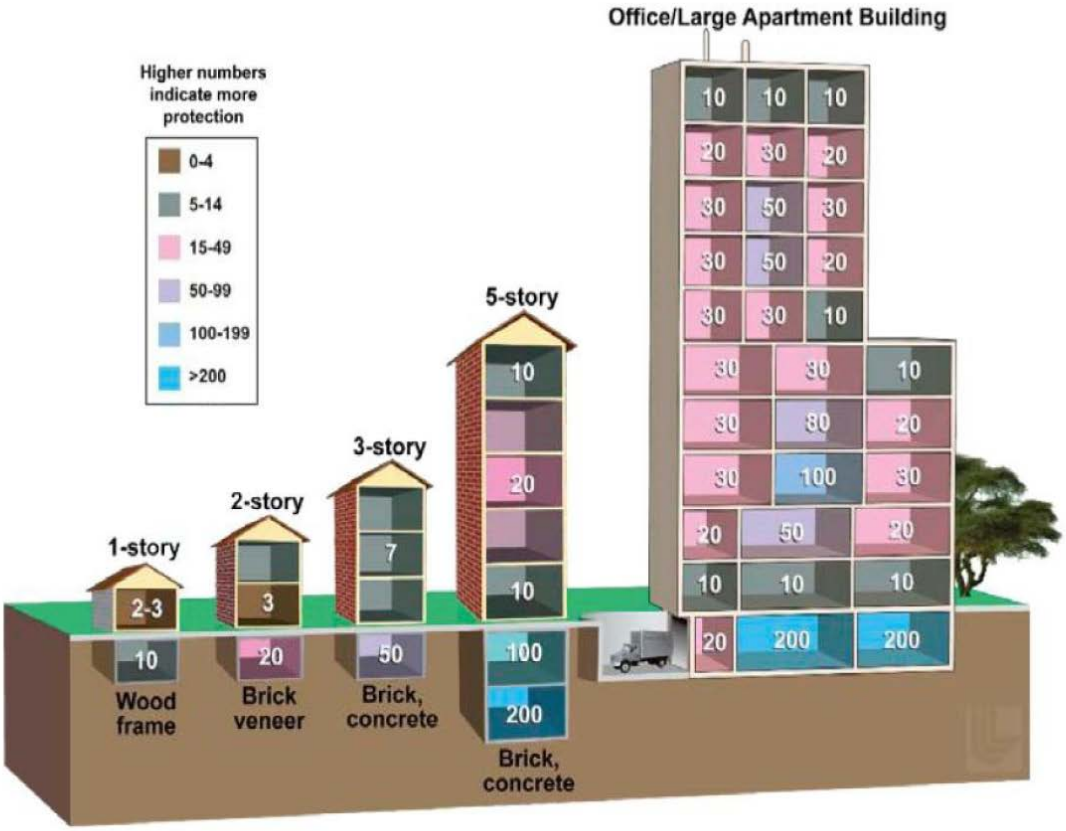


Figure 2-3

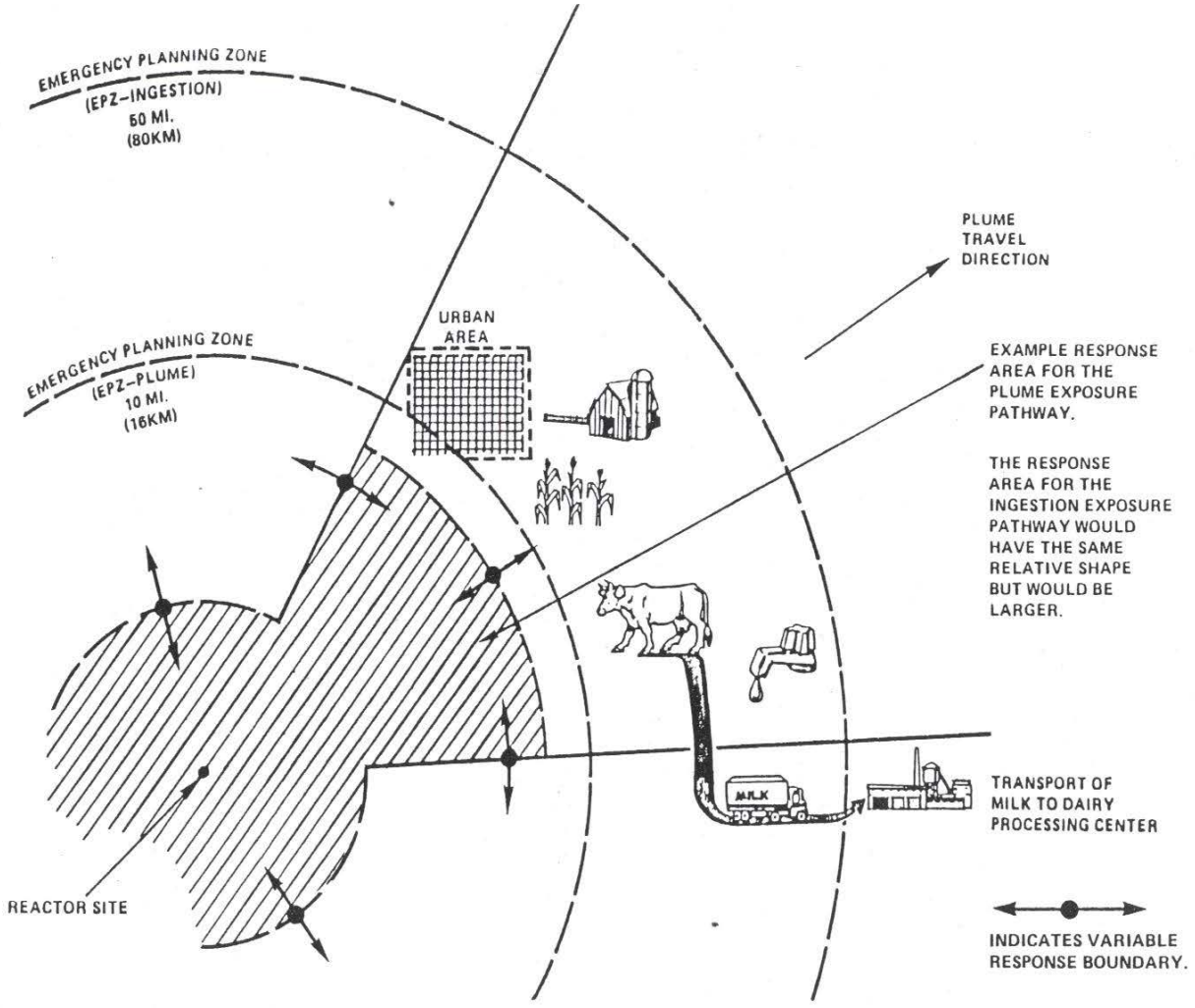
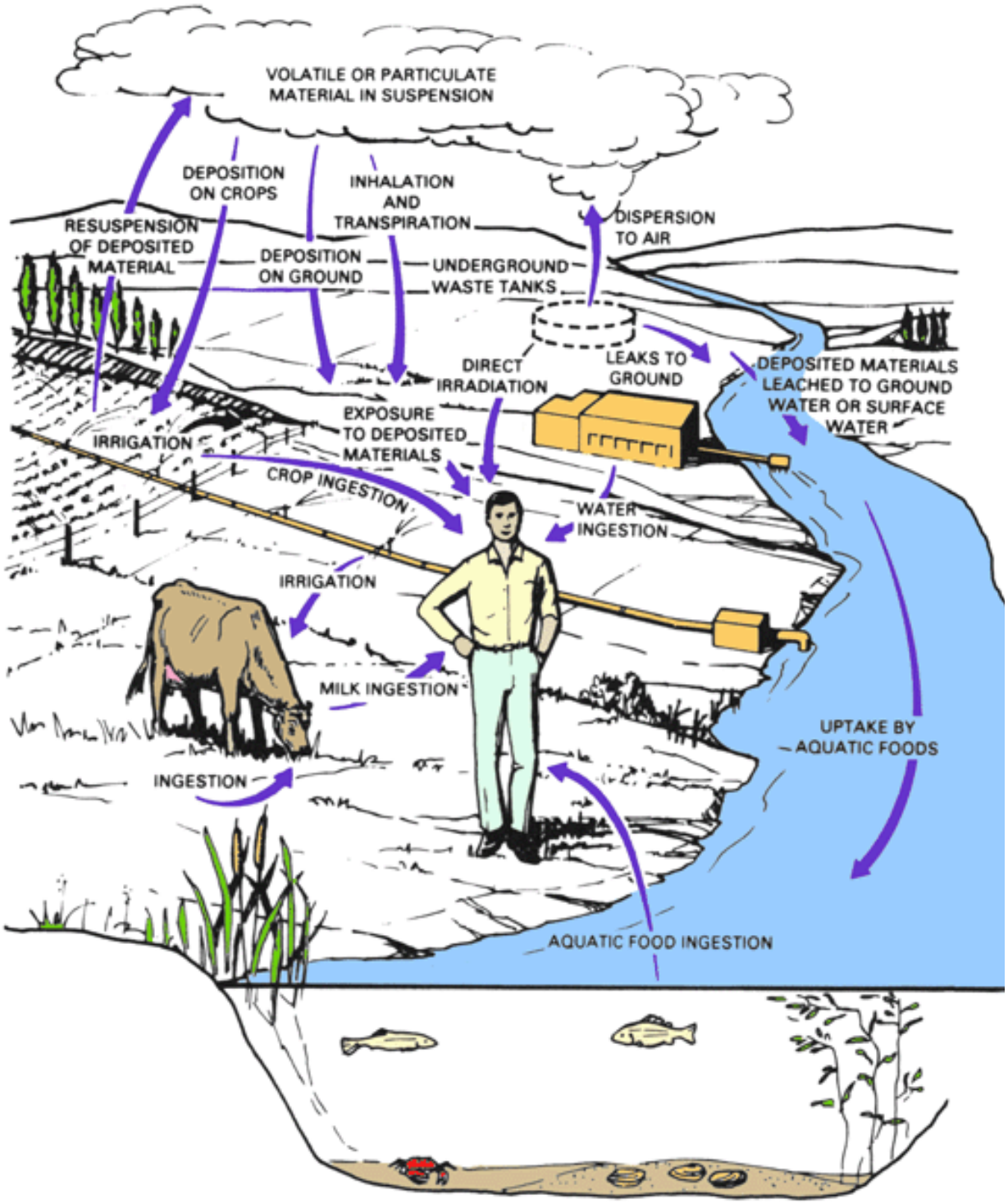

EMERGENCY PLANNING ZONE
(EPZ–INGESTION)
50 MI.
(80KM)
EMERGENCY PLANNING ZONE
(EPZ–PLUME)
10 MI.
(16KM)
URBAN
AREA
PLUME
TRAVEL
DIRECTION
EXAMPLE RESPONSE
AREA FOR THE
PLUME EXPOSURE
PATHWAY.
THE RESPONSE
AREA FOR THE
INGESTION EXPOSURE
PATHWAY WOULD
HAVE THE SAME
RELATIVE SHAPE
BUT WOULD BE
LARGER.
MILK
TRANSPORT OF
MILK TO DAIRY
PROCESSING CENTER
REACTOR SITE
INDICATES VARIABLE
RESPONSE BOUNDARY.

Figure 2-4

PATHWAYS FOR EXTERNAL AND INTERNAL EXPOSURE OF MAN FROM AIRBORNE AND LIQUID RELEASES OF RADIOACTIVE EFFLUENTS



SECTION 3
CONCEPT OF OPERATION

This section summarizes the operational concepts and the emergency organization that would be used in responding to a radiological emergency at a nuclear power station affecting Massachusetts.

3.1 EMERGENCY ORGANIZATION AND RESPONSIBILITIES

The emergency organization established by the Commonwealth and utility organizations for response to a radiological emergency is shown in Figure 3-1. The general responsibilities of each organization in the event of a radiological emergency are described in this section.

3.1.1 Nuclear Power Station

Nuclear power stations, by virtue of their licensing agreements with the U.S. Nuclear Regulatory Commission (NRC) and the Commonwealth have accepted responsibility, where applicable, for initiating the necessary immediate action required to:

- Minimize the consequences of an incident caused by or at their plant;
- Evaluate conditions and determine the magnitude of an incident caused by or at their plant;
- Immediately notify appropriate State and Federal agencies;
- Minimize public and plant personnel radiation exposure and/or injury; and
- Take immediate steps to limit or reduce the loss of property.

Upon declaration of an emergency, the station will mobilize its emergency response organization in accordance with the emergency action level classification. Emergency response organizations for each nuclear power station are described further in each facility's emergency response plan.

3.1.2 Local Government

Legally and practically, the primary responsibility for the safety of citizens and the protection of property in the Commonwealth rests with the government of each city and town. In the event of a radiological emergency, each affected community will mobilize and utilize all resources available to it to respond to and/or mitigate the emergency. In the event of a Hostile Action Based incident, the local law enforcement of the host community will be responsible for coordinating tactical response. Plymouth is the only host community in Massachusetts.

The emergency organization of each community, and its responsibilities during a radiological incident at a nuclear power station affecting their municipality, are presented in detail in each community's Radiological Emergency Response Plan (RERP).

3.1.3 State Government

The capacity of local government to protect public health and continue essential public services may be overwhelmed during an emergency. In such instances, the Commonwealth must be prepared to augment local government operations through a coordinated delivery of resources and personnel.

While the Massachusetts Emergency Management Agency (MEMA) is the primary lead for all state response**, including the Late phase of Return, Re-Entry and Recovery**, other State agencies have assigned disaster response functions. In Massachusetts, the designations of State agency responsibilities during an emergency are required by Executive Order 144. Task assignments for lead agencies in responding to a radiological emergency are summarized in Section 4.3.

Upon notification of an ALERT and/or at the request of the MEMA Director (or designee), State agencies with assigned emergency response functions in this plan will dispatch designated representatives to the State Emergency Operations Center (EOC).

3.1.4 Federal Government

Emergency aid and disaster assistance to State and local governments in response to a

radiological emergency may be provided by the Federal government through the National Response Framework (NRF). Such assistance is intended to supplement, rather than replace, the efforts of State and local government. Technical assistance may be provided through the Federal Radiological Monitoring and Assessment Plan (FRMAP), which is part of NRF but may be enacted separately.

While all Federal agencies have been directed to assist in emergency operations, the general coordination of Federal disaster operations with the State is the responsibility of the Federal Emergency Management Agency (FEMA). Additional primary response assistance is provided directly by the U.S. Coast Guard and the National Oceanic and Atmosphere Administration (NOAA), and National Weather Service (NWS). Details of the Federal response are provided in Section 4.4.

3.1.5 Private Sector

Support from the private sector may be provided directly to the utility, local, State, and Federal organizations and agencies. Any support provided will be under the direction of the requesting agency and in accordance with existing agreements. The American Red Cross is the primary private sector response agency for managing and providing mass care services.

3.2 COMMAND AND COORDINATION

Responsibilities for the command and coordination of emergency operations among local, State, and Federal governments are summarized in the following subsections.

"It shall be the duty of the members of, and of each and every officer, agent and employee of every political subdivision of this Commonwealth and of each member of all other governmental bodies, agencies and authorities of any nature whatsoever fully to co-operate with the governor and the director of civil defense in all matters affecting civil defense. The governor is authorized to make, amend and rescind orders, rules and regulations pertaining to civil defense and it shall be unlawful for any municipality or other subdivision or any other governmental agency of this Commonwealth to adopt any rule or regulation or to enforce any such rule or regulation that may be at variance with any such order, rule or regulation established by the governor. Each such organization

shall have available for inspection at its office all orders, rules or regulations made by the governor, or under his authority. In the event of a dispute on the question of whether or not any such rule or regulation is at variance with an order, rule or regulation established by the governor under this act, the determination of the governor shall control". (Massachusetts General Laws, Acts of 1950, Chapter 639, Section 20.)

3.2.1 Local Responsibilities

The authority and responsibility for direction of local emergency response operations rests with the city or town's chief executive. Authority to accomplish certain tasks or emergency functions may be delegated to heads of departments as the chief executive deems appropriate.

It is the responsibility of the city or town's chief executive to direct the implementation of any and all gubernatorial orders and directives issued to community in response to a radiological emergency.

The direction of local emergency response operations may be delegated to the local emergency management director. The local emergency management director is also responsible for coordinating the community's emergency response and ensuring a coordinated response with neighboring communities. During a HAB incident, the Host community's local law enforcement will coordinate the tactical response.

Operations beyond the local area will be coordinated through the MEMA Regional Manager. For details of the command and coordination of local communities' emergency response operations, refer to the community's local plans.

3.2.2 State Responsibilities

The Governor has ultimate command and control of all State operations. The direction of emergency response is exercised by the Secretary of Public Safety and Security (EOPSS), through the MEMA Director (or designee), on behalf of the Governor.

Pursuant to the Massachusetts General Laws, Acts of 1950, Chapter 639, Section 4, the Governor may issue a proclamation setting forth a state of emergency and may assume direct

operational control over any and all parts of the emergency management functions within the Commonwealth. The Governor may employ every agency, including all members of all departments and divisions within the Commonwealth, to protect the lives and property of its citizens and to enforce the law. "The governor shall have general direction and control of the civil defense agency, and shall be responsible for carrying out the provisions of this act and may assume direct operational control over any or all parts of the civil defense functions within the Commonwealth; he may at the request of the Director (or designee) authorize the employment of such technical, clerical, stenographic or other personnel, and may make such expenditures, within the appropriation therefore or from other funds made available to him for the purpose of civil defense or to deal with disaster or threatened disaster should it occur, as may be necessary to carry out the purposes of this act..."

The coordination of State emergency response operations is the responsibility of the MEMA Director (or designee). For purposes of emergency response, the Commonwealth has been divided into three operating regions. The regional offices of MEMA provide liaison among the local communities and between the local communities and the Commonwealth. MEMA is responsible for coordinating State emergency response operations with adjoining states.

The MEMA Director may recommend that the Governor request non-technical assistance from the Federal government through FEMA. Technical response provided by the Federal government will be requested by the Commissioner of the Massachusetts Department of Public Health (MDPH) or designee and coordinated with the federal government through MEMA. This includes accident assessment and monitoring assistance provided by the U.S. Department of Energy (DOE). MEMA will coordinate support and assistance for responding federal agencies.

In the event of an Ingestion Pathway incident, the following are the Command and Control responsibilities, which will be completed by State Agencies:

- **Assess the magnitude of the ingestion pathway concern;**
- **Determine appropriate protective actions to be employed to protect public health, property and the environment;**
- **Implement protective actions or measures as required in coordination with local officials;**
- **Coordinate the dissemination of public information;**

- **Keep local officials informed of protective action recommendations, their implementation and public information;**
- **Determine the level of federal support needed to augment the Commonwealth's efforts;**
- **Provide periodic briefings to the Governor on the current and projected status of the incident;**
- **Evaluate protective actions and adjust as necessary;**
- **Manage the implementation of short term and long term recovery actions and**
- **Ensure that all information is coordinated with other bordering states, Federal and Plant Officials.**

3.2.3 Federal Responsibilities

Federal non-technical support of State and local operations will be requested by MEMA and coordinated through the FEMA Region I, except where otherwise noted.

Federal radiological monitoring and other technical support provided to the State will be requested by MDPH and coordinated with the U.S. Department of Energy (DOE) Region I Director and the responding Federal agency.

3.3 EMERGENCY RESPONSE FACILITIES

Emergency facilities are operated at the local, State and Federal levels, as well as by the utility. FEMA will operate a Federal Response Center (FRC) to coordinate the activities and communications among the various responding Federal agencies, should the NRF be activated. The location of the FRC would be determined at the time of an incident but will most likely be located at the FEMA facility in Maynard. The DOE shall oversee the operation of the Federal Radiological Monitoring and Assessment Center (FRMAC) as identified in the Federal Radiological Monitoring and Assessment Plan (FRMAP). FRMAC personnel will work with State field teams and would use MDPH and FRC facilities as needed.

3.3.1 Locally Operated Facilities

Local emergency facilities are described in the local radiological emergency response plans.

3.3.1.1 Emergency Operations Center

Each locality involved in emergency response operates its own Emergency Operations Center (EOC) and has identified a backup EOC. The local EOC serves as command and control headquarters of local emergency response activities, as well as the center for communications to local field units and to the MEMA Regional and State EOCs.

3.3.1.2 Reception Centers

Local personnel will operate reception centers in designated host communities. These personnel will be responsible for overseeing the reception, radiological monitoring and decontamination, registration, and processing of evacuees and shall ensure the capability to perform these functions within 12 hours. Assistance is available to reception center communities from MEMA, if requested.

The MEMA Region I Office oversees a reception center located at the Masconomet Regional School in Boxford. In Region II, reception centers are located at the Braintree High School in Braintree, at the Taunton High School in Taunton and at the Bridgewater State University in Bridgewater. These reception centers would be activated in the event of an incident.

3.3.1.3 Local Dispatch Centers

Local or regional dispatch centers provide 24-hour notification and police, fire, and medical dispatch services to local communities in their service areas.

3.3.1.4 Mass Care Shelters

The American Red Cross, under existing agreements, will operate and manage mass care shelters in host communities to provide temporary shelter, feeding, basic first aid, and clothing for evacuees.

3.3.1.5 Incident Command Post (ICP)

The Incident Command post is the field location at which the primary tactical-level, on-scene incident command functions are performed if there is a Hostile Action Based incident at PNPS. The Incident Commander (IC) would provide direction and command of the tactical response to Hostile Action Based incident. The IC would also provide direction and command over the Tactical Staging Area. The ICP will maintain communications with the State EOC. For all nuclear power plants that affect Massachusetts, MEMA will send a MEMA Liaison to maintain information and communication flow to and from the ICP and the SEOC.

- A Massachusetts State Police representative may also be dispatched to the ICP to assist with resources.

3.3.2 State-Operated Facilities

3.3.2.1 State Emergency Operations Center

The State Emergency Operations Center (SEOC), located at MEMA Headquarters at 400 Worcester Road in Framingham, serves as the command and control center for offsite emergency response. MEMA is the primary State Warning Point, serving as the central communication and information center for initial notification of offsite authorities during an emergency at the nuclear power plants affecting Massachusetts. The State EOC is capable of continuous, 24-hour operations for a protracted period of time. The EOC contains sufficient communications (radio, telephone, and electronic) equipment, maps, emergency plans, and status boards to provide the necessary interface with other State, local, Federal and utility emergency facilities. The MEMA Director, through the MEMA State EOC Section Chiefs, is responsible for assuring continuity of necessary technical, administrative, and material resources.

The State EOC staff varies according to circumstances. However, key staff positions with second-shift back-up staff include the following:

- Director or designee
- Operations Section Chief
- Planning Section Chief
- Technical Hazards Advisor
- Public Affairs Officer

- Communications
- Public Information Officer
- MDPH Coordinator
- MassDOT Representative
- State Police Representative

Section 3.3.4 describes the staffing of emergency response facilities. Agencies with emergency response functions will provide representatives to the State EOC at the request of the MEMA Director or designee. Table 3-1 is a matrix showing the emergency response organization at the State EOC.

3.3.2.2 MEMA Regional Emergency Operations Centers

Each of the MEMA regions has its own headquarters. The MEMA Regional EOC closest to the affected emergency planning zone (MEMA Region I EOC in Tewksbury serving the Seabrook EPZ, and MEMA Region II EOC **temporarily located in Framingham** serving the Pilgrim EPZ will serve as the liaison between local EOCs and the State EOC to coordinate emergency operations among the local communities. MEMA Regional EOCs are described more fully in the MEMA regional plans.

3.3.2.3 State Police

State Police's communications links to utilities, MEMA, MEMA Regional Offices, MDPH, local dispatch centers, local State Police barracks, the Governor, and state police in other states. Additional communication links could be established, if necessary.

3.3.2.4 Massachusetts Department of Public Health Facilities

These facilities include MDPH offices in Metro Boston and Northampton and mobile units. The MDPH facilities will be used to assess the radiation hazard and determine the appropriate protective actions.

3.3.3 Utility Operated Facilities

Site-specific utility-operated facilities are described in detail in Exhibits 2 through 4.

3.3.3.1 Nuclear Power Plant Control Room

The control room at each nuclear power plant serves as a direct link to offsite officials at the initial phases of an incident before Emergency Operations Facility (EOF) is activated. Initial incident classification and notification is transmitted to MEMA from the Control Room. Specific notifications are referenced in Exhibits 2 **and** 4.

3.3.3.2 Emergency Operations Facility (EOF)

The Emergency Operations Facility (EOF) is an emergency response facility located near the nuclear power station for the purpose of providing continuous coordination and evaluation of utility, State, local, and Federal activities during a radiological emergency having potential environmental consequences. Prior to the opening of the EOF, the Nuclear Power Control Room will remain in contact with the Commonwealth. The initial function of the EOF is to evaluate the magnitude and effects of actual or potential environmental radioactive releases and to recommend appropriate offsite protective measures. MEMA and the MDPH**-RCP** will dispatch representatives to the EOF upon its activation. Responsibilities of these representatives are detailed in Section 7.1.2 and 7.1.3. The EOF also will accommodate representatives from the NRC and contiguous states emergency management and public health organizations as appropriate. Site –specific information on each plant's EOF is detailed in Exhibits 2 and 4.

3.3.3.3 Joint Information Center (JIC)

Each nuclear power station will establish a Joint Information Center. The Joint Information Center will contain facilities for utility representatives to meet with community (where applicable), State and Federal representatives for the purpose of coordinating the release of emergency announcements to the news media. The Joint Information Center will be activated during a radiological emergency having or potentially having environmental consequences. MEMA will dispatch public information representatives to the Joint Information Center upon its activation. If a Hostile Action Based incident or other Rapidly Escalating incident occurs, it may be necessary to establish a "Virtual JIC" located at the State EOC in conjunction with the JIC.

Emergency public information is discussed in Section 12. Joint Information Centers for each nuclear power station are discussed in more detail in Exhibits 2 and 4.

3.3.4 Staffing of Emergency Response Facilities

Table 3-2 outlines activation and staffing levels of emergency response facilities at the four emergency classifications. Several of the facilities are staffed on a 24-hour basis under normal circumstances, including the MEMA State EOC, the State Police Troop Headquarters, each plant control room, and local and regional dispatch centers.

The MEMA Regional EOCs and the MDPH Headquarters are staffed during normal working hours. During an emergency, these facilities are more fully activated with emergency staff from support agencies augmenting regular staff. These facilities are activated upon notification of an Alert classification or higher classification accident, unless otherwise directed.

Upon direction of the MEMA Director or designee, representatives of State agencies and other organizations designated to respond to a radiological emergency will report to the State EOC in Framingham. Organizations required to provide 24-hour coverage with second-shift back-up staff are listed in section 3.3.2.1. Provisions have been made to augment the staff of the MEMA Regional EOCs to provide for 24-hour operations. Upon the request of the MEMA Regional Manager to the MEMA Director or designee, local representatives of responding agencies and organizations will report to the MEMA Regional EOC. These agencies include the Massachusetts State Police (MSP), Massachusetts Department of Transportation (MassDOT) and Massachusetts National Guard (MANG), if requested. Additionally, American Red Cross, and other local organizations as identified in each MEMA regional plan, will provide representatives to the state and regional EOCs. The MEMA Regional Manager may also request operations support personnel through the MEMA Director or designee.

The utility's EOF will be activated at the Alert classification and the Joint Information Center will be activated at the Alert or Site Area Emergency classification. These facilities are not operational except during emergencies. Local EOCs are activated at the Site Area Emergency classification, although they may also be activated earlier in accordance with local plans, or on order of the MEMA Director or designee. Reception centers will be activated on order of the MEMA Director or designee or the MEMA Regional Manager.

3.3.5 Equipment and Supplies for Emergency Response Facilities

Each emergency response facility is equipped with materials necessary for effective operation. These include status boards and large maps of each emergency planning zone showing sectors and/or subareas, special facilities, and emergency response facilities. Each emergency response facility has the necessary exposure control equipment and communications equipment to support its operation.

Radiological monitoring and laboratory equipment available to support emergency response of MDPH is described in Section 7. In addition, each agency involved in the emergency response organization is required to maintain an inventory of equipment available to support its emergency response activities.

3.4 COMMUNICATIONS

Reliable communication among principal organizations is necessary to coordinate emergency response operations.

3.4.1 Communications Systems

A variety of communications equipment will be used by the State emergency response organization during an emergency. The different communications systems are listed below along with a brief description. Testing of communications equipment is described in Section 16.

3.4.1.1 Nuclear Alert System (NAS)

A Nuclear Alert System or NAS telephone network for use during an emergency has been established at the Seabrook Nuclear Power Station. The Seabrook network links the State EOC, MEMA Region I EOC, the power station's control room and EOF. The system is also available for interstate coordination and administrative exchange of information.

3.4.1.2 DNN/InForm

The Dedicated Notification Network (DNN)/InForm is a rapid notification system for PNPS that

will provide Emergency Notification Messages to the Commonwealth of Massachusetts, EPZ and the Reception Center communities. It is also known as the InForm System. The network notification simultaneously reaches MEMA State EOC and the local EOCs or 24-hour warning points, and reception community EOCs or 24-hour warning points.

3.4.1.3 BECONS

The BECONS is a radio network designated for use during an emergency at the Pilgrim Station. This network links MEMA State and **the** EOF, and community 24-hour dispatch points and EOCs. For Airborne Threat Notification, the BECONS will be used to provide initial notification to MEMA, as a single Offsite Point of Contact for the PNPS Control Room.

3.4.1.4 National Warning System

The National Warning System (NAWAS) is a dedicated nationwide early warning system. It is used to broadcast information to each of the 50 states, U.S. territories and possessions, and selected military bases. The National Warning System, which uses dedicated landlines, is network secure and has backup electrical power. MEMA is the primary State Warning Point for Massachusetts and has 26 warning points throughout the State.

3.4.1.5 State Police Radio Network

Massachusetts State Police provides teletype and statewide radio capabilities including station-to-station, station-to-car and car-to-car, and State Police-municipal police interface.

3.4.1.6 Commercial Telephone

Standard commercial telephone equipment will be used for many of the communications requirements during an emergency. Often, the commercial telephone system is the primary communications link and the radio system serves as a backup. MEMA also has satellite phone capability.

3.4.1.7 Auxiliary Radio Service (ACS)

ACS is a network of volunteer radio operators using state and privately owned amateur radio equipment to provide additional back-up communications capability at the community, MEMA Regional and State level of response.

3.4.1.8 MEMA VHF Radio Network

The MEMA VHF radio network provides an additional communications link among the Massachusetts off-site emergency facilities for Seabrook Station Power Plant, including the Massachusetts State EOC, MEMA Region I EOC, the six Massachusetts Seabrook EPZ communities**.**

3.4.1.9 National Radio Systems (FNARS)

A dedicated, non-secure high-frequency radio network links regional FEMA offices and each of the states' Emergency Management agencies. The FEMA National Radio Alert System (FNARS) also provides radio teletype capability between these organizations.

3.4.1.10 Massachusetts National Guard

Massachusetts National Guard has mobile communications capabilities. It also has radio communications capabilities to all armories.

3.4.1.11 Massachusetts Department of Transportation

The Department of Transportation (MassDOT) provides statewide radio communications capability, including mobile communications.

3.4.1.12 Department of Environmental Protection

The Department of Environmental Protection has portable and mobile radio communications included within the MEMA radio system.

3.4.1.13 Massachusetts Aeronautical Commission

The Massachusetts Aeronautical Commission has air, airport, and ground mobile radio capabilities.

3.4.1.14 Local Dispatch Radio Network

This is a network used by local police departments and local fire departments to communicate with the local dispatch center. This network uses one set of frequencies for police communications and a separate set for fire communications.

3.4.1.15 Seabrook 800MHz Emergency Radio Network (ERN)

This network is used by emergency management officials at Seabrook Station for traffic/access control, transportation staging area dispatch, and emergency management field activities.

3.4.2 Communications between Emergency Response Facilities

During an emergency, each of the emergency response facilities (State EOC, MEMA Regional EOC, reception centers, EOF, joint information center, and Regional and local dispatch centers) must be able to communicate with each other. The communications links among these facilities are also reference in the site-specific plans, Exhibits 2 **and** 4. Additional communications links may be set up, for example at the Incident Command Post for Hostile Action Based incident, if necessary.

3.4.3 Communications with Field Personnel

Field units, including vehicles used in the MDPH Radiation Control Program, are equipped with radios that can access the Emergency Management Radio System. This system includes base stations at the MEMA State EOC in Framingham, at the MDPH Headquarters in Boston, at MEMA Regional EOCs and other key points. Mobile units installed in many state-owned vehicles and hand-held two-way sets complete the system. These vehicles are used by Nuclear Incident Advisory Team (NIAT) members (see Section 9) during a radiological emergency, allowing communications between the field teams, the EOF, the MDPH Headquarters and MEMA State and Regional EOCs.

3.4.4 Communication with Other States

Response to an accident at nuclear power plant in or adjacent to Massachusetts would require substantial interstate coordination, as follows:

Seabrook Plume EPZ Response: NH, MA
Seabrook Ingestion Pathway Response: NH, MA, ME
Pilgrim Ingestion Pathway Response: MA, RI

As host state, Massachusetts must coordinate interstate communications in the event of an accident at Pilgrim.

In addition, there are mutual aid provisions among all the New England states that require coordination and communication.

The primary link for communications among the emergency management agencies in Massachusetts and New Hampshire is the Nuclear Alert System (NAS) for Seabrook Station. The system accommodates direct communication among the two State EOCs and the Seabrook control room.

Rhode Island will be notified of emergency conditions at Pilgrim by MEMA using commercial telephone as the primary communications system. Support from Connecticut, New Hampshire or Maine can also be requested. Backup to the system is available via the National Warning System and State Police radio connections.

3.4.5 Communications with Federal Government

The primary communications link with Federal agencies will be via commercial telephone through FEMA. A back-up communication link connects the State EOC with the FEMA National Emergency Coordinating Center (NECC) located in Berryville, VA, or the alternate National Headquarters in Thomasville, GA on a 24-hour basis using the National Warning system. This system also connects the State EOC to the FEMA Region I offices located in Boston. During duty hours, FEMA Region I is notified directly via telephone or NAWAS. After duty hours, notification is automatically switched to the NECC. **Communication links will be set up, if**

needed, with the Federal Response Center (FRC) in Maynard for assisting federal agencies.

3.4.6 Fixed and Mobile Medical Communications

MDPH's Office of Emergency Medical Services adopted a statewide Emergency Medical Radio Frequency Plan for Massachusetts in 1976. In 1984, the plan was reissued as the Massachusetts Emergency Medical Service Systems Communications Plan. Its purpose is to:

- Furnish statewide radio communications coverage so that any ambulance or hospital can communicate directly with any other ambulance, dispatch point, or hospital in Massachusetts.
- Provide capability for statewide disaster response coordination and for the exchange of emergency medical services resource information.

The following Central Medical Emergency Direction (C-MED) Centers have been established:

MEDICAL EMERGENCY NETWORK	CENTER LOCATION
Region I (Western MA)	Northampton Pittsfield Springfield
Region II (Central MA)	Holden
Region III (Merrimack Valley MA)	Lawrence
Region IV (Metro Boston)	Boston
Region V (Southeast MA)	Barnstable Fall River Plymouth

3.5 PUBLIC ALERTING SYSTEMS

The primary purpose of the public alerting system is to notify the public to tune their radios to

local Emergency Alert System (EAS) stations for information and instructions. NUREG-0654/FEMA-REP-1 established the guidance criteria for promptly alerting the affected population within the plume exposure pathway emergency planning zone.

Within the plume exposure emergency planning zone, the system shall provide an alerting signal and notification by commercial broadcast e.g., Emergency Alert System (EAS), IPAWS, plus special systems such as National Oceanic and Atmospheric Administration (weather) radio or other tone-alert radios, or WEA for mobile phones, as appropriate. A system that expects the recipient to turn on a radio receiver without being alerted by an acoustic alerting signal or some other manner is not acceptable. The minimum acceptable design objectives for coverage by the system are:

a. The system must be capable of providing both an alert signal and concurrent informational or instructional message to the population on an area-wide basis throughout the 10-mile emergency-planning zone within 15 minutes.

b. The initial notification system will ensure direct coverage of essentially 100 percent of the population within 5 miles of the site.

c. Special arrangements will be made to ensure 100 percent coverage within 45 minutes for the population who may have received the initial notification within the entire plume exposure emergency planning zone.

The administrative responsibility for activating public alerting systems rests with State government. Local approval for activating the system is not required, and it is the responsibility of the city or towns' chief executive (or designee) to ensure that the local public alerting system is activated at the direction of MEMA upon the Governor's order. A state of emergency need not be declared prior to activation of the public alerting system. It is the utility's responsibility to establish the physical means of notifying the public and to demonstrate that such a means is in place.

Public alerting systems consist of several diverse redundant subsystems which, when operated together, provide high reliability and effectiveness as well as benefit to local communities in non-radiological emergency conditions. The subsystems, fixed sirens, tone-alert radios and mobile sirens/public address systems are described below. Each utility has a mixture of some of these

subsystems, which are described for each nuclear power station's plume emergency planning zone in Exhibits 2 and 4 and in the MEMA Regional plans.

3.5.1 Fixed Sirens

Fixed sirens normally serve as the primary alerting mechanism. Siren systems are comprised of utility-installed sirens sited in conjunction with existing municipal fire and civil defense sirens. Some utility-installed sirens are capable of two or more warning signals plus voice. These are used to alert the public to other types of emergencies and provide specific instructions to the public in a specific area, such as beaches or parks.

3.5.2 Tone-Alert Radios

Tone-alert radios may be used as an additional alerting mechanism at selected institutions, industries and facilities, such as schools and nursing homes. Receivers that are tuned to a NOAA National Weather Service frequency are most common. Tone-alert radios may also be tuned to local EAS radio stations.

3.5.3 Public Address Systems

Public address systems may also be used to notify the public. In areas served by fixed sirens, public address systems provide a redundant alerting mechanism to help ensure complete notification. This method may be used to notify campgrounds and parks, as well as beaches and boaters.

3.5.4 Telephone Notification System

Seabrook Station utilizes Code Red Alert Telephone Notification System for their redundant system to notify residents.

3.5.5 MEMA's Social Media sites

Additionally for current and accurate information, individuals may follow MEMA on social media websites (see www.Mass.Gov/MEMA for more information).

3.6 DISASTER ASSISTANCE

In responding to a radiological emergency, local government will mobilize and utilize all resources available to mitigate the emergency. However, it may become necessary to provide additional State, regional, or Federal assistance should it become necessary to supplement State and local operations. Section 4 outlines the responsibility of various state and federal agencies that are prepared to participate in radiological emergency response including providing support to the local emergency response.

3.6.1 State Assistance

Generally, when local resources are exhausted, inadequate, or unavailable through normal channels to respond to and/or mitigate the emergency, the local emergency management director will request State assistance through the MEMA Regional office in accordance with existing emergency procedures. However, the MARERP anticipates deficiencies in some resources and accounts for their provision. Necessary State support (manpower and/or resources) required for the full implementation of local RERPs is identified in the MEMA Regional plans.

If additional state resources are required beyond those detailed in the Regional Plan, the MEMA Regional Manager will forward a request to the State EOC for provision of needed resources. MEMA will then work with the appropriate State agency representatives at the State EOC to obtain the requested resources. When State resources are provided, they will be in support of the requesting community unless dictated otherwise by State law.

If a resource is not available within the Commonwealth, or cannot be provided in a timely manner, MEMA will seek assistance through its interstate agreements or through the Federal government. It is important that MEMA be kept informed of the equipment requested and received at all levels to prevent duplication.

3.6.2 Interstate Assistance

Interstate assistance is mandated through three regional compacts signed by the six New England states. The New England Compact on Radiological Health Protection, Emergency and

the New England State Police Assistance Compact provide for mutual assistance among the New England State public health agencies, State emergency management agencies, and State police agencies, respectively. These compacts are maintained by MEMA and MDPH.
In addition, Massachusetts is a member state of the Emergency Management Assistance Compact (EMAC) and may request and receive assistance from other member states.

The Integrated Consortium of Laboratory Networks organized by Homeland Security is available to assist for a major incident. It is under a letter of understanding to tie nationwide laboratories with capabilities to assist in maximizing limited laboratory resources.

3.6.3 Federal Assistance

The National Response Framework (NRF) outlines both technical and non-technical support available from the Federal government. Key Federal agencies that may respond to a radiological emergency include the NRC, FEMA, DOE, the U.S. Department of Agriculture, Housing and Urban Development, the U.S. Department of Health and Human Services, NOAA, the U.S. Department of Transportation, the National Communications Systems, and the EPA.

Technical support refers to: a) all aspects of radiological monitoring, evaluation assessment and reporting; b) the use of technology to control or predict radiological impacts; and c) instrumentation to develop recommendations on protective measures and decontamination of property. In coordination with MEMA, MDPH**-RCP** may request technical assistance directly from DOE. DOE is responsible for providing radiological monitoring support to the State and NRC, and will provide technical advice along with the utility.

Federal non-technical assistance to State and local governments will be available through FEMA upon the request of the MEMA Director (or designee). Non-technical support, including logistical and operational support will be coordinated by FEMA.

3.6.3.1 Coordination and Logistics

Upon activation of the NRF, FEMA and DOE will dispatch personnel to appropriate emergency response facilities. The State EOC in Framingham is equipped to support FEMA representatives.

As resources allow, the MEMA State EOC, MEMA Regional EOCs and local communities will provide support for the Federal response as identified in their respective plans. The utility EOF will provide support for NRC, MEMA and MDPH personnel. Coordination with the Federal response personnel will be provided through the MDPH Radiation Control Program Director, located at the EOF, for technical assistance, and through the MEMA Director (or designee), located at the State EOC in Framingham, for non-technical assistance. FEMA will operate and staff a Federal Response Center to directly serve the Federal response agencies communications and logistics needs in the field. Air travel and freight shipments can be directed to major airports within the state. FEMA liaisons at the State EOC will coordinate support activities, as needed.

Expected times of arrival of Federal response personnel and equipment will be dependent on several factors, including locations of Federal personnel and materials. It is generally anticipated that the time of these arrivals will range between 3 to 8 hours.

3.6.4 Private Sector Assistance

Assistance from the private sector can be coordinated at the state and local levels.

3.6.4.1 American Red Cross

The American Red Cross is the lead agency for providing and managing mass care shelters in the event of an evacuation of the general public. Using established procedures, the American Red Cross will provide food and shelter in centers and facilities designated in advance. Specific locations are identified in MEMA Regional plans or supporting documents.

3.7 EMERGENCY FUNDING

Responding to an emergency at a nuclear power plant requires funds, manpower, and resources by State and local governments, and private organizations. The public may also incur expenses in the event that the Governor directs an evacuation.

The legal liability for damages resulting from an incident at any nuclear power plant is

established at the time of issuance of a license for the plant to operate. The NRC has the authority to require each licensee to have and maintain financial protection in the form of liability insurance. The amount of liability insurance required is the amount of liability insurance available from private carriers, unless the NRC establishes a lesser amount.

In the event that a nuclear incident should result in damages greater than the amount covered by the responsible plant's private insurance carrier, the U.S. government under the Price-Anderson Act, Public Law 85-256, will assume additional liability. The Price-Anderson Act is an amendment to the Atomic Energy Act of 1954, and provides for additional indemnification, including reasonable costs of the investigation and settlement of claims.

3.8 AGREEMENTS/MEMORANDA OF UNDERSTANDING

Where assistance is expected from organizations other than those that would normally respond to an emergency, agreements or memoranda of understanding have been executed between those organizations and State and/or local governments. These agreements and memoranda of understanding with the State and/or local governments are on file with MEMA, MDPH, or local cities and towns, as appropriate.

TABLE 3-1
EMERGENCY RESPONSE ORGANIZATION MATRIX – STATE EOC

	Command & Control	Alert & Notification	Commun -ications	Public Info	Accident Assessment	Public Health & Sanitation	Social Services	*Fire & Rescue	Traffic Control	*Emerg Med Serv	Rad Exp Control	Law Enforce ment	*Trans- portation	Protective Response
MEMA Director	P	P		P										P
Ops Section Chief	S	S		S										S
Planning Section Chief	S	S		S										
Tech Hazards Advisor	S	S		S										S
MDPH Coordinator					P	P					P			S
Utility Liaison					S									
Communication Coordinator/ Supervisor		S	P											
Public Affairs Officer		S		S										
MA State Police Liaison									P			P		S
MassDOT Liaison									S				S	S
MA National Guard Liaison					S				S		S			S
MA Mental Health Liaison							S							
Environ. Protect ion Liaison**														S
Agricultural Resources Liaison**														S
Food Protection Program Liaison**						S								S
Red Cross Liaison							P							
Mass 211			S	S										
MDAR Liaison							P							
Fish & Game Liaison**														S
Public Info Officer			S	S										
Radiological Liaison											S			
GIS Technical Specialist			S	S										
EOF Liaison	S													
ICP Liaison	S		S		S				S			S		
FEMA Liaison**			S	S										S
NRC Liaison**					S									S
USCG Liaison**		S												S

P= Primary responsibility/S= Support responsibility
*This is a local and/or Region function. Backup resources, if needed are coordinated through mutual aid networks and MEMA Regional offices.
**Some agency representatives may not be present at the state EOC.

TABLE 3-2
ACTIVATION OF EMERGENCY RESPONSE FACILITIES

Facility Status				
Facility	**Unusual Event**	**Alert**	**Site Area Emergency**	**General Emergency**
State Emergency Operating Center (SEOC)	N	O	FO	FO
Regional EOC		O	O	FO
State Police	N	N	N	N
Department of Public Health Facilities		O	O	FO
Emergency Operations Facility		O	O	FO
Control Room	N	N	N	N
Joint Information Center		O	O	FO
Local EOCs		(O)	O	FO
Reception Center		(O)	O	FO
KI Dispensing Sites			(O)	FO
Local Dispatchers	N	N	N	N

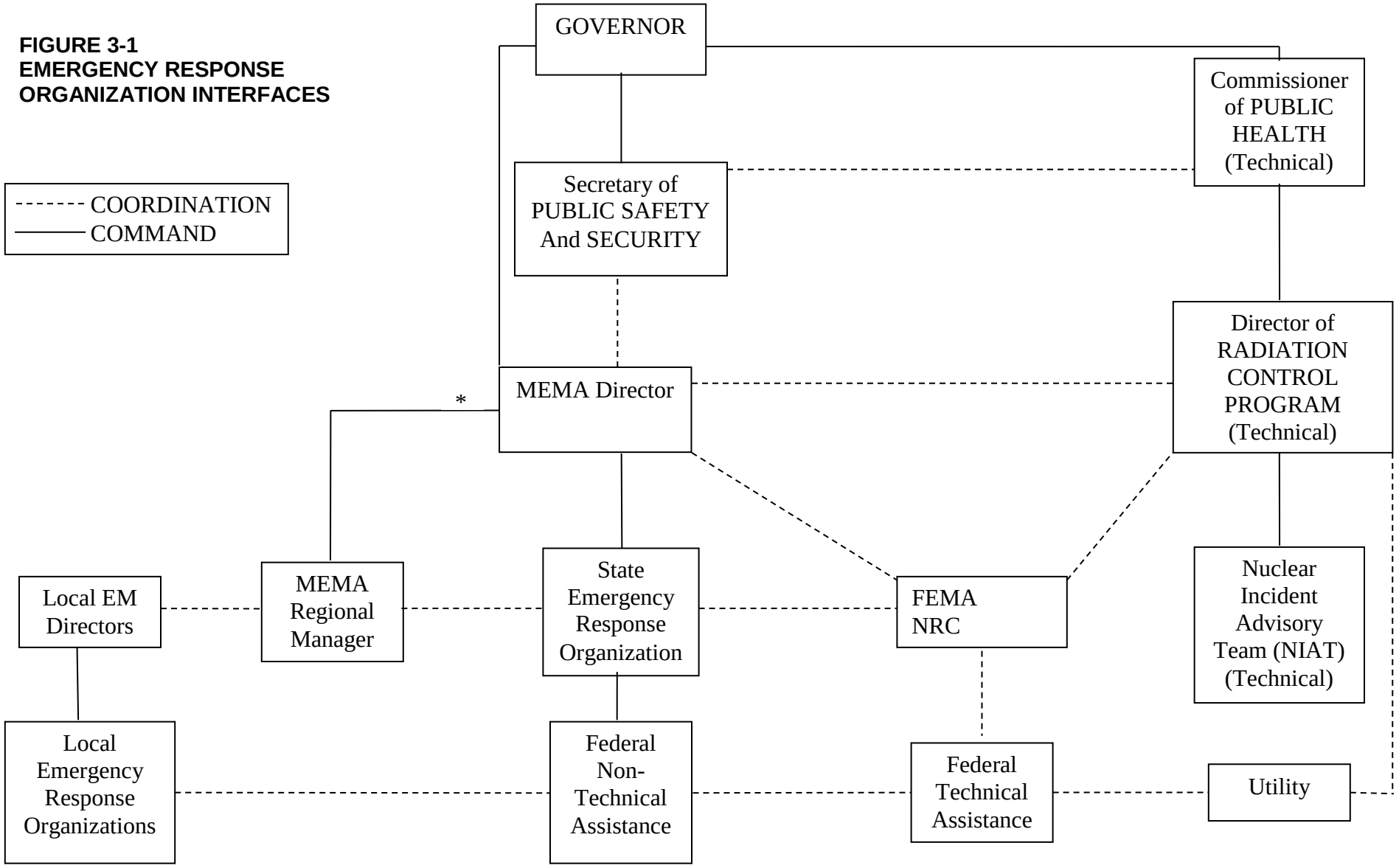
N= 24-hour Staffing
O= Operational
(O)= May be operational at direction of MEMA; the Department of Public Health, or as required by local plans. For further details, see Exhibits 2,4.
FO= Fully Operational

TABLE 3-3
APPROXIMATE FEDERAL AGENCY RESPONSE TIMES*

Federal Agency	Approximate Respond Time	Comments
NRC	7-8 hours	NRC Region I response time
FEMA	3 hours	FEMA Region I response time
DOE	1 hour 4-6 hours	Telephone contact Response time
USCG	Immediate 1 1/2- 2 3/4hours	Emergency message broadcast on Marine band frequencies USCG boats in Plume Exposure Pathway EPZ waters
FAA	Immediate	Emergency message broadcast on Aviation frequency

*Based upon telephone conversation with identified agencies.
Response time is from notification to arrival on Massachusetts unless otherwise noted.

FIGURE 3-1
EMERGENCY RESPONSE
ORGANIZATION INTERFACES



* After a Governor's Declaration of Emergency, MEMA assumes command and control for precautionary and protective actions. For Seabrook and Pilgrim Stations, these directives will be communicated directly to the local emergency response organizations by the State Emergency Operations Center.

SECTION 4
RESPONSIBILITIES

This section identifies the responsibilities of State, Federal and private organizations with an emergency response function for incidents at nuclear power stations. Local organization responsibilities are detailed in community plans.

4.1 GENERAL RESPONSIBILITIES

The Director (or equivalent official) of each organization with an identified emergency role have the following responsibilities:

- Maintaining an adequate emergency response capability by ensuring that the organization can be notified and mobilized on a 24-hour basis.

- Ensuring that the organization can support the emergency response effort on a 24-hour basis (minimally, two 12-hour shifts) for the duration of a protracted emergency period and that resources (technical, administrative and material) needed for response are available.

- Staffing appropriate State emergency response facilities as described in Section 3.3 of this plan.

- Maintaining the emergency contact telephone directory by reporting changes in emergency response personnel to the Massachusetts Emergency Management Agency (MEMA) (Operations Section) on a quarterly basis.

- Ensuring that each person assigned to participate in emergency response is familiar with organizational and individual responsibilities and standard operating procedures.

- Each assigned individual should also be familiar with the Massachusetts Radiological Emergency Response Plan (MARERP).

- Ensuring that copies of current MARERP, including MEMA Regional and local government plans, are accessible to emergency response personnel.

- Participating in emergency response training, drills, and exercises.

- Designating an emergency planning coordinator to participate with MEMA planners in development and revision of the MARERP and appropriate standard operating procedures.

4.2 LOCAL GOVERNMENT

Responsibilities for local government organizations affected by nuclear power plants are identified in local radiological emergency response plans.

4.3 STATE GOVERNMENT

The primary responsibility in providing central direction of major emergency response functions rests with the Governor's office, **and the Governor's designee -** MEMA, and the Massachusetts Department of Public Health**- Radiation Control Program** (MDPH-**RCP**). This team has the decision-making authority to implement protective actions.

Other State organizations, under the direction of the Governor through MEMA, provide support required to respond to an incident at a nuclear power station.

State or private agencies that respond on a regional basis are referenced in MEMA Regional plans.

During a radiological emergency, each organization is expected to function according to its assigned emergency response role. The descriptions that follow briefly present the duties of each organization and are intended to provide a framework for action.

4.3.1 Governor's Office

The Governor, as chief executive officer of the Commonwealth, has ultimate command and control

authority of all State resources. This authority is exercised on the Governor's behalf by the Secretary of Public Safety and Security through the MEMA Director (or designee). The Secretary of Public Safety and Security, through the MEMA Director (or designee), acts as the State Coordinating Officer for emergency and disaster assistance.

The Governor, or designee, makes the final decision regarding when and where to order any actions necessary for protecting public health, including decisions regarding the return to and recovery of affected areas. Protective action decisions are based upon recommendations by MEMA and MDPH, in concert with the Incident Commander during a Hostile Action Based Incident, until the adversaries are confirmed to be neutralized, from the Incident Command Post. Protective action decisions during the plume phase of an incident will be coordinated with officials from contiguous states, if appropriate, and considered final when all States agree on activation of the Public Alert and Notification System (PANS).

The Governor has the authority to declare a state of emergency. The Governor's office will receive status reports on a regular basis from the MEMA Director or designee.

4.3.2 Massachusetts Emergency Management Agency (MEMA)

MEMA is responsible for coordinating and directing all the emergency response activities outlined in this plan. Primary responsibilities include:

- Coordinating local, State, and Federal response. MEMA coordinates response as the emergency develops, ensuring that response personnel at each level are notified of the emergency classification and carry out required functions. Acting from the State EOC in Framingham, MEMA provides support as requested from local, regional, and Federal emergency response organizations, including logistic and manpower assistance. MEMA coordinates the status of resources available from support agencies. MEMA will dispatch a senior representative to the utility's emergency operations facility (EOF) and liaisons, if necessary, to the Federal Response Center.

- **MEMA will be responsible for keeping all response organizations informed**

throughout all phases of the incident, Early, Intermediate and Late. The Late phase may continue for weeks, months and even years as it moves towards Recovery. Still, Recovery information concerning plans and procedures being developed, including remedial measures, how long they will take, and what final outcome is expected, will need to be communicated to all response organizations and local community officials.

- Providing alert and notification, as the alerting link, between the utility and the State for an emergency at Pilgrim and Seabrook. EPZ-specific information on notification may be found in Exhibits 2 and 4.

- Providing a 24-hour communications contact for station operators.

- Activating the emergency response organization and facilities. The MEMA Director (or designee) activates the State EOC, and ensures that local and MEMA Regional EOCs are activated at the appropriate emergency classification levels. MEMA notifies and mobilizes State support agencies needed for emergency response. The MEMA Director (or designee) is responsible for ensuring that a 24-hour emergency response capability exists at MEMA.

- Recommending protective actions. The MEMA Director (or designee), in conjunction with MDPH**-RCP**, will determine protective actions to be recommended to the Governor's office. In the event of a Hostile Action Based Incident, protective actions decisions will be made by MEMA and the MDPH**-RCP**, in concert with the Incident Commander based upon information provided from the EOF and, until the adversaries are confirmed to be neutralized, from the Incident Command Post.

- Issuing protective action directives to local officials upon order of the Governor.

- Coordinating public notification. The coordinated notification of the public via the public alerting system is the responsibility of MEMA. These actions are coordinated with other states, where appropriate, and with those local emergency response organizations responsible for local notification. **Public notification of**

Relocation, Re-entry, Return, and Recovery information will continue as long as necessary.

- Coordinating interstate response. If an incident occurs at Seabrook Nuclear Power Station, which is located in New Hampshire on the Northeast border with Massachusetts, close coordination between states is required for plume exposure emergency response. Interstate coordination is also required within 50-mile ingestion exposure pathway emergency planning zones surrounding power stations. MEMA is responsible for maintaining contact with emergency management agencies in other affected states, and coordinating actions with them.

- Assisting with media support. MEMA is responsible for providing a spokesperson to the joint information center (or a "Virtual JIC" if necessary) to coordinate and disseminate accurate information regarding the status of State operations during an emergency. If a Hostile Action Based incident occurs, the public information that is released will be vetted by the Unified Command of MEMA, MDPH and, until the adversaries are confirmed to be neutralized, from the Incident Commander.

- Managing the relocation, re-entry, return and long-term recovery activities. These activities will begin after releases of radioactive materials to the environment are brought under control and the period of deposition of radioactive material has essentially ceased. MDPH**-RCP**, in conjunction with MEMA, will determine the appropriate protective actions to be taken for protecting individuals from direct long-term exposure to deposited radioactive material on the ground. **MEMA will coordinate with the Mass State Police and Mass DOT, the re-opening of major highways and rail modes of transportation upon the recommendations of the MDPH-RCP without compromising the restricted zone.**

- Ensuring emergency response readiness. MEMA is responsible for ensuring that the Massachusetts emergency response organization is prepared to take the actions necessary to protect the public in the event of an incident at a nuclear power station affecting Massachusetts. Specific tasks include developing and maintaining the MARERP, conducting drills and exercises, training emergency response personnel, and educating the public through public information. MEMA must also ensure the

readiness of all equipment and communications channels.

- If an area remains restricted for an extended period, a program for social and economic recovery must be implemented. **The** Massachusetts Comprehensive Emergency Management Plan, Recovery **Section**, describes how MEMA, with assistance from local, State and Federal government and private sector resources, will implement recovery.

4.3.3 Massachusetts Department of Public Health (MDPH)

The Massachusetts Department of Public Health (MDPH), through the Radiation Control Program (RCP) Director, has primary technical responsibility for determining the nature and extent of an incident that may affect the public health. The MDPH RCP Director or designee, in conjunction with the MEMA Director (or designee), and if a Hostile Based Action incident, then the Incident Commander, are responsible for determining protective action recommendations provided to the Governor's Office. This responsibility is coordinated with support from the Nuclear Incident Advisory Team (NIAT) and other State and Federal agencies. Specific tasks for which the MDPH is responsible include:

- Providing MEMA with continuous technical assessment of the accident. This task involves sending a MDPH representative to the utility's EOF. This representative will review accident information from the facility and make independent assessments based upon existing and predicted plant conditions, release data, meteorological data and field monitoring information.

- Evaluating radiological hazards and recommending protective actions. Based on accident assessment information, MDPH must evaluate public health hazards utilizing Environmental Protection Agency (EPA) protective action guides. In conjunction with MDPH, MEMA and if a Hostile Based Action incident, then the Incident Commander will develop and recommend protective actions to the Governor's office.

- Mobilizing and coordinating all State radiation monitoring, environmental sampling

and technical accident assessment activities. MDPH will mobilize and coordinate the NIAT, an intra-agency assessment team comprised of State personnel with access to consulting advisors. The MDPH, as part of this responsibility, will provide logistic support for field monitoring and sampling teams.

- Providing for laboratory analysis of air, water, soil, vegetation, milk, and other samples, as appropriate, for radionuclide content. **Primary and secondary laboratories are listed in the NIAT Handbook.**

- Coordinating technical Federal radiological emergency support. MDPH**-RCP** is responsible for determining if and when technical Federal emergency response is required. If assistance is required, MDPH**-RCP** will first coordinate with MEMA, then make appropriate requests directly to the Department of Energy's (DOE) Brookhaven National Laboratory in New York. MDPH**-RCP** will coordinate efforts with Federal technical representatives at the EOF, the State EOC, and the Federal Radiological Monitoring and Assessment Center (FRMAC) when activated.

- Determining criteria for exposure control for emergency workers. MDPH**-RCP** is responsible for determining when exposure control measures (dosimetry and/or potassium iodide) should be implemented, and for authorizing emergency workers to exceed protective action guides. MDPH**-RCP** will collect and maintain exposure records of personnel and conduct follow up as necessary.

- Providing guidance to monitoring and decontamination teams working at local facilities, if applicable, and reception centers.

- Recommending protective actions, including ingestion of potassium iodide (KI) for the plume EPZ general population. If such a recommendation is implemented through a protective action directive, MDPH**-RCP** is responsible for operating emergency KI Dispensing Sites for the impacted EPZ.

- Maintaining readiness of the NIAT. MDPH-**RCP** will be responsible for maintaining state agency plans and procedures relating to radiological assessment and protection

functions. MDPH**-RCP** will also maintain the New England Compact on Radiological Health Protection and agreements with laboratories that provide services in a radiological emergency. MDPH**-RCP** will provide training to department and NIAT personnel and review the accident section of drill scenarios.

- Coordinating, in conjunction with MEMA and the utilities, the training of State and local emergency response workers in use of dosimetry, personal protection and the effects of ionizing radiation. (Section 14 contains further information on training.)

- Evaluating off-site radiological conditions from the plume deposition to aid in formulating decisions on relocation, re-entry, return and long-term recovery activities. These activities will begin after the releases of radioactive materials to the environment are brought under control, and the period of deposition of radioactive material has essentially ceased. **The evaluation of radiological conditions should include transportation modes, especially major highways and rails use, after plume deposition in order to ensure re-opening major venues as rapidly as possible.**

- Determining appropriate protective action recommendations for the ingestion pathway emergency-planning zone, including milk, water, and/or food control.

4.3.3.1 Nuclear Incident Advisory Team (NIAT)

The Nuclear Incident Advisory Team (NIAT) provides the means for assessing the health effects of a nuclear incident, and assists in the development of protective action recommendations.
The team consists of MDPH employees from the MDPH Radiation Control Program.
The NIAT is coordinated by the Director of the MDPH Radiation Control Program. Response activities of the NIAT are performed by staff members of the MDPH Radiation Control Program, while non-MDPH consulting experts serve in an advisory capacity during an emergency. Agencies cooperating with NIAT are:

Massachusetts Emergency Management Agency
Massachusetts Department of Environmental Protection

Massachusetts Department of Agricultural Resources
Massachusetts Department of Fish and Game
Massachusetts Department of Public Health Food Protection Program
Massachusetts Executive Office of Public Safety and Security
United States Army
United States Coast Guard
United States Department of Energy
United States Environmental Protection Agency
United States Food and Drug Administration
United States Nuclear Regulatory Commission*
New England Compact on Radiological Health Protection States**

*While the US NRC is a member organization of the Nuclear Incident Advisory Team, it will not be called upon to provide assistance in responding to an emergency at a nuclear power station.

**The New England Compact on Radiological Health Protection ensures that there is a reciprocal, mutual radiation assistance program between the six New England states. The Director of the MDPH Radiation Control Program or designee has the responsibility to coordinate NIAT activities, provide a liaison to and share field-monitoring data with officials at the Federal Radiological Monitoring and Assessment Center (FRMAC) upon activation.

The NIAT Handbook identifies personnel (team members and cooperating agencies)**, the number of members on each team,** and the location of field equipment. It outlines instructions for emergency communications, provides guidelines for responding to an incident, details a radiological protective action recommendation logic for an emergency, and contains information and details necessary for response to an incident at each nuclear power station affecting Massachusetts.

4.3.3.2 Massachusetts Department of Public Health – Food Protection Program (FPP)

As requested by MDPH, the Food Protection Program (FPP) will coordinate the following activities during a response to a nuclear power station emergency:

- Assisting under the direction of MDPH with the collection of samples for

radiological analysis

- Notifying food processing facilities, bottled water facilities, local slaughterhouses, fisheries and shellfish dealers within the Ingestion Pathway Zone (IPZ)

- Implementing controls on the distribution of locally processed foods, bottled water and shellfish within the IPZ

In addition, the FPP is responsible for maintaining **a map and** a database of markets or facilities under their control**.**

4.3.4 Massachusetts State Police (MSP)

The Massachusetts State Police is the lead State agency for coordinating and providing traffic and access control support to local authorities throughout each emergency-planning zone. Traffic and access control plans are located in the Evacuation Time Estimates, traffic management manuals, and/or local plans and procedures. **Massachusetts State Police will assist in the establishment and re-entry points at the direction of MDPH-RCP in conjunction with MEMA. Additionally, they will take responsibility for assisting with the re-opening of major highway and rail transportation without compromising the restricted zone.**

Other responsibilities include providing mobile communications, **assistance to ensure that samples get to a designated laboratory as rapidly as possible,** helicopter support and security for critical emergency operating facilities, possible tactical response and/or a MEMA Liaison at the ICP for a Hostile Action Based incident, as well as assistance with security patrols in the EPZ communities as requested. Regional assistance can be provided through provisions of the New England State Police Compact. The Secretary of Public Safety and Security has overall responsibility for the activities of the Massachusetts State Police.

4.3.5 Massachusetts Department of Transportation (MassDOT)

The Massachusetts Department of Transportation (MassDOT) is responsible for providing

assistance for traffic and access control. MassDOT will provide road barriers, portable signs, warning lights and other items that may be required to regulate traffic. In addition, the MassDOT is responsible for ensuring roads, especially along evacuation routes, are passable. Local departments of public works will be responsible for working with the MassDOT. **Additionally, they will assist with the re-opening of major highway and rail transportation without compromising the restricted zone.** The MassDOT Commissioner has overall responsibility for the Department's activities.

4.3.6 Massachusetts National Guard (MANG)

Upon declaration of a state of emergency by the Governor, the Adjutant General of the Massachusetts National Guard (MANG) has overall responsibility for ordering to active duty the necessary resources to accomplish the defined mission and directing the Guard's emergency response activities.

Military police personnel and equipment will be provided as far as resources permit to support traffic and access control, and to provide security in evacuated areas. Appropriate vehicles will be made available to assist in keeping emergency routes open. Fuel tankers, both diesel and gasoline, will be provided as needed with as much fuel as can be drawn from existing stocks. Transport of emergency food and water supplies will be accomplished as required. If necessary, MANG will augment emergency medical service transport by supplying vehicles for the movement of access and functional needs individuals who require minimal medical assistance.

4.3.7 Massachusetts Department of Environmental Protection (DEP)

The Director of the Water Supply Division of the Department of Environmental Protection (DEP) is responsible for the safety of the State's water supply. DEP is responsible for collecting potable water samples within the ingestion exposure pathway emergency planning zones as requested by the direction of MDPH. DEP is responsible for restricting or issuing advisories on the use of public drinking water supplies found contaminated. In addition, DEP maintains a computer-based list of source water facilities in each of the nuclear power station's ingestion pathway zone and provides this list **and a map** to MDPH, Director of Radiation Control Program or designee.

4.3.8 Massachusetts Department of Conservation and Recreation (DCR)

The Director, Forest and Parks Division of the Department of Conservation and Recreation (DCR), is responsible for backup search and rescue operations, and the notification and evacuation of the public in State parks and other recreational facilities. These activities will include traffic and access control where needed, such as Myles Standish State Forest.

These responsibilities will be carried out using Department of Conservation and Recreation personnel, vehicles and public address systems at the request of MEMA.

4.3.9 Massachusetts Department Agricultural Resources (MDAR)

The Commissioner of the Department of Agricultural Resources (MDAR) is responsible for maintaining and providing to MDPH a database listing of agricultural facilities **and map** within each of the nuclear power station's ingestion pathway zones. This information may be required by MDPH**-RCP** in formulating protection action recommendations for the Governor's approval.

If the Governor or designee determines that actions must be taken to protect the public from contaminated food, under the direction of MDPH, MDAR will provide personnel and assistance in implementation of such control.

MDAR is the lead for coordinating efforts to establish temporary shelters that provide housing, food and medical attention for animals during disaster.

Primary Agencies:

- The State Veterinarian, MDAR, Bureau of Animal Health
- Animal Control Officers Association of Massachusetts (ACOAM)
- Massachusetts Veterinary Medical Association (MVMA)
- Animal Rescue League of Boston (ARL)
- Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA)

4.3.10 Massachusetts Department of Fish and Game (DFG)

The Department of Fish and Game (DFG) is responsible for the notification of fishermen of areas closed to commercial fisheries during an emergency. The DFG maintains a list of commercially licensed fishermen of shellfish, lobster and finfish.

If the Governor, or designee, determines that actions must be taken to protect the public from contaminated aquatic foods, the DFG will provide personnel and assistance in implementation of such control.

Under the direction of MDPH, the DFG is responsible for shellfish, lobster, fin fish, algae and sediment sample collection within the ingestion exposure pathway, and delivery of samples to MDPH laboratories or other locations, as directed by MDPH.

The DFG also maintains and provides to MDPH a computer database listing of all game farms and stocked areas within each power station's ingestion pathway planning zone.

4.3.11 Massachusetts Bay Transportation Authority (MBTA)

The Director of the Massachusetts Bay Transportation Authority (MBTA) may be called upon to provide evacuation assistance for residents within the Pilgrim or Seabrook Station EPZs or for evacuees at reception centers.

4.3.12 Massachusetts Wing Civil Air Patrol (CAP)

The Massachusetts Wing of the Civil Air Patrol (CAP) has the capability of providing transportation for emergency response organizations. Upon request by MEMA, the Massachusetts CAP Wing Commander will authorize logistical support that may include:

- Flying State or local police over evacuation sites to allow for aerial observation of traffic conditions.

- Transporting coordinators from emergency response organizations to the staging

areas.

- Transporting monitoring teams or equipment to staging areas.

- Providing ambulance-airplanes if needed.

4.3.13 Office of Emergency Medical Services (OEMS)

The Office of Emergency Medical Service (OEMS) operates nine Central Medical Emergency Direction (C-MED) Centers throughout the State. C-MED centers, which are listed in Section 3.4.6, can provide the following information or communication links in an emergency:

- Listings of all ambulances in the State.

- Medical resources that can be requested for communities that do not have paramedic services.

- Communications links to hospitals, ambulances, and medical helicopters throughout Massachusetts, New Hampshire, Vermont, Connecticut and Rhode Island.

- Medical helicopters that can be dispatched.

4.3.14 Massachusetts Aeronautics Commission

If an incident occurs at a nuclear power station, MEMA may request the Massachusetts Aeronautics Commission to coordinate (with FAA) restriction of airspace within the area around and downwind of the power station.

4.4 FEDERAL GOVERNMENT

Federal response to an incident at a commercial nuclear power station is outlined in the National Response Framework (NRF). At the request of the State, the NRF provides for both technical

and non-technical support from Federal agencies. The State agencies, MEMA and MDPH, have been given the authority to provide for the Federal/State interface. MEMA is responsible for coordinating requests for non-technical support, while MDPH is responsible for coordinating requests for technical support. Figure 3-1 shows this interaction.

In the event of a radiological emergency requiring Federal assistance, the Federal Emergency Management Agency will establish a Federal Response Center (FRC) to serve as a local point for Federal response team interaction with the State.

In addition, the Department of Energy (DOE) would establish a Federal Radiological Monitoring and Assessment Center (FRMAC) from which the DOE Offsite Technical Director would conduct radiological monitoring and assessment. Operation of the FRMAC would be coordinated with those of the Federal Response Center.

Technical support includes: all aspects of radiological monitoring, evaluation, assessment and reporting; the use of technology to control or predict radiological impacts; and instrumentation to develop recommendations on protective measures and decontamination of property. Federal technical support is governed by the Federal Radiological Monitoring and Assessment Plan (FRMAP), which was developed to coordinate Federal radiological monitoring and assessment assistance. Although the FRMAP is part of the NRF, it may be implemented separately and applies primarily to offsite Federal radiological monitoring and assessment assistance and the technical support for these activities. Radiological assistance will include alpha, beta and gamma radiation surveys; radiation monitoring for air, food, water, milk and personnel contamination; and analysis of samples.

A-Team or the Advisory Team for Environment, Food and Health includes representatives from the EPA, USDA, HHS (FDA), the CDC, and other federal agencies as needed. The A-Team develops coordinated advice and recommendations on environment, food, health and animal health matters for the state and federal responding agencies, as appropriate. The A-Team provides advice (not decisions) in matters related to:

- **Protective Action Recommendations using data and assessments from FRMAC;**

- **Protective actions to prevent or minimize contamination of milk, food and water, and to prevent or minimize exposure through ingestion;**

- **Availability of food, animal feed, and water supply inspection programs to assure wholesomeness;**

- **Recommendations regarding the disposition of contaminated livestock, poultry, and contaminated foods, especially commodities (e.g. meat in processing plants);**

- **Relocation, re-entry, and other radiation protection measures prior to recovery;**

- **Recommendations for recovery, return and clean up issues**

- **Health and safety advice or information for the public and for workers;**

- **Estimated effects of radioactive releases on human health and environment;**

- **Other matters as requested.**

4.4.1 Federal Emergency Management Agency (FEMA)

The Federal Emergency Management Agency (FEMA) is responsible for activating the NRF, establishing the Federal Response Center, and coordinating Federal non-technical assistance (except for U.S. Coast Guard and National Weather Service assistance) in support of State and local operations and the Federal response.

The primary functions of FEMA are described as follows:

- Serving as the primary point of contact and coordinating requests for non-technical Federal assistance from State and local governments.

- Providing a lead official to coordinate and ensure the provision of appropriate non-technical assistance, including communications support, requested by Federal, State and local agencies and organizations.

- Serving as the primary point of contact for coordination among the Federal agencies for non-technical response activities.

- Coordinating the dissemination of all public information concerning Federal non-technical emergency response activities, and ensuring that public information releases are coordinated with State/local authorities and the NRC by establishing an interagency public affairs group.

- Reviewing and integrating all Federal agency implementation plans to ensure that all required actions and interfaces are adequately addressed.

Also the Integrated Consortium of Laboratory Networks organized by Homeland Security is available to assist for a major incident. It is under a letter of understanding to tie nationwide laboratories with capabilities to assist in maximizing limited laboratory resources.

FEMA will deploy a senior official to the State EOC to provide a single point of contact for assistance requests. The senior official will be informed as to the status of major Federal response efforts and, will in turn, keep the FEMA Region I office and the Federal Response Center (FRC) apprised of the status of State and local operations.

4.4.1.1 Department of Energy (DOE)

The U.S. Department of Energy (DOE) is responsible for the implementation of the Federal Radiological Monitoring and Assessment Plan (FRMAP), which was developed to coordinate Federal radiological assistance. Although FRMAP is a part of the NRF, it may be implemented separately and applies primarily to offsite Federal radiological monitoring and assessment assistance and the technical support for these activities. Radiological assistance from DOE will including alpha, beta, and gamma radiation surveys; radiation monitoring for air, food, water, milk and personnel

contamination; analysis for samples; radiation medicine and decontamination advice; and, assisted by the Environmental Protection Agency (EPA), aerial surveys for plume tracking. All radiological assistance will be coordinated with MDPH**-RCP** efforts. Requests for technical assistance may go directly to DOE. The DOE Regional Director shall then activate the FRMAP.

Responsibilities and capabilities of DOE include:

- Coordinating the offsite radiological monitoring assessment, evaluation, and reporting activities of all Federal agencies during the initial phases of an incident. DOE maintains a technical liaison with State and local agencies with similar responsibilities.

- Ensuring the orderly transfer of responsibility for coordinating intermediate and long-term radiological monitoring function to the EPA at a mutually agreeable time after the initial phases of the emergency.

- Providing personnel (including the Offsite Technical Director) and equipment required to coordinate and perform offsite radiological monitoring and evaluation activities.

- Assisting appropriate agencies in assessing the incident potential and developing technical recommendations on protective actions. DOE assists the State in preparing re-entry recommendations and recovery planning.

- Maintaining a common set of offsite radiological monitoring data, and providing these data and interpretation thereof to the NRC and other appropriate State and local agencies requiring direct knowledge of radiological conditions.

- Requesting supplemental radiological monitoring assistance from other Federal agencies when needed, when requested to do so by the State, or considered necessary to maintain the credibility of the offsite assessment.

- Requesting meteorological, hydrological, geographical, etc., data needed for monitoring and assessment efforts.

- Providing consultation and support services to all other entities (e.g., private contractors) having radiological monitoring functions and capabilities.

- Assisting the U.S. Department of Health and Human Services (USHHS) and other Federal, State, and local agencies by providing technical and medical advice concerning treatment of radiological contamination.

- Assisting the other Federal, State and local agencies in early planning for decontamination and recovery of the offsite area. DOE makes recommendations to avoid the spread of contamination by improper emergency operations.

- Providing communications support to Federal agencies assisting in offsite radiological monitoring, if necessary.

DOE can respond directly from Brookhaven National Laboratory (BNL) in New York to any radiological event in the northeast to assist with radiological monitoring upon request. Response by DOE beyond the capabilities provided from BNL can be expanded to fit the needs of the situation by drawing on capabilities made available from other government laboratories such as Bettis Atomic Power Laboratory, Pennsylvania; Knolls Atomic Power Laboratory, New York; Argonne National Laboratory, Illinois; and Oak Ridge National Laboratory, Tennessee.

The Nuclear Emergency Support Team (NEST) is a DOE operation and consists of personnel and equipment drawn from Andrews Air Force Base, Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Sandia National Laboratories, the Remote Sensing Laboratory and the Pantex Plant. This capability incorporates a broad spectrum of technical expertise, special instruments and logistics support to respond rapidly to large-scale emergencies. Included in NEST responses are special radiation detection systems, a comprehensive communications system, logistics support hardware, the Aerial Measuring System (AMS), airborne radiation surveillance systems, aerial photographic capabilities, multi-spectral scanner systems, and background survey files. The NEST is maintained in a state of readiness for assisting in radiological emergencies.

National Atmospheric Release Advisory Capability (**NARAC**), an atmospheric modeling system

computer linked to the National Weather System and the U.S. Air Force Global Weather System can be utilized to support responses in a major emergency.

4.4.1.2 U. S. Department of Agriculture (USDA)

The USDA Director assists State and local governments in protecting and assessing the damage to agricultural products. The USDA may reallocate donated food supplies for emergency feeding programs and provide technical information and advice for farmers.

The USDA is responsible for:

- Assisting the NRC, in conjunction with USHHS, in developing technical recommendations for State and local officials regarding protective measures related to food and animal feed.

- Assisting State and local officials, in coordination with USHHS and EPA in the recommendation and implementation of protective actions to limit or prevent the ingestion of contaminated food.

- Providing advice to State and local officials on minimizing losses to agriculture resources from radiation effects.

- Assisting in conjunction with USHHS, in monitoring the production, processing, storage and distribution of food through the wholesale level to eliminate contaminated products and/or reduce the contamination in the products to a safe level.

- Inspecting meat and meat products, poultry and poultry products, and egg products identified for interstate and foreign commerce to ensure that they are safe for human consumption.

- Providing lists that identify locations of alternate sources of food and livestock feed.

- Providing advice to State/local officials regarding the disposition of livestock and poultry contaminated by radiation.

- Assessing damage to crops, soil, livestock, poultry and processing facilities, and incorporates findings into a damage assessment report.

- Assisting DOE at the FRMAC in collecting agricultural samples within the ingestion pathway EPZ. USDA assists in the evaluation and assessment of data to determine the extent and impact of the event on food supplies, soil, and livestock.

- Providing emergency food coupon assistance in officially designated disaster areas, if a need is determined by official, and if the commercial food system is sufficient to accommodate the use of food coupons.

- Providing information and assistance to farmers, food processors, and distributors to aid them in returning to normal operations after a radiological emergency.

- Assisting in reallocation of USDA donated food supplies from warehouses, local schools and other outlets to emergency care centers. There are foods donated to various outlets through USDA food programs.

- Providing a liaison to State agricultural agencies, if requested.

- Assisting in providing temporary housing for evacuees who have been displaced from their homes as a result of a radiological emergency.

4.4.1.3 U.S. Environmental Protection Agency (EPA)

The EPA Director supports State and local counterparts in field radiological sampling and analysis. The EPA provides resources including personnel, equipment, and laboratory support to assist DOE in radiological monitoring and assessment. The Director ensures that general assistance in the

areas of protective action and recovery/return guidance is provided, and coordinates the post-emergency Federal radiological monitoring activities.

EPA is responsible for:

- Provides resources, including personnel, equipment, and laboratory support, to assist DOE in monitoring radioactivity levels in the environment during the emergency phase of the incident.

- Assists the NRC, as requested, in developing technical recommendations regarding measures to protect the public health and safety.

- Assumes responsibility from DOE for coordinating the Federal intermediate and long-term monitoring functions after the initial phases of the emergency, at a mutually agreeable time.

- Provides guidance to Federal agencies and State and local governments with jurisdiction on acceptable emergency levels of radioactivity and radiation in the environment.

- Assess the nature and extent of the environmental radiation hazard.

4.4.1.4 U.S. Department of Transportation (USDOT)

The Director of USDOT assists State and local jurisdictions when their technical or logistical civil transportation resources are inadequate for the emergency.

USDOT is responsible for:

- Providing civil transportation assistance and support as appropriate and consistent with statutory responsibilities to State and local governments on request.

- Coordinating the Federal civil transportation response in support of emergency transportation plans and actions of State and local authorities.

- Providing, through Regional Emergency Transportation Coordinators (RETCO), representation to State and local transportation authorities.

4.4.1.5 U.S. Department of Health and Human Services (USHHS)

The Director of USHHS assists with the assessments, preservation and protection of human health by testing food products for safety and ensuring the availability of essential human services, such as medical treatment.

The following list outlines the major resources and support capable of being provided by the USHHS, including the Food and Drug Administration (FDA) and Centers for Disease Control (CDC):

- Assisting State and local government officials with jurisdiction in evacuating.

- Providing guidance, when requested, to State and local governments on protective action guides for food and animal feed.

- Providing guidance to State and local health officials with jurisdiction when requested on disease control measures and epidemiological surveillance of exposed populations.

- Providing resources, in coordination with the USDA, to ensure that food and animal feed are safe for consumption.

- Providing use of FDA laboratories to analyze food and water samples in the ingestion exposure pathway (The FDA has a laboratory in Winchester, MA).

4.4.1.6 Department of Housing and Urban Development (USHUD)

The Director of USHUD assists State and local governments with staff and other resources in planning for and providing emergency housing.

USHUD is responsible for:

- Reviewing and reporting on available housing for disaster victims and displaced persons.

- Assisting in planning for and placing homeless victims in available housing.

- Providing emergency housing support staff within available resources.

- Providing technical housing assistance and advisory personnel to State and local authorities with jurisdiction.

4.4.1.7 The National Communications System (NCS)

The Manager of the National Communications System (NCS) coordinates and manages communications and support for FEMA and other Federal agencies during radiological emergencies. A Federal Emergency Communications Coordinator may be appointed, if needed, to make sure that the essential communications requirements in the emergency area are met.

NCS is responsible for:

- Providing and coordinating in response to a FEMA request, the necessary communications for the Federal government response in accordance with Executive Order 12656 – Assignment of Emergency Preparedness Response (amended by E.O. 13286 of February 2003). NCS is prepared to provide this support prior to a formal declaration of an emergency.

- Providing representation to appropriate State agencies to assist in meeting their communications requirements.

4.4.2 U.S. Nuclear Regulatory Commission (NRC)

The NRC assesses the nature and extent of the radiological incident at the plant site and the potential for offsite consequences, and provides technical advice and recommendations to State authorities

for protective measures. Coordination for NRC activities is made through NRC, Region I, Director based in King of Prussia, Pennsylvania.

The NRC is responsible for:

- Receiving notification of the emergency, initiating the Federal response, and notifying appropriate Federal, State, and local agencies.

- Managing Federal response actions onsite and, as necessary, coordinating these activities with the Senior FEMA Official, and monitoring activities offsite.

- Assessing utility, State and/or locally recommended protective action measures, and/or developing Federal recommendations for protective action and re-entry; the NRC aids State and local authorities as resources permit.

- Serving as the primary Federal source for information of a technical nature regarding the onsite emergency conditions, and potential or actual offsite radiological effects.

4.4.3 U.S. Coast Guard (USCG)

The USCG 1st District Commander has the authority to restrict access to the waterways within the 10-mile Emergency Planning Zone (EPZ) at Pilgrim and Seabrook through a Safety Marine Information Broadcast or Urgent Marine Information Broadcast over VHF. This evacuation is performed in coordination with local and State officials and community harbormasters.

USCG aircraft and surface assets will be used to locate and notify vessels that are not radio-equipped. The USCG will support access control operations to prevent entry into affected waters, and will define zones of passage, broadcast information on Marine VHF, and notify vessels and local shipping concerns. USCG assistance will be requested directly by MEMA (Pilgrim incidents), or by MEMA through New Hampshire Homeland Security and Emergency Management (Seabrook incidents).

4.4.4 U.S. Department of Commerce (DOC) National Oceanic & Atmospheric Administration (NOAA)

NOAA is the primary agency within DOC responsible for providing assistance to the Federal, State, and local organizations responding to a radiological emergency.

The Chief Meteorologist of NOAA National Weather Service (NWS) shall provide weather information upon request to responding Federal, State or local agencies.

NOAA is responsible for:

- Preparing and disseminating forecasts and warnings for severe weather such as hurricanes, tornados, severe thunderstorms, floods, extreme winter weather, and tsunamis to local officials and the general public.

- Broadcasting watches and warnings of natural disasters prepared by NOAA, and radiological emergency warnings approved by the States, over NOAA Weather Radio and other NOAA dissemination systems.

- Providing the NRC, DOE, and State with current and forecast meteorological information about wind speed and direction, low-level stability, precipitation, and other meteorological and hydrological factors affecting the transport or dispersion of radioactive materials.

- As requested, providing support to USHHS/FDA, through the National Marine Fisheries Service (NMFS), to avoid human consumption of contaminated commercial fishery products (marine areas only).

4.4.5 Federal Aviation Administration (FAA)

The FAA is capable of providing equipment and emergency preparedness capabilities that may be called upon for direct Federal assistance. The FAA may be used to notify aircraft in or approaching the Plume EPZ to take appropriate precautions, as requested by MEMA through the Massachusetts

Aeronautics Commission.

4.5 PRIVATE SECTOR

The emergency response of all private sector agencies will be coordinated by MEMA.

4.5.1 American Red Cross

The American Red Cross is responsible for providing and managing food and shelter for persons who have evacuated. The Red Cross will mobilize and coordinate its local volunteers to provide these services at the shelters. Services provided by the Red Cross will be under the control of the local emergency management director, or designated chief of operations at each shelter.

4.5.2 The Salvation Army

The Massachusetts Divisional Headquarters of the Salvation Army, under the direction of the Divisional Commander, will assist in meeting the immediate needs of evacuees. Specific functions are detailed in the MEMA Regional Plans.

4.5.3 Auxiliary Radio Service (ACS)

A network of volunteer radio operators using privately owned amateur radio equipment to provide additional back-up communications capability at the community, MEMA Regional and State level of response.

4.5.4 Railroads

Letters of Agreement are on file with MEMA, and notification procedures are in place with the operators of rail lines that either traverse emergency planning zones or cross primary evacuation routes. When appropriate, MEMA shall request that rail traffic be restricted in affected areas.

4.5.5 Utility Companies

Operators of licensed nuclear power stations that impact Massachusetts for emergency planning

purposes include Entergy Northeast Nuclear Operations, Inc. (Pilgrim Station) and NextEra Energy Resources (Seabrook Station).

The utilities are responsible for:

- Providing space and administrative support for State liaisons in the Emergency Operations Facility (EOF);

- Establishing and providing administrative support for Federal, State and community (where applicable) public information officers at the joint information centers;

- Sponsoring annual media briefings and advising the State;

- Providing for processing of emergency workers' dosimetry life record (DLRs) on a 24-hour basis during an emergency;

- Providing laboratory support, as appropriate.

- Providing to MDPH the information listed in Section 4 in the NIAT Handbook for use in assessing the accident and formulating recommendations for protective or precautionary actions.

SECTION 5
PLAN IMPLEMENTATION

A planned response by State and local governments to each emergency class is necessary to ensure the successful implementation of precautionary, protective and supportive actions in a timely manner. The following sections summarize state response to Unusual Event, Alert, Site Area Emergency, and General Emergency classifications.

NOTE: If at any level the utility recommends immediate protective actions and the State Emergency Operations Center (EOC) and the EOF are not operational, MEMA will coordinate activation of the public alert and notification system (PANS), including the Emergency Alert System.

5.1 UNUSUAL EVENT (UE)

See Section 2.11.1 for a description of the Unusual Event classification.

Upon declaration of an UE, the utility will promptly notify offsite authorities. See Exhibits 2 **and** 4 for specific notification sequences. The following actions will be initiated at the State and/or local levels:

1. MEMA will notify or confirm notification of all plume emergency planning zone (EPZ) and reception communities and MDPH.

2. Local communities will provide fire, rescue, or security assistance to the power station as requested and as resources permit.

3. A MDPH**-RCP** representative will call the power station's control room to verify notification and obtain detailed information of the incident. MDPH will then provide this information to MEMA.

4. Respond to media and public inquiries, as required.

This emergency status will be maintained until closeout or escalation to a more severe classification.

5.2 ALERT

See Section 2.11.2 for a description of the Alert classification.

Upon declaration of an Alert, the utility will promptly notify offsite authorities. Specific notification sequences are located in Exhibits 2 **and** 4. The following actions will be initiated at the State and/or local levels:

1. MEMA will notify or confirm notification of all plume EPZ and reception communities and MDPH.

2. A MDPH**-RCP** representative will call the power station's control room to verify notification and obtain detailed information on the incident, if initial notification. MDPH will then provide this information to MEMA.

3. For a Hostile Based Action (HAB) event, local communities and/or the Massachusetts State Police will provide tactical/liaison assistance to the power station as requested and as resources permits. For Pilgrim Station, an Incident Command Post (ICP) and a Staging Area may be established. MEMA will send a liaison to the ICP to provide direct communication with the Incident Commander.

4. MEMA will initiate its notification of MEMA response personnel, including Emergency Support Function Team (ESFT) organizations with emergency response capabilities/requirements.

5. The State may choose to activate the Public Alert and Notification System at the Alert level. The Joint Information Center may be activated by the utility at the Alert level. If so, MEMA representatives may be dispatched to the Joint Information Center or may create a “virtual JIC” if it is a Hostile Action Based Incident in the SEOC, as determined by the MEMA Operations Section Chief. An MDPH spokesperson may be sent if determined to be necessary.

6. MEMA shall consider: a) advising the Governor or designee to declare a state of emergency; b) ordering precautionary actions, including transfer of school/daycare students to a host facility or during a security event consider implementation of sheltering-in-place for school children; c) closing of public beaches, parks; and d) notification of boaters in waterways in the emergency planning zone (EPZ). Additional precautionary, protective and support actions and may be considered and implemented pending assessment of information from the power station, EOF and, if established, the Incident Command Post.

7. MDPH will initiate its notification of staff with response capabilities/requirements. Periodic updates will be provided, as appropriate, to each agency.

8. MDPH**-RCP** and MEMA representatives will be dispatched to the facility's EOF, as determined by the MEMA Operations Section Chief.

9. State, MEMA Regional, and local EOCs will be activated as appropriate. Reception centers may be activated, if necessary.

10. Accident assessment will be initiated and State field monitoring teams may be dispatched to provide confirmatory radiation monitoring if actual releases substantially exceed technical specifications.

11. MDPH**-RCP** may perform plume and ingestion pathway dose projections.

12. MDPH**-RCP** will continuously assess information from the utility.

13. MEMA will keep key State agencies, the Federal Emergency Management Agency (FEMA), affected states, and MEMA Regional and local EOCs informed of the emergency and actions implemented, as appropriate.

This emergency status will be maintained until closeout, de-escalation of emergency class, or

escalation to a more severe classification.

5.3 SITE AREA EMERGENCY

See Section 2.11.3 for a description of the Site Area Emergency classification. Upon declaration of a Site Area Emergency, the utility will promptly notify offsite authorities. Specific notification sequences are referenced in Exhibits 2 and 4. The following actions will be initiated at the State and/or local levels:

1. All actions required under an Alert classification will be initiated and completed. For Hostile Action Based (HAB) incident, certain Alert Actions may be prioritized.

2. State, MEMA Regional, and communities' EOCs will be fully operational.

3. MEMA shall request the Governor or designee to declare a State of Emergency, if not completed under Alert, and order precautionary actions including: a) transfer of school and daycare children to host facilities or during a HAB incident consider implementation of sheltering-in-place for school children; b) closing of public beaches, parks; and c) notification of boaters in waterways within the EPZ. Additional precautionary, protective and support actions may be considered and implemented pending assessment of information from the power station, EOF and, if established, the Incident Command Post.

4. Upon final agreement by appropriate contiguous State officials, the Public Alert and Notification System will be used to notify the public of emergency status and to provide periodic information updates. If a HAB incident, all public information releases will need to be approved by Unified Command, consisting of MEMA, and the Incident Commander.

5. If a HAB event at Pilgrim, MEMA Region II will coordinate dosimetry and briefings at the Tactical Staging Area.

6. Agencies will notify their State EOC representatives to immediately report to the State EOC, if not already done. Coordinate with contiguous State officials, as appropriate.

7. MDPH**-RCP** and MEMA representatives will be dispatched to the utility's EOF, if not already done at the Alert Emergency Classification Level.

8. Accident assessment will be initiated and State field monitoring teams will be dispatched to conduct radiation monitoring. Monitoring and decontamination stations for emergency workers will be activated.

9. Reception centers will be activated, if not already done.

10. As a precaution, rail and air traffic that traverse the EPZ or impact evacuation routes may be restricted. If a Pilgrim incident, all air and rail traffic will be restricted. US Coast Guard will establish a 10-mile marine safety zone.

11. The State public information line will be staffed to respond to inquiries from the general public. MEMA representatives may be dispatched to the joint information center, or may create a “virtual JIC” if it is a Hostile Action Based incident or any Rapidly Escalating incident, in the SEOC, as directed by MEMA’s Operation Section Chief.

12. Precautionary actions for milk producing dairy animals may be considered.

13. Additional precautionary/protective actions and support actions may be considered and implemented pending assessment of information from the power station and State field monitoring teams.

14. MDPH**-RCP** will continuously assess information from the utility and State field monitoring teams.

This emergency status will be maintained until closeout, de-escalation of emergency class, or escalation to General Emergency classification.

5.4 GENERAL EMERGENCY

See Section 2.11.4 for a description of the General Emergency classification.

Upon declaration of a General Emergency, the utility will promptly notify offsite authorities. Specific notification sequences are referenced in Exhibits 2 and 4. The following actions will be initiated at the State and/or local levels:

1. Initiate and complete all actions under Alert/Site Area Emergency if not previously performed. For Hostile Action Based (HAB) incident, certain Alert /Site Area Emergency Actions may be prioritized.

2. Develop and disseminate protective actions for the public for both plume exposure and ingestion exposure, as appropriate. (Precautionary actions for milk producing animals will be implemented.) Protective actions are considered and implemented based on the assessment of information from the power station, EOF and, if established, the Incident Command Post. Coordinate with contiguous State officials, as appropriate. Coordinate support for evacuation and/or sheltering in place directives with the local communities.

3. Monitor emergency worker exposure and evaluate requests to exceed protective action guides in accordance with MDPH instructions.

4. Dependent on the wind direction the utility may instruct the Pilgrim's JIC to be evacuated and relocated. The Pilgrim alternative JIC is located at Bridgewater State University.

5. Advise emergency workers and/or the EPZ general population to take potassium iodide (KI) in accordance with MDPH recommendations.

6. Activate KI Dispensing Sites, as appropriate.

7. Begin preparing a request for a Presidential Declaration of Emergency. (In all probability, the request will not be completed until well into the Recovery Phase.)

This emergency status will be maintained until protective actions are no longer necessary.

SECTION 6
WARNING AND NOTIFICATION

This section describes responsibilities and procedures for rapidly and effectively notifying State and local authorities and the public within 10 miles of the facility of emergency situations.

6.1 BASIS FOR NOTIFICATION

NUREG-0654/FEMA-REP-1 establishes four emergency classifications of accidents (see Section 2.11). Upon declaration of one of the four emergency classifications, the power station must notify offsite authorities within 15 minutes.

6.2 INITIAL NOTIFICATION

Upon declaration of one of the four emergency classifications, the utility will notify the designated offsite authorities. Site-specific notifications are included in site-specific plans. See Exhibits 2 **and** 4 for this specific information.

6.2.1 Notification of Primary State Officials

Upon notification of an incident at a nuclear power station affecting Massachusetts, MEMA shall initiate notifications to primary state officials. The purpose of the initial alerting sequence is to place knowledgeable state officials in communication with a knowledgeable station official, thereby avoiding misinformation and subsequent confusion.

The MDPH**-RCP** official responding to the notification will call the unlisted telephone in the power station's control room to verify the notification and receive information regarding the plant status and meteorological information (Section 6.2.2). Alternate communications from the MDPH**-RCP** to the power station is via telephone or radio to MEMA and then, for Seabrook, via the Nuclear Alert System to the stations control room. For Pilgrim Station, MDPH**-RCP** can contact the control room directly using the MEMA radio. After calling the utility to verify the notification, the MDPH**-RCP** official will then call MEMA to provide follow-up verification and information.

If the threat is Air Bourne then Pilgrim's Control Room will use the BECON system to notify a single

point of contact – MEMA. MEMA will then be in charge of notifying all Offsite Response Organizations.

6.2.2 Facility Status Information

During the verification call to the power plant's control room, the MDPH**-RCP** representative will obtain the following information if it is known and appropriate:

1. Location of incident and the name and telephone number (or communications channel identification) of caller

2. Date/time of incident

3. Classification of the emergency

4. Type of actual or projected release (airborne, waterborne, surface spill), and estimated duration/impact times

5. Estimated quantity of radioactive material released or being released and the points and height of releases

6. Chemical and physical form of released material, including estimates of the relative quantities and concentration of noble gases, iodines, and particulates

7. Meteorological data at appropriate levels (wind velocity, direction, temperature, atmospheric stability data, form of precipitation, if any)

8. Actual or projected whole body and thyroid doses, and projected integrated dose at the site boundary, two-mile, five-mile, and ten-mile radii, and affected sectors

9. Estimate of any surface radioactive contamination

10. Emergency response actions by utility in effect

11. Recommended emergency actions including protective measures

12. Any requests for needed onsite support from offsite organizations; for example, request for offsite assistance for injured personnel or for security assistance if a Hostile Action Based incident.

13. Prognosis for worsening or termination of event based on plant information

6.2.3 Notification of Local Governments

Local governments will be notified of any of the four emergency classifications. See site-specific exhibits for information on notification chains and equipment.

MEMA will initially notify or verify notification of the local governments in plume EPZ and reception communities. See local plans for specific information on activation of the community-level response organization.

6.2.3.1 Notification of Hostile Action Based Incident – Pilgrim Only

The Utility Control Room for a HAB incident, would do an immediate ring down to the Plymouth Police Department, as well as to MEMA 24-hr dispatch to request assistance.

6.2.4 Change in Emergency Classification

Escalation, de-escalation, or termination of the emergency classification will require prompt notification of all emergency response personnel. Upon reclassification of the emergency, utility emergency personnel will promptly notify the Massachusetts State officials at the EOF and/or the State EOC. MEMA will notify the affected local communities **and State Agencies**. Notification of termination of the emergency or initiation of recovery operations (including any changes in the organizational structure for recovery activities) will follow the same notification procedures as used for changing emergency classification.

Refer to Exhibits 2 **and** 4 for detailed site-specific information regarding notification methods.

6.3 NOTIFICATION OF EMERGENCY RESPONSE ORGANIZATION

6.3.1 State Notification

The State emergency response organization will be mobilized if the incident is classified as Alert, Site Area Emergency, or General Emergency. MEMA State EOC staff may be reached directly on a 24-hour basis as current telephone call-down lists of all employees are maintained by the Operations Section. MEMA and MDPH**-RCP** will initiate the alerting of support agencies by telephone or other means using established procedures.

MEMA will notify the following personnel/agency:

- MEMA Planning and Nuclear Section Chief
- Massachusetts Department of Public Health, Radiation Control Program Director
- MEMA Director
- MEMA Duty Officer/Operations
- Communications and Fleet Services Manager
- MEMA State EOC staff
- Massachusetts Department of Transportation, Boston Operations Room
- State Police Emergency Management Liaison
- Contiguous state(s) Emergency Management Liaison(s)
- Massachusetts National Guard
- American Red Cross
- Mass 211
- Federal Emergency Management Agency

- The U.S. Coast Guard (incidents at Pilgrim only)
- **Massachusetts Department of Conservation and Recreation**
- Massachusetts Department of Corrections (incidents at Pilgrim only)
- Other organizations, as necessary

2. MDPH**-RCP** will notify and/or provide information on the situation by telephone to the following, with periodic updates as appropriate to that agency:

   - Commissioner of Public Health, and through the Commissioner, the Secretary of Human Services, and the Governor
   - Nuclear Incident Advisory Team members
   - MEMA
   - Public health departments of other states, as appropriate

3. MDPH**-RCP** may notify the following additional organizations (Note: Once the State EOC is activated, the MDPH liaison will coordinate these activities with MEMA):

   - Massachusetts Department of Environmental Protection
   - Massachusetts Department of Agricultural Resources
   - **Massachusetts Department of Public Health – Food Protection Program**
   - Massachusetts Department of Fish and Game

4. As provided for under the New England Compact on Radiological Health Protection, MDPH**-RCP** will also contact the following agencies:

- Chair of the New England Compact on Radiological Health Protection
- U. S. Department of Energy (Brookhaven)
- U. S. Environmental Protection Agency
- U. S. Food and Drug Administration

5. The appropriate MEMA Regional EOC will notify support organizations

6.3.2 Local Notification

Each locality involved in emergency response has developed a Radiological Emergency Response Plan (RERP) and corresponding procedures to ensure that appropriate actions are taken during an emergency. Each local RERP outlines the means of notifying the local emergency response organization. (Refer to Exhibits 2 and 4 for site-specific notifications.) The person receiving and confirming the notification must proceed to notify other officials of the local emergency response organization, through an established notification system and/or by telephone. Community-specific notification procedures are described in detail in the local plans.

6.4 NOTIFICATION OF THE PUBLIC

In the event of an emergency classified as an Alert, a decision will be made by the Governor's Office, based on recommendations from MEMA, whether to activate the Public Alert and Notification System. Upon reaching the classification of Site Area Emergency or General Emergency, MEMA will notify the public during an event at Pilgrim Station; and MEMA will coordinate siren sounding/EAS with New Hampshire for Seabrook.

When the Public Alert and Notification System is activated, MEMA will activate sirens at a designated time and will request the activation of tone-alert radios (Pilgrim only) where applicable (see Exhibits 2 and 4 for site-specific information). MEMA will activate the EAS system to begin broadcast of an instructional message at a specific time shortly after siren sounding. For Seabrook Station, Code Red will be activated at the same time as the EAS and sirens.

6.5 DISSEMINATION OF INSTRUCTIONS TO THE PUBLIC

Agreed upon by the Unified Command, emergency instructions for the public, once the initial alerting has been accomplished, will be conveyed over the Emergency Alert System (EAS) serving the affected region (see Section 12.5). The broadcast will be coordinated with activation of the public alerting system. The EAS network is composed of local radio stations serving pre-designated regions of the State. More information on the EAS system is contained in the CEMP's Massachusetts Emergency Communications and Warning Annex and in the site-specific Exhibits 2 and 4 of this plan. The person activating the system will issue the protective action instructions or other appropriate information, using pre-scripted messages, when appropriate. Each local plan carries a listing of the AM and FM radio stations that will provide information in an emergency. The AM and FM radio stations are listed in the annual calendar disseminated to the public by each utility.

The EAS will broadcast protective action instructions, such as sheltering-in-place and evacuation. When using the Public Alert and Notification System to disseminate a protective action directive to the public, the initial siren activation and the EAS broadcast must begin within a timely manner of the decision to order the protective action, in accordance with federal regulations.

The EAS may be used to disseminate precautionary actions, such as transfer of school children out of the EPZ. It may be more appropriate to disseminate information on precautionary actions through news releases from the Joint Information Center to local news media (refer to Section 12 for additional information). The method and timing of disseminating information on precautionary actions shall be decided by the MEMA Director or designee, at the time of the emergency. Public alerting systems having public address (voice) capability may be used in some regions to give specific instructions to people located at beaches or parks.

If, and when, the MEMA Director decides to utilize the Public Alert and Notification System to disseminate information about precautionary actions (e.g., transfer of school children, beach closings, etc.), the siren activation and beginning of EAS shall occur within a timely manner of that decision.

The EAS or news releases may be used to disseminate protective action directives regarding ingestion, relocation, re-entry and return. In some cases where a directive affects a relatively small number of people, direct communication by telephone, a written message or spoken message by a

State official may be more appropriate.

Also MEMA will use social media, IPAWS, MEMA's Facebook page, Twitter and Wireless Emergency Alerts may also be sent to smart phones.

SECTION 7
ACCIDENT ASSESSMENT

This section summarizes the response of the State in evaluating the actual or potential consequences of a radiological incident at a nuclear plant and in determining protective public health and safety actions. For detailed or technical information on Accident Assessment, refer to MDPH's NIAT Handbook.

7.1 RESPONSIBILITIES

7.1.1 Utility

The nuclear power station operator has responsibility for initial accident assessment. The plant operator is responsible for recognizing that abnormal events have occurred that require declaration of an emergency, classifying the accident in accordance with its emergency action levels, notifying appropriate offsite authorities, providing accident-related parameters, and recommending protective actions to the State for affected offsite areas.

Throughout the emergency, the plant operator will provide accident-related parameters, meteorological parameters, field data, and other information, as necessary, to State assessment personnel on a timely basis so that the State may make an independent evaluation of the accident. (See Section 7.4, Follow-up Information.)

Protective action recommendations issued by the nuclear power station will be based upon plant conditions and a comparison of projected doses with the appropriate protective action guides. The State must take into consideration other factors including the time of day, the estimated time remaining until the release is expected to begin, projected release duration, time required to evacuate the affected area, weather conditions and type of incident in evaluating the station's protective action recommendations. Additional sources of information will come from the EOF and the Incident Command post, if established. In the event of a Hostile Action Based Incident, protective actions decisions will be made by MEMA and the Incident Commander based upon information provided from the EOF and, until the adversaries are confirmed to be neutralized, from the Incident Command Post.

The utility will provide a work area and communication services in its emergency operations facility (EOF) for State representatives (see Section 3.3.3).

7.1.2 Massachusetts Emergency Management Agency

MEMA, in conjunction with MDPH**-RCP**, will use current information with respect to local constraints to determine appropriate protective actions. In the event of a Hostile Action Based Incident, protective actions decisions will be made by MEMA and the Incident Commander based upon information provided from the EOF and, until the adversaries are confirmed to be neutralized, from the Incident Command Post. Recommended protective actions will be communicated to the Governor's Office by the MEMA Director. MEMA will coordinate communications and logistic support for monitoring and assessment.

7.1.3 Massachusetts Department of Public Health

MDPH-**RCP** has the primary responsibility for assessing an accident at a nuclear power plant from a public health perspective. MDPH**-RCP** is responsible for determining if protective measures are necessary by performing independent dose assessments using site-specific accident assessment tools.

MDPH**-RCP** is responsible for providing radiological assessment personnel at the utility's EOF, representation at the State Emergency Operations Center (SEOC), field monitoring and sampling teams, and laboratory analysis of field samples. If determined necessary, MDPH**-RCP** may provide a spokesperson to the Joint Information Center or, if established, the “Virtual JIC”.

The Nuclear Incident Advisory Team (NIAT) is comprised of MDPH**-RCP** response personnel with access to consulting advisors. MDPH**-RCP** will coordinate State, Federal, utility, and private industry personnel and resources to maintain radiation monitoring, sampling, laboratory analyses, and accident evaluation capabilities for the duration of the emergency.

MDPH**-RCP** is also responsible for adopting assessment procedures and protective actions for the State in accordance with guidance provided by State and Federal organizations.

7.1.4 Massachusetts Department of Transportation

The Massachusetts Department of Transportation (MassDOT) has two primary functions in emergency response: distribution of equipment and maintaining clear roadways. MassDOT stores and distributes traffic control equipment and supplies for State and local roads during emergencies. These supplies may consist of traffic cones, barricades, or traffic signs. MassDOT is also responsible for the removal of impediments on State roads.

7.1.5 Other State Support Organizations

The Massachusetts Departments of Environmental Protection (DEP), Department of Agricultural Resources (DAR), Department of Fish and Game (DFG), and the MDPH Food Protection Program (FPP) support MDPH in its assessment of the incident. Each agency provides personnel to assist with the collection of ingestion samples and provides a computer-based listing of the product/facility/market under their agency's control. These lists may be used by MDPH**-RCP** to formulate protective action recommendations.

Massachusetts State Police will be responsible to ensure traffic and access control support **and, if necessary, support for re-entry,** throughout the EPZ and security where needed.

7.1.6 Federal Support

Federal technical assistance in accident assessment will be provided upon request of the Commissioner of Public Health, or designee, in coordination with MEMA through the Federal Radiological Monitoring and Assessment Plan (FRMAP). The Nuclear Regulatory Commission (NRC) is responsible for ensuring that appropriate protective action recommendations are made to offsite authorities by the utility, and for developing and presenting, in coordination with FEMA, Federal protective action recommendations. The Department of Energy (DOE) will assist in off-site accident assessment by providing aerial monitoring; operating the Federal Radiological Monitoring and Assessment Center (FRMAC), and identifying and acquiring needed resources from Brookhaven National Laboratory. The U.S. Environmental Protection Agency (EPA) will assist in environmental sampling and analysis; the Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA) will assist in field analysis.

7.1.7 Private Support

The MDPH Radiation Control Program maintains in the NIAT Handbook a current list of consultants, nuclear facilities, laboratories, and other organizations/capabilities that may be called upon to assist in accident assessment operations.

7.2 EMERGENCY FACILITIES

In response to an accident at a nuclear power plant, additional emergency facilities will be activated, as needed. More information on activation is contained in Section 5, Plan Implementation.

7.2.1 Emergency Operations Facility

Upon activation by the utility, representatives from MEMA and MDPH-**RCP** will be dispatched to the EOF. Their purpose is to develop protective action recommendations based upon information provided by the utility and State field monitoring teams. Their protective action recommendation, as well as any recommendations coming from Incident Command Post if a HAB incident, will be communicated to decision-makers at the State EOC who, in turn, will review, approve and then forward**ed** recommendation to the Governor. In addition, the EOF State representatives are responsible for providing technical information on plant status obtained from the utility to officials in the State EOC.

State field monitoring teams and sampling teams will be coordinated by an MDPH**-RCP** representative at a dispatch area or EOF. Monitoring and sampling kits are stored at the dispatch areas for emergency use. The results of laboratory analysis on samples will be communicated to the EOF, which, in turn, shall provide the information to the State EOC. State operations information, field and laboratory data, and protective action recommendations will be provided to and coordinated with appropriate contiguous states' emergency management and public health personnel at the EOF.

7.2.2 Joint Information Center (JIC)

The utility will establish a Joint Information Center which will be the central point of contact for all news media at the scene of the incident. News media representatives are kept informed of activities and events via public information officials from all participating Federal and State agencies and the

Utility. In the event of a Hostile Action Based Incident or other Rapidly Escalating incident, MEMA may open a "Virtual JIC" at the State Emergency Operations Center. In the event that the JIC needs to be evacuated (Pilgrim), there are identified alternate locations.

7.2.3 State Emergency Operations Center

Protective action recommendations received from State representatives at the EOF will be evaluated by the Director of MEMA and the Commissioner of Public Health, or their designees, at the State EOC. In the event of a Hostile Action Based Incident, protective actions decisions will be made by MEMA and the MDPH**-RCP**, in concert with the Incident Commander based upon information provided from the EOF and, until the adversaries are confirmed to be neutralized, from the Incident Command Post. The final recommendation will be forwarded the Governor's office.

The Commissioner of Public Health or designee will also be responsible for coordinating State and Federal technical agency resources to supplement MDPH accident assessment operations.

7.2.4 Radiation Control Program Headquarters

MDPH**-RCP** personnel will support activation of the Nuclear Incident Advisory Team and coordination of New England Compact on Radiological Health Protection personnel and for providing MDPH**-RCP** backup and relief personnel to the State EOC and the utility's EOF.

The NIAT Handbook contains information on State monitoring kits, dispatch locations, and the number of NIAT members available for deployment.

7.2.4 Laboratories

The Massachusetts Environmental Radiation Laboratory conducts radiological evaluation and analysis, and may request assistance from independent laboratories, as needed **due to a large amount of samples.** Letters of Agreement for independent laboratories are negotiated and maintained by MDPH**-RCP**. **Several independent laboratories used are:**

USDA – Winchester Laboratory

MIT Laboratory

UMass Lowell Laboratory

UMass Amherst Laboratory

7.2.5 Back-up Laboratories

The New England Compact on Radiological Health Protection serves as back up to the MDPH**-RCP** laboratory. The compact has the capability of providing the laboratory services needed during a radiological emergency. Capabilities and equipment at backup laboratories are described in the New England Interstate Compact Plan.

The Integrated Consortium of Laboratory Networks organized by Homeland Security is also available to assist for a major incident. It is under a letter of understanding to tie nationwide laboratories with capabilities to assist in maximizing limited laboratory resources.

7.2.6 Incident Command Post (ICP)

An Incident Command Post may be established by the local Host Community, if needed for a Hostile Action Based incident that requires coordination of tactical response to a security incident. The Incident Commander (IC) will be responsible for coordinating the tactical response and for ensuring a MEMA ICP Liaison maintains communications with the SEOC. The IC will coordinate with MEMA, protective actions until the adversaries are confirmed to be neutralized. The IC or a designee will be responsible for providing radiological protection and a "quick" dosimetry briefing to personnel under its command. A Massachusetts State Police ICP Liaison **may** also be dispatched to the ICP to assist with resource requests.

7.2.7 Tactical Staging Area

A Tactical Staging Area, under the command and control of the ICP and may be established if needed for a Hostile Action Based incident requiring the staging of incoming tactical resources and for providing radiological protection and a "quick" dosimetry briefing to personnel. For Pilgrim Station, MEMA Region II will be responsible for providing radiological protection and a "quick" dosimetry briefing to personnel at the Tactical Staging Area. MEMA will be responsible for providing extra

dosimetry and KI, if necessary for the Pilgrim Tactical Staging Area.

7.3 ACTIVATION

Upon notification of an emergency at a nuclear power station that may affect the State, a MDPH**-RCP** representative will contact the station's control room and obtain detailed information on the status of the emergency.

MDPH**-RCP** representatives will be dispatched to the EOF at the Alert classification. At the direction of the Radiation Control Program Director or designee, field teams may be dispatched to provide confirmatory radiation monitoring.

Upon notification of a Site Area Emergency or a General Emergency an MDPH**-RCP** representative will be dispatched to the EOF, if not already done, and accident assessment will be implemented.

7.4 FOLLOW-UP INFORMATION

MDPH**-RCP** will establish communications with the utility as soon as possible after notification of an emergency to obtain follow-up information. Upon activation of the EOF, this information will be available to the MDPH representative. The following information will be provided to the department by the utility on a timely basis:

- Date/time of incident.
- Classification of the emergency.
- Type of actual or projected release (airborne, waterborne, surface spill) and estimated duration/impact times.
- Estimated quantity of radioactive material released or being released and the points and height of releases.
- Chemical and physical form of released material, including estimates of the relative quantities and concentration of noble gases, iodines, and particulates.

- Meteorological conditions at appropriate levels (wind speed, direction, indicator of stability, precipitation, if any).

- Actual or projected dose rates at site boundary and projected integrated dose at site boundary.

- Projected dose rates and integrated dose at the projected peak and at two-mile, five-mile, and ten-mile radii including affected sector(s).
- Estimate of any surface radioactive contamination in-plant, onsite, or offsite.

- Licensee emergency response actions currently underway.

- Recommended emergency actions, including precautionary and protective measures.

- Request for any needed onsite support by offsite organizations.

- Prognosis for decline or termination of incident based on plant information.

7.5 FIELD RADIATION MONITORING TEAMS

At the direction of MDPH**-RCP**, field monitoring teams will be dispatched to confirm the presence of or to locate a radioactive plume.

Field monitoring teams consisting of MDPH NIAT members, and other support personnel will be sent to dispatch locations, where equipment is stored and deployed by a MDPH**-RCP** representative. Field monitoring teams will take radiation measurements to determine if a radioactive plume is present. Sample collection teams will determine the areas of possible contamination through collection of environmental samples, such as air, water, soil, milk, produce, seafood, cattle feed, etc.

The NIAT Handbook contains information on State monitoring kits, dispatch locations, and the number of NIAT members available for deployment.

7.5.1 Ground Level Radiation Monitoring

At least two Nuclear Incident Advisory Teams will report to the dispatch location as directed by a MDPH**-RCP** official. Teams are then dispatched by and maintain radio communications with the MDPH Field Team Coordinator. The NIAT Handbook contains deployment times for **the NIAT** personnel to the dispatch locations. Once in the area, the teams will obtain emergency monitoring kits stored at the dispatch location. Contents of the monitoring and sampling kits, monitoring equipment and procedures are detailed in the NIAT Handbook.

The MDPH Field Team Coordinator will direct the field teams to monitor locations. Field teams will be directed to preselected monitoring points and/or locations identified through a plume field survey strategy that has been coordinated with teams from other organizations. Maps for the field teams are maintained at the dispatch location. For a Hostile Action Based incident, the Field Team Coordinator will coordinate the field team activities with the Incident Command Post, if necessary, to ensure operation is beyond the established Security Perimeter. This coordination will be conducted through MEMA at the SEOC to the ICP.

Field radiation measurements will be transmitted back to MDPH**-RCP** personnel in the EOF, which serves as the central point for the receipt and coordination of field monitoring data. The information will be shared with utility, contiguous State and Federal dose assessment personnel, as appropriate, and the State EOC. Field monitoring data will be posted on applicable maps in the SEOC and EOF.

7.5.2 Airborne Radiation Monitoring

If airborne plume tracking is determined to be necessary by the MDPH Radiation Control Program Director or designee stationed at the EOF, MDPH**-RCP** will request assistance from the DOE in conducting aerial plume tracking. As outlined in the NRF, DOE will provide, in cooperation with other Federal organizations, personnel and equipment to perform aerial plume tracking.

7.5.3 Overwater Radiation Monitoring

For Pilgrim and Seabrook Nuclear Power Stations it may be necessary to locate or track a plume that is traveling out to sea. This may be accomplished by airborne monitoring or by monitoring over water via boat.

7.6 ENVIRONMENTAL SAMPLE COLLECTION AND ANALYSIS

Environmental Sample Collection Teams are available to collect appropriate environmental samples. These teams may be comprised of various state agency personnel from MDPH, Department of Agricultural Resources (MDAR), Department of Environmental Protection (DEP), Department of Fish and Game (DFG) and the MDPH Food Protection Program (FFP). MDPH will serve as the lead agency to direct and coordinate environmental sample collection team activities in accordance with procedures established in the NIAT Handbook. Personnel from attending departments will assist MDPH**-RCP** with the identification of specific farms, dairies, water resources, processing centers, and other food sources located in the area of concern.

Upon declaration of a Site Area Emergency or General Emergency, Environmental Sample Collection Teams will be notified and placed on standby status by MDPH**-RCP** in coordination with various state agency representatives located at the State EOC. Upon activation, the Environmental Sample Collection Teams will report to an assigned deployment location to receive instructions and conduct sample collection in accordance with procedures established in the NIAT Handbook.

MDPH**-RCP** is responsible for coordinating and identifying the laboratories used to analyze environmental samples collected by the Environmental Sample Collection Teams. The teams will be responsible for taking the samples to a designated location for subsequent transport to the analyzing laboratory, as arranged by MDPH**-RCP** in coordination with MEMA. Support for the transport of samples to the laboratories will be made available through the NIAT or various agencies at the State EOC with resources available to do so. **If needed, Massachusetts State Police will assist to ensure rapid transportation of the samples to appropriate laboratories.**

Laboratory analysis will be performed in accordance with procedures and methods provided by and/or approved by MDPH**-RCP**. The results of the laboratory analysis will be communicated back to the EOF for comparison with EPA protective action guides and any protective action directives that may have been implemented.

7.7 DOSE ASSESSMENT

The MDPH Radiation Control Program (RCP) Director or designee, stationed at the EOF is responsible for overseeing State accident assessment, determining projected radiation doses to

offsite areas, and the forming of radiological protective action recommendations. The NIAT Dose Assessment Coordinator is responsible for performing dose projection estimations and providing results to the RCP Director or designee. The RCP Director or designee reviews all utility and State dose assessment results and, if necessary, performs an independent dose assessment at the EOF using site-specific parameters. The RCP Director or designee passes on dose assessment results and recommendations to the MDPH Coordinator at the State EOC as input to the protective action decision-making process at the State EOC.

Calculated results from the dose projection models will be used with field team results to assess the accuracy of the dose protection predictions and allow for appropriate judgments to be made in the decision-making process. This evaluation will be discussed with the utility and other states conducting field monitoring and dose projections for their portions of the EPZ, if appropriate. MDPH**-RCP** will periodically exchange information and review results with accident assessment members of the other states. In addition, data from the Federal Radiological Monitoring and Assessment Center (FRMAC) and any DOE monitoring activities including any aerial monitoring will be used to supplement State field monitoring data.

7.8 PROTECTIVE ACTION RECOMMENDATIONS

Protective action recommendations will be made by the utility to the State for consideration in the State's protective action recommendations. In a fast-breaking incident where immediate protective actions are warranted, provisions are in place for immediate dissemination of the utility's recommendations to the public. See paragraph 7.8.3 for more information.

7.8.1 Utility Recommendations

The utility is required to provide protective action recommendations to the State. The utility's recommendations are based upon plant conditions as well as its comparison of projected doses with the EPA's protective action guides (see Section 2.5). The State evaluates the utility's recommended protective action, comparing the utility's dose savings assessment with both the State's assessment and the risks of implementing the protective action.

7.8.2 State Protective Action Directives

The MEMA Director and MDPH Commissioner, or respective designees, and if an ongoing HAB incident, then the Incident Commander will participate in making protective action recommendations to the Governor or designee that are based upon an evaluation of: a) the utility's analysis of plant conditions; b) the comparison of projected doses (see Section 7.7) with the EPA's protective action guides; c) the utility's protective action recommendation; and d) the time available to implement the protective action against factors that may directly affect its successful implementation, i.e., release duration, time of day, current and anticipated changes in weather conditions, impediments or constraints to implementing the action (e.g., severe weather, traffic accidents, poor roadway conditions, etc.) and evacuation clear-time estimates. The specific areas in which the protective actions are to be implemented are determined by State officials. Anticipated changes in wind direction must be considered when determining said area.

The recommendations will be forwarded to the Governor's office. If approved by the Governor (or designee), implementation by appropriate officials will then be ordered. Protective actions will be continually evaluated as new dose projections are made and as updated information concerning the status of the incident is obtained.

Protective action recommendations for Seabrook Nuclear Power Station EPZ will be coordinated with contiguous states' emergency management and public health officials at the EOF and the State EOCs.

7.8.3 Immediate Protective Actions.

If a situation develops so rapidly that the utility recommends immediate protective actions, MEMA will coordinate and direct siren activation and Emergency Alert System activation, as well as any supplement notification system like IPAWS or WEA, to disseminate instructions to the public. This responsibility will continue until State officials are in place at both the EOF and State EOC.

7.9 TERMINATION OF PROTECTIVE ACTIONS

Protective actions may be terminated when 1) the situation at the plant has been resolved and safety systems have been stabilized; 2) no releases are expected; and, 3) field measurements and laboratory analysis of environmental samples indicate that return to the area will not result in any adverse public health risk. The MEMA Director, in consultation with the Commissioner of Public

Health, or designee, will initiate relocation, re-entry, return and long-term recovery activities (see Section 11).

SECTION 8
PROTECTIVE ACTIONS

This section summarizes the State's responsibility to initiate protective actions in support of local emergency response organizations in the event of a radiological emergency at a nuclear power station. For a description of protective actions, see Sections 2.6 and 2.7, and/or the NIAT Handbook.

There are three phases of an incident:

- **Early phase – Initial response and protective actions**
- **Intermediate phase – continuing response and protective actions to protect the public from deposited radioactivity**
- **Late phase – return and recovery**

During the Early phase, Massachusetts primarily utilizes two protective actions for limiting the direct exposure of the public within the plume exposure emergency planning zone (EPZ): sheltering-in-place and evacuation. These protective actions will be coupled with access and traffic control to prevent unauthorized entry into the area and to ensure an orderly flow of traffic out of the area.

Additionally, MDPH officials may authorize the administration of potassium iodide (KI) to the general population of the affected EPZ (see Section 9.4 for a discussion of KI to the general EPZ populations). KI may also be administered to hospital/institutionalized individuals and/or nursing home patients whose immediate evacuation is not recommended. KI may also be provided to essential facility staff that remains to oversee these individuals. The distribution and use of KI are discussed in Sections 9.3 and 9.5.

Relocation, re-entry, return and recovery actions designed to protect individuals from direct long-term exposure to deposited radioactive materials are discussed in Section 11 **and are part of the Intermediate and Late phases of an incident**.

8.1 PROTECTIVE ACTIONS

The MDPH Radiation Control Program (RCP) Director and MDPH staff at the Emergency Operations Facility (EOF) will determine and/or verify projected doses based upon information provided by the

utility and State field monitoring teams. Such information may include:

- A comparison of the projected doses with the Environmental Protection Agency protective action guides
- The potential for release
- Plant conditions and recommendations from the utility
- Evacuation time estimates
- Weather conditions

Based upon evaluation of this information, the RCP Director will determine recommended protective actions and areas in which each action is to be implemented at Alert or above. These protective action recommendations will be reviewed by the MEMA Director, and supporting staff in the State EOC, in concert with the Incident Commander if a HAB incident, until it has been confirmed that all adversaries have been neutralized. The MEMA Director will forward the recommendation to the Governor's Office. Upon approval, the MEMA Director shall then issue protective action directives to the public through the Emergency Alert System (EAS) as well as IPAWs and WEA systems. Further details on public alerting systems may be found in Section 3.5 and in site-specific exhibits.

Protective action recommendations and directives for the Seabrook Nuclear Power Stations EPZ will be coordinated with contiguous states' public health and emergency management officials at the EOF and the State EOCs. Protective actions will be considered final when the Alert and Notification System activation is coordinated with contiguous state officials.

8.2 PRECAUTIONARY ACTIONS

Under certain circumstances, the State may decide to implement precautionary actions at the Alert and/or Site Area Emergency levels. These precautionary actions early in the emergency provide additional time for implementation and, in the case of beach or other recreational area closings, serve to reduce the number of transients within the affected EPZ as well as ease road congestion should an evacuation of residents become necessary later in the event.

Decisions whether to implement the type and timing of precautionary actions shall be based upon considerations such as the nature of the emergency (plant conditions, etc.) and the number of people impacted. For example, during the peak tourist season, beaches may be closed at Alert allowing enough time for larger beach population to evacuate; in the off-season, the same action decision at Site Area Emergency may be just as effective because the beach population is far smaller. More information of precautionary actions may be found in Exhibits 2 and 4.

8.2.1 Beach, Park and Outdoor Recreational Area Populations

At the recommendation of MDPH, the MEMA Director or designee (and in concert with the Incident Commander, if a HAB incident, until it has been confirmed that all adversaries have been neutralized) may order the closing (or sheltering in place if a HAB incident) of public beaches, State parks and outdoor recreational areas at the Alert or Site Area Emergency levels. Populations in the areas would be given directions through the public alerting system, EAS, IPAWS or WEA on mobile cell phones, news media outlets, and MEMA's social media and/or by local community officials, as appropriate to the area. Exhibits 2 and 4 contain more information on this process, including the alternative methods for notifying transient population.

8.2.2 Waterway EPZ

At the recommendation of MDPH, the MEMA Director or designee (and in concert with the Incident Commander, if a HAB incident, until it has been confirmed that all adversaries have been neutralized) may order the clearing of waterways as early as an Alert. Refer to local plans and Harbormasters' Procedures in the Seabrook and Pilgrim EPZs for more information on responsibilities and procedures for clearing waterways.

8.2.3 School Students

At the recommendation of MDPH, the MEMA Director or designee (and in concert with the Incident Commander if a HAB incident, until it has been confirmed that all adversaries have been neutralized) may order the transfer of school and day care students to pre-designated locations outside of the EPZ (see individual school plans in local communities and Exhibits 2 and 4 for further details). This precautionary action, if directed, may occur as early as the Alert level, depending on the nature of the event. During a HAB incident, consideration may be given to

sheltering-in-place of school children. Should it occur, EAS messages or news releases would inform parents/guardians that the precautionary action was implemented. Information on the transfer of school children and designated location is disseminated through public information materials mailed to residences in the EPZs.

8.2.4 Milk Producing Animals

At the recommendation of MDPH, the MEMA Director or designee may order all milk-producing animals within a 10 mile radius of the relevant plant be sheltered and placed on stored feed and water. This precautionary action may occur at Site Area Emergency but is automatically recommended and implemented at General Emergency, at which time the affected radius may be expanded to 50 miles. This information will be provided to farmers through a direct phone call from a local health officer, news releases or EAS, as appropriate.

8.2.5 State Responsibilities

8.2.5.1 Massachusetts Emergency Management Agency

MEMA is responsible for the following roles in coordinating precautionary actions:

- Based upon information supplied by MDPH**-RCP**, directing precautionary closing of public beaches, parks, outdoor recreational areas and the waterway EPZ, if appropriate.

- Based upon information supplied by MDPH**-RCP**, directing precautionary transfer if appropriate, of EPZ school and daycare students to pre-designated locations outside the EPZ. During a HAB incident, school children may be sheltered-in-place.

- Coordinating and directing news releases and/or public notification on precautionary actions, as appropriate.

8.2.5.2 Massachusetts Department of Public Health

MDPH**-RCP** is responsible for the following roles in coordinating precautionary actions:

- Supplying incident assessment data, upon which MEMA can determine the need

for and, if necessary, direct precautionary closing or sheltering in place of public beaches, parks, outdoor recreational areas and/or the waterway EPZ as well as the transfer of school and daycare children to pre-designated locations outside of the EPZ.

- At a Site Area Emergency, recommend all milk producing animals within a 10-mile radius from the relevant plant be placed on stored feed and protected water.

- At a General Emergency, implement the protective action of sheltering and placing milk producing animals within a 10-mile radius of the relevant plant on stored feed and protected water. Consider expanding the radius out to 50 miles. **A temporary embargo or hold on possible contaminated food may be ordered as well.**

8.2.5.3 Massachusetts State Police

The Massachusetts State Police is responsible for the following roles in coordinating precautionary actions:

- Providing assistance in traffic control if precautionary closing of public beaches, parks, and outdoor recreational areas is implemented.

8.2.5.4 Massachusetts Department of Transportation (MassDOT)

MassDOT is responsible for the following roles in coordinating precautionary actions:

- Providing road barriers, portable signs, warning lights, and other items that may be required to assist in traffic control.

8.2.5.5 Massachusetts Department of Conservation and Recreation, Division of State Parks and Recreation

The Massachusetts Department of Conservation and Recreation, Division of State Parks and Recreation, is responsible for the following roles in coordinating precautionary actions:

- If requested by MEMA, closing State parks and other recreational facilities, as appropriate.

8.3 SHELTERING-IN-PLACE

This protective action entails the notification of the public to go indoors. Sheltering in place if there was a release or a release that is imminent and would entail the public to close doors and windows, and turn off ventilation systems. Shelter in place due to a security concern during a Hostile Action Based Incident requires the public to remain inside with locked windows and doors.

With a recommendation from MDPH**-RCP** and the MEMA Director (and in concert with the Incident Commander if a HAB incident, until it has been confirmed that all adversaries have been neutralized), the Governor or designee may decide to order sheltering-in-place. If shelter-in–place is ordered, MEMA will provide instructions to the public via the EAS repeated at regular intervals. Massachusetts employs a "shelter-in-place" concept, as described in Section 2.6. Representative shielding factors are given in Table 2-1. This provides for sheltering where the sheltering instruction is received. Those at home are to shelter at home; those at work or school are to be sheltered in the workplace or school building. See Exhibits 2 and 4 for information on instructions to transients.

8.3.1 State Responsibilities

8.3.1.1 Massachusetts Emergency Management Agency

MEMA is responsible for the following roles for directing and implementing shelter-in-place:

- Formulating and recommending to the Governor's office, in conjunction with MDPH (and in concert with the Incident Commander if a HAB incident, until it has been confirmed that all adversaries have been neutralized), a sheltering directive.

- Directing and coordinating notification of the public via public alerting systems (sirens) and the EAS.
- In the event of an incident at Seabrook, coordinating with affected contiguous states on the above actions, as necessary.

8.3.1.2 Massachusetts Department of Public Health

MDPH**-RCP** is responsible for the following roles for implementing shelter-in-place:

- Continuously advising monitoring teams of meteorological and release data.
- Formulating dose projections based upon release data.
- Providing monitoring and assessment information to MEMA for use in formulating a sheltering advisory.

8.3.1.3 Massachusetts State Police

Massachusetts State Police is responsible for the following roles for implementing shelter-in-place:

- Providing personnel and vehicles for public alerting (if appropriate) and access control and provide support for local traffic control and law enforcement.

8.3.1.4 Massachusetts Department of Transportation

The Massachusetts Department of Transportation (MassDOT) is responsible for the following roles for implementing shelter-in-place:

- Providing for road barriers, portable signs, warning lights, and other items that may be required for traffic control.

8.3.1.5 Massachusetts Department of Conservation and Recreation, Division of State Parks and Recreation

The Massachusetts Department of Conservation and Recreation, Division of State Parks and Recreation is responsible for the following roles for implementing shelter-in-place:

- Assisting in notification of the public in State parks and other recreational facilities to leave, if these areas have not already been cleared as a precautionary action.

8.3.1.6 Massachusetts National Guard

The Massachusetts National Guard is responsible for the following roles for implementing shelter-in-place:

- Providing personnel and equipment, as requested and as resources permit, to assist in access and traffic control and transportation support.

8.4 EVACUATION

The protective action entails the implementation of actions and procedures for actual movement of the public out of the affected area. Evacuation, like sheltering, will be implemented on a community-by-community or sub-area basis as appropriate. MEMA Regional plans show maps of communities and, where applicable, sub-areas within the 10-mile EPZs.

Local communities and the State have designated evacuation routes to be used in each of the plume EPZs. Various documents, including the Evacuation Time Estimate Study, local or MEMA Regional plans and/or Exhibits 2 and 4, contain evacuation time estimates and maps with evacuation routes, population distribution and traffic capacities of routes. The evacuation of populations in hospitals, nursing homes, schools, correctional and other institutions is addressed in each local plan and/or in separate plans for the specific facility. The primary means of transportation for evacuation will be privately owned vehicles. Residents of most dwellings within the plume exposure EPZs have access to private vehicles. Additionally, buses will be available through local emergency response organizations to evacuate those who do not have access to a privately-owned vehicle. Details concerning predetermined routes and bus stops are detailed in local plans and in news releases.

Local emergency response organizations have responsibility for providing supplementary transportation resources. Each community has plans for evacuating residents, including those with access and functional needs, people living in an institutional setting, and those who have special transportation needs (see local plans). Confidential surveys will be conducted in each EPZ to identify residents who have special notification or evacuation needs. Upon request, the State is prepared to assist communities with the notification and evacuation of residents with Access and Functional needs and will coordinate provision of wheelchair vans and ambulances as needed. The State will also assist local organizations in providing for people with Access and Functional needs at reception centers and shelters.

If an evacuation is initiated during school hours, children will be bused to a host facility or reception center (see section 8.2.3). The provision of additional buses, if necessary to complete this task, will be coordinated by the State.

Children will remain under the supervision of either school department personnel or the host

facility/reception center organization until they are released to a parent or guardian. See Exhibits 2 and 4 for details.

8.4.1 State Responsibilities

8.4.1.1 Massachusetts Emergency Management Agency

MEMA is responsible for the following roles in implementing evacuation:

- Formulating and recommending, in conjunction with MDPH**-RCP** (and in concert with the Incident Commander if a HAB incident, until it has been confirmed that all adversaries have been neutralized), an evacuation protective action to the Governor's Office.

- Coordinating notification of the public via public alerting systems, including EAS.

- Coordinating State resources needed to supplement MEMA Regional and local resources during an evacuation.

- In the event of an incident at Seabrook Station, coordinating with contiguous states on the above actions as necessary.

- Serving as the Commonwealth's central coordinating agency for Federal non-technical assistance and support.

8.4.1.2 Massachusetts Department of Public Health

MDPH**-RCP** is responsible for the following roles in implementing evacuation:

- Advising monitoring teams of evacuation recommendation and affected areas.

- Advising monitoring teams of meteorological and release data.

- Formulating dose projections based upon release data.

- Providing monitoring and assessment data and dose projections to MEMA for use in

formulating and recommending to the Governor evacuation advisories.

- Periodically estimating the total population exposure.

8.4.1.3 Massachusetts State Police

MSP is responsible for the following roles in implementing evacuation:

- Providing back up notification to State response organizations or dispatch centers if needed.

- Providing support access control, local traffic control and law enforcement**, including support for potential evacuation road closures**.

- Providing support for public alerting (if appropriate).

8.4.1.4 Massachusetts Department of Transportation (MassDOT)

MassDOT is responsible for the following roles in implementing evacuation:

- Providing road barriers, portable signs, warning lights, and other items that may be required to assist in traffic and access control.

- Ensuring that roads are passable. Plans for dealing with potential impediments to evacuation routes and contingency measures are included in MEMA Regional Plans.

8.4.1.5 Massachusetts National Guard

MANG is responsible for the following roles in implementing evacuation:

- Providing personnel and equipment, if requested and as resources permit, to assist the Massachusetts State Police in access control and law enforcement when local resources are exhausted. Assistance may include wreckers, tankers for fuel transport, and Military Police personnel.

8.4.1.6 Massachusetts Bay Transportation Authority

MBTA is responsible for the following in implementing evacuation:

- Providing buses, if requested, for the evacuation of Plymouth County Correctional Facility and for the transportation of evacuees to and from the Braintree Reception Center parking areas, and mass care shelters.

- Serving as a back-up resource for transport vehicles, should all local and area resources be depleted.

8.4.1.7 Massachusetts Department of Conservation and Recreation, Division of State Parks and Recreation

DCR, Division of State Parks and Recreation, is responsible for the following in implementing evacuation:

- Notifying people in State forests and beaches to evacuate, if the area has not already been cleared as a precautionary action.

8.5 ACCESS CONTROL

Access control restricts entry by unauthorized individuals into the plume exposure emergency planning zone (EPZ) where they may be exposed to radiation. It is a necessary adjunct to either sheltering or evacuation as access control clears traffic from the roads within the EPZ and provides security for evacuated areas by limiting the number of entry points. **Access Control is used in all three phases of an incident: Early, Intermediate and Late phases.**

Access will be controlled for inbound first responders to Pilgrim Station for a HAB incident in accordance with Pilgrim Station security procedures. Impediments and obstacles will be removed in the most expedient manner to provide prompt access for these inbound first responders.

Each MEMA Region, and local plan and/or appropriate traffic management manual contains details of access control plans, including lists of all key control points. The implementation of access control creates an area to which unauthorized entry is restricted. Once an area has been evacuated, all individuals with the exception of emergency workers and authorized personnel, are restricted from entering into the area until offsite radiological assessments are conducted and the evacuated area is confirmed to be not significantly contaminated by plume deposition. (Refer to Section 11.2 and 11.3 of this plan for further details on re-entry and return activities, respectively.)

The MDPH Commissioner or designee may approve re-entry on a "need-versus-risk" basis for farm owners and/or employees with livestock and/or associated farm care responsibilities and others.

8.5.1 State Responsibilities

8.5.1.1 Massachusetts Emergency Management Agency

MEMA is responsible for the following roles in implementing access and control:

- Coordinating the implementation of access control with State agencies and local governments **according to the Traffic Control Manual.**
- In the event of an incident at Seabrook Station, coordinating access control activities with other affected states.
- Working with MDPH to identify areas appropriate for reentry of the general public.
- Coordinating with MDPH to establish restricted zone boundaries.
- Coordinating messages to the public with respect to unauthorized access to the restricted zone.
- Coordinating messages to the public with respect to returning to a previously restricted area.

8.5.1.2 Massachusetts Department of Public Health

MDPH**-RCP** is responsible for the following roles in implementing access and control:

- Coordinating with MEMA to establish restricted zone boundaries.
- Establishing procedures (see Section 11) whereby re-entry may be permitted into the restricted zone.
- Working with MEMA to identify areas appropriate for the reentry of the general public.

8.5.1.3 Massachusetts State Police

MSP is responsible for the following roles in implementing access and control:

- Providing personnel and vehicles for access control.

8.5.1.4 Massachusetts Department of Transportation

MassDOT is responsible for the following roles in implementing access and control:

- Providing road barriers, portable signs, warning lights and other items for access control.

8.5.1.5 Massachusetts National Guard

MANG is responsible for the following roles in implementing access and control:

- Providing personnel and equipment, if requested and as resources permit, to assist the Massachusetts State Police in access control and law enforcement.

8.6 FOOD, WATER, AND MILK CONTROL

Should the potential exist for populations to receive indirect exposure to radiation through ingestion, certain protective actions are designed to minimize opportunities for **these ingestion exposure pathways: Milk, Foodstuffs, Animal Feeds and Water.** The Commissioner of Public Health or designee may recommend to the Governor or designee food, water, or milk restrictions.

The milk pathway is of primary concern. Radioactive materials enter the human food chain via deposition of radioactive material by lactating animals, and consumption of contaminated milk and further concentration radioactive materials by the human population. The two-step concentration of radioactive materials and its ingestion by the public, amplified by the potential detrimental impact upon children and infants who are most sensitive to the biological effects of radiation, are what make the milk pathway a critical concern.

8.6.1 State Responsibilities

8.6.1.1 Massachusetts Emergency Management Agency

MEMA is responsible for the following roles in implementing ingestion/food product protection action:

- **State officials will direct the response, re-entry, and recovery efforts from the State Emergency Operations Center with MEMA's assistance and support.**

- Coordinating messages to the public on precautions or actions to be taken by individuals with respect to food, water, or milk, as advised by MDPH**-RCP.**

- **Provide continual status updates to public officials and to the public.**

- Assisting MDPH**-RCP** in the implementation of recommended protective actions.

8.6.1.2 Massachusetts Department of Public Health

MDPH**-RCP** is responsible for the following roles in implementing ingestion/food product protection action:

- Coordinating the collection and laboratory analysis of food, water, and milk samples with other State and Federal response organizations.

- Collecting ingestion pathway samples for laboratory analysis.
- **Assess the magnitude of the ingestion pathway concern and recommend appropriate protective actions to be employed to protect public health, property and the environment during the Return, Re-Entry, and Recovery phases.**

- In coordination with MEMA, developing advisories on ingestion pathway protective actions based upon sampling data and derived intervention levels based upon total nuclide intake from the entire ingestion pathway.

8.6.1.3 Massachusetts Department of Agricultural Resources

MDAR agency resources are responsible for the following roles in implementing ingestion/food product protection action:

- **Identify affected crops and prioritize sampling according to harvest date; identify time of year for cows and goats on pasture.**

- Controlling the harvest and sale of food crops and milk supplies **using embargo and quarantine measures** as directed by MDPH.

- Condemning contaminated food and milk supplies as directed by MDPH**-RCP**.

- Maintaining lists **and map** of commercial agricultural facilities and commercial dairy operations in each power station's ingestion pathway planning zone.

- Assisting in sample collection, at the request of MDPH**-RCP**.

8.6.1.4 Massachusetts Department of Public Health Food Protection Program

MDPH FPP is responsible for the following roles in implementing ingestion/food product protection action:

- Assisting in ingestion pathway sample collection as requested by and under the direction of MDPH**-RCP**.

- Implementing controls on contaminated foodstuffs as requested by MDPH**-RCP**.

- Maintaining a computer-based list of bottled water facilities, food processors, food distributors, and slaughterhouses in each power station's ingestion pathway planning zone.

8.6.1.5 Massachusetts Department of Environmental Protection

DEP is responsible for the following roles in implementing ingestion/food product protection action:

- Collecting potable water samples as requested by and under the direction of MDPH**-RCP**.

- Controlling the use of water from potentially contaminated public surface water

supplies as requested by MDPH**-RCP**.

- Condemning contaminated water supplies as requested by MDPH**-RCP**.

- Maintaining a computer-based list **and map** of source water facilities in each power station's ingestion pathway planning zone.

8.6.1.6 Massachusetts Department of Fish and Game

DFG is responsible for the following roles in implementing ingestion/food product protection action:

- Maintaining a computer-based list **and map** of game farms and stocked areas in each nuclear power station's ingestion emergency planning pathway zone.

- Collecting inland fish and game samples.

- Collecting shellfish samples, as requested by and under the direction of MDPH**-RCP**.

- Providing assistance in implementing controls against contaminated aquatic foods, as requested by MDPH**-RCP**.

- Maintaining a list of commercially licensed fishermen.

SECTION 9
RADIOLOGICAL EXPOSURE CONTROL

This section establishes organizations' responsibilities for radiological exposure control and describes the procedures for minimizing the effects of exposure to a radiological release from a nuclear power station for the general public of the EPZ and emergency workers.

9.1 RESPONSIBILITIES

9.1.1 Massachusetts Emergency Management Agency

MEMA is responsible for the following roles in implementing radiation exposure controls:

- The Massachusetts Emergency Management Agency (MEMA) is responsible for coordinating with the Massachusetts Department of Public Health (MDPH) to provide pre-emergency guidance and training to cities and towns with pertinent responsibilities as indicated in the local radiological emergency response plan. This includes: a) radiation exposure control procedures; b) radiation exposure record maintenance; and c) radiological decontamination procedures.

- MEMA is also responsible for the distribution and maintenance of radiation monitoring equipment to State and local organizations. If additional monitoring equipment, dosimeters, and potassium iodide (KI) are needed during an emergency, MEMA is responsible for coordinating its provision. See EPZ-specific procedures for preparation and distribution of dosimetry and KI for further details.

9.1.2 Massachusetts Department of Public Health

MDPH is responsible for the following roles in implementing radiation exposure controls:

- Providing training in monitoring and assessment techniques for NIAT.

- Assisting MEMA in providing radiation monitoring and protection training to response personnel.

- Coordinating the training of hospital and other medical personnel.

- Developing radiological sections of exercise scenarios.

- Establishing guidelines and procedures for limiting the exposure of emergency workers and the general public of the EPZ to radiation.

- Establishing guidelines and procedures for recommending KI to emergency workers, institutionalized individuals and the general public of the EPZ.

- Establishing guidelines and procedures for the decontamination of personnel and equipment.

- Overseeing the handling and disposal of contaminated waste produced through monitoring and decontamination operations.

During a radiological emergency, MDPH is responsible for all decisions relating to radiological exposure of emergency personnel. The Commissioner of Public Health or designee is responsible for authorizing the ingestion of KI and for authorizing exposures to emergency workers in excess of specified limits.

9.1.3 Local Communities

Local communities are responsible for the following roles to implement radiological exposure controls:

- Develop and implement local plans for controlling radiation exposure

- Maintaining an adequate staff of trained radiological officers, whose responsibilities may include maintaining the monitoring equipment in their care.

- Distributing dosimetry and KI to local emergency workers and institutionalized individuals.

- Operating monitoring and decontamination facilities in accordance with procedures and policies established by MDPH.

"Just in time" training may be given to personnel who will be providing rapid deployment of checkpoints or other key positions for HAB incidents. These personnel may be given rapid dosimetry training and printed briefing materials which will serve as a radiological briefing until such time as these personnel can receive a normal briefing.

The roles of specific local communities in radiological exposure control are further described in their respective local Radiological Emergency Response Plans.

9.2 PERSONNEL EXPOSURE CONTROL

The Personnel Exposure Control Program provides training and practice for responders utilizing methods for minimizing and controlling the radiological exposure of emergency workers through the use of dosimetry, potassium iodide (KI), and radiation exposure control records. In addition, there are procedures for decontamination of personnel, supplies and equipment as well as the handling of the waste resulting from decontamination.

9.2.1 Dosimetry

Dosimetry (e.g., a direct reading dosimeter (DRD) or Dosimetry Life Record (DLR) are devices used in the measurement and recording of radiation doses.

9.2.1.1 Dosimeters

Direct-Reading Dosimeters (DRDs) and Dosimetry Life Records (DLRs) will be used to measure the external exposure of emergency workers* to gamma radiation.

DRDs provide the user with a visual indication of the external exposure received for the mission. The mid-range dosimeter measures from 0 to 20 roentgens (R), and the low-range dosimeter measures from 0 to 200 mR. Workers can monitor their exposure themselves by reading their DRD levels at regular intervals.

* Emergency workers who declare themselves as pregnant will not be assigned any mission that will subject them to radiation exposure.

Dosimetry Life Records (DLRs) measure the total external exposure that emergency workers receive for the duration of the emergency. DLRs provide a permanent record of the external exposure received by an emergency worker. Arrangements are in place with the DLR supplier for prompt DLR processing during an emergency.

Emergency workers are required to wear dosimeters at all times while on duty. Dosimeters will be issued in sets consisting of a low-range, 0-200 mR dosimeter, a mid-range, 0-20 R dosimeter, a permanent record dosimeter (DLR) and appropriate record forms. High-range, 0-200R dosimeters may be issued to emergency workers, if the need is determined to exist. KI will be issued with the dosimetry packet as detailed in local and state plans and procedures.

9.2.1.2 Thyroid Protection for Emergency Workers

The exposure of the thyroid gland to radioiodine can be reduced by the ingestion of stable iodine. The oral administration of Potassium Iodide (KI) will result in accumulation of stable iodine in the thyroid to prevent significant uptake of radioiodine. KI as a prophylaxis is only effective if the exposure of concern is from radioiodine and only if the stable iodine is administered before or shortly after the start of intake of radioiodines.

Emergency workers who know they are sensitive to iodine or have thyroid disorders should not take KI and should not be assigned to work in locations where they risk radiological exposure (i.e., inside the 10-mile EPZ). If an emergency worker does not wish to take KI at the time it is recommended, they must report that to their supervisor and request replacement.

Provision has been made by each locality, in its local radiological emergency response plan, to pre-distribute KI to each response organization's headquarters or location that issues dosimetry. Each response organization is responsible for distributing KI to its emergency workers at the time dosimetry is issued. The MDPH Commissioner or designee will issue a recommendation if KI should be taken.

KI may be administered to hospital and nursing home patients whose immediate evacuation, as determined by their attending physicians, would not be recommended. KI may also be provided to facility staff remaining to care for these patients.

9.2.1.3 Dosimetry and KI Distribution for Emergency Workers

As stated in 9.1.3, local communities are responsible for storing and distributing dosimeters and KI to local emergency workers.

MDPH emergency workers and Nuclear Incident Advisory Team (NIAT) members have been issued dosimeters necessary for their own use, including DLRs. State emergency workers who support the MDPH accident assessment operations will be issued dosimeters by MDPH from dispatch locations established for monitoring and sample collection teams.

DRDs, DLRs and KI for emergency workers have been distributed to key Massachusetts State Police barracks and State Massachusetts Department of Transportation district offices. Massachusetts State Police and Massachusetts Department of Transportation emergency workers will be issued dosimeters and KI from these locations. The specific districts are identified in MEMA Regional plans.

DRDs, DLRs and KI for emergency workers have been distributed to the ICP in Plymouth and MEMA Region II will be responsible for providing for the Tactical Staging Area if there is HAB incident at Pilgrim Station. For Seabrook, it is the Host State's responsibility for ensuring that the ICP and the Tactical Staging Areas have DRDs, DLRs and KI for all emergency workers.

Adequate supplies of DRDs, DLRs and KI for emergency workers have also been distributed to all emergency response organizations with duties within 10 miles of a nuclear power station through the MEMA Radiological Instrument Maintenance and Calibration service. Refer to the appropriate local and MEMA Regional plans for information on quantities, storage, and means of distribution.

9.2.1.4 Record Keeping

Organizations responsible for issuing dosimeters will maintain a log of equipment issued. Upon return from a mission, an emergency worker's dose received will be entered into the log. After termination of the emergency, a copy of the log sheets will be forwarded to MDPH.

Individual DLR radiation exposure records will be issued to emergency workers. The exposure received from each mission, as well as the cumulative exposure will be detailed and maintained in the DLR record.

9.2.2 Emergency Worker Procedures

Before beginning a mission assignment, each emergency worker will be briefed on dosimetry use, when to report dosimeter readings, and allowable external exposure limits. After receiving the dosimeters, the emergency worker must note the initial readings on the exposure record. Emergency workers must report to their Dosimetry Coordinator or Radiological Officer when their dosimeter registers 100 mR and when it registers 175 mR on the 0-200 mR dosimeter. Thereafter, reports should be made to supervisors at every 1 R increment on the 0-20R dosimeter.
Emergency worker external exposures are tracked and recorded on an ongoing basis utilizing DRDs. The process by which MDPH reviews these exposure levels and authorizes or restricts exposures beyond specified administrative limits is described in the NIAT Handbook.

9.2.3 Protective Clothing

Protective clothing is available for field monitoring teams (Please refer to the NIAT Handbook for additional information). Protective clothing is provided to local emergency workers who conduct radiological monitoring and decontamination activities, as described in MEMA Regional and local plans.

9.3 EXTERNAL EXPOSURE LIMITS FOR EMERGENCY WORKERS

Exposure guidelines for emergency workers have been developed by the Environmental Protection Agency (EPA) and are considered for implementation by MDPH. Protective action guides for emergency workers are discussed in Section 2.5.1.

9.3.1 External Exposure Limits

The following action levels have been established for external exposure.

- Reading of 100 mR on DRD--emergency workers must report reading to appropriate organization.

- Reading of 175 mR on DRD--emergency workers must be specifically authorized by MDPH Director of Radiation Control or designated representative to exceed that exposure level.

- Emergency workers authorized to exceed the initial DRD limit of 175 mR must report readings to a supervisor at 1R increments and must receive MDPH approval before proceeding to the next level and it will depend upon the life safety nature of the situation. If MDPH refuses authorization of a higher DRD limit, the emergency worker will be ordered to leave the area. This ensures that emergency workers will be protected by decisions implemented within the framework of the EPA emergency worker protective action guides. Refer to the NIAT Handbook, Section D-9 for details.

9.3.2 Exposure Records

After the emergency has ended, copies of completed records and logs will be forwarded by dosimetry coordinators and/or radiological officers, as appropriate, to MDPH. Exposures incurred by emergency workers will be evaluated with respect to the EPA emergency worker protective action guides and other health physics considerations.

9.4 THYROID PROTECTION FOR GENERAL PUBLIC OF THE EPZ

The exposure of the thyroid gland to radioiodine can be reduced by the ingestion of stable iodine. The oral administration of Potassium Iodide (KI) will result in accumulation of stable iodine in the thyroid to prevent significant uptake of radioiodine. KI as a prophylaxis is only effective if the exposure of concern is from radioiodine and only if the stable iodine is administered before or shortly after the start of intake of radioiodines.

The use of KI as a protective action has been recommended by the FDA and adopted by MDPH. The decision to recommend KI ingestion will be made by MDPH Commissioner or designee. The recommendation to take KI may be made as a precautionary measure if there is <u>any</u> indication that radioactive iodine is in the release.

MDPH applied to the Nuclear Regulatory Commission for a free allotment of KI sufficient to provide two doses to each member of the emergency planning zone resident populations in Massachusetts. Included in this population were an estimated number of transients, day workers, and children in schools and day care facilities. Massachusetts received this allotment and has available a sufficient supply of KI to meet present needs. An ongoing monitoring of the EPZ populations will ensure sufficient KI availability in the future.

MDPH obtained a replacement supply of KI, through the Nuclear Regulatory Commission, which was provided to each local EPZ community Board of Health, who will be responsible for storage and distribution to residents within their community.

At a General Emergency classification, MDPH will recommend KI for the following:

- The general public for the affected communities/sub-areas that have been ordered to evacuate. If communities/sub-areas have been ordered to evacuate but are unable to because of unique situations such as weather related issues or competing disasters, KI will be recommended in this instance as a dose saving measure.

- All emergency workers in all EPZ communities/sub-areas.

- Institutionalized persons in communities/sub-areas that have been ordered to evacuate. If communities/sub-areas have been ordered to evacuate but are unable to because of unique situations such as weather related issues or competing disasters, KI will be recommended in this instance as a dose saving measure.

If during an emergency, the Commissioner of Public Health (or designee) recommends the use of KI, members of the public will be advised through EAS messages and news releases. Schools, day-care facilities, hospitals, nursing homes and special facilities will also be advised through the same channels used for any other protective action.

For members of EPZ population who have not obtained KI, distribution points will be set up at pre-identified KI Dispensing Sites located outside the EPZ. These sites have been designated locations that will not interfere with traffic flow to reception centers.

In addition, KI will be available at reception centers to prophylax only those individuals who arrive at reception centers and are known to have been exposed to radioactive iodine. KI at reception centers will not be made available to individuals who do not require decontamination.

9.5 RADIOLOGICAL MONITORING

Emergency workers, equipment used in the emergency response, evacuees and their

possessions, and vehicles may become contaminated if there has been a release of radioactive material other than noble gases. Radiation monitoring will determine the presence or absence of contamination and provide a technical basis for any subsequent actions.

9.5.1 Monitoring Instrumentation

MDPH maintains monitoring instrumentation for use by Nuclear Incident Advisory Teams (NIAT). Instrumentation has also been distributed to local emergency planning zone communities and reception/host communities for use in monitoring and decontamination activities for the general public, emergency workers, equipment and vehicles.

MEMA-issued instrumentation consists of CD V-700 survey meters which are Geiger-Mueller type meters that a) measure gamma radiation with either an open or closed probe shield and b) detect beta radiation with an open probe shield. The instrument has a range of 0 to 50 mR per hour (30,000 cpm). During response to an incident at a nuclear power station, the CDV-700 survey meter will be the primary instrument used for monitoring and decontamination activities by local emergency workers.

Portal monitoring equipment provides a walkthrough piece of equipment for initial screening of evacuees; it is a quick and effective means of monitoring used primarily at reception centers.

Direct Reading Dosimeters (DRD) are the largest quantities of instruments. See MEMA Regional and local plans for details.

9.5.2 Monitoring Locations

9.5.2.1 Emergency Workers

Locations for the monitoring of local emergency workers are identified in local radiological emergency response plans. Generally, local emergency workers will be monitored at a Radiological Emergency Worker Monitoring Decontamination Center (REWMDS) or they may be monitored (ONLY) at the local EOC, as identified in MEMA Regional plans.

State or Federal emergency workers can be monitored at the same locations as local emergency workers. If decontamination is necessary, State and Federal workers will use decontamination

stations identified in MEMA Regional and/or local plans.

9.5.2.2 General Public

Monitoring and decontamination of the general public of the EPZ will take place at reception centers. Refer to Exhibits 2 **and** 4 for details on reception centers. Reception Centers have adequate manpower and equipment to monitor evacuees within a 12-hour period.

9.5.3 Monitoring Procedures

Procedures to monitor people for radiological contamination and thyroid uptake, and to monitor equipment and vehicles for contamination have been developed and are part of the training provided to local emergency workers. (See Section 14 for information on Training.)

9.6 RADIOLOGICAL DECONTAMINATION

If radiological monitoring confirms the presence of contamination, measures can be taken to remove it.

9.6.1 Contamination Levels

Guidelines adopted by MDPH are used to determine if an individual or equipment must undergo decontamination. Contamination levels and recommended actions are presented in Table 9-1.

9.6.2 Decontamination Facility Locations

Decontamination facilities for the general public, emergency workers, equipment, and vehicles are identified in MEMA Regional and/or local plans. Decontamination kits containing supplies are stored at each designated location. Refer to local and/or MEMA Regional plans for specific locations and decontamination kit inventories.

9.6.3 Decontamination Procedures

Specific guidance for decontamination of people, equipment, instruments, vehicles, and supplies has been developed by MDPH and is part of the training provided to local and/or area emergency

workers. Procedures for monitoring and decontamination have been developed and will be used by local and/or area emergency workers. Advisory assistance may be provided by NIAT members, as needed. People with contaminated wounds will be referred to a designated hospital for analysis, treatment and decontamination. See MEMA Regional and local plans for more detail.

9.6.4 Waste Management

State and/or local monitoring teams receive procedure training on the proper collection and handling of radioactive waste generated from monitoring and decontamination actions. Additional guidance may be provided by NIAT. In coordination with the MDPH, the utility shall ensure that contaminated material will be collected at the end of the emergency for handling and/or disposal, as appropriate to the circumstances.

9.6.5 Follow-Up Activities

Records will be kept of people, equipment, and vehicles that have been monitored, with copies provided to MDPH for record-keeping purposes.

MDPH will be immediately informed of any person who cannot be decontaminated below the recommended limits. Further medical evaluation such as whole body counting and/or bioassays may be recommended for those individuals.

Disposition of equipment that cannot be decontaminated to acceptable levels will be coordinated by MDPH on a case-by-case basis, and may include turning the equipment over to the utility for proper handling, additional decontamination and/or disposal.

TABLE 9-1
CONTAMINATION LEVELS AND RECOMMENDED ACTIONS

Subject	Level	Actions
Equipment/Vehicles	100 cpm*	At this level or higher isolate for decontamination/disposal.
Skin	100 cpm*	At this level or higher, attempt to decontaminate. If unable to reach this Level after two decontamination attempts, refer to hospital for medical evaluation.
Thyroid	100 cpm*	At this level or higher, refer to hospital for medical evaluation.
Clothing	100 cpm*	At this level or higher, isolate for decontamination/disposal.

NOTE: These levels are measured above background and are applicable only to incidents at nuclear power stations. Readings below these levels require no action. Levels for equipment/vehicles, skin and clothing are based on open window reading using the CDV-700 instrument. The thyroid level would be based on a closed window reading using the CDV-700 only.

*cpm – counts per minute

SECTION 10
SUPPORTIVE ACTIONS

This section summarizes the State's responsibilities to support protective actions. This assistance will be in support of local emergency operations.

10.1 EMERGENCY MEDICAL SERVICES

Emergency medical services include transportation of and hospital treatment for radiologically contaminated individuals. The state, and in some cases the communities have agreements with ambulance services and hospitals for the transport and treatment of people who have been involved in radiation incidents. Each utility has separate agreements for transport and treatment of power plant personnel. This information is contained in state and local plans.

10.1.1 Ambulance Services

Each ambulance in Massachusetts must be staffed by a minimum of two emergency medical technicians (EMTs) who are licensed by the Massachusetts Department of Public Health (MDPH). EMTs may have material on the care and handling of radiation exposure patients included as part of their classroom instruction.

Emergency medical transportation is provided in Massachusetts by both public and private ambulance services. Provision for emergency medical transport has been made in each regional and/or local radiological emergency response plan.

The regional EOCs will coordinate requests from local officials for ambulance resources. Assistance may be coordinated through the Emergency Medical Services C-Med Centers (see 4.3.13).

10.1.2 Hospital Treatment Facilities for Radiological Exposure

Individuals exposed to radiation may require medical treatment. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) requires that emergency patient care be guided by written policies and procedures. Among the required written procedures is one concerning the emergency management of individuals who have confirmed or suspected exposure to radiation.

Care of these individuals may involve: radiological monitoring or measurement; special preparation of space for patient evaluation, including discontinuation of the normal air circulation system to prevent the spread of contamination; decontamination of the patient through appropriate cleansing; and containment, labeling, and disposal of contaminated material. The hospital official responsible for radiation safety will be notified in advance so preparations can be made.

A list of all licensed hospitals in Massachusetts is on file with MDPH. Lists of hospitals in the vicinity of nuclear power stations are included in the Regional plans. Medical facilities capable of treating radiologically contaminated patients are designated for each nuclear power station (refer to Exhibits 2 and 4 for additional information). MDPH maintains letters of agreement with each of these acute care hospitals capable of treating contaminated, injured patients.

10.2 MASS CARE

10.2.1 Reception Centers

In the event of an evacuation, reception centers will be established well beyond the plume 10 mile EPZ.

- For Seabrook Station, the MEMA Regional office oversees activation and operation of the reception center located at the Masconomet Regional School in Boxford.

- For Pilgrim Station, the community hosting a reception center in (Braintree, Bridgewater, Taunton) is responsible for activating (at the direction of MEMA) and operating their respective facilities.

The reception centers serve the following purposes:

- Providing information for families and individuals separated at the time of evacuation and who have registered at the reception center.

- Monitoring for radiological contamination of people, belongings, and vehicles; and decontamination where necessary.

- Registration and, if necessary, assignment and transportation to a mass care facility.

The location and operation of specific reception centers are described in the Regional plans for each nuclear power station. Refer to individual host community or reception center plans for further information.

10.2.2 Mass Care Shelters

If a portion of the plume EPZ is to remain evacuated for a period of time, shelters will be established to temporarily house evacuees. The operation and management of shelters is primarily the responsibility of the American Red Cross with support from community civic organizations such as the Salvation Army. Additional State capabilities for providing mass care are described in the Massachusetts Comprehensive Emergency Management Plan (CEMP), ESF 6, Mass Care.

10.3 LAW ENFORCEMENT

Law enforcement is the responsibility of local police forces, supported by mutual aid agreements and cooperative arrangements between local and State Police organizations.

Additional requirements generated by access and traffic control or evacuation, **reentry** or other situations which exceed the capability of local resources, will be met by the Massachusetts State Police, County Sheriff's departments, and if necessary the Massachusetts National Guard.

If a HAB incident at Pilgrim, local law enforcement of the Host Community (for Massachusetts it would be Plymouth) would establish an Incident Command Post (ICP) with an Incident Commander (IC) to direct tactical response. Response would include a combination of local law enforcement supplemented by mutual aid responders. Access and Traffic control points may be manned by the Plymouth County Sheriff's department.

Access to the Pilgrim Station site will be controlled in accordance with the Pilgrim Station site security procedures.

If there is a HAB incident at Seabrook local law enforcement of the Host Community would establish an Incident Command Post (ICP) with an Incident Commander (IC) to direct tactical response. Response would include a combination of local law enforcement supplemented by mutual aid

responders. Massachusetts would provide resources if requested.

10.4 FIRE AND RESCUE OPERATIONS

Fire and rescue operations are the responsibility of local fire services, supported by mutual aid agreements and cooperative arrangements between local and State organizations.

10.5 PUBLIC HEALTH AND SANITATION

In the event of an emergency, it is necessary to ensure that public health and sanitation standards are maintained for the affected regions as well as at reception centers and mass care shelters.

The Massachusetts Department of Public Health has the responsibility for monitoring for communicable diseases. An emergency declaration relative to pertinent communicable disease will be declared if a significant health problem arises. Assistance on the Federal level is available from the Center for Disease Control and the Public Health Service.

Situations involving water supplies, sewage, and garbage disposal that may develop into environmental health problems are the responsibility of the Department of Environmental Protection. Federal assistance from the Environmental Protection Agency is also available.

10.6 EMERGENCY SUPPLIES

Emergency management organizations at the State, regional and local levels may maintain or coordinate access to supplies such as cots and blankets for use in an emergency. Other emergency supplies, such as those used by emergency medical services or the American Red Cross, are the responsibility of the provider organization in terms of maintaining inventories and identifying re-supply resources. Assistance in obtaining additional supplies or identifying resources will be coordinated through MEMA.

SECTION 11
RELOCATION, RE-ENTRY, RETURN AND RECOVERY

This section summarizes the activities that may be taken to protect individuals from direct long-term exposure to deposited radioactive material. **The Intermediate phase** begins after releases of radioactive materials to the environment are brought under control and the period of deposition of radioactive material has essentially ceased. **While the Intermediate phase is still on going, the Late phase of recovery will simultaneously start.** Activities**, with coordination of contiguous states,** during **the Intermediate phase** will include the relocation, re-entry, and return of individuals**. In the Late phase, the** long-term recovery **and re-occupancy of the contaminated area will occur.** The following sections provide further details on relocation, re-entry, return, recovery **and re-occupancy** activities.

The Massachusetts Department of Public Health – Radiation Control Program (MDPH-RCP), in the Intermediate and the Late phases, will determine the plume footprint using all available plume radiological monitoring team data, including the Department of Energy's flyover data. This plume footprint will be used to determine dose limits, establish initial restricted zone and exposure rates. The data will lead to re-entry, return and relocation decisions.

11.1 RELOCATION

The primary protective action for reducing exposure of individuals from deposited radioactive material is relocation. Relocation refers to the removal or continued exclusion of individuals from contaminated areas to avoid chronic radiation exposure from deposited radioactive material. Relocation decisions will be based upon calculated projected doses in contaminated areas, and by comparing the projected doses with the relocation Protective Action Guides (PAGs) defined in Table 11-1. Projected doses in contaminated areas are calculated in accordance with procedures established in the NIAT Handbook.

For reactor incidents, the principal exposure pathways for individuals from deposited radioactive material are expected to be from whole body external gamma radiation and from inhalation of re-suspended radioactive material. It is noted that ingestion of radioactive materials deposited onto human foods and animal feeds is also a potential source of human exposure. Decisions on the protective actions regarding **milk,** human foods and animal feeds are made in accordance with procedures in the **MDPH's** Nuclear Incident Advisory Team (NIAT) Handbook**. They will determine areas where sample results exceed the derived intervention levels (DILS) for food,**

and identify and implement embargo and quarantine measures for potentially downwind impacted areas.

Massachusetts Department of Public Health **– Radiation Control Program** (MDPH**-RCP**) is responsible for evaluating off-site radiological consequences from plume deposition and formulating the technical basis for determining boundaries of the relocation area that correspond to relocation PAGs. MDPH**-RCP**, in conjunction with MEMA **and the Massachusetts State Police (MSP), state and federal partners and contiguous states**, will then define the boundary of the relocation area **including a buffer zone** and establish a restricted zone. The restricted zone refers to an area of controlled access from which individuals are relocated and to which unauthorized individuals are restricted from entering. Individuals residing in the restricted zone at the time it is defined will be relocated. Those individuals previously evacuated from the restricted zone will be converted to relocation status.

In establishing the restricted zone, decision makers will consider the use of natural boundaries and the difficulty or ease for implementation. MDPH**-RCP** may also consider the use of an expanded portion of the restricted zone as a buffer zone. The buffer zone is used to account for potential resuspension of deposited materials outside the restricted zone and/or the set**-**up of temporary radiation protection controls until the extent of radioactivity in the area is confirmed.

After a determination is made of appropriate boundaries for the restricted zone, MEMA will coordinate with MDPH**-RCP, MSP and MassDOT** in ensuring that access control points are established along the new boundaries. The boundaries and corresponding access control points will be adjusted, as appropriate, based upon an on-going, long term monitoring, sampling and decontamination program.

The public will be informed of the relocation advisories in place through the Joint Information Center (JIC) or, if the JIC is not operational, through MEMA after coordinating with other involved agencies' public information officers.

11.2 RE-ENTRY

After the restricted zone is established, it is expected that individuals will need to re-enter the restricted zone for a number of reasons. **MDPH-RCP in conjunction with MEMA and the MSP, will establish allowable reasons for reentry.** This may include retrieval of property, care of farm or other animals, security patrols, operation of vital services and recovery activities. Re-entry refers

to temporary entry of individuals into a restricted zone under controlled conditions in accordance with the procedures established in the NIAT Handbook.

MEMA **and MSP** will coordinate with MDPH**-RCP** to allow re-entry of authorized individuals into the restricted zone. This will include the establishment and identification of re-entry control points, notification of the general public, establishment of control procedures for re-entry and exit, legitimacy of individuals' needs, destination and duration, **identify any areas to avoid during reentry** and establishment of radiation protection controls. MDPH**-RCP** will serve as the cognizant agency for evaluating the necessary radiation protection controls to protect individuals from excessive radiation exposure and for controlling the spread of contamination outside the restricted zone. Radiation protection controls include: administrative radiation exposure limits and stay times; dosimetry requirements; monitoring and decontamination station guidelines; directions on appropriate routes from the point of re-entry to destination; **just-in-time training** and documentation and record keeping.

Individuals desiring to re-enter the restricted zone will be directed through news releases to report to a designated re-entry control point or other specified location. Individuals who re-enter the restricted zone will be issued appropriate instructions and provided with adequate radiation protection controls to monitor and protect themselves from excessive radiation exposure. Re-entry will be conducted under controlled conditions, and radiation exposure limits will be based upon the Massachusetts Regulations for the Control of Radiation for occupationally exposed workers.

11.3 RETURN and REOCCUPANCY

Both Return and Reoccupancy will require additional Recovery strategies in an effort to return to normalcy. See 11.4 for Recovery strategies.

Before announcements are made to the public concerning return or reoccupancy activities, MEMA shall inform the appropriate municipal officials. This will ensure that any needed local support, such as traffic control, is available and/or in place and that resumption of town services can occur in an orderly fashion. Re-establishment of vital services is essential for the return and reoccupancy activities.

The public will be informed of areas designated for return or re-occupation and any advisories in place through the Joint Information Center (JIC) or, if the JIC is not operational, through MEMA after coordinating with other involved agencies' public information officers.

Return:

Individuals previously evacuated may be able to return for unrestricted residence or use after radiological assessments are conducted and said areas are confirmed not to be significantly contaminated by plume deposition. For evacuated areas found uncontaminated (i.e., field gamma measurements indicate exposure rates at background levels), MDPH-RCP will coordinate with MEMA to release those areas for unrestricted use and recommend the immediate return of individuals. Results from the environmental monitoring of the plume deposition area and projected doses within contaminated areas will form the technical basis for recommending the return of individuals to evacuated areas.

MDPH-RCP as the cognizant agency is responsible for coordinating the environmental sampling and calculating projected doses in accordance with procedures established in the NIAT Handbook. Other state and federal agencies, such as FRMMC, MDPH Food Control, Massachusetts Department of Agricultural Resources, Massachusetts Department of Environmental Protection and the Massachusetts Department of Fish & Game will form an advisory committee to support MDPH-RCP with developing an environmental monitoring and sampling plan.

Reoccupany:

Gradual return of individuals (evacuees) up to the designated restricted zone and buffer areas boundary can occur during cleanup process. For those areas where the gamma field measurement levels are above background and outside the boundary of the restricted zone, MDPH**-RCP** will evaluate the projected doses and long term objectives of the relocation PAGs to determine if **Reoccupancy is an option.** MDPH**-RCP** may consider implementing simple dose reduction techniques to reduce exposure and conducting additional environmental monitoring to verify projected doses.

As confidence is gained concerning the projected doses in the area and long-term objectives of the relocation PAGs are not exceeded, **the reoccupancy** of individuals will be permitted **with coordination of contiguous states**. **Consideration** may be given to converting individuals to relocation status **(see 11.1 for Relocation)** if simple dose reduction techniques are not practical and the objectives of the relocation PAGs will not be met, especially when the plume deposition consists of long-lived radionuclides.

Surveys will need to be performed of special facilities (Hospitals, Nursing Homes, Schools, Food, Drug and Agricultural, etc.). Surveys will be needed to determine if the main transportation corridors can be reopened (including highways, surface roads, railroads, air and water transport). Samples must be taken on surface drinking water supplies and open air water treatment facilities.

11.4 RECOVERY

Recovery occurs throughout the Intermediate and Late phase concurrently. If an area is restricted for an extended period, a program for the social and economic recovery of the area must be implemented. The Massachusetts Comprehensive Emergency Management Plan (CEMP) concept of operations, identifies responsibilities and procedures for State and local governments **along with the Recovery Framework,** in implementing such a program **with the MEMA Director, as the Governor's designee as the lead coordinator.** The program provides for the coordinated utilization of available local, State, Federal government and private sector resources.

The strategic objectives for a Recovery Strategy would be:

- **Protect the people and environment**
- **Get the community back to normal as soon as possible**
- **Ensure vital services are established**
- **Provide reassurance and create confidence**
- **Engage communities and seek their input**
- **Establish clear objectives for remediation and when to stop**
- **Manage wastes contaminated with radioactivity**
- **Include everyone affected by the incident (special population needs met)**
- **Provide clear governance and lines of accountability for recovery effort**
- **Manage compensation arrangements and cost recovery**

The Nuclear Power Plants maintain an insurance policy through American Nuclear Insurers (ANI). They are responsible to assist with estimating costs and providing funds to evacuee and businesses affected by the nuclear incident. MEMA will assist in providing assistance to the plant and ANI in establishing space in/near affected areas to support processing of claims for compensation.

MEMA is responsible for the implementation of the recovery program and will ensure that the public is kept aware of recovery through periodic news releases. MEMA shall also ensure that members of response organizations are kept informed of recovery activities and progress, including any changes in the response organizational structure that may occur. If the decision is made by the Governor or designee to curtail 24-hour operations at the State EOC, updates shall be provided to cognizant agencies through telephone calls from the MEMA staff.

The management of recovery is most effective when conducted at the local level with the active participation of the affected communities. Recovery is not just a matter for statutory agencies but the private sector and the wider community will play a crucial role. Recovery is a complex, dynamic and protracted in nature. The needs of affected individuals, families and groups will be ever-changing.

Therefore, it would be important to have an Impact Assessment done on residents, businesses, infrastructure, environment as soon as possible. An Impact Assessment would need to be conducted every several years as needs change. Based on that assessment would be development of a concise, balanced and affordable recovery action plan with milestones (developed with local input) built in. There will need to be a buy in from local officials, state officials and federal authorities with appropriate agencies, non-government agencies and non-profits involved.

The public will be informed of recovery and relocation advisories in place through the Joint Information Center (JIC) or, if the JIC is not operational, through MEMA after coordinating with other involved agencies' public information officers.

TABLE 11-1

RELOCATION CRITERIA

PROTECTIVE ACTION GUIDES FOR EXPOSURE TO DEPOSITED RADIOACTIVITY DURING THE INTERMEDIATE PHASE OF A NUCLEAR INCIDENT

Protective Action	PAG (projected dose)[a]	Comments
Relocate the general population.[b]	≥2 rem	Beta dose to skin may be up to 50 times higher
Apply simple dose reduction techniques.[c]	<2 rem	These protective actions should be taken to reduce doses to as low as practicable levels.

[a]The projected sum of effective dose equivalent from external gamma radiation and committed effective dose equivalent from inhalation of resuspended materials, from exposure or intake during the first year. Projected dose refers to the dose that would be received in the absence of shielding from structures or the application of dose reduction techniques. These PAGs may not provide adequate protection from some long-lived radionuclides (see Sectio 1).

[b]Persons previously evacuated from areas outside the relocation zone defined by this PAG may return to occupy their residences. Cases involving relocation of persons at high risk from such action (e.g., patients under intensive care) should be evaluated individually.

[c]Simple dose reduction techniques include scrubbing and/or flushing hard surfaces, soaking or plowing soil, minor removal of soil from spots where radioactive materials have concentrated, and spending more time than usual indoors or in other low exposure rate areas.

References:

EPA-400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, Revised 1991, Second Printing May 1992 – Table 4

SECTION 12
EMERGENCY PUBLIC INFORMATION

During a nuclear power station incident that constitutes a threat to public health or safety, it is imperative that the public be kept informed of the situation. Consistent, factual public announcements are essential for public confidence.

The following section summarizes Federal, State, local, and utility public information responsibilities in the event of radiological emergency.

12.1 JOINT INFORMATION CENTER (JIC)

Each utility has designated a Joint Information Center (JIC). (See Exhibits 2 and 4, for specific sites.) Upon activation, the joint information center becomes the central point for the dissemination of coordinated factual information and for rumor control. The joint information center contains facilities for utility, State, Federal and, in some cases, local representatives to meet for the purpose of coordinating emergency-related announcements to the news media. Telecommunication equipment for use by the news media is also available. Joint information centers for each power plant are discussed in more detail in Exhibits 2 and 4. During a radiological incident, including a HAB incident or a Rapidly Escalating incident a “Virtual JIC” may be established at State EOC.

During post-emergency operations, State media operations may be transferred to the State EOC in Framingham at the discretion of the MEMA Director. Following the move to the State EOC, public information will be coordinated with appropriate state agency public information officers prior to dissemination to the news media.

12.2 PUBLIC INFORMATION RESPONSIBILITIES

Each level of government (Federal, State, and local), as well as the utility, is responsible for the collection, analysis, coordination and dissemination of information with respect to emergency operations within its sphere of responsibility.

12.2.1 Utility Responsibilities

In addition to the establishment of a joint information center (JIC) and an alternate JIC, the utility is responsible for providing information pertaining to onsite matters. Utility updates will be provided

whenever there is a change in the situation. If there is no change, updates will be provided at appropriate intervals.

12.2.2 Local Government Responsibilities

Local government responsibilities for public information are described in local plans. Generally, if the local government does not have a designated public information officer, all emergency public information will be disseminated through the head of the local government. After activation of the joint information center, local government may either dispatch an information officer or disseminate information through the State information officer at the joint information center.

12.2.3 State Responsibilities

The Governor's Press Secretary is responsible for the dissemination of information on behalf of the Commonwealth. Following activation of the State Emergency Operations Center (EOC), the Governor's Office may authorize the dissemination of emergency information by the Secretary of Public Safety and Security (EOPSS), the Director of the Massachusetts Emergency Management Agency (MEMA), or their designees.

Upon the activation of the joint information center (which generally occurs at Alert and must occur upon declaration of a Site Area Emergency), MEMA will dispatch representatives to the joint information center or MEMA may establish a “virtual JIC.” As the need arises, the Massachusetts Department of Public Health (MDPH) may dispatch a staff member to serve as public information officer to respond to questions concerning field monitoring, radiation effects, etc. MEMA representatives will work with the local (if present), Federal, other pertinent states (if appropriate), and utility public information officers in the development and dissemination of announcements to the news media. The MEMA Director, or designee, will approve announcements prior to dissemination.

During a radiological incident, including a Hostile Action Based (HAB) incident, MEMA State EOC may establish a “virtual JIC”, as there may not be time to send a public information officer to the JIC. All press releases, during a HAB incident, would have to be reviewed by Unified Command, which would include the Incident Commander until the neutralization of the threat.

12.2.4 Federal Responsibilities

Federal agencies will release public information through their own spokespersons at the joint information center in coordination with other public information representatives.

12.3 NEWS MEDIA BRIEFINGS

Utility, local (if present), State and Federal representatives will jointly conduct news media briefings at the joint information center or through a connection to a Virtual JIC, if established. Briefings will be conducted on a scheduled basis, or as pertinent information becomes available. The designated spokesperson for each entity will review proposed news releases with all other public information representatives at the joint information center before being issued.

12.4 PUBLIC INFORMATION

During an event the State will issue information about the incident through use of the Emergency Alert System (EAS) and news releases. This information will be initiated from the State EOC and coordinated with the utility at the joint information center. Public information will also be coordinated with neighboring states' emergency management organizations.

MEMA has established a statewide, toll-free, public information call center (Mass-2-1-1) that is referenced in the emergency public information materials. Each utility also has its own public information number.

These numbers will be publicized in news releases from the joint information center. The public information systems may be activated during an emergency at the Alert or Site Area Emergency classification, as needed.

12.4.1 Social Media

Follow MEMA on social media sites (Facebook and Tweeter) for current and accurate information.

12.4.2 Mobile Devices Applications

There **is one** primary method that citizens in Massachusetts can get emergency information on their cellphones**, the** Wireless Emergency Alerts (WEA). **The WEA** will provide timely and important information about emergencies and hazards in your area and how you should respond

to ensure your safety. Important messages may be delivered using **WEA**.

In June 2012, the Wireless Association and the wireless industry joined the Federal Communications Commission (FCC) and Federal Emergency Management Agency (FEMA) to offer a robust and reliable Wireless Emergency Alert (WEA) system. WEA sends messages to an entire county. There are three different kinds of alerts that occur on the WEA system.

- **Imminent Threat Alerts** – Alerts that include severe man-made or natural disasters where an imminent threat to life or property exists.

- **AMBER Alerts** – Alerts that meet the U.S. Department of Justice's criteria to help law enforcement search for and locate an abducted child. These alerts are sent by the National Center for Missing & Exploited Children.

- **Presidential Alerts** – Alerts issued by the President or a designee.

12.5 PUBLIC NOTIFICATION

The Public Alert and Notification System (PANS), is used to ensure the widespread and rapid dissemination of instructions for taking protective actions to the general population, including the use of the Emergency Alert System (EAS). MEMA will activate the EAS to alert and to inform the public of protective actions directed by the Governor. MEMA will direct and coordinate the activation of the PANS and EAS for Pilgrim Station and Seabrook Station.

A network of sirens, emergency notification systems (such as Seabrook's Code Red Alert), public address systems, mobile speakers, loud-hailers, and door-to-door personal notification that would be used to notify the public of an emergency are detailed in Section 3.4.1, and Exhibits 2 and 4.

EAS and conventional public alerting systems may not be effective in initiating a precautionary closing of public beaches, parks, recreational areas and waterways within EPZs. Other methods, such as bullhorns, flyers and vehicle or helicopter-mounted public address systems, have been identified and are explained in Exhibits 2 and 4. In the case of a precautionary transfer of school children, parents may be informed where to pick up their children through news releases issued from the Joint Information Center to local news media.

12.5.1 Emergency Alert System (EAS)

The EAS is a network of radio, television and cable stations that provides a communications link between responsible officials and general public. EAS stations provide official emergency notification to the public, followed by a news release that keeps them informed during an emergency. MEMA Regional and local plans carry a listing of EAS radio stations used to disseminate emergency instructions to the public.

MEMA State EOC maintains pre-scripted EAS messages and using EMnet EAS Encoder software is able to create and send the EAS message electronically.

12.5.2 Tone Alert Radio

Tone alert radios, as the name suggests, is a radio that receives a signal that can activate an audible tone and provide a voice message. Tone Alert radios are used to augment the notification process for Pilgrim Power Station and are not a primary means of notification.

SECTION 13
ADVANCE PUBLIC INFORMATION

The Massachusetts Emergency Management Agency (MEMA), in conjunction with each utility, is responsible for development of public information for the permanent and transient population within the 10-mile plume exposure pathway emergency planning zone (EPZ). Public information developed by the Massachusetts Department of Public Health (MDPH) is also available for farmers and agricultural workers within the 50-mile ingestion pathway (see Section 13.2).

The primary purpose of advance public information is to inform the public of the existence of State and local emergency response plans and procedures that should be followed in the event of a radiological emergency. The Massachusetts public education program provides emergency planning information to all segments of the public through the annual mailing of public emergency information and other materials.

Emergency Public Information **brochures/calendars and website** detail the following information:

- An explanation of how the public will be notified of a radiological emergency;
- Instructions to be followed if the public notification system is activated;
- A description of the Emergency Alert System (EAS) and listings of local EAS stations;
- Information for those with Access and Functional needs;
- Protective actions including shelter-in-place, evacuation and KI ingestion;
- Evacuation route maps and locations of reception centers and host schools;
- Information on plans for children in school or in day care centers;
- Advice on service animals as well as pets; and
- Telephone numbers for obtaining additional information.

The **public information materials** are reviewed, updated, and distributed annually to residents within the EPZ.

In the emergency planning zones, specially designed materials provide emergency public information to transient populations (i.e. tourists, seasonal residents, etc.). Methods of providing this information vary depending on the tourist patterns in the emergency planning zone, but may include the following:

- Special pages in telephone directories;
- Signs or posters in public facilities such as tourist information centers, beaches, campgrounds, State forest parking lots, and public buildings etc.; and
- Brochures**/calendars** distributed to hotels and motels.
- **MEMA Website www.Mass.gov/mema**

Details about materials disseminated in specific EPZs, may be found in the relevant MEMA Regional plans and in Exhibits 2 and 4.

13.1 INFORMATION FOR INDIVIDUALS WITH ACCESS AND FUNCTIONAL NEEDS

A special section in the emergency public information **material** address individuals with access and functional needs, including those who are hearing-impaired or mobility-impaired. Telephone numbers and mail-in cards are provided so that special notification, transportation, or other assistance may be arranged in advance. In addition, CDs of public information have been provided to local libraries and the Talking Information Center in Marshfield, MA.

Special needs lists are verified annually by telephone calls from local EOCs. Additionally, special needs surveys are conducted annually through the use of mail-in cards or forms that may be included in the **public information** or mailed separately. The local EOCs then verify the survey information with telephone calls. All personal information collected through the survey process is held in strictest confidence.

13.2 INFORMATION ON INGESTION PATHWAY

MDPH-**RCP** has prepared a Radiological Emergency Information Brochure for distribution among farmers, agricultural workers food processors and distributors. This brochure addresses the following information:

- Notification methods;
- Personal safety for farmers;
- Sheltering livestock;
- Protecting feed and water;
- Precautions recommended for milk, meat, honey, grain, fruit, and vegetables;
- Monitoring and decontamination of buildings and equipment;
- Soil monitoring; and
- General information about radioactivity.

MDPH-**RCP** reviews this brochure annually. MDPH-**RCP** is prepared to disseminate this information to farmers, food processors and distributors located within 10 miles of a nuclear power plant and the entire 50-mile ingestion exposure pathway zone in the event of an emergency.

13.3 DISTRIBUTION OF ADVANCE EMERGENCY PUBLIC INFORMATION

All public information **materials, including signs, posters and CDs,** are reviewed, revised, and distributed annually **or as appropriate**.

13.4 NEWS MEDIA BRIEFINGS

MEMA participates in annual briefings and/or receives updated information intended for members of the media as provided by each utility. The briefing/information familiarizes the media personnel with

the major concepts of emergency planning as well as with general, plant-specific emergency planning information. Changes in emergency planning status since the last annual briefing or mailing of information are typically highlighted.

SECTION 14
TRAINING

The purpose of this section is to describe the training provided to the members of the Offsite Radiological Emergency Response Organization.

MEMA is responsible for:

- Ensuring that all offsite State, local, private and volunteer emergency responders are offered annual training;
- Reviewing and approving training programs and lesson plans;
- Coordinating the Nuclear Preparedness Department Train-the-Trainer program;
- Ensuring sufficient instructor availability in support of the training program; and
- Determining State training requirements.

The Utility is responsible for:

- Developing training programs and lesson plans in conjunction with MEMA;
- Providing instructors to support the training program in conjunction with MEMA; and
- Working with MEMA to ensure sufficient instructor availability in support of the training program.

The Massachusetts Department of Public Health (MDPH) has responsibility for:

- Ensuring the Nuclear Incident Advisory Team (NIAT) is trained in monitoring and assessment techniques;

- Assisting in training response personnel in radiation monitoring and protection, if requested;

- Coordinating the training of MS-1 staff; and

- Assisting in development of accident parameters of exercises scenarios, if requested.

Other State emergency responders are responsible for:

- Providing personnel for technical and skill courses pertinent to their emergency response duties.

Local government is responsible for:

- Determining local training requirements for emergency response;

- Ensuring local responders receive appropriate Radiological Emergency Response Plan (RERP) training; and

- Participating in the RERP training programs.

Federal government responsibilities include:

- Developing and providing independent study emergency management courses;

- Providing FEMA radiological emergency response courses;

- Providing technical training assistance from FEMA.

14.1 TRAINING PROGRAMS

Both initial training and annual retraining are offered to all entities that comprise the Massachusetts

Emergency Response Organization (See Table 14-1, Summary of Training Courses).
All emergency responders are offered introductory instruction in radiation and radiological emergency response. Additional training is offered to all appropriate responders, including pre-identified mutual aid responders, personnel and volunteers, including police departments, fire departments, harbor masters, schools, nursing homes, day care centers, transportation providers, etc. This training includes radiological awareness, dosimetry, survey meter operation, siren activation, public notification, standard operating procedures, etc.

Attachment 14-1, Summary of Training Courses, lists and briefly describes typical components of the training programs.

Table 14-1, Emergency Response Personnel Training Matrix, summarizes the training provided to various State responders.

Training is complemented by drills and exercises, which serve to reinforce the training and test its effectiveness. Details on drills and exercises may be found in Section 15.

14.1.1 State-Level Training

14.1.1.1 Emergency Response Organization Personnel and Emergency Operations Center Staff

Training is offered annually for Emergency Response Organization personnel, and state-level responders to the regional and State Emergency Operations Centers. The training for this group focuses on broad emergency planning concepts. MEMA personnel explain the following elements of the RERP in this training:

- Purpose of the RERP;
- State Emergency Response Organization;
- Emergency response functions;
- Plan development and readiness; and
- Facility walkthrough and procedure review.

Participants in this training are familiarized with the State's concept of operations including the responsibilities of each emergency response organization and basic concepts of the State's emergency planning efforts. These include emergency planning zones (EPZs) in Massachusetts, emergency classification levels, and the locations and functions of the various emergency facilities within the State. The training is normally conducted by MEMA senior staff at the State EOC.

It is recognized that practical "hands on" training is the most effective training for experienced emergency staff. MEMA conducts full functional training exercises **every other year**, sometimes more often, and MEMA staff participates regularly in Emergency Operations Facility (EOF) and Joint Information Center (JIC) functional exercises conducted by the nuclear power plants. In a typical year, MEMA participates (along with MDPH) in **several** such functional exercises (See Section 15 for more detailed information).

14.1.1.2 Emergency Workers

Annual training is offered to various state/county agencies (State Police, National Guard, and MassDOT, County Sheriff's personnel) for traffic management strategies specific to offsite response to a radiological emergency. The instruction includes:

- EPZ locations and boundaries;
- locations of access and traffic control points;
- reception center and shelter locations and functions; and
- procedures for manning access control points.

In addition, those who may be called upon to respond to requests for police and security support within an EPZ will be given basic radiological exposure control instruction, including dosimetry and use of potassium iodide (KI). The utility is solely responsible for on-site training.

Additionally MEMA coordinates annual training for emergency workers with medical support and rescue responsibilities, such as ambulance crews and Emergency Medical Services squad members. The training includes:

- EPZ locations and boundaries;
- locations of emergency facilities;

- MS-1 hospital facilities;
- staging areas for medical support personnel and vehicles;
- communications procedures for medical support personnel and facilities;
- basic radiological exposure control (including dosimetry and use of KI for emergency workers); and
- instructions for handling and transporting radiologically contaminated injured persons to designated medical treatment facilities.

MS-1 Hospitals designated to receive contaminated injured people will receive annual training by MDPH, as required.

14.1.1.3 Support Services Personnel

MEMA offers annual instruction and retraining for the support service agencies with emergency response responsibilities detailed in Executive Order 144 or Letters of Agreement. This instruction details the management and coordination of emergency response activities. Material includes:

- locations and boundaries of the EPZs;
- locations and functions of emergency facilities;
- locations of Reception Centers and shelters; and
- support service functions provided at each of these facilities.

The instruction is made available to organizations and local volunteers and contractors (such as transportation providers) that support emergency response activities.

14.1.1.4 Notification and Communications Training

MEMA offers initial instruction and annual training to personnel with key roles in notification and emergency communication. Such personnel include the supervisors and dispatchers at the State EOC, State Police facilities. Instruction includes:

- discussion of terminology, notification procedures and messages;
- emergency communication equipment and facilities;

- emergency public information;
- location and boundaries of EPZ locations;
- emergency classification levels; and
- overview of the RERP.

14.2 LOCAL TRAINING.

MEMA may assist local Emergency Management Directors with the scheduling and coordination of local RERP training. Instructors who have successfully completed the Nuclear Preparedness Train-the-Trainer Programs (coordinated through MEMA) are available to support the training efforts of the municipalities within each plume exposure EPZ. Refer to the local plans for training program descriptions Therefore, local training may be conducted using MEMA, utility, MDPH, and/or volunteer instructors and consultants.

14.3 TRAINING ADMINISTRATION

MEMA's Planning, Preparedness and Nuclear Section Chief, through the Regional Lead Planners, oversee**s** the training programs. Both initial and annual retraining **is** available to all radiological emergency responders. MEMA **does** maintain training records.

TABLE 14-1

Summary of Training Courses

Awareness and Response	Provides basic information on radiation and its biological effects; the roles and responsibilities of various public and private organizations; emergency classification levels/protective actions. A **condensed version** of this module is used as a refresher course for experienced emergency workers.
Dosimetry and Exposure Control	Instruction on use of various dosimeters, Dosimetry Life Record (DLRs) and low and mid-range Direct Reading Dosimetry (DRDs) and potassium iodide (KI) appropriate for use in nuclear power plant emergency planning zones.
Survey Meter Operations	Instruction on the use of survey meters (CDV-700).
Standard Operating Procedures Training	Introduces emergency responders to their functions and their interrelationships with other responders by familiarizing them with the format and content of their standard operating procedure (SOP). In addition, SOP training further identifies individual assignments, roles and responsibilities.
Reception Center Operations	Reviews standard operating procedures, operation of equipment, set up, flow for inside and outside the Reception Center, signage, monitoring and decontamination of personnel, service animals, objects and vehicles, assigning Mass Shelter, Family reunification, message center, American Red Cross, and Mental Health assistance.
Portal Monitor Activation and Operation	Instruction on use of Portal Monitors.
Radiological Practical	Includes hands-on, walkthrough demonstration and provides the emergency responder with the experience in completing forms and using associated materials necessary to perform the particular function.

Radiological Tabletop	Activity in which elected/appointed officials and key staff with emergency management responsibilities are gathered together informally, usually in an EOC or conference room, to discuss various simulate emergency situations. The tabletop exercise is designed to elicit constructive discussion by the participants without time constraints as they examine and then attempt to resolve problems based on existing Emergency Operations Plans.
Radiological Plan Drill	An event involving organizational responses to a simulated accident or emergency activity to develop, test, and monitor specialized emergency skills that constitute one or more components of an emergency plan and procedure.
Radiological Exercise	An event involving organizational response to a simulated emergency or disaster. The purpose of an exercise is to test the integrated capabilities of involved organizations to implement emergency functions set forth in plans and procedures.

TABLE 14-2
EMERGENCY RESPONSE PERSONNEL TRAINING MATRIX
STATE EOC

EOC Personnel/Alternate	Awareness and Response	Dosimetry and Exposure Control	Standard Operating Procedures Training	Drill/Full-Scale Exercise
Director/SEOC Manager	X	X	X	X
Operations Section Chief	X	X	X	X
Planning Section Chief and/or Technical Hazards Advisor	X	X	X	X
Situation Unit	X	X	X	X
Radiological Liaison	X	X	X	X
Public Affairs Officer/Staff	X	X	X	X
Communications Staff	X	X	X	X
Administration/Finance Section Chief	X	X	X	X
Documentation Unit	X	X	X	X
GIS Technical Specialist	X	X	X	X
MassDOT	X	X	X	X
MA State Police	X	X	X	X
MA National Guard	X	X	X	X
American Red Cross	X	X	X	X

Note: Training to be conducted on an annual basis.

TABLE 14-2 (continued)

EMERGENCY RESPONSE PERSONNEL TRAINING MATRIX
STATE EOC

EOC Personnel	Awareness and Response	Dosimetry and Exposure Control	Standard Operating Procedures Training	Drill /Full-Scale Exercise
MDPH Coordinator/Assistant	X	X	X	X
MEMA EOF Liaison/Assistant	X	X	X	X
MEMA Public Information Officer	X	X	X	X
Utility Liaison		X	X	X
MA Department of Mental Health	X	X	X	X
ESF Team Agencies	X	X	X	X
Public Information Line Staff/ Mass 211 Call Center Staff	X	X	X	X
MEMA and MSP ICP Liaison(s)	X	X	X	X
Administrative Support Staff	X	X	X	X

SECTION 15
DRILLS AND EXERCISES

Periodic drills and exercises are conducted to develop and maintain skills required for response to a radiological emergency. Together, drills and exercises provide a means for identifying and correcting deficiencies in emergency response procedures. A minimum time-frame for drills and exercises is presented in Table 15-1.

15.1 DRILLS

Drills are used to test major components of emergency response exercises. A drill is a supervised instruction period aimed at developing and maintaining skills necessary to perform a particular function as well as augmenting standard maintenance checks of emergency equipment. All drills, as listed below, will be directed by the Massachusetts Emergency Management Agency (MEMA) and evaluated by qualified observers. A critique among MEMA, observers, and players will be held following the drill to determine if plans can be executed as designed or to assess whether more training is required. MEMA will develop an After-Action Report based on the critique to ensure the implementation of any resolution to observed inadequacies.

15.1.1 Communication Drills

Communication drills test both primary and alternate methods of emergency communication, including the ability of the general public to understand content of the message. Overall coordination of communication drills is the responsibility of MEMA.

MEMA exercises its communications capability and emergency notification network(s) monthly. Tests include initial contact, verification, and message closeout with simulated response, as required. Monthly tests encompass all primary State response agencies and either actual or simulated local agency contacts in all EPZ communities, as required.

Communications tests with primary Federal emergency response organizations and states within the 50-mile ingestion pathway are conducted quarterly. Communications drills involving facility

operators, State and local emergency operating centers, and field assessment teams are conducted annually.

15.1.2 Medical Emergency Drills

Select medical services and facilities with agreements with MDPH participate in biennial medical emergency drills on a rotating basis. A radiological medical emergency drill minimally involves participation from an ambulance service and an offsite medical treatment facility to transport/receive/treat a simulated contaminated patient. Medical emergency drills may be performed as part of an exercise or as a separate activity.

Although MDPH may assist, the conduct of medical emergency drills is the responsibility of the utilities.

15.1.3 Radiological Monitoring Drills

Radiological monitoring drills related to both the plume exposure pathway and the ingestion zone are conducted annually. These drills include MDPH staff and local organizations, and test the mobilization of the monitoring teams, collection and laboratory analysis of various sample media (e.g., water, grass, soil, and air) and measurements of radiation in the environment. Provisions for communications and recordkeeping are an intrinsic part of each drill.

15.1.4 Accident Assessment/Health Physics Drills

MDPH, in conjunction with utility, conducts accident assessment drills and health physics drills on a semi-annual basis. These drills involve analysis of and response to simulated elevated radiation levels in airborne and liquid sample media as well as direct radiation measurements in the environment.

15.2 FEDERALLY EVALUATED EXERCISES

At least once every two years, MEMA coordinates the conduct of a fully evaluated emergency

response exercise of the State Radiological Emergency Response Plan (RERP) for each EPZ. Exercises are conducted as set forth in NRC and Federal Emergency Management Agency (FEMA)) rules and regulations.

An exercise tests the integrated capability and basic elements existing within emergency preparedness plans and organizations. The exercise simulates an emergency, in a realistic manner, that results in offsite radiological releases requiring the response of offsite authorities. The exercise includes the mobilization of adequate personnel and resources of the nuclear power station, as well as of the State and local organizations, to demonstrate the ability to respond to an incident as called for in State and local RERPs. All emergency operating centers involved in the exercise are staffed commensurate with the incident classification.

MEMA, in coordination with utilities, is responsible for conducting an exercise that tests entire emergency response organization capabilities identified in the State and local RERPs. Exercises of the full emergency response capability are rotated among Pilgrim and Seabrook to ensure full and regular testing of State and local RERPs.

15.2.1 Scenarios

MEMA, MDPH, and each utility are responsible for the development of exercise scenarios. These scenarios include the basic objective(s) for each drill or exercise, appropriate evaluation criteria, the date(s), time period, place(s) and participating agencies, the simulated events, and the time schedule of real and simulated initiating events. Controllers use a Master Scenario Events List (MSEL) to ensure participant activity remains within predefined boundaries and ensure exercise objectives are accomplished.

A narrative summary describing the conduct of the exercises or drills **would include:** such things as simulated casualties**;** offsite fire department assistance**;** rescue of personnel**; and use** of protective clothing**;** deployment of radiological monitoring teams**;** public information activities**;** and the involvement of both plume and ingestion pathway areas. Advance materials are provided to official observers.

The scenario varies from exercise to exercise so that all major elements of the RERP, including a Hostile Action Based scenario and all preparedness organizations (reception centers, host facilities, KI Dispensing Sites, etc.) are fully tested within a**n** 8-year period. Exercises are conducted under various weather conditions during different seasons of the year. Plans and procedures for the ingestion zone pathway will be exercised once every eight years.

15.2.2 Critique and Followup

Federal Emergency Management Agency (FEMA) Region I provides for the critique of biennial exercises by qualified observers. Other Federal agency officials and invited participants assist in this evaluation role. Detailed evaluation sheets identify the procedures observers must follow in conducting their critique of an exercise.

FEMA conducts an oral debriefing following the exercise to provide a general evaluation of each organization's ability to carry out their responsibilities. The oral evaluations are followed up by a written, formal evaluation issued by FEMA to all State and local participants. Recommendations for improvements are included in the written evaluation. A post-exercise review is conducted by MEMA representatives from the State's emergency response organizations and local Emergency Management officials to ensure adequate consideration of all comments and reasonable response to any **findings** noted.

Assignments will be made by MEMA for the resolution of all noted **findings**. If a **finding** is the result of a response that is not in accordance with existing plans and procedures, additional training may be required. If **a finding** is the result of a response or action performed according to plans and procedures, a review and correction of the plan and/or procedures is performed with the assistance of MEMA.

All necessary revisions and/or updates identified as a result of the exercise and critique are incorporated into State and local RERPs and procedures and will be tested during the next exercise.

TABLE 15-1
MINIMUM TIME FRAME FOR EXERCISES AND DRILLS

EXERCISE DRILLS	PERIODS
POWER PLANT EXERCISES A. Full Participation	Biennially
COMMUNICATION DRILLS* A. State - MEMA Regions- Community B. State – Federal C. State/MEMA Regional EOCs - EOF - Field Team D. State - MEMA Regions - Community - Operator E. State - Adjacent States	 Monthly Weekly Annually Monthly Quarterly
MEDICAL DRILLS	Biennially
RADIOLOGICAL MONITORING DRILLS	Annually
HEALTH PHYSICS DRILLS	Biennially

***** See local and MEMA Regional plans for additional local-level communication drills.

SECTION 16
EQUIPMENT MAINTENANCE

Proper maintenance and testing of emergency equipment is necessary to ensure its operability in the event of an incident at a nuclear power plant.

16.1 COMMUNICATIONS EQUIPMENT

Various communication systems (including equipment) are tested at least once a month. In addition, the entire emergency communications system is tested for use in a radiological emergency response during exercises.

16.2 RADIOLOGICAL MONITORING EQUIPMENT

At least once each calendar quarter and after each use, emergency response equipment will be inspected, inventoried, and operationally checked by the agency to which the equipment is issued. Calibrations of equipment are made at intervals recommended by the supplier of the equipment at the Massachusetts Emergency Management Agency (MEMA) Radiological Instrument Maintenance and Calibration (RIM&C) service. Reserve equipment is stored and maintained at the RIM&C service.

Equipment provided by the nuclear power station will be maintained and calibrated by the utility. The Massachusetts Department of Public Health (MDPH) will maintain MDPH**-RCP** and Nuclear Incident Advisory Team (NIAT) monitoring and laboratory equipment. MDPH**-RCP** monitoring team equipment is calibrated at the same frequency as utility equipment.

16.3 COMMUNICATIONS SYSTEM TESTING

The MEMA Communications Coordinator, or designee, at the MEMA State EOC in Framingham tests the State communications systems on a regular basis. The results of all communications tests are logged in the Nuclear Log which is maintained in the MEMA Communications Center**. MEMA ensures that all messages, both tests and actual, are either repeated back or are verified as accurately received (content check).**

The following systems are tested on a regular basis:

16.3.1 National Warning System (NAWAS)

NAWAS is the National Warning System providing 24-hour private line telephone system coverage used to convey information to designated Federal, State and local governments. MEMA is the Primary State Warning Point for Massachusetts. Massachusetts State Police Headquarters is the Alternate State Warning Point for Massachusetts.

MEMA Headquarters shall conduct a roll call of the cities and towns on the State circuit Attachment 16-1 twice a day.

16.3.2 Radio Equipment

Two-way voice contact testing of radio equipment is conducted by MEMA with the following agencies on a monthly basis or as indicated below. Each agency shall record the date of the test and the signal strength.

- Massachusetts State Police
- MassDOT
- Department of Conservation and Recreation
- Massachusetts National Guard
- State Hi Band Net (daily)
- 800 MHz Systems (daily)

The MEMA radio frequencies are used, and therefore tested, daily.

16.3.3 Telephone Systems

The MEMA Operations Room has a commercial grade Avaya telephone system serviced by Verizon. This system is tested monthly.

The Nuclear Alert System (NAS) is a dedicated communications network which links the State police communications centers, the State's emergency management agencies, **the** Seabrook Station control room and **their** emergency operations **facility**. This system is tested on a weekly basis to

random locations.

16.3.4 Integrated Public Alert and Warning System (IPAWS) with Emergency Alert System (EAS)

Integrated Public Alert and Warning System (IPAWS) is a system to identify a digital technology that, when combined with upgraded Emergency Alert System (EAS) capabilities, will enhance federal, state, and local leaders' ability to communicate alert and warning information to the general public.

MEMA shall **internally** initiate, conduct, and evaluate tests of **IPAWs** on a **biweekly** basis at random times**. IPAWS is the method used to activate both the EAS and Wireless Emergency Alert systems.**

16.3.5 Public Alerting Systems

An annual siren test is conducted, activating all sirens within the EPZ. Individual community sirens may be tested more frequently depending upon local procedures. NOAA and EAS are tested weekly as part of the normal test activation performed by NOAA and EAS respectively.

ATTACHMENTS

16-1 NAWAS Warning Points

16-2 Communications/Warning Test Schedule

ATTACHMENT 16-1
NAWAS WARNING POINTS

	MONTH OF: DAY: **TIME OF NOTIFICATION:**						
1.	**MEMA HQ "STATE CONTROL"**						
2.	**STATE POLICE OPERATIONS (FRAMINGHAM)**						
3.	**STATE POLICE NORTHAMPTON**						
4.	**BARNSTABLE COUNTY**						
5.	**NANTUCKET FIRE**						
6.	**PLYMOUTH COUNTY**						
7.	**NORTON FIRE**						
8.	**HOLBROOK FIRE**						
9.	**BEVERLY FIRE**						
10.	**CHELMSFORD FIRE**						
11.	**FITCHBURG FIRE**						
12.	**SOUTHBRIDGE FIRE**						
13.	**SHELBURNE CONTROL**						
14.	**AMHERST FIRE**						
15.	**HOLYOKE FIRE**						
16.	**BERKSHIRE COUNTY CONTROL**						
17.	**BOSTON FIRE OPERATIONS**						
18.	**ASHLAND FIRE**						
19.	**ANDOVER FIRE**						
20.	**NATIONAL GUARD (DAYS)**						
21.	**NWS – TAUNTON (NAT'L – 2510)**						
22.	**REGION-I TEWKSBURY (DAYS)**						
23.	**REGION-II (DAYS) Temporarily out of order due to no permanent location -tbd**						
24.	**REGION-III/IV AGAWAM (DAYS)**						
25.	**NWS – ALBANY (NAT'L – 3610)**						
	CONDUCTED BY MEMA DISPATCHER (INITIALS ONLY)						

ATTACHMENT 16-2
COMMUNICATIONS/WARNING TEST SCHEDULE

Month_____ Year_____

Activity	Weekly					Bi-weekly	Monthly	Bi-monthly	Notes
PHONES EOC **(M)** • Test EOC operational phones									
NUCLEAR ALERT SYSTEM **(M)** • Test hotline from MEMA to nuclear alert stations									
FEDERAL RADIO SYSTEM (FNARS) **(W)** • Test two-way communication between MEMA and FEMA Maynard via Radio									
RADIO EQUIP TEST **(M)** • Check operation and two-way communication between MEMA, MSP, NG, MassDOT, and DCR									
IPAWS (BW) • **Internal Biweekly test of the federal IPAWS system that activates EAS and WEA**									
NAWAS TEST **(D)** • Conduct test of state NAWAS test points									
STATE HI-BAND RADIO **(D)**									
PILGRIM ALERT SYSTEM **(M)** • Test DNN/InForm, BECONS									
UTILITY HOTLINES **(M)** • Check lines and equipment from MEMA to utilities									

Key: Daily (D); (W) Weekly; (M) Monthly; (BW) Bi-Weekly; (BM) Bi-Monthly
Note: NAWAS System, MEMA Operational Frequency of VHF State-wide System 800 MHz Radio System are operationally tested daily.

SECTION 17
PLAN MAINTENANCE AND UPDATING

The purpose of this section is to identify organizations responsible for the development and maintenance of the Massachusetts Radiological Emergency Response Plan (MARERP).

17.1 RESPONSIBILITY FOR RADIOLOGICAL EMERGENCY RESPONSE PLANNING

The Massachusetts Emergency Management Agency (MEMA) has a statutory responsibility (under Section 13-2B Chapter 33 Appendix) for the review, updating, and publication of revisions to State and local RERPs. The MEMA Director, or designee, shall assure training is provided to individuals responsible for the planning effort and that various plan components are reviewed on the basis of new guidance received from the Federal government and other sources, information developed through emergency tests and exercises, and advice from State agencies, local governments, and private organizations.

Other State agencies within the Massachusetts emergency response organization are responsible for advising MEMA, at least quarterly, through their respective emergency preparedness and liaison officers, of potential or existing situations that require modification to the MARERP, and for developing and improving agency-specific plan elements.

17.2 PLAN REVISION

This plan and associated agreements and procedures, as well as regional, local, and host community plans, are reviewed on an annual basis and updated, as needed. The update shall incorporate changes deemed necessary as a result of drills and exercises. Personnel and telephone listings will be reviewed and, if necessary, revised on a quarterly basis. Each emergency response organization will update its call-down list, telephone numbers, and emergency planning maps, if applicable, at least quarterly.

17.3 PLAN DISTRIBUTION AND MAINTENANCE

Copies of the MARERP are numbered and distribution is controlled and registered by a controlled copy number. Pages indicate the revision number (first issuance was Revision 0) as well as the month and year of the revision. All changes to the plan will be documented and distributed to controlled copy holders. Revised pages will be dated and marked with change bars to show where revisions have been made. Revisions will be sent to holders of controlled copies of the plan accompanied by a mail back acknowledgment form indicating that the changes have been received and incorporated. The forms will be reviewed to ensure that all controlled copies of the plan are current. In general, controlled MARERP copies will be distributed and maintained as follows:

- Department of Public Health and other key Executive Order 144 organizations.
- MEMA Regional Offices
- The Federal Emergency Management Agency (FEMA)
- The Nuclear Regulatory Commission (NRC).
- The emergency preparedness or emergency management offices of the states of Rhode Island**, Connecticut** and New Hampshire.
- Emergency preparedness departments at Seabrook and Pilgrim Nuclear Power Stations.

17.3.1 PLAN MAINTENANCE PROCEDURES

17.3.1.1 DISTRIBUTION CONTROL:

a. The MEMA Director, or designee, shall ensure distribution of controlled copies of the MARERP, associated Nuclear Preparedness plans and procedures and their respective revisions. MEMA Nuclear Preparedness Department (NPD) Document Control shall maintain a list of the controlled copyholders, indicating their names and titles. NPD Document Control shall maintain accountability of the plans and revisions

to them through the use of the Controlled Document Transmittal Notice (Attachment 17-1).

Following the distribution of plans or revisions, NPD Document Control shall verify that all acknowledgment forms are returned. Late notices shall be issued if the Controlled Document Transmittal Notice is not received within 3 weeks. Another notice will be sent after 6 weeks. Appropriate follow-up contact with the document holder will ensure that the document was received, or if required, a duplicate copy will be sent.

b. All designated holders of a Controlled Copy of a plan shall follow all of the instructions on the Controlled Document Transmittal Notice (Attachment 17-1) when it is received. The form should be signed immediately, dated and returned to MEMA. A Revision Instruction Notice indicating which pages to remove and insert shall be sent with any change package (Refer to Attachment 17-2).

c. NPD Document Control shall maintain a master copy of the plans and all revisions on file.

d. Each recipient of a controlled copy of the plan should ensure that all appropriate staff members are aware of plan revisions.

17.3.1.2. REVISIONS TO EMERGENCY PLANS

a. The MEMA Director, or designee, shall annually initiate the effort to update all plans with appropriate revisions.

b. Holders of Controlled Copies of the plans, and their staff, should note required changes to the plan. Requests to implement needed changes should be forwarded to the MEMA Director, or designee, via agency heads. Revision requests may be made as a part of the annual review, or at any time the need for a plan revision is determined to exist.

c. All personnel and telephone call lists should be reviewed and updated**, as necessary,** quarterly. This is the responsibility of each agency head or Executive Order 144 liaison. Revision of call lists should be coordinated through the MEMA Director, or designee.

d. All revisions of the plans shall be issued in accordance with Plan Maintenance Procedures detailed in Section 17.3.1.1.

Attachment 17-1

CONTROLLED DOCUMENT TRANSMITTAL NOTICE
New Document or Revision

Document Title .....MASSACHUSETTS RERP

Document ID .....MARERP

Document Holder .....CONTROLLED COPY HOLDER TITLE
Document Holder Address .....CONTROLLED COPY HOLDER NAME
CONTROLLED COPY AGENCY
CONTROLLED COPY ADDRESS

Control Copy Number 1

Quantity..... 1

Revision Number 7

Transmittal Number 99000

Transmittal Date 12/30/2013

The attached Controlled Document is transmitted for your use.

Please insert/remove as indicated on the attached Revision Instruction Notice.
Please sign this form and return within 14 days.

---------- ----------
Date Signature of Holder/Designee

Please return to: MEMA Document Control
400 Worcester Road
Framingham, MA 01702-5399

Attachment 17-2

MASSACHUSETTS EMERGENCY MANAGEMENT AGENCY

REVISION INSTRUCTIONS NOTICE

Please update your controlled document of the **MASSACHUSETTS RADIOLOGICAL EMERGENCY RESPONSE PLAN** as instructed below:

REMOVE AND DISCARD	INSERT
Cover Section, Pages i-xiv, Rev. 24, 12/12	**Cover Section, Pages i-xiv, Rev. 25, 12/13**
Section 1, Entire Part, Rev. 3, 12/10	**Section 1, Entire Part, Rev. 4, 12/13**
Section 2, Entire Part, Rev. 6, 12/11	**Section 2, Entire Part, Rev. 7, 12/13**

EXHIBIT 1

GLOSSARY

Term	Definition
Access Control	All activities accomplished for the purpose of controlling entry or re-entry into a restricted zone because of radiological contamination to minimize the radiation exposure of individuals. This function is needed to prevent the general public from entering the restricted areas (sheltered and/or evacuated) and permitting only emergency workers with essential missions and limited members of the general public to enter a restricted zone.
Access Control Point	A point established at a road leading into a restricted zone for the purpose of controlling entry into the area.
Access and Functional Needs Population	Access and Functional Needs Populations are defined as those whose members may have additional needs before, during and after an incident in the following functional areas: Communication, Medical, maintaining Independence, Supervision, and Transportation (C-MIST)
Accessible	Having the legally required features and/or qualities that ensure entrance, participation and usability of places, programs, services and activities by individuals with a wide variety of disabilities.
Accident	An unforeseen and unintentional event that may result in an emergency.
Accident Assessment	The evaluation of the actual and potential consequences of a radiological incident.
Accommodations	In general, an accommodation is any change to the rules, policies, procedures, environment, or in the way things are customarily done that enables an individual with a disability to enjoy greater participation.
Activation	The initial entering (unlocking) or the initial actions taken to set up an emergency response facility. Usually correlates to the time in which the first emergency responder arrives at a facility following the initial notification of an emergency.
ALERT	Events are in process or have occurred which involve an actual or potential substantial degradation in the level of plant safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

Term	Definition
Assistive Technology (AT)	The devices that help people who have access and functional needs do the things they need and want to do AND the services needed to help select, use, customize, and maintain the devices. AT includes things that help you walk, move, talk, see, hear, play, learn, and use a computer or telephone, such as wheelchairs, walkers, devices that talk, TTY, magnifiers and hearing aids.
Background Radiation	The level of naturally occurring radiation in the environment. Sources include air, water, soil, potassium-40 in the body and cosmic radiation from the sun. The usually quoted individual background radiation exposure in man's natural environment is an average of 125 millirem per year.
BECONS	The radio communications system for emergency notification and information is available for use by MEMA and towns within the Pilgrim ten-mile EPZ, and PNPS.
Contaminated, Injured or Exposed Individual	Individuals who are: (1) contaminated with radioactive material that cannot be removed by the simple methods described in NUREG-0654/FEMA REP-1, Criteria J.12. and K.5.b., (2) contaminated and otherwise physically injured, or (3) exposed to high levels of radiation.
Contamination (Radioactive)	A frequently misunderstood term, contamination refers to radioactive materials not in their intended containers. "Fixed" or "loose" contamination depends on the degree of effort required to unfix or remove the contamination from a surface.
Control DLR	Control dosimetry life records (DLRs) are used to measure background radiation history during the storage period.
Critical Organ	The body organ receiving a radiation dose that results in the greatest overall damage to the body.
Critical Pathway	The route or pathway that is given primary consideration as being the mechanism of principal radiation exposure to the public under given conditions.
Curie	The basic unit 1 to describe the intensity of radioactivity in a sample of material. One curie is equal to 37 billion disintegrations (nuclear transformations) per second. So, in one curie, 37 billion atoms decay in one second. Several commonly used fractions of the curie include: Millicurie: 1/1,000th of a curie, (one-thousandth of a curie, abbreviated mCi) Microcurie: 1/1,000,000 of a curie, (one-millionth of a curie, abbreviated uCi) Nanocurie: 1/1,000,000,000 of a curie, (one billionth of a curie) Picocurie: 1/1,000,000,000,000 of a curie (one-trillionth of a curie, abbreviated pCi)

Term	Definition
Day Care Facilities	A center-based facility that cares for infants, toddlers, preschoolers and school aged children.
Decommissioning	**When a power company decides to close a nuclear power plant permanently, the NRC regulates the dismantling of the facility by having it safely removed from service and reducing residual radioactivity to a level that permits release of the property and termination of the operating license.**
Decontamination	The process of making any person, object, or area safe by absorbing, destroying, neutralizing, making harmless, or removing chemical or biological agents, or by removing radioactive material clinging to or around it.
Derived Intervention Levels (DIL)	Equals a Protective Action Guide divided by the fraction of the diet assumed to be contaminated times the amount of food intake consumed in a year times a value that converts the activity in the food to the dose commitment in humans.
Design Basis Accident	The postulated accident that a nuclear power plant is designed to withstand or mitigate so as to meet U.S. Nuclear Regulatory Commission regulatory requirements.
Direct Reading Dosimeter (DRD)	A direct-reading dosimeter (DRD) is an instrument, which measures total gamma radiation requirements.
DNN/InForm	The Dedicated Notification Network or InForm is a notification system for Pilgrim Station that will provide ECL notification to MEMA Headquarters and Region II, the Pilgrim EPZ towns and host communities.
Dose	The quantity of energy absorbed from ionization per unit mass of tissue. The rad is the unit of absorbed dose.
Dose Commitment	The total radiation dose equivalent received by an exposed individual or to the critical (target) organ over the lifetime from a single event.
Dose Rate	The radiation dose delivered per unit time and measured, for instance rems per hour (as rads per second or rads per hour).
Dosimeter	A portable device such as a Dosimetry Life Record (DLR) film badge or direct reading ionization chamber for measuring and registering the total accumulated exposure to ionizing radiation.

Term	Definition
Dosimeter Charger	A device used to zero direct-reading-dosimeters prior to issuance.
Dosimetry	The measurement of radiation doses. It applies to both the devices used (dosimeters) and to the techniques.
Dosimetry Life Record (DLR)	A dosimetry life record (DLR) is a permanent record dosimeter used to measure total beta/gamma exposure. DLRs are not readable by the emergency worker and must be processed in a laboratory.
Drill	An event involving organizational responses to a simulated accident to develop, test, and monitor specialized emergency skills that constitute one or more components of an emergency plan and procedure.
Dry Cask Storage	**A method of storing high-level radioactive waste such as spent nuclear fuel.**
Emergency	An unexpected event during the operation of a nuclear facility that has a significant effect on the safety of the facility, personnel or the public.
Emergency Action Levels	Specific instrument readings, system or event observations and/or radiological levels that initiate event classifications/notification procedures, protective actions, and/or the mobilization of an emergency response organization. These are specific threshold readings or observations indicating system failures or abnormalities.
Emergency Alert System (EAS)	A system of radio and television stations responsible for providing official government instructions to the public (formerly the Emergency Broadcast System – EBS).
Emergency Classification Level(s) (ECL):	Applies to commercial nuclear power plants only: **Unusual Event (UE)**: Events are in process or have occurred which indicate a potential degradation in the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs **Alert (ALERT)**: Events are in process or have occurred which involve an actual or potential substantial degradation in the level of plant safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective

	Action Guideline exposure levels **Site Area Emergency** (**SAE)**: Events are in process or have occurred which involve an actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to the likely failure of or; (2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary **General Emergency (GE)**: Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.
Emergency Medical Services	The supportive action that entails the provision of medical treatment and ambulance services to the critically ill and injured.
Emergency Medical Services (Office of)	The Massachusetts Department of Public Health Office of Emergency Medical Services maintains information and communication links with ambulances and medical resources throughout Massachusetts, New Hampshire, Vermont, Connecticut, and Rhode Island.
Emergency Operating Center (EOC)	A facility that is the primary base of emergency operations for an off-site response organizations (ORO) in an emergency.
Emergency Operations Facility (EOF)	A facility that is the primary base of emergency operations for and operated by the licensee in a radiological incident where there is a coordinated deployment of emergency personnel, evaluation of offsite effects of the accident, coordination of decisions affecting accident mitigation and public safety, and maintenance of communication with offsite authorities.
Emergency Planning Zone (EPZ)	A geographic area surrounding a commercial nuclear power plant for which emergency planning is needed to ensure that prompt and effective actions can be taken by State and local governments to protect the public health and safety in the event of a radiological accident. The plume pathway EPZ is approximately 10 miles in radius, while the ingestion pathway EPZ has a radius of approximately 50 miles.

Term	**Definition**

Emergency Public Information Materials	Various types of printed materials developed and distributed to the public in the EPZ such as emergency public information calendar and posters. Emergency public information materials provide information on protective actions, public notification systems, maps of evacuation routes, location of reception centers, radiation information, Access and Functional needs information, an official public information line, public notification systems and a listing of EAS Stations.
Emergency Response Planning Area (ERPA)	Specifically designated regions within the Plume Exposure Pathway EPZ of Seabrook Station. Each ERPA is an aggregation of adjoining communities in whole or part, chosen for their logistical characteristics to meet evacuation planning guidelines.
Emergency Response Organizations (ERO)	The Federal, State, or local agencies or departments or executive offices and nuclear utilities that have a major or lead role in emergency planning and preparedness.
Emergency Support Functions (ESFs)	MA ESFs: Massachusetts Emergency Support Functions are designated agency assignments within the State EOC.
Emergency Worker	An individual who has an essential mission within the Plume Exposure Pathway EPZ to protect the health and safety of the public who could be exposed to radiation from a plume or deposited material.
Emergency Worker Monitoring and Decontamination Station	The designated area within a monitoring station where emergency workers, equipment, and vehicles are monitored for radiological contamination and decontaminated, if necessary.
Evacuation	A population protection strategy involving orderly movement of people away from an actual or potential hazard, and providing reception centers for those without their own resources for temporary relocation.
Evacuation Route	A route, which is designated for use in evacuation a specified area.
Evacuation Time Estimates (ETE)	A study of the estimates of the time needed to evacuate members of the public from identified areas (ERPAs for Seabrook or Sub-areas for Pilgrim) within the 10-mile EPZ under different weather and event conditions and times of day.

Term	Definition
Exercise	An event involving organizational responses to a simulated commercial nuclear power plant accident with radiological and other offsite consequences. The purpose of an exercise is to test the integrated capabilities of involved offsite response organizations to implement emergency functions set forth in State, Tribal, and local radiological emergency response plans and procedures.
Exposure	The absorption of radiation or ingestion of a radionuclide. Acute exposure is generally accepted to be a large exposure received over a short period of time. Chronic exposure is exposure received during a lifetime.
Exposure Limits	Established limits for administratively controlling exposures to radiation.
Family Day Care Providers	A home-based facility run by caregivers that provide care for infants, toddlers, preschoolers and school aged children.
Findings	**FEMA issued during an exercise: LEVEL 1 FINDING (L1) – An observed or identified inadequacy of organizational performance that causes a determination that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a Nuclear Power Plant.** **LEVEL 2 FINDING (L2) – An observed or identified inadequacy of organizational performance that is not considered, by itself, to adversely impact public health and safety.**
Food, Water, and Milk Control	The protective action that entails controlling food, water, milk, and livestock feed supplies, which may have become contaminated.
Fully Operational	The point at which the emergency facility has fully implemented all applicable facility operational procedures. While it may not reflect complete staffing, all functional staffing requirements are being implemented by one or more individuals.
GENERAL EMERGENCY	Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

Term	Definition
Health Care Facility	Those medically related facilities which provide inpatient health care and include hospitals and nursing homes.
Hostile Action	An act toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devises used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the nuclear power plant. Non-terrorism-based EALs should be used to address such activities (e.g., violent acts between individuals in the owner controlled area).
Host Community (Area)	A geographical area that is at least 5 miles, and preferably 10 miles, beyond the boundaries of the 10-mile plume pathway EPZ (15 – 20 miles from the commercial nuclear power plant) where functions such as congregate care, radiological monitoring, decontamination, and registration are conducted.
Host Facility	A facility used as a short-term, temporary, holding area for school, day care and nursery school children, elderly housing residents, or Access and Functional Needs individuals from private homes or facilities, who may be evacuated from EPZ communities within the Commonwealth.
Incident Command System (ICS)	ICS is a standardized on-scene incident management concept designed specifically to all responders to adopt and integrated organizational structure without being hindered by jurisdictional boundaries.
Incident Commander (IC)	The individual responsible for all HAB-related incident activities located at the Nuclear Power Plant, including the development of strategies and tactics and the ordering and releasing of resources. During such radiological HAB incidents, the Incident Commander will work in concert with MEMA and MDPH on radiological matters using Unified Command, until the threat is neutralized.
Incident Command Post (ICP)	The field location at which the primary tactical-level, on- scene incident command functions are performed.
InForm System	The InForm System is a notification system for Vermont Yankee that will provide ECL notification to MEMA and Shelburne Control.
Ingestion Exposure Pathway	The pathway by which the exposure could be from ingestion of contaminated water or foods: like milk, meat, or fresh vegetables.

Term	Definition
Ingestion Zone	The emergency planning zone corresponding to the ingestion exposure pathway, having a radius of about 50 miles for commercial nuclear facilities.
Initial Notification	The first communication from the utility Control Room to the offsite emergency response organization that an incident has occurred at the power plant which may involve RERP activation.
Independent Spent Fuel Storage Installation (ISFSI)	A complex constructed for interim storage of spent nuclear fuel.
Joint Information Center (JIC)	A central point of contact for all news media at the scene of the incident. News media representatives are kept informed of activities and events via public information officials from all participating Federal, State, and local agencies, which, ideally, are collocated at the JIC.
KI Dispensing Site (KIDS)	Sites that are set up by MDPH to dispense KI (Potassium Iodide) to the evacuating general public.
Law Enforcement	The supportive action that entails the use of law enforcement personnel to maintain civil order
Letters of Agreement (LOA)	Agreements in writing between two or more organizations, groups, or individuals that stipulate the resources and actions expected and provided in response to an emergency request.
Mass Alerts	A free downloadable mobile communications application that alerts the public in emergencies. This application enables MEMA to send highly targeted, instant multimedia alerts to smart devices to notify the public about situations happening near them. The public must opt in and download the application.
Mass Care	The supportive action that entails the provision of food, shelter, routine medical services, registration, and other essential provisions or services for evacuees.
Mass Care Shelter	A facility at least 5 miles beyond the 10-mile EPZ boundary designated to provide food, lodging, and care to members of the public evacuated from the EPZ as the result of an emergency.
Millirem (mRem)	A unit of radiation dose equal to one one-thousandth of a Rem (1,000 millirem = 1 Rem).
Mobility Impaired	The inability of a person to use one or more of their extremities, or a lack of strength to walk, grasp or lift objects.

Term	Definition
Monitoring	The act of detecting the presence of radiation and the measurement of radiation levels, usually with a portable survey instrument.
MS-1 Hospital	Hospitals trained and capable of treating members of the general public who may be injured and/or considered to have substantial radiation related injuries, or who may have been exposed to and contaminated by radioactive materials.
National Response Framework (NRF)	A guide to how the Nation responds to all types of disasters and emergencies, from local incidents to large-scale disasters. It is built on scalable, flexible, and adaptable concepts from NIMS to align key roles and responsibilities across the Nation. It describes the principles, roles and responsibilities, and coordinating structures for delivering the core capabilities required to respond to an incident and describes how response efforts integrate with those of the other mission areas.
National Incident Management System (NIMS)	NIMS provides a consistent nationwide template to enable Federal, State, and local governments, nongovernmental organizations and the private sector to work together to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity.
Nuclear Alert System (NAS)	A communications network which links the State police communications centers, the State's emergency management agencies, the near-site facilities, the Vermont Yankee and Seabrook Power Stations' control rooms and the emergency operations facility for the affected power station.
National Warning System (NAWAS)	A dedicated nationwide early warning system established in the 1950's by the U.S. Department of Defense. It is used to broadcast information to each of the 50 states, U.S. territories and possessions and selected military and governmental locations. NAWAS, which uses land lines as well as microwave channels, is network secure and has back up electrical power.
Nuclear Power Station	A site where nuclear materials are employed in commercial power generating operations.
Offsite	The area beyond the boundaries of a nuclear plant.
Onsite	The area/location of the commercial nuclear plant.

Term	Definition
Operational	The point at which the number of individuals that have arrived at an emergency facility constitutes the minimum staffing necessary to perform the critical functions of the facility. This number is usually smaller at lower emergency classification levels and grows larger as the number of tasks increase at the higher classification levels.
Permanent Resident Population	All members of the public who have a residence in the 10-mile EPZ but are not in institutions.
Personal Assistance Services (PAS)	Person-to-person services to assist people with disabilities with tasks they would perform if they did not have a disability. Traditionally, these services have focused on health care and activities of daily living.
Pick up Point	A designated location for the Pilgrim Station's transient dependent to go and obtain bus transportation during an emergency.
Plume	Generally a gaseous atmospheric release from a nuclear power plant, in an accident or emergency, which may contain radioactive noble gases and volatile solids. While emergency plans must recognize the very low probability that particulates could be released in a serious accident, primary emphasis is given to the development of protective actions against the release of noble gases and volatiles such as radioiodines. This cloud is not visible to the eye, but can be measured, or "seen" with radiation measurement equipment.
Plume Exposure Pathway	For planning purposes, the area within approximately a 10-mile radius of a nuclear plant site. A term describing the means by which whole body radiation exposures occur as a result of immersion in a plume release. The area in which plume exposures are likely is described in NUREG- 0396 as an area extending out approximately 10 miles from the reactor site and forming roughly a "keyhole" shape, with the keyhole oriented downwind. In the EPZ-plume, actions may be required to protect the public from the effects of whole-body external exposure to gamma radiation from the plume and from deposited materials and inhalation exposure from the passing radioactive plumes released materials. The duration of exposure in this mode could range from hours to days in the case of particulate deposition.
Plume Zone	The emergency planning zone corresponding to the plume exposure pathway having a radius of about 10 miles for commercial nuclear facilities.

Term	Definition
Potassium Iodide (KI)	A prophylactic drug (stable form of iodine) that can be used effectively to block the uptake of radioiodine by the thyroid gland.
Precautionary Action	Those measures taken early in an emergency (at ALERT or SITE AREA EMERGENCY) to provide additional time for implementation, to reduce the number of transients in an EPZ, and to ease traffic congestion later if a full-scale evacuation is ordered. Precautionary actions include transfer of daycare and school children to host facilities outside the EPZ, and closing of state forests, parks, beaches, and other outdoor recreation areas. It may include sheltering of school children during a HAB incident.
Primary Agency	The governmental department or subdivision that is assigned fundamental and lead responsibility to ensure the fulfillment of a designated function.
Projected Dose	The estimated or calculated amount of radiation dose to an individual from exposure to the plume and/or deposited materials, over a period of time, in the absence of protective action.
Protective Actions	Those measures taken in anticipation of or after an uncontrolled release of radioactive material has occurred to prevent or mitigate radiological exposures to persons that would be likely to occur if the actions were not taken. Protective actions include evacuation, sheltering, access control, and food, water, and milk control.
Protective Action Directives (PAD)	Those actions to protect public health and safety, which have been approved by the Governor and issued through Emergency Management channels.
Protective Action Guides (PAGs)	Projected dose to an individual in the general population that warrants the implementation of protective action. Specific PAGs (FDA and EPA) have been recommended in terms of the level of projected dose that warrants the implementation of evacuation, sheltering, relocation, and limiting the use of contaminated food, water, or animal feed.
Protective Action Recommendations (PAR)	Advice to the State on emergency measures it should consider in determining action for the public to take to avoid or reduce their exposure to radiation.
Public	The general population with the exception of site personnel.
Public Alert and Notification System (PANS)	A network of sirens, EAS tone-alert radios, NOAA tone-alert radios, public address systems, mobile speakers, loud-hailers, and door-to-door personal notification that would be used to notify the public of an emergency.

Term	Definition
Public Health and Sanitation	The supportive action that entails the provision of adequate health services and the maintenance of sanitation facilities and procedures.
RACES	Radio Amateur Civil Emergency Service (RACES) is made up of licensed volunteer radio amateur (HAM) communications personnel, equipped and affiliated with the State and local Emergency Management agencies.
Rad	Acronym for radiation absorbed dose. The basic unit of absorbed dose radiation. One rad represents the absorption of 100 ergs of nuclear (or ionizing) radiation per gram of the absorbing material or tissue
Radiation	Any or all of the following: alpha particles, beta particles, gamma rays, X-rays, neutrons, high-speed electrons, high-speed protons, and other atomic particles.
Radiological Emergency Response Plan (RERP)	A detailed plan which coordinates and describes the emergency response organizations, responsibilities, and capabilities of local or State governments and private organizations to ensure public health and safety arising from an emergency in which there is a potential for radiological release.
Radiological Exposure Control	The monitoring and controlling of public and emergency worker exposure, maintaining records of this exposure, and the actions and procedures necessary for the decontamination of evacuees, emergency workers, and equipment and materials.
Radiological Incident	Any event involving actual or potential radiation exposure or radioactive contamination to the public resulting from the release of radioactive materials from a nuclear power station.
Radioactive Materials	Those natural and man-made elements, which give off radiation energy.
Reception Center	A pre-designated facility outside the Plume Exposure EPZ (minimum is 15 miles from utility) at which the evacuated public can register; receive radiation monitoring and decontamination; receive assistance in contacting others; receive directions to Congregate Care Centers; reunite with others; and receive general information. It generally refers to a facility where monitoring, decontamination, and registration of evacuees are conducted. (Note: also called a relocation center, registration center.)

Term	Definition
Recovery	The process of reducing radiation exposure rates and concentrations of radioactive material in the environment to acceptable levels for return by the general public for unconditional occupancy or use after the emergency phase of a radiological emergency.
Re-entry	The provisions for the return of the public after evacuation, when the radiation risk has been reduced to acceptable levels.
Release of Radioactive Material	a. Controlled Release - Any release of radioactive material from a nuclear power station, which was planned and is being controlled by station personnel. b. Unplanned Release - Any release of radioactive material which is not a controlled release as defined above.
Relocation	The removal or continued exclusion of people (households) from contaminated areas to avoid chronic radiation exposure.
Rem	Acronym for Roentgen equivalent man. The unit of dose of any ionizing radiation that produces the same biological effect as a unit of absorbed dose of ordinary x-rays. A unit of dose for measuring the amount of ionizing radiation energy absorbed in biological tissue.
Restricted Zone	An area of controlled access from which the population has been evacuated, relocated or sheltered-in-place.
Return	Reoccupation of areas cleared for unrestricted residence or use by previously evacuated or relocated populations.
REWMDS - Regional Emergency Worker Monitoring and Decontamination Station	The designated area within a monitoring station where emergency workers, equipment, and vehicles are monitored for radiological contamination and decontaminated, if necessary.
Roentgen	A unit of exposure of gamma (or X-ray) radiation in field dosimetry. One roentgen is essentially equal to one rad. A unit for measuring the amount of radiation energy imparted to a volume of air. The roentgen can be used only to measure X-rays or gamma rays.
SAFSTOR	A method of decommissioning in which a nuclear facility is placed and maintained in a condition that allows the facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use.

Term	Definition
Sampling	Collecting specimens of materials (e.g., particles or radioiodine in the air, animal feed, vegetation, water, soil, milk) at field locations.
School	An educational facility for students in grades 12 and under which includes public, private and licensed or government supported pre-school and day care centers.
SEOC	State Emergency Operations Center or MEMA Headquarters
Shelter-in-Place	A protective action which includes going indoors listening to an EAS radio or television station, closing all windows and doors, closing exterior vents, and turning off heating and air conditioning equipment using outside air.
SITE AREA EMERGENCY	Events are in process or have occurred which involve an actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to the likely failure of or; (2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary.
Source Term	The radioisotope inventory of the reactor core, or radioisotope release to the environment, often expressed as a function of time.
Special Facility	An institution such as a hospital, school or nursing home.
Spent Fuel Pool	**Storage pools for spent fuel assemblies removed from nuclear reactors and stored in at least 20 ft. of water to provide adequate radiation shielding.**
Standard Operating Procedures (SOPS)	A detailed pre-established set of operational instructions, which direct an agency's action in response to an emergency situation. These procedures will be used by an agency in carrying out its assigned responsibilities.
Support Agency	The governmental department or subdivision that is assigned to assist in the fulfillment of a designated function.
Supportive Actions	Those actions that are planned or are taken during or after protective actions to ensure public health and welfare.
Survey Meter	Radiation detection instrument used for monitoring purposes.

Term	Definition
Thyroid Blocking	The use of potassium iodide or other suitable drug for the purpose of saturating the thyroid gland with stable iodine and thereby preventing thyroid uptake of radioiodine.
Total Population Exposure	The estimated exposure to all segments of the general public following a radiological release from all exposure pathways, including exposure from the plume, ingestion, and ground plume exposure pathways.
Traffic Control	The directing of traffic from a specific area to primary evacuation routes. Road barriers and cones are used to assist traffic control. The traffic-controlled area may include all or part of the Plume Exposure Pathway EPZ or may be established to control and monitor a restricted area.
Traffic Control Points (TCP)	Any of a number of key route intersections within and around the Plume Exposure Pathway EPZ designed to facilitate the flow of traffic in a desired direction while discouraging the flow of traffic in other directions. Traffic Control Points may sometimes double as Access Control points to restrict entry into the Plume Exposure Pathway EPZ.
Transient Population	That segment of the public visiting areas inside the EPZ, where they do not reside, such as tourist, employees, etc.
Transportation Disadvantaged	Those individuals that have significant unmet transportation needs.
UNUSUAL EVENT	Events are in process or have occurred which indicate a potential degradation in the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs
Unified Command	An application of ICS used when there is more than one agency with incident jurisdiction or when incidents cross political jurisdictions. Agencies work together through the designated members of the Unified Command, often the senior person from agencies and/or disciplines participating in the Unified Command, to establish a common set of objectives and strategies.
Videophone	A telephone that can transmit video and audio signals so that users can see and hear each other, to be used with the Video Relay Service with American Sign Language interpreters for the hard of hearing.

Term	Definition
Virtual JIC	An offsite JIC electronically communicating with the Utilities' JIC that may open during rapidly escalating incident.
Wireless Emergency Alerts (WEA)	A notification tool to deliver to emergency alerts to cell phones. There is no opt in or download required.

EXHIBIT 2

PILGRIM NUCLEAR POWER STATION

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PILGRIM NUCLEAR POWER STATION

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EXHIBIT 2

PILGRIM NUCLEAR POWER STATION

1.0 PURPOSE

This exhibit provides site-specific information regarding Federal, State and local response to a radiological emergency at the Pilgrim Nuclear Power Station (PNPS).

2.0 LOCATION

2.1 SITE DESCRIPTION

PNPS is a General Electric boiling water reactor with a design electrical rating (net Mwe electric) of 680 Mwe. The station encompasses 1,600 acres and is located at Rocky Point on Cape Cod Bay, in the Town of Plymouth, Plymouth County, Massachusetts. The owners of PNPS, Entergy, **have ceased operations effective May 31, 2019; however, the Emergency Planning Zone is still at risk due to the danger from the spent fuels not being in dry cask storage.**

2.2 REGION CHARACTERISTICS

In addition to area beaches, the Town of Plymouth draws significant numbers of visitors to its many historical sites.

The major north-south routes through the region are Route 58 in Carver, Route 3A along the coast and Route 3, which serves as the primary road servicing the Cape Cod area from the north. Major east-west routes in the area are Route 139 in Marshfield, Route 106 in Kingston, Route 44 in Plymouth and Route 6 in Bourne.

The chief agricultural product in the region is cranberries. There is one commercially operated dairy farm, located approximately 8 (eight) miles north of PNPS. There are also dairy animals on the Plymouth County farm located on Obery Street about three miles west of PNPS. However, some of the milk is exchanged for pasteurization services at a local processing plant.

2.3 EMERGENCY PLANNING ZONES (EPZs)

2.3.1 Plume Exposure Pathway

The towns of Plymouth, Kingston, Duxbury and portions of Marshfield and Carver are included in the approximate 10-mile radius plume exposure pathway EPZ. Areas in close proximity to and downwind from PNPS are more likely to be affected by a release. Therefore, the 10-mile EPZ has been divided into subareas so that protective actions may be taken in the particular part of the EPZ affected by a release. Subareas have been defined using easily recognized boundaries for issuing protective action directives to the public. See the MEMA Region II plan, Figure J-2 for the map and subarea descriptions.

2.3.2 Ingestion Exposure Pathway

Portions of Massachusetts and a part of Rhode Island fall within the 50-mile radius Ingestion Exposure Pathway EPZ. Within this EPZ, special actions may be necessary to protect the food chain. A map of the Ingestion Pathway is located in the Commonwealth of Massachusetts RERP as Figure 2-1.

2.4 POPULATION DATA

2.4.1 Census

Based on the December 2012, KLD's Pilgrim Evacuation Time Estimate, the EPZ population is computed to be approximately 93,964 residents within the 10-mile zone. Employees and transients increase this number by approximately 21,891. This information is contained in Table EX2-1. The Town's and MEMA Region II RERPs, Section II, Part J also contains this information.

2.4.2 Special Considerations

Additional information on the following is contained in MEMA Region II and Town's RERPs.

2.4.2.1 Hospitals

If an evacuation of the Beth Israel Deaconess Hospital in Plymouth is necessary, procedures are in place for area hospitals to receive patients.

KI may be administered to hospital patients whose immediate evacuation, as determined by their attending physicians, would be life threatening. KI and dosimetry, which are stored in the appropriate town EOC, will also be available for staff staying behind to care for such patients.

2.4.2.2 Nursing/Rest/Group Homes

These special facilities within the 10-mile radius receive a telephone call from their respective town's EOCs beginning at the ALERT level. This ensures that notification is received and also alerts the staff to begin actions identified in their procedures. In addition these facilities have been provided with EAS tone alert radios. Refer to Town's RERPs, Section J, for more detail. KI may be administered to nursing home patients whose immediate evacuation, as determined by their attending physicians, would be life threatening. KI and dosimetry, which are stored at the facility, will also be available for staff staying behind to care for such patients.

Host facilities outside the EPZ and estimated transportation resource needs have been identified and procedures are in place if an evacuation were necessary.

2.4.2.3 Schools

Public and private schools located within the 10-mile EPZ in the towns of Carver, Duxbury, Kingston, Marshfield and Plymouth have EAS tone-alert radios. They also receive a telephone call from their respective towns beginning at the ALERT level to ensure that notification is received and that school staff begins actions identified in their procedures. Provisions have been made to stage buses at the schools at the ALERT level. Precautionary transfer of children will take place at SITE AREA EMERGENCY, but may take place as early as the ALERT level at the discretion of the Commonwealth. If this occurs, students would be transported to pre-identified host schools outside the EPZ and held for parental pickup. This information is disseminated in advance through emergency public information materials mailed annually to residents. During a Hostile Action Based incident (HAB), school children may be sheltered-in-place. If an evacuation is ordered, or a release occurs before children reach their host facilities,

the MEMA Director may order their diversion to a reception center for monitoring and decontamination, if necessary. They will then proceed to host facilities to await parental pickup. During the emergency, parents would be informed of the implementation of these precautionary actions over the Emergency Alert System and/or through news releases from the Joint Information Center. Also, notices are placed at the entrances of cleared/evacuated schools.

In addition, there are public and private schools, which, although located outside the EPZ, have students who reside within the EPZ. At the ALERT level, MEMA Region II will contact these schools and request that the EPZ students be retained and supervised until parental pickup. Parents would be informed of these actions over EAS broadcasts and/or through news releases from the Joint Information Center. Further details on schools may be found in the Town RERPs, Section J.

2.4.2.4 Day Care Centers/Nurseries

Licensed Day Cares are equipped with EAS tone-alert radios and they also receive a telephone call from their respective towns at the ALERT level to ensure notification is received and that staff begins actions identified in procedures. Family day cares that have requested town notification will also be contacted at ALERT. At the ALERT level, the staff/director/owner will inform the town of any projected transportation resource needs. Precautionary closing of day care centers and nurseries will take place at SITE AREA EMERGENCY, but may take place as early as ALERT level at the discretion of the Commonwealth.

If this occurs, the facilities will close and the children not already picked up by parents will be transported to pre-identified host facilities outside the EPZ under the same conditions described in Section 2.4.2.3. Parents would be informed of these precautionary actions over EAS, through news releases from the Joint Information Center and/or by telephone calls from the facility staff. Further details on provisions for day care centers and nurseries may be found in Section J of the Town RERPs.

2.4.2.5 Children's Camps

Towns will contact the camps by telephone beginning at the ALERT level to identify any transportation needs. Precautionary closing of children's camps will take place at SITE AREA

Commonwealth. If this occurs, the camps will close and children will be transported to a pre-identified host facility outside the EPZ under the same conditions described in Section 2.4.2.3. Children's camps are equipped with tone-alert radios. Parents will be informed of these precautionary actions over EAS and/or news releases from the Joint Information Center. Further details on provisions for children's camps may be found in Section J of the Town RERPs.

2.4.2.6 Beaches, Parks and Recreational Areas

Procedures have been developed to clear and close beaches, ponds, parks and other recreational areas at the ALERT level as a precaution to allow time for these actions to be completed. This will also serve to ease traffic congestion if an evacuation of residents is necessary. Notification to visitors of these precautionary actions will be accomplished by PA-equipped vehicles. Information on the precautionary actions would be released from the Joint Information Center.

In the event of an incident where immediate sheltering is recommended, buildings in or near parks, recreational areas and beaches have been identified for use as shelters; the public will be informed of these precautionary actions over EAS and/or news releases from the Joint Information Center. Letters of Agreement are listed in each EPZ Town's Shelter Implementation Program. The buildings are also equipped with tone-alert radios, which are activated in conjunction with EAS. Further details on provisions for recreational areas may be found in Section J of the Town's RERPs.

The Town of Plymouth RERP calls for notification and precautionary clearing of Saquish Neck, Gurnet Point and Clarks Island at ALERT. This notification and precautionary action will be implemented by town officials. MEMA and contiguous towns will be notified if the public address function of the sirens is used.

2.4.2.7 Waterway EPZ

Arrangements are in place whereby, as a precaution, town harbormasters will assist in clearing the waterway EPZ at the ALERT level. Notification to boaters will be by broadcast over marine radio and by patrol craft equipped with PA-systems. Further details on provisions for recreational areas may be found in Section J of the Town RERPs.

In addition, the U.S. Coast Guard has procedures to clear the waterway EPZ for Pilgrim Station at the SITE AREA EMERGENCY level, unless otherwise directed by MEMA. Boaters will be informed through an Urgent Marine Information Broadcast to leave the restricted area. Coast Guard boats or aircraft patrolling the area will ensure that all boaters are aware of the clearing of the waterway.

2.4.2.8 Tourist Attractions

Depending on the season, tourist attractions will receive notification at the ALERT level and be asked to close by their respective towns. This precautionary action serves to reduce the number of transients within the EPZ and eases traffic congestion if an evacuation is needed later. See Town RERPs for specific information.

In the event of an incident where immediate sheltering is recommended, buildings in or near parks, recreational areas and beaches have been identified for use as shelters**;** the public will be informed of these precautionary actions over EAS and/or news releases from the Joint Information Center.

2.4.2.9 Detention Facilities

Within the EPZ, there are two correctional institutions and four town jails.

a) Correctional Institutions

The first is the Plymouth County Correctional Facility, located in the Town of Plymouth. The second facility is the Massachusetts Correctional Institution (MCI) - Plymouth, located within the boundaries of the Myles Standish State Forest. Both facilities are equipped with tone-alert radios. They will also receive a telephone call from MEMA Region II beginning at the ALERT level to allow preparatory time to transport prisoners. Both facilities will follow the protective action directive issued by the State for their subareas. If evacuation is necessary, procedures have been developed to transport prisoners from both facilities to the Department of Correction's Bridgewater complex. See the Plymouth RERP for more detail.

b) Town Jails

Police Chiefs in Plymouth, Kingston and Duxbury have procedures in place to either release prisoners on their own recognizance or to transport prisoners to similar facilities outside the EPZ. The Police Chief will make the determination as to which action is appropriate. Refer to the specific Town RERP for details.

The Town Jail in Carver is located on the edge of the sub-area boundary, approximately 11 miles from PNPS. Because of the distance, the Police Chief has determined that no emergency actions are necessary for the jail.

No actions are necessary for the Marshfield Town Jail because of its location beyond the EPZ boundary.

2.5 EVACUATION TIME ESTIMATES

The amount of time needed to evacuate both the permanent and transient populations under both good and adverse weather conditions is illustrated in the Town's and the MEMA Region II RERPs, Section II, Part J. See Table EX2-2 for the Regional Evacuation Groupings. See Table EX2-3 for the Time to Clear 100% of the EPZ Boundary of the Affected Population.

3.0 CONCEPT OF OPERATIONS

A detailed description of the assignment of responsibilities is contained in Section 4 of this plan. A brief summary of operations specific to PNPS follows.

3.1 EMERGENCY RESPONSE ORGANIZATION

3.1.1 Local Organization

Each of the five towns within the plume exposure pathway has an emergency management organization that oversees an emergency response plan that outlines the local organization, procedures to implement concepts contained in the plan, and an Emergency Operations Center (EOC) from which to direct response activities on a 24-hour basis.

The three host communities of Taunton, Braintree and Bridgewater also have emergency management organizations, plans, procedures, EOCs, and in the case of Braintree, a Command Center. Provisions for traffic control and reception center operations are addressed in these plans, which should be referred to for additional information.

3.1.2 State Organization

The overall direction of State response actions is the responsibility of the Massachusetts Emergency Management Agency (MEMA) Director at the SEOC in Framingham. The Massachusetts Department of Public Health (MDPH) has primary responsibility for assessing the health implications of the incident and determining appropriate protective actions.

PNPS falls within MEMA Region II for planning and response purposes. State actions to support the local response are coordinated by the MEMA Region II Manager out of the MEMA Region II EOC **temporarily located in Framingham**. The MEMA Region II plan has more details on response actions. The MEMA State EOC coordinates activation of the sirens and EAS to notify the public.

3.1.3 Federal Organizations

Upon request for assistance from the MEMA Director on behalf of the Governor, the Federal Emergency Management Agency (FEMA) Region I will activate the National Response Framework (NRF). Provisions are also in place whereby the MDPH Commissioner may request technical assistance directly from the U.S. Department of Energy (DOE) Region I. This technical assistance is explained in the Nuclear Radiological Incident Annex, which comes under NRF but may be implemented separately. More information on the Federal response is contained in the Federal plans or in Section 4 of this plan.

The U.S. Coast Guard will assist in clearing and maintaining access control for the waterway EPZ at the SITE AREA EMERGENCY level.

3.1.4 Private Organizations

The American Red Cross will operate and manage mass care shelters in host communities as

requested.

The Radio Amateur Communications Emergency Services (RACES) organization provides back-up communications capability at the local, region and State levels.

Restricting rail traffic would take place at the SITE AREA EMERGENCY level. Old Colony Railroad operates a line into Kingston and Plymouth, which is utilized by the MBTA. A second set of tracks, used by both CSX (formerly Conrail) and Old Colony Railroad, is outside the EPZ but impacts on primary evacuation routes.

3.1.5 Utility Response

The response actions of the Pilgrim Station onsite organization are outlined in the utility's plan. The plan also contains information on the interface between the utility and State/local officials in the areas of notification, accident assessment, protective action recommendations, field monitoring and recovery activities. For more information, refer to the Station Plan.

3.2 EMERGENCY RESPONSE FACILITIES

3.2.1 Local Facilities

Each town involved in response activities operates an Emergency Operations Center (EOC) or Command Center. The locations of these centers are:

Plymouth	-	Office of Emergency Management, 2209 State Road
Kingston	-	Fire Station, Pembroke Street
Duxbury	-	Fire Station, Tremont Street
Marshfield	-	Police Station, Ocean Street
Carver	-	Town Hall, Main Street
Bridgewater	-	Office of Emergency Management, 166 Mt. Prospect St.
Taunton	-	88 Ingell Street
Braintree	-	Town Hall, John F. Kennedy Memorial Drive

A Regional Emergency Worker Monitoring and Decontamination Station (REWMDS), which can be used by any (local, State or Federal) emergency worker, has been designated and staff have been trained to monitor and decontaminate personnel, equipment and vehicles. The station is located at the **John Carver School**, Route 58 in Carver, Massachusetts.

The host communities of Bridgewater, Braintree and Taunton are responsible for activating reception centers for the evacuating public. The reception centers, located at Bridgewater State University, Braintree High School and Taunton High School, and operated by members of the host communities' emergency response organizations, provide for the following services:

- Registration and, if necessary, assignment and transportation to a mass care shelter.
- Registration information on evacuees.
- Monitoring for radiological contamination of people, belongings, and vehicles, and decontamination where necessary.

The Incident Command post is the field location at which the primary tactical-level, on- scene incident command functions are performed if there is a Hostile Action Based incident. The Incident Commander (IC) would provide direction and command of the tactical response to Hostile Action Based incident. The IC would also provide direction and command over the Tactical Staging Area. The ICP will maintain communications with the State EOC.

See host community and reception center plans for specific details and maps of the reception centers' locations.

3.2.2 State Facilities

The State EOC is located at MEMA Headquarters in Framingham. From this location, the MEMA Director, on behalf of the Governor, commands and controls the State's emergency response activities. State staff will be dispatched to the Pilgrim Station Emergency Operations Facility (EOF) located in the Plymouth County Sheriff's Department, Obery Street, in Plymouth.

State staff will also be represented at the Joint Information Center located at the Entergy Industrial Park Training Center, 71 Armstrong Road, in Plymouth.

The MEMA Region II EOC is **temporarily** located **in Framingham at 400 Worcester Road.**

Massachusetts Department of Transportation (MassDOT) Staging Areas from which personnel, equipment and vehicles are needed for response are dispatched from the MassDOT Maintenance Garages at Middleborough (Vine Street), Sagamore, Whitman, and Braintree.

3.2.3 Federal Facilities

The Federal Response Center (FRC), established by FEMA, serves as the focal point of Federal response team interactions with the State. It is the responsibility of FEMA to select an appropriate site.

The Federal Radiological Monitoring and Assessment Center (FRMAC) established by the U.S. DOE, serves as the base of operations for federal field monitoring and sampling, lab analysis of samples and accident assessment activities. It is the responsibility of DOE to select an appropriate FRMAC site.

3.2.4 Private Facilities

The American Red Cross will operate and manage mass care shelters for evacuees. These shelters have been identified and are listed in host community and/or reception center procedures and RERPs.

3.2.5 Utility Facilities

The Technical Support Center (TSC) is located onsite on the ground floor of the Administration Building. Upon activation, the TSC provides facilities near the Control Room for technical, engineering and management support of operations personnel during emergency conditions. The TSC serves as both the primary communications link between the Control Room and the Emergency Operations Facility (EOF) and the primary communications center for the plant during an emergency.

The Operations Support Center (OSC) is located onsite on the ground floor of the Administration Building next to the TSC. The OSC serves as the onsite assembly area for pre-designated

operations support personnel.

The Emergency Operations Facility (EOF) is a hardened facility located in the basement of the Plymouth County facility on Obery Street in Plymouth. During an emergency, the EOF is staffed and equipped to provide for the management of the overall Pilgrim Station emergency response; coordination of radiological and environmental assessment; development of protective action recommendations; and coordination of emergency response activities with Federal, State and local agencies.

In case of an EOF evacuation, operations will be transferred to the Alternate Emergency Operations Facility (AEOF). The AEOF is located at the Carver Town Hall on Main Street in Carver. The AEOF is equipped with maps, office furniture and supplies, commercial telephones and radios.

The Joint Information Center is located at the Entergy Industrial Park Training Center, 71 Armstrong Road in Plymouth. At the ALERT level, the facility is activated and becomes the joint central location from which information about the Utility, State, Town and Federal response activities are coordinated and released by designated spokesmen to the news media. The Joint Information Center is equipped with primary and back-up communications capability, facsimile equipment, document reproduction equipment, maps, office equipment and supplies needed for operations. The facility also has working space and electrical connections for use by the news media. If a radiological or other condition necessitates relocation, Joint Information Center operations will be transferred to an alternate Joint Information Center at the Joseph Moakley Center on the campus of Bridgewater State University in Bridgewater. The State EOC may open a “virtual” JIC at the SEOC.

Pilgrim Station has established two utility-owned, offsite assembly areas for use if an evacuation of non-essential workers from the plant site were necessary. The first is the cafeteria located across from the Pilgrim Station Support Building. The second is located at the Training Center in Chiltonville. (See the Pilgrim Station Plan for more information concerning these facilities.)

3.3 EMERGENCY COMMUNICATIONS

3.3.1 Dedicated Notification Network/InForm

Notification to State and local authorities is accomplished over the Dedicated Notification Network/InForm (DNN), which requires acknowledgement. The PNPS Control Room (or EOF when activated) initiates the DNN/Inform to the following drops listed below. The DNN/InForm in the towns are primary acknowledgement stations switched from the 24-hour point to the EOCs upon activation. In the case of the Braintree Reception Center, MEMA Headquarters calls the key local personnel to initiate the Braintree Reception Center notification procedure. Once activated, the Braintree Command Center may receive communication via the DNN/InForm.

MEMA Region II **will be notified via a telephone call from MEMA Headquarters Dispatch.**

In addition to providing initial notification, the DNN/InForm is used to provide the utility's follow-up information to all listed locations below. See Figure EX2-2 for the DNN/InForm System Flow.

- MEMA State EOC Dispatch
  MEMA EOC at the State EOC
- MEMA Region II **(Via MEMA HQ Dispatch)**
- Plymouth Police Department
  Plymouth EOC
- Kingston Police Department
  Kingston EOC
- Duxbury Regional Emergency Communications Center
  Duxbury EOC
- Carver Town Dispatch Center (Police Department)
  Carver EOC
- Marshfield Police Department
  Marshfield EOC
- Bridgewater Fire Department
  Bridgewater EOC
- Taunton Police Department
  Taunton EOC

- Braintree Command Center

3.3.2 BECONS

The secondary utility communications link to offsite response organizations is the BECONS radio. BECONS is a controlled access radio network linking the same locations as the DNN/InForm system. In addition to serving as the utility back-up for notification, the BECON system is used by the Commonwealth and towns as a primary communications system for emergency information. State protective action directives occur over the BECON system from MEMA State EOC to **the towns**.

In the event of a credible airborne threat to PNPS, Pilgrim will initially notify MEMA via the BECONS.

3.3.3 Back-up Systems

3.3.3.1 Telephone

Commercial telephone lines serve as the back-up to the dedicated ringdown telephone and the BECON System for notification. For facilities without the DNN/InForm or BECON System, commercial telephones serve as the primary system.

3.3.3.2 Radio Amateur Communications Emergency Services (RACES)

A Radio Amateur Communications Emergency Services (RACES) net operates out of each of the EOCs and the Reception Centers as a supplement to and back-up for primary and secondary systems.

3.3.3.3 HAB Communications Links

If necessary, additional communications links will be established between the Incident Command Post and the State EOC.

3.4 PUBLIC INFORMATION

3.4.1 Public Alerting and Notification System

The Public Alerting and Notification System for the 10-mile EPZ is a combination of sirens and EAS radio. Additionally for current and accurate information, individuals may follow MEMA on social media websites (see www.Mass.Gov/MEMA for more information). Section 4 of this plan describes the overall responsibilities of organizations assigned emergency response tasks. For the towns and MEMA Region II, this information is contained in Section II, Part A of their respective plans.

At ALERT, the Town of Plymouth will notify and implement a precautionary clearing of all persons in the Saquish Neck, Gurnet Point and Clarks Island neighborhood. If the public address mechanism of the fixed sirens is used, Plymouth officials will advise contiguous towns and MEMA (Region II EOC) of the notification and precautionary action.

4.0 RESPONSIBILITIES

Section 4 of this plan describes the overall responsibilities of organizations assigned emergency response tasks. For the towns and region responders, this information is contained in Section II, Part A of their respective plans.

4.1 HAB Responsibilities

Radiological protection and briefing during a HAB incident at the Incident Command Post will be the responsibility of the Incident Commander. MEMA Region II will be responsible for providing radiological protection and a “quick” dosimetry briefing to personnel at the Tactical Staging Area.

5.0 PLAN IMPLEMENTATION

5.1 EMERGENCY CLASSIFICATION SYSTEM

Response actions are triggered by the emergency classification level declared by the utility. Section 2.10 of this plan defines the classification system. Section 5 of this plan describes general actions taken at each level.

5.2 RESPONSE ACTIONS

Section II of the MEMA Region II plan summarizes specific actions taken in response to an accident, including a Hostile Action Based incident, at PNPS.

6.0 WARNING AND NOTIFICATION

Notification of a declaration of any of the emergency classes will be made to the State and local authorities (see page EX2-14 and 15 for calldown list) over a Dedicated Notification Network/Inform (DNN) by Control Room personnel. MEMA State EOC will notify MDPH over commercial telephone and/or with other notification systems. MDPH will then contact the Control Room to obtain additional information. MDPH will then pass along the information to MEMA.

7.0 ACCIDENT ASSESSMENT

7.1 ASSESSMENT

MDPH has the primary responsibility for assessing the offsite consequences of an accident and the impact on public health. Field monitoring teams will be staged and dispatched from the EOF in Plymouth.

Accident Assessment is discussed in detail in Section 7 of this plan. For further details, refer to the NIAT Handbook.

7.2 MONITORING TEAMS/INGESTION PATHWAY

MDPH uses the parking lot of the EOF as the staging area for field monitoring teams. The teams are dispatched and directed from the staging area. The EOF serves as the central point for the collection and analysis of data from field teams and results from lab analysis of samples. Monitoring kits used by State field teams are stored at the EOF. Information on monitoring can be found in the NIAT Handbook. If an evacuation of the EOF were necessary, staging area activities would move to the Alternate EOF.

Ingestion Pathway Sampling Teams are comprised of personnel from various State agencies. Sampling kits used by Ingestion Sampling Teams are maintained by MDPH and brought to a location designated at the time of the emergency.

7.3 MONITORING SITES

A map of preselected monitoring and sampling sites can be found in Section II, Part J of the MEMA Region II and towns' RERPs.

8.0 PROTECTIVE AND PRECAUTIONARY ACTIONS

Section 8 outlines the agencies responsible for implementation of protective and precautionary actions determined necessary to protect the public. Protective action directives for the PNPS area are issued by subarea for ease in transmitting instructions to the public. Specific details on sheltering for permanent and temporary populations can be found in local Shelter Implementation Plans. Information on evacuation routes, road capacity and evacuation route maps may be found in the MEMA Region II RERP.

The Town of Plymouth RERP calls for the precautionary clearing of Saquish Neck, Gurnet Point and Clarks Island at ALERT. This precautionary action may be implemented by the town.

9.0 RADIOLOGICAL EXPOSURE CONTROL

The MDPH policies and standards for radiological exposure control are in keeping with federal guidance. Section 9 of this plan and Section II, Part K of the MEMA Region II and towns' plans contain more information.

10.0 SUPPORTIVE ACTIONS

Section 10 of this plan contains information on support functions. Site-specific information follows:

10.1 EMERGENCY MEDICAL SERVICES

Resources needed for the transport of ambulance-dependent persons have been identified.

Letters of Agreement for ambulance and chair lift van support have been obtained. (See Section V of the MEMA Region II Plan.) These resources will be used to assist in the evacuation of Beth Israel Deaconess Hospital, area nursing homes and homebound patients who may be mobility-impaired.

10.2 HOSPITALS

The Beth Israel Deaconess Hospital in Plymouth serves as the primary hospital for receiving contaminated injured plant workers. If Beth Israel Deaconess Hospital must be evacuated, Morton Hospital/ Steward Health Care in Taunton becomes the primary facility for receiving contaminated injured plant workers. For members of the general public from Bridgewater and Taunton Reception Centers, Caritas Good Samaritan Medical Center is the primary treatment facility. Personnel that exceed limits for thyroid levels and cannot be effectively decontaminated at the Reception Centers' can be treated at Caritas Good Samaritan Medical Center. Morton Hospital/ Steward Health Care in Taunton will serve as the primary facility for the Braintree Reception Center.

In addition to the above named hospitals, other support hospitals in the region have been identified for treatment of contaminated personnel. The hospitals are listed in the MEMA Region II RERP, Section II, Part L.

10.3 RECEPTION CENTERS

Procedures have been developed to open and staff reception centers in Bridgewater, Taunton and Braintree at the SITE AREA EMERGENCY level, or before if directed, to ensure that if an evacuation is deemed necessary later on, or if spontaneous evacuation occurs, these facilities would be ready to receive region residents.

At the Reception Centers, evacuees will be registered, monitored, decontaminated (if necessary), and assigned and transported to a Red Cross-operated mass care shelter (if lodging is requested and transportation is needed). The registration, monitoring and decontamination of evacuees, including access and functional needs individuals (and service animals), are detailed in the MEMA Region II RERP.

10.4 MASS CARE SHELTERS

A list of identified mass care shelters is in Section II, Part J of the MEMA Region II**,** Bridgewater, Braintree and Taunton RERPs.

10.5 TRANSPORTATION PROVIDERS

10.5.1 Resources and Actions

Because of the number of schools, nursing homes and other special facilities within the EPZ, transportation resources have been identified and Letters of Agreement obtained (see MEMA Region II Plan, Section V).

Vehicles will be staged at the ALERT level at schools pre-identified (by procedures) as requiring transportation assistance.

At the SITE AREA EMERGENCY level, vehicles will be staged at four locations around the EPZ. These staging areas are:

- Scusset Beach, Plymouth
- Carver Police Station, Rte. 58, Carver
- Martinson Elementary School, Marshfield
- Silver Lake Regional Middle School, Kingston

From these staging areas, the vehicles will be dispatched to pre-identified sites (by procedure) and to facilities requesting transportation assistance through the town EOC. (See MEMA Region II and EPZ town plans for additional information.)

10.5.2 Pickup Points and Bus Routes

Buses will also be used along pre-identified routes and at designated points to pick up people without transportation. The routes and pickup points are published in public information materials distributed annually to region residents (see EPZ town plans, Section II, Part G).

10.5.3 Access and Functional Needs Individuals

Vans and/or chairlift vans may also be dispatched to the homes of persons identified through an annual mailing as having access or functional needs, or who call their town EOC and request transportation assistance, including those whose condition precludes their walking to a pick-up point or bus route. Ambulances will be provided for those persons who require them.

10.5.4 Traffic and Access Control

Traffic and access control plans are located in the Evacuation Time Estimate and in the Traffic Management Plan for Pilgrim Nuclear Power Station.

Access will be controlled for inbound first responders to Pilgrim Station for a HAB incident in accordance with Pilgrim Station security procedures. Impediments and obstacles will be removed in the most expedient manner to provide prompt access for these inbound first responders.

11.0 RELOCATION, RE-ENTRY, RETURN AND RECOVERY

Section 11 of this plan outlines the process for these actions. The MEMA Region II and towns' activities are described in Section II, Part M of their respective plans.

12.0 EMERGENCY PUBLIC INFORMATION

12.1 EMERGENCY PUBLIC INFORMATION CALENDAR

Each year, Pilgrim Station, in conjunction with MEMA and MDPH, publishes and distributes an Emergency Public Information Calendar to EPZ residents. Additional copies of this calendar are available from Pilgrim Station, Massachusetts Emergency Management Agency, or the towns' Emergency Management offices.

12.2 INFORMATION FOR FARMERS

The Massachusetts Department of Public Health has prepared a Radiological Emergency

Information Brochure for distribution among farmers, food processors and food distributors. This information will be available to farmers, food processors and distributors through an EAS announcement and/or brochures within 50 miles of the Ingestion Pathway.

12.3 EMERGENCY INFORMATION IN THE TELEPHONE DIRECTORY

Pilgrim Station has prepared emergency public information and purchased space for its publication in the Marshfield-Plymouth Verizon telephone directory, which serves the towns of Plymouth, Carver, Duxbury, Kingston and Marshfield.

Table EX2-1
Population Distribution
Source: KLD's Evacuation Time Estimates (2012)

Table 3.1, EPZ Permanent Resident Population

Town	Subarea	2000 Population	2010 Population
Plymouth	1	2,484	3,710
Plymouth	2	6,975	8,985
Plymouth	3	10,194	10,946
Plymouth	4	15	17
Plymouth	5	14,317	15,546
Plymouth	6	9,896	8,305
Plymouth	7	7,820	8,959
Kingston	8	11,780	12,629
Duxbury	9	14,248	15,059
Marshfield	10	1,388	2,329
Carver	11	8,010	7,479
Total		87,127	93,964
EPZ Population Growth			7.85%

Table 3.4, EPZ Transient Population

Town	Subarea	Transients	Transient Vehicles
Plymouth	1	108	50
Plymouth	2	1,531	617
Plymouth	3	3,311	1,400
Plymouth	4	0	0
Plymouth	5	3,079	1,126
Plymouth	6	2,737	1,070
Plymouth	7	1,572	839
Kingston	8	292	103
Duxbury	9	6,102	2,224
Marshfield	10	1,298	507
Carver	11	715	256
Total		20,745	8,192

Table 3.5, EPZ Employee Data

Town	Subarea	Employees	Employee Vehicles
Plymouth	1	301	287
Plymouth	2	0	0
Plymouth	3	171	163
Plymouth	4	0	0
Plymouth	5	44	42
Plymouth	6	15	14
Plymouth	7	615	586
Kingston	8	0	0
Duxbury	9	0	0
Marshfield	10	0	0
Carver	11	0	0
Total		1,146	1,092

Table EX2-2
Descriptions of Evacuation Regions

Basic Regions													
Region	Description	Site PAR Description	Sub-area 1	2	3	4	5	6	7	8	9	10	11	12
R01	2-Mile Radius	2-Mile Ring	x											x
R02	5-Mile Radius	5-Mile Ring	x	x	x	x								x
R03	Full EPZ	10-Mile Ring	x	x	x	x	x	x	x	x	x	x	x	x
Evacuate 2-Mile Radius and Downwind to 5 Miles														
Region	Wind Direction From:	Site PAR Description	Sub-area 1	2	3	4	5	6	7	8	9	10	11	12
R04	NW, NNW, N	306° - 019°	x	x										x
R05	NNE, NE, ENE	020° - 069°	x	x	x									x
R06	E	070° - 122°	x		x									x
R07	ESE, SE	123° - 140°	x		x	x								x
R08	SSE, S	141° - 183°	x			x								x
N/A	SSW, SW, WSW, W, WNW	184° - 305°	Refer to Region R01											
Evacuate 5-Mile Radius and Downwind to the EPZ Boundary														
Region	Wind Direction From:	Site PAR Description	Sub-area 1	2	3	4	5	6	7	8	9	10	11	12
R09	NW, NNW, N	319° - 019°	x	x	x	x	x							x
R10	-	020° - 021°	x	x	x	x	x	x						x
R11	NNE, NE	022° - 056°	x	x	x	x	x	x					x	x
R12	-	057° - 066°	x	x	x	x		x					x	x
R13	-	067° - 069°	x	x	x	x		x	x				x	x
R14	ENE	070° - 103°	x	x	x	x		x	x	x			x	x
R15	E, ESE	104° - 109°	x	x	x	x		x	x	x	x		x	x
R16	-	110° - 115°	x	x	x	x		x	x	x	x			x
R17	-	116° - 129°	x	x	x	x			x	x	x			x
R18	SE	130° - 132°	x	x	x	x			x	x	x	x		x
R19	-	133° - 140°	x	x	x	x				x	x	x		x
R20	SSE, S	141° - 175°	x	x	x	x					x	x		x
R21	-	176° - 179°	x	x	x	x						x		x
N/A	SSW, SW, WSW, W, WNW	180° - 318°	Refer to Region R02											
Staged Evacuation - 2-Mile Radius Evacuates, then Evacuate Downwind to 5 Miles														
Region	Wind Direction From:	Site PAR Description	Sub-area 1	2	3	4	5	6	7	8	9	10	11	12
R22	None	5-Mile Ring	x	x	x	x								x
R23	NW, NNW, N	020° - 069°	x	x										x
R24	NNE, NE, ENE	070° - 122°	x	x	x									x
R25	E	123° - 140°	x		x									x
R26	ESE, SE	141° - 183°	x		x	x								x
R27	SSE, S	184° - 305°	x			x								x
N/A	SSW, SW, WSW, W, WNW	2-Mile Ring	Refer to Region R01											
Key														
Shelter-in-Place until 90% ETE for R01, then Evacuate			Sub-area(s) Shelter-in-Place							Sub-area(s) Evacuate				

Source: KLD's Evacuation Time Estimates (2012)

Figure EX2-1
EVACUATION MAP

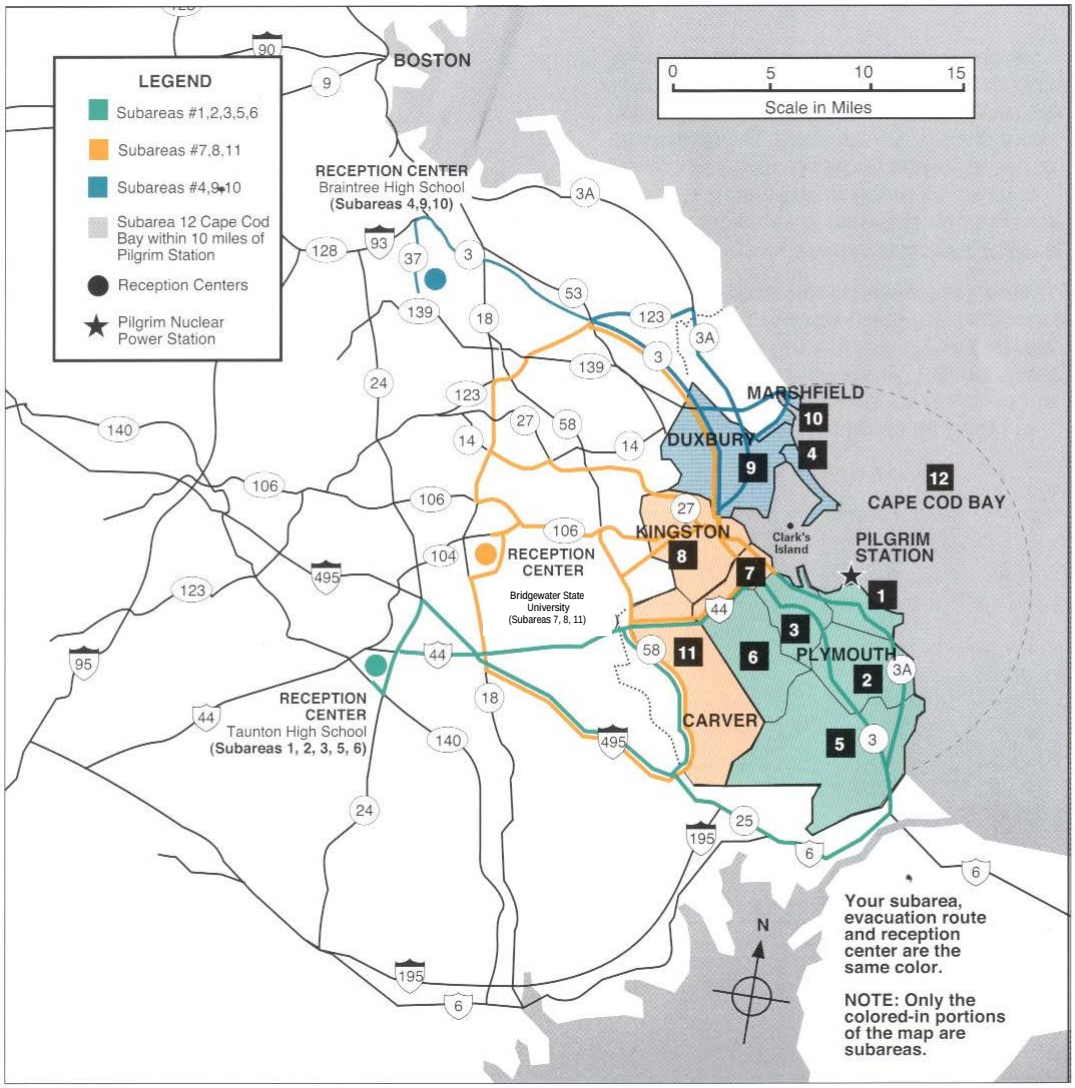

Figure Ex2-2

Pilgrim Nuclear Power Station
Prompt Notification System Flow

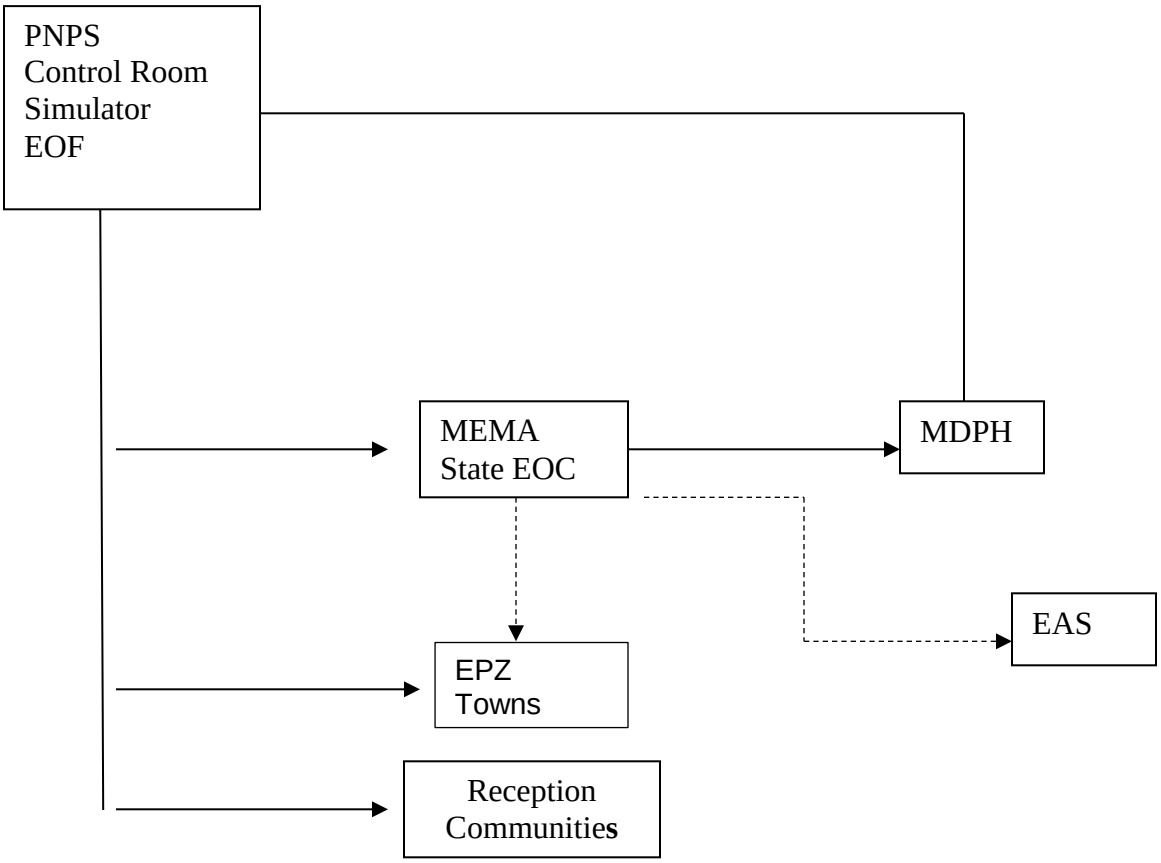

Table 7-2. Time to Clear the Indicated Area of *100* Percent of the Affected Population

	Summer		Summer		Summer	Winter			Winter			Winter	Summer	Summer
	Midweek		Weekend		Midweek Weekend	Midweek			Weekend			Midweek Weekend	Weekend	Midweek
Scenario:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Region	Midday		Midday		Evening	Midday			Midday			Evening	Evening	Midday
	Good Weather	Rain	Good Weather	Rain	Good Weather	Good Weather	Rain	Snow	Good Weather	Rain	Snow	Good Weather	Special Event	Roadway Impact
Entire 2-Mile Region, 5-Mile Region, and EPZ														
R01	4:30	4:30	4:30	4:30	4:30	4:30	4:30	6:00	4:30	4:30	6:00	4:30	4:30	4:30
R02	4:35	4:35	4:35	4:35	4:35	4:35	4:35	6:05	4:35	4:35	6:05	4:35	4:35	4:35
R03	4:40	4:40	4:40	4:45	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:50
2-Mile Region and Keyhole to 5 Miles														
R04	4:35	4:35	4:35	4:35	4:35	4:35	4:35	6:05	4:35	4:35	6:05	4:35	4:35	4:35
R05	4:35	4:35	4:35	4:35	4:35	4:35	4:35	6:05	4:35	4:35	6:05	4:35	4:35	4:35
R06	4:35	4:35	4:35	4:35	4:35	4:35	4:35	6:05	4:35	4:35	6:05	4:35	4:35	4:35
R07	4:35	4:35	4:35	4:35	4:35	4:35	4:35	6:05	4:35	4:35	6:05	4:35	4:35	4:35
R08	4:35	4:35	4:35	4:35	4:35	4:35	4:35	6:05	4:35	4:35	6:05	4:35	4:35	4:35
5-Mile Region and Keyhole to EPZ Boundary														
R09	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:40
R10	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:40
R11	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:40
R12	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:40
R13	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:40
R14	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:40
R15	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:50
R16	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:55
R17	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:55
R18	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:55
R19	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:40
R20	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:40
R21	4:40	4:40	4:40	4:40	4:40	4:40	4:40	6:10	4:40	4:40	6:10	4:40	4:40	4:40
Staged Evacuation - 2-Mile Region and Keyhole to 5 Miles														
R22	4:35	4:35	4:35	4:35	4:35	4:35	4:35	6:05	4:35	4:35	6:05	4:35	4:35	4:35
R23	4:35	4:35	4:35	4:35	4:35	4:35	4:35	6:05	4:35	4:35	6:05	4:35	4:35	4:35
R24	4:35	4:35	4:35	4:35	4:35	4:35	4:35	6:05	4:35	4:35	6:05	4:35	4:35	4:35
R25	4:35	4:35	4:35	4:35	4:35	4:35	4:35	6:05	4:35	4:35	6:05	4:35	4:35	4:35
R26	4:35	4:35	4:35	4:35	4:35	4:35	4:35	6:05	4:35	4:35	6:05	4:35	4:35	4:35
R27	4:35	4:35	4:35	4:35	4:35	4:35	4:35	6:05	4:35	4:35	6:05	4:35	4:35	4:35

EXHIBIT 3

VERMONT YANKEE NUCLEAR POWER STATION

RETIRED

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SEABROOK STATION
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SEABROOK STATION

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EXHIBIT 4
SEABROOK STATION

1.0 PURPOSE

This Exhibit provides site-specific information regarding state and local response to a radiological emergency at Seabrook Station. For further information concerning planning concepts common to all nuclear power stations affecting Massachusetts, refer to the Massachusetts Emergency Response Plan (MARERP). See Exhibit 7 for a list of procedures.

2.0 LOCATION

2.1 SITE DESCRIPTION

Seabrook Station consists of approximately 896 acres located near the northern boundary of the Town of Seabrook, Rockingham County, New Hampshire. The site is situated about 8 miles southeast of the County Seat of Exeter; 5 miles northeast of Amesbury, Massachusetts; and 2 miles west of the Hampton Harbor Inlet. The site is located on a point of land called "The Rocks", between two small tidal estuaries, the Brown's River and the Hunt's Island Creek. The center of the Metropolitan Boston area is approximately 40 miles south-southwest of the site. The site is bounded on the north, east, and south by marshlands. The only access to the site is from the west via three roads entering from U.S. Route 1. A railroad spur enters the site from the Boston and Maine Railroad line, located west of the station. All access to the site is under the control of Seabrook Station.

The plant employs a four-loop, pressurized water reactor and support auxiliary systems designed by Westinghouse Electric Company. The nuclear unit is housed in a steel-lined reinforced concrete containment structure and a concrete containment enclosure structure. These structures were designed by United Engineers and Constructors, Inc.

The plant will be operated at core levels up to and including 3648 megawatts thermal (MWth). This level corresponds to a nuclear steam supply system thermal output of 3666 MWth and a corresponding gross electrical output of 1294 Mwe.

A complete site and plant description can be found in the Seabrook Station Updated Final Safety Analysis Report.

2.2 REGION CHARACTERISTICS

Massachusetts is south of Seabrook Station. A seasonal, overnight and daily transient population during the summer period is associated with the beaches and other recreational facilities in the vicinity. The coastal beaches within 10 miles of Seabrook Station extend from Plum Island Beach in Newbury, Massachusetts, to Wallis Sand Beach in Rye, New Hampshire. Major Massachusetts beaches in the area are Plum Island and Salisbury Beach. The Parker River National Wildlife Refuge is located in the town of Newbury approximately nine miles south of the site, and has a total of 6,403 acres.

The major north-south routes through the Massachusetts portion of a 10-mile radius are Interstate 95, U.S. Route 1, and State Route 1A along the coast. Major east-west routes in the area are Interstate 495, and the State Routes 110 and 113, all extending southwest from the site and running parallel with the Merrimack River.

There is one licensed commercially operated dairy farm in Massachusetts within 10 miles of Seabrook Station. The farm is located in Newburyport and West Newbury. There are no milk processors, milk distributors or cheese manufacturers in this area. In addition, there are ten non-milk commercial food producers, one or two farms per community, within 10 miles.

Seafood production and distribution is a major commercial operation in communities along the coast. There are a number of shellfish beds running from Newburyport south to Hingham, Massachusetts.

2.3 EMERGENCY PLANNING ZONES

There are two emergency planning zones (EPZs) surrounding the Seabrook Station that relates to two predominant exposure pathways: Plume Exposure Pathway and Ingestion Exposure Pathway.

2.3.1 Plume Exposure Pathway

The Plume Exposure Pathway EPZ in Massachusetts located completely within Essex County and includes six communities. No Massachusetts community or portion thereof falls within the 0-2 mile zone. The closest communities are Amesbury and Salisbury, both located within the 2-5-mile zone. Within the 5-10 mile zone are the Towns of Merrimac, Newbury, West Newbury and the City of Newburyport. All areas within the Plume Exposure Pathway EPZ in Massachusetts are within one of these six communities.

The communities are governed by either a Board of Selectmen or a City Council with administrative control of the municipality usually by either a Town Manager or Mayor. Each community has police, fire, ambulance, and emergency management capabilities. The Emergency Management Director is responsible for local emergency planning.

The Town of Salisbury is approximately 4 miles from Seabrook Station with the town's northern-most border 2 miles south of Seabrook Station. Principal highways in Salisbury include Interstate 95, U.S. Route 1, and State Routes 1A and 110. Routes I-95 and U.S. 1 run north and south and are primary routes between Massachusetts and New Hampshire. Special facilities in Salisbury include public schools, day care centers/nursery schools, Boys and Girls Club, adult/group homes, a women’s detention center and a state reservation for summer camping, and Salisbury Beach.

The City of Amesbury is approximately 5 miles from Seabrook Station with the closest border 3 1/2 miles southwest of Seabrook Station. Principal highways in Amesbury include Interstates 495 and 95, and State Routes 110 and 150. Special facilities include the Amesbury Health Center, public/private schools, day care center/nursery schools, and nursing/adult/group homes.

The City of Newburyport is located approximately 6 miles south of the plant. Newburyport is the largest Massachusetts municipality within the Plume Exposure Pathway EPZ with an approximate population of 17,417. Principal highways in Newburyport include Interstate 95, U.S. Route 1, and State Routes 1A and 113. Special facilities in Newburyport include public and private schools, a general hospital, nursing/adult/group homes, and day care centers/nursery schools, and Maudsley State Park and Plum Island Beach.

The Town of West Newbury is approximately 9 1/2 miles southwest with the northern-most border approximately 7 1/2 miles from the plant. Principal highways include Interstate 95 and State Route 113. Special facilities include public schools and day care centers/nursery schools.

The Town of Merrimac is approximately 9 miles south-southwest of Seabrook Station. The closest border of Merrimac is 7 1/2 miles from the plant. Interstate 495 and State Route 110 are the principal highways through Merrimac. Special facilities include public schools and nursing/adult/group homes.

The Town of Newbury is approximately 8 miles south of Seabrook Station with the closest border approximately 6 1/2 miles from the plant. Principal highways include Interstate 95, U.S. Route 1, and State Route 1A. Special facilities include public and private schools, nursing/adult/group homes, and, Plum Island Beach and Parker River National Wildlife Refuge.

2.3.2 Ingestion Exposure Pathway

The Ingestion Exposure Pathway EPZ is the area within an approximate 50-mile radius of Seabrook Station. The portion of the Commonwealth of Massachusetts which is situated within the Ingestion Exposure Pathway EPZ for Seabrook Station includes the counties of Essex and Suffolk entirely, and parts of Middlesex, Norfolk, Plymouth, and Worcester counties. The principle radiation exposure expected in this EPZ results from ingestion of contaminated water or foods such as milk, fresh vegetables, or aquatic foodstuffs. The duration of potential exposure could range from hours to months. For this EPZ, the planning effort involves the identification of the major exposure pathways for contaminated food, milk, water, and the associated control and interdiction points and methods. Although the nature of the Ingestion Exposure Pathway EPZ hazards generally allows more time for protective actions, implementation of early protective actions should minimize subsequent contamination of milk or other food supplies. Such protective actions are described in Section 8 of the Massachusetts Radiological Emergency Response Plan.

2.4 POPULATION DATA

2.4.1 Census

The Seabrook Station Plume Exposure Pathway EPZ includes portions of the State of New Hampshire and the Commonwealth of Massachusetts. Figure EX4-1 is a map of the area within 10 miles of the site showing population figures by planning areas. Concentric circles have been drawn at two, five, and ten-mile radii with the center of the circles located midway between the center of the Seabrook Station reactor containment building. The circles have been divided into 22 1/2^{o} sectors with each sector centered on one of the 16 cardinal compass points.

Within the 2-5 mile zone, the Massachusetts permanent population is approximately 24,500 residents. This includes the population of Salisbury and two-thirds of Amesbury and represents about 47 percent of the entire (Massachusetts and New Hampshire) 0-5 mile permanent population. Within the 5-10 mile zone there are approximately 34,500 Massachusetts residents, approximately half of whom live in Newburyport. The total Massachusetts permanent population of approximately 59,000 residents represents 37 percent of the total Plume Exposure Pathway EPZ permanent population.

The largest Massachusetts (peak) population numbers result from Plum Island, which is in both Newbury and Newburyport. The summer transient population increases the total of the Massachusetts Plume Exposure Pathway EPZ municipalities to approximately 87,345.

2.4.2 Special Considerations

The MEMA Region I Radiological Emergency Response Plan and EPZ community Radiological Emergency Response Plans (RERPs) contain additional information on the following sections, which discuss special case facilities.

2.4.2.1 Health Care Facilities

If an evacuation of the Amesbury Health Center in Amesbury or the Anna Jaques Hospital in Newburyport is necessary, procedures are in place for area hospitals outside the EPZ to receive patients. See the Resource Manual for a list of the host hospitals.

KI may be administered to hospital patients whose immediate evacuation, as determined by their attending physicians, would be life threatening. KI and dosimetry, which is stored in the

appropriate community EOC, will also be available for staff that stays behind to care for such patients.

2.4.2.2 Nursing/Adult/Group Homes

Each facility will be contacted by its respective community beginning at the ALERT level to ensure notification and verify transportation needs. Upon issuance of a protective action directive, each facility is contacted again to ensure notification and to provide specific protective action instructions and any needed assistance. Refer to the community RERPs for more detail.

Host facilities outside the EPZ and transportation resources have been identified and procedures are in place if an evacuation were necessary.

KI may be administered to nursing home patients whose immediate evacuation, as determined by their attending physicians, would be life threatening. KI and dosimetry, which is stored in the appropriate community EOC, will also be available for staff staying behind to care for such patients.

2.4.2.3 Schools

Each school will be contacted by its respective community beginning at an ALERT level to ensure notification and verify transportation needs. Upon issuance of a precautionary transfer directive or protective action directive to evacuate or shelter-in-place, each school is contacted again to ensure notification and to provide specific instructions and any needed assistance. Provisions have been made to provide buses to the schools in the event that a precautionary transfer or evacuation is directed for school children. If this occurs, students would be transported to a school host facility outside the EPZ and held for parental pickup. Parents are informed in advance of these provisions through the emergency public information **material** mailed annually to EPZ residents. If a release occurs or an evacuation order is given before the children reach their host facility, the MEMA Director may order their diversion to a Reception Center for monitoring and decontamination, if necessary. They will then proceed to host facilities to await parental pickup. During the emergency, parents will be informed of the implementation of these precautionary and protective actions via the Public Alert and Notification System (PANS) and/or through news releases.

There are public and private schools, which, although located outside the EPZ, have students who reside within the EPZ. At the ALERT level, the community will contact these schools and request that the EPZ students be retained and supervised until parental pickup. Parents would be informed of these actions in the same manner described in the previous paragraph. Further details on schools may be found in the EPZ community RERPs and school/superintendent plans.

2.4.2.4 Day Care Centers/Nursery Schools/Family Daycares

Each facility will be contacted by its respective community at the ALERT level to ensure notification is received. At the ALERT level, the staff informs the community of any projected transportation resource needs. Provisions have been made to provide vehicles to the facilities in the event that a precautionary transfer or evacuation is recommended for the facilities. If this occurs, each facility will be contacted again to ensure notification and to provide specific instructions and any assistance needed. Children will be transported to a host school facility or under certain circumstances, through the reception center outside the EPZ, described in Section 2.4.2.3, to await parental pickup. Further details on provisions for day care centers and nursery schools/family day cares may be found in the EPZ community RERPs.

2.4.2.5 Beaches, Parks and Recreational Areas

Procedures have been developed to close and clear the beaches, parks and other recreational areas. The following areas may be closed as a precaution as early as ALERT:
Parker River National Wildlife Refuge
Salisbury Beach
Plum Island Beach
Maudslay State Park
Henry Graf Jr., Skating Rink

Plum Island is the site of two popular recreational areas, the Parker River National Wildlife Refuge and the Plum Island State Park. Plum Island is comprised of land in four communities, two of which are in the EPZ: From north to south they are Newburyport (EPZ), Newbury (EPZ), Rowley and Ipswich. The only road access to Plum Island is the Plum Island Turnpike Bridge

in Newbury. In the event of a precautionary clearing or evacuation of Plum Island, all evacuation traffic (other than boats) would pass off the island via the bridge on the Plum Island Turnpike in Newbury.

Local harbormasters may notify boaters on the Merrimack River and near shore waters. Notification to visitors of these precautionary/protective actions may be made through the Public Alert and Notification System and News Releases. Signs will be posted in the vicinities of these facilities that describe the appropriate response action of the visitors. Further details on provisions for recreational areas may be found in the EPZ community RERPs.

2.4.2.6 Waterway EPZ

Arrangements are in place whereby, as a precaution, EPZ community harbormasters may begin clearing waterways, including rivers, marinas, and near-shore waters, for their respective communities. This may occur as early as ALERT. Harbormasters will assist each other in the clearing of waterways. Notification to boaters will be via broadcast over marine radio and by patrol craft equipped with PA-systems. Further details on provisions for recreational areas may be found in the Newburyport, Newbury, Salisbury, and Amesbury RERPs.

In addition, the U.S. Coast Guard has procedures to establish the marine safety zone for Seabrook Station at the SITE AREA EMERGENCY level, unless otherwise directed by New Hampshire Homeland Security and Emergency Management (the host state). Boaters will be informed through an Urgent Marine Information Broadcast to leave the restricted area. Coast Guard boats patrolling the area will ensure that all boaters are aware of the clearing of the waterway.

2.4.2.7 Detention Facilities

Salisbury houses the Women in Transition Detention Center. Responsibility lies with the Essex County Sheriff's office to provide transportation and evacuation of these individuals. The MEMA Region I office will notify the Essex County Sheriff's office at the ALERT level to keep them apprised of the emergency and protective action recommendations.

Police chiefs within the EPZ having detainees in their charge within the affected area at the time

of an emergency may choose to release them on their own recognizance or continue to hold them and implement protective measures on their behalf. The police chiefs will make the determination as to what action is appropriate.

2.5 EVACUATION TIME ESTIMATES

The amount of time needed to evacuate both the permanent and transient populations under both good and adverse weather conditions is found in the Seabrook Station Evacuation Time Study, **Table EX 4-2.**

3.0 CONCEPT OF OPERATIONS

3.1 EMERGENCY RESPONSE ORGANIZATIONS

3.1.1 Local Organization

Six Massachusetts communities are within the Plume Exposure Pathway EPZ of Seabrook Station. Each community has an appointed Emergency Management Director who will coordinate the community emergency response under direction of its senior municipal official(s). Each community has an emergency operating center (EOC) to serve as the command and control headquarters for community operations. Each community has established a 24-hour contact point to receive notification of a declaration of an emergency. Each community has designated key emergency response personnel who will be notified by the contact point to ensure proper activation of the community EOC.

3.1.2 State Organization

The overall direction of State response actions is the responsibility of the Massachusetts Emergency Management Agency's (MEMA) Director at the State EOC in Framingham. The Massachusetts Department of Public Health (MDPH) has primary responsibility for assessing the health implications of the incident and determining appropriate protective action recommendations.

Seabrook Station falls within MEMA Region I for planning and response process. State actions

to support the local response are coordinated by the MEMA Region I Manager out of the MEMA Region I EOC in Tewksbury. The MEMA Region I Operations Plan has more details on response actions.

In the event of a fast-breaking accident, where the utility recommends that immediate protective actions be taken, MEMA authorizes and coordinates the activation of the Public Alert and Notification System in the EPZ communities to notify the public.

Refer to the Massachusetts RERP and the MEMA Region I RERP for additional details concerning State emergency response actions.

3.1.3 Federal Organization

Upon request for assistance from the MEMA Director, on behalf of the Governor, the Federal Emergency Management Agency (FEMA) Region I will activate the National Response Framework (NRF). Provisions are also in place whereby the MDPH Commissioner may request technical assistance directly from the U.S. Department of Energy (DOE) Region I. This technical assistance is explained in the Nuclear Radiological Incident Annex, which comes under NRF but may be implemented separately.

More information on the Federal response is contained in the Federal plans and in Sections 3.1, 3.2, 3.3, 3.4, 3.6, and 4.4 of the Massachusetts RERP.

The U.S. Coast Guard will notify and restrict waterborne traffic in the marine safety zone. New Hampshire, being the host state, will notify the Coast Guard at ALERT and be the official point of contact with the Captain of the Port in Portland. New Hampshire will coordinate response actions for the marine safety zone with Massachusetts. Harbormasters in the communities will assist the U.S. Coast Guard in near-shore and harbor areas.

New Hampshire, being the host state, will notify and be the official contact with the Automated Flight Service Station (AFSS) in Bangor, Maine. The AFSS will restrict the affected airspace and notify area air traffic authorities of the restriction.

A Support Plan developed for the Parker River National Wildlife Refuge in Newburyport,

Massachusetts provides for closure of the refuge.

3.1.4 Private Organizations

The American Red Cross manages the operation of mass care shelters in the designated reception areas, as requested.

The Auxiliary Communication Service (ACS) is a network of volunteer radio operators using state and privately owned amateur radio equipment to provide additional back-up communications capability.

A Boston and Maine Railroad line passes by the Seabrook Station and runs along the coast in the Massachusetts EPZ. MEMA will notify the MBTA commuter rail in the area and New Hampshire, being the host state, will notify and be the point of contact with the Pan AM Systems for restrictions on rail travel.

Arrangements have been established with public broadcasting stations to provide for an emergency broadcast capability. Refer to the Massachusetts Emergency Alert System Operational Plan for additional details.

3.1.5 Utility Response

The response actions of the Seabrook Station on-site organization are outlined in the utility's plan. The plan also contains information on the interface between the utility and State/local officials in the areas of notification, accident assessment, protective action recommendations, field monitoring and recovery activities. For more information, refer to the Seabrook Station Radiological Emergency Plan.

3.2 EMERGENCY RESPONSE FACILITIES

3.2.1 Local Facilities

Each EPZ community involved in response activities operates an Emergency Operations Center (EOC). From this location, the Emergency Management Director, on behalf of the senior municipal official(s), commands and controls the community's emergency response.

The locations of these centers are:

Amesbury	-	EM Headquarters, 9 School Street
Merrimac	-	Fire Station, 16 E. Main Street
Newbury	-	Town Hall/Police Station, 25 High Road
Newburyport	-	EM Headquarters, 59 Low Street
Salisbury	-	Police Station, 181 Beach Road
W. Newbury	-	EM Headquarters, 401 Main Street

During a Hostile Action Based Incident, an Incident Command post may be established in the State of New Hampshire.

3.2.2 State Facilities

The State EOC is located in Framingham. From this location, the MEMA Director, on behalf of the Governor, commands and controls the State's emergency response.

State staff will be dispatched to the Seabrook Station Emergency Operations Facility (EOF) and the Joint Information Center (JIC), co-located in Portsmouth, New Hampshire and is located approximately 17 miles from the plant.

During a Hostile Action Based Incident, MEMA will send a MEMA Liaison as well as Massachusetts State Police Liaison to the Incident Command Post, if established, to provide communications to MEMA SEOC and to assist in resource requests.

The MEMA Region I EOC is located in the MEMA Region I office space on the grounds of the Tewksbury Hospital complex in Tewksbury, Massachusetts.

The Massachusetts State Police personnel and vehicles needed for response will be dispatched from the State Police Troop A Headquarters in Danvers, Massachusetts.

The Massachusetts Department of Transportation (MassDOT) personnel, equipment and vehicles needed for response will be established through the MHD District 4 facilities.

The Massachusetts National Guard personnel and vehicles needed for response will be

coordinated through the National Guard Representative at the State EOC.

A State Transportation Staging Area is located on the campus of Northern Essex Community College in Haverhill. MEMA Region I is responsible for overseeing activation and management of the staging area.

A reception center in Boxford has been established to service EPZ evacuees in need of radiological monitoring and other assistance. MEMA Region I is responsible for overseeing activation and management of the Masconomet Reception Center located at the Masconomet Regional School in Boxford.

The Reception Center provides for the following services:

- Monitoring for radiological contamination of people, belongings, and vehicles; and decontamination where necessary.
- Registration and, if necessary, assignment and transportation to a mass care shelter and other services such as crisis counseling.
- Information for families and individuals separated at the time of evacuation and who have registered at the reception center.

A Radiological Monitoring and Decontamination (RM&D) area at the Masconomet Reception Center has been established at Masconomet Regional School, Boxford, MA, for use by any (local, State or federal) emergency worker. The facility has staff trained to monitor and decontaminate personnel, equipment and vehicles. EPZ communities will have monitoring capabilities at their EOC for workers authorized to return to the EOC.

3.2.3 Federal Facilities

The Federal Response Center (FRC), established by FEMA, serves as the focal point of Federal response team interactions with the states. It is the responsibility of FEMA to select appropriate site.

The Federal Radiological Monitoring and Assessment Center (FRMAC) established by the U.S. Department of Energy, serves as the base of operations for federal field monitoring and

sampling, lab analysis of samples and accident assessment activities. It is the responsibility of DOE to select an appropriate FRMAC site.

3.2.4 Private Facilities

The American Red Cross will operate and manage mass care shelters for the evacuees in the community facilities identified in the Massachusetts Resource Manual for a Seabrook Station emergency.

3.2.5 Utility Facilities

The Technical Support Center (TSC) is located within Seabrook Station's Protected Area at the Control Room complex. The TSC provides facilities for technical engineering and management support to operations personnel during emergency conditions. The TSC serves as both the primary communications link between the Control Room and the Emergency Operations Facility (EOF) and the primary communications center inside the plant during an emergency.

The Operations Support Center (OSC) is located on-site within Seabrook Station's Protected Area on the ground floor of the Administration Building. The OSC serves as the on-site assembly area for pre-designated operations support personnel.

The Emergency Operations Facility (EOF) and the Joint Information Center (JIC) are co-located in Portsmouth, New Hampshire in a facility that is in an area outside of the EPZ. During an emergency, the EOF is staffed and equipped to provide for the management of the overall emergency response: coordination of radiological and environmental assessment, development of protective action recommendations, and coordination of emergency response activities between Federal, State, and local agencies. The EOF location also houses the New Hampshire Incident Field Office, a facility for the State of New Hampshire comparable to the MEMA Region I EOC in Tewksbury, and a Joint Telephone Information Center which is used to support and monitor State of New Hampshire and utility rumor control and electronic media monitoring activities.

The JIC becomes the location where information from EPZ State, Federal, and utility response organizations is disseminated by designated spokesperson. It is equipped with visual displays,

communications, telephones, and document production equipment and has provisions for supplemental news media activities. MEMA will operate a “virtual JIC” if there is a need.

Seabrook Station's remote monitoring area is located in Portsmouth, New Hampshire and is located approximately 17 miles from the plant. In the event of a release during plant evacuation, unassigned site personnel will be directed to this location for monitoring and decontamination. The evacuation of site personnel to their homes has been factored into state traffic management plans. Evacuation to the remote monitoring area will not impact Massachusetts response or resources.

3.3 EMERGENCY COMMUNICATIONS

For a discussion of communications among principal organizations, see the Massachusetts RERP, Section 3.4 Communications are also discussed in the MEMA Region I RERP and each EPZ community RERP.

The Nuclear Alert System is the primary 24 hr. notification and communication link among the emergency facilities. NAS equipment is installed in Seabrook Station's Control Room, State Police Headquarters in New Hampshire, and Massachusetts State EOC in Framingham, the MEMA Region I EOC in Tewksbury, the New Hampshire State EOC in Concord, New Hampshire, the New Hampshire Incident Field Office and Seabrook Station EOF, both in Portsmouth, New Hampshire.

The MEMA VHF Radio system provides an additional communications link among the Massachusetts off-site emergency facilities: the MEMA State EOC, MEMA Region I EOC, and the six Massachusetts EPZ communities. See the MEMA Region I Operations Plan for a detailed description of the MEMA VHF Radio system. This radio system will serve as the primary notification link to the six EPZ communities.

3.4 PUBLIC INFORMATION

3.4.1 Public Alert and Notification System

The Public Alert and Notification System is comprised of 27 pole-mounted sirens, each having

a 5-tone and public address capability. A complete description of the siren system will be found in the Seabrook Station Public Alert and Notification System FEMA REP-10 Design Report and addenda. Sirens are distributed within the Massachusetts portion of the Plume Exposure Pathway EPZ as follows:

Amesbury	-	4
Merrimac	-	3
Newbury	-	6
Newburyport	-	5
Salisbury	-	5
W. Newbury	-	4

The MEMA Region I RERP and the six EPZ community RERPs show the location of these sirens and describe the overall responsibilities of the organizations assigned to coordinate the activation of this system.

The public alert and notification system is capable of being activated from a central location. MEMA State EOC in Framingham has the capability of activating the sirens in the EPZ. The MA State Police Troop A Headquarters in Danvers has the capability of activating all sirens at one time in the EPZ. In conjunction to the sounding of sirens, the back-up notification system known as CODE RED will also be activated simultaneously by the SEOC or MA State Police Troop-A. Both locations coordinate this activity upon instructions from the MEMA Director.

The EPZ communities, through their local activation points, have the capability of activating any or all of the sirens located within their community. For an accident at Seabrook, local communities would activate their own sirens only if the MEMA State EOC or the MA State Police Troop A Headquarters were unable to activate the sirens. Following activation of the siren system, MEMA State EOC will activate the Massachusetts Emergency Alert System (EAS) stations (98.5 FM, 1030AM, 93.7 FM, 92.5 FM, and 1450 AM) for an incident at Seabrook Station to broadcast an appropriate emergency message with detailed news releases to follow.

Additionally for current and accurate information, individuals may follow MEMA on social media websites (see www.Mass.Gov/MEMA for more information).

4.0 RESPONSIBILITIES

Section 4 of the Massachusetts RERP describes the overall responsibilities of organizations assigned State emergency response functions. Refer to the EPZ Community RERPs and the MEMA Region I Operations Plan for specific State and local response from within the MEMA Region I.

The Seabrook Station Control Room Shift Superintendent or his alternate is responsible for recognizing emergency action level conditions, properly classifying those conditions, and providing the notification to the MEMA State EOC in Framingham. MEMA State EOC is responsible for initiating a fan out notification process to State and local authorities directing the response activities commensurate with the emergency declaration (see Section 6.0, Warning and Notification).

5.0 PLAN IMPLEMENTATION

5.1 EMERGENCY CLASSIFICATION SYSTEM

Response actions are triggered by the emergency classification level declared by the utility.

Section 2.10 of the Massachusetts RERP defines the classification system. Section 5 of the Massachusetts RERP describes general actions taken at each level.

5.2 RESPONSE ACTIONS

Section 2 of the MEMA Region I Operations Plan and each EPZ community RERP describe the concept of their operations related to the declaration of an emergency at Seabrook Station. The MEMA Region I RERP and each EPZ community RERP established the standard operating procedure response actions determined necessary to coordinate State/local activities during an emergency, including a Hostile Action Based incident, at Seabrook Station.

The Commonwealth of Massachusetts may be required to take compensatory response measures on behalf of an EPZ community affected by a Seabrook Station emergency either in whole or in part based on the municipality's ability to respond on its own. The Commonwealth's

general mandate to support EPZ community response is clear; it remains a function of the Commonwealth to provide any or all compensatory measures to affected EPZ communities unable to respond on its own. This includes, but is not limited to:

- Notification of the general public, special facilities, and individuals with access and functional needs,
- Providing transportation resources, including the staffing and operation of the Local Transportation Staging Area, to evacuate those individuals in the community requiring assistance,
- Performing traffic management, including the staffing of traffic and access control points within the community,
- Ensuring evacuation routes remain passable by coordinating impediment removal actions as required, and
- Keeping EPZ community officials informed of actions taken in their municipality.

With a failure or impairment of response capabilities at the EPZ community level, the Commonwealth will provide support, or become the primary entity dealing with the population of the involved municipality, only for the period of time the failure or impairment exists. At such time when the EPZ community can resume control of the response measures for its own municipality, the Commonwealth will take those steps necessary to transfer control back to the affected EPZ community.

6.0 WARNING AND NOTIFICATION

Upon declaration of one of the four emergency classifications, Seabrook Station will notify MEMA via the Nuclear Alert System (NAS). Commercial telephone serves as a secondary communications link for this function. If notification is via NAS, no verification of the message is required. However, verification of the message is required if an alternate communication method is employed.

After verification, the MEMA dispatcher notifies MDPH**-RCP**. MDPH**-RCP** and MEMA State EOC emergency personnel are notified via the emergency notification procedure. In addition, MEMA alerts the MEMA Region I Manager or designee. The MDPH**-RCP** official contacts the Seabrook Station Control Room to obtain detailed information concerning the emergency

condition. MDPH**-RCP** provides MEMA with a situation report, immediately following completion of the Control Room follow-up communication. The six EPZ communities will be notified in parallel with the aforementioned activity for all emergency classifications. The MEMA dispatcher notifies EPZ community 24-hour contact points using the MEMA VHF Radio system. Commercial telephone serves as a secondary communications link for this function. Facility activation at State and local levels begins at an ALERT declaration.

Once Seabrook Station is notified that the MEMA State EOC has been activated, all subsequent notifications with respect to changes in the emergency classification will be made to the State EOC upon its activation. MEMA State EOC will coordinate the emergency notification process to all State and local response organizations at this point.

7.0 ACCIDENT ASSESSMENT

7.1 ASSESSMENT

MDPH**-RCP** has the primary responsibility for assessing the off-site consequences of an accident and the impact on public health. Field monitoring teams will be staged and dispatched from a location outside the Seabrook Station EPZ. State responsibilities for accident assessment are outlined in Section 7 of the Massachusetts RERP. Dose assessment, field monitoring and sample collection activities by MDPH**-RCP** personnel are described in the Nuclear Incident Advisory Team (NIAT) Handbook.

7.2 MONITORING TEAMS

MDPH**-RCP** field teams will use the **Rowley Fire Station** as the initial dispatch point. Two teams will be dispatched from the **Rowley** Fire **Station**. Once in the field, the teams will be provided directions through the utility EOF by the MDPH-**RCP** Field Team Coordinator. The EOF serves as the central point for the collection and analysis of data from the field teams and results from lab analysis of samples. Monitoring and sampling kits used by the State field teams are stored at the **Rowley** Fire Station. Field samples will be sent to contracted labs in addition to the MDPH Jamaica Plain lab. Sections 7.2.4 and 7.2.5 of the State Plan provide more information on laboratories. The NIAT Handbook contains a listing of kit contents. MDPH provides a laboratory

that provides analysis of radiological samples. The New England Compact on Radiological Health Protection serves as the backup to the MDPH contracted laboratory.

7.3 MONITORING SITES

A gridded Plume Exposure Pathway EPZ map for use in determining State field team deployment strategies is located in the State EOC, MEMA Region I EOC and the utility EOF. The field monitoring teams use a controlled map book set supplied by the utility.

A similar gridded Ingestion Exposure Pathway EPZ map used in establishing sample collection team deployment strategies will be located in the State EOC, MEMA Region I EOC and the utility EOF. The sample collection teams are also provided a controlled map book set supplied by the utility.

8.0 PROTECTIVE ACTIONS

State responsibilities for the implementation of protective and precautionary actions are described in the Massachusetts RERP, Section 8. A protective action recommendation (PAR) will be initiated by utility control room personnel, reviewed and modified by representatives of both states at Seabrook Station's EOF and communicated to the State EOC. After review by the Director of MEMA and the Commissioner of Public Health, or designee, in concert with the Incident Commander, if an Incident Command Post has been established for a Hostile Action Based incident, and coordination between State Directors and approval by the Governors, or their designees, the emergency management directors will coordinate the activation of the public alert and notification system. New Hampshire, being the host state, will take the lead in interstate coordination of protective actions and public alerting.

Protective action directives for the Seabrook Station EPZ are issued by Emergency Response Planning Areas (ERPAs). Figure EX4-1 illustrates the ERPAs on a map. The Massachusetts portion of the EPZ is divided into two ERPAs: ERPA B includes the communities of Amesbury and Salisbury, and ERPA E includes the communities of West Newbury, Newbury, Merrimac and Newburyport. Protective action directives issued for an ERPA will apply to the communities (in their entirety) assigned to that ERPA designation.

Reception communities and a reception center for the Massachusetts EPZ communities are listed in the Resource Manual, including the names of mass care shelters within those reception communities listed. Directions for each community to the reception center are contained in the public information material and in the Traffic Management Manual for Seabrook Station. Figure EX4-2 illustrates the evacuation routes and reception center on a map.

For development of the Seabrook Station Evacuation Time Study, evacuation routes were divided into highway segments called network links. The traffic capacity of each link was estimated based on field surveys and on principles specified in the 2010 Highway Capacity Manual. The maximum traffic capacity, i.e., when the volume of traffic is equal to but not greater than a roadway's capacity, for each link in vehicles per hour if found in Appendix N of the study.

The Massachusetts State Police, MassDOT, and, if necessary, National Guard will be responsible for providing traffic and access control on state highways. Support will also be provided to local police departments, if requested. Traffic and access control points within each EPZ are identified in the Traffic Management Manual. Also, the Commonwealth has established provisions for traffic control in reception areas.

The primary means of transportation for evacuees is the private vehicle. Transportation resources to supplement private vehicles will be provided by local and regional transportation companies coordinated through the State Transportation Staging Area (STSA) established at the Northern Essex Community College campus in Haverhill. Arrangements have been made with MassDOT to provide emergency fuel for transportation providers deployed from the STSA. Each of the planning elements described are found in the MEMA Region I RERP.

If sheltering-in-place is directed, persons located indoors will be asked to shelter where they are. Transients without access to an indoor location will be advised to leave the area as quickly as possible in the vehicles in which they arrived.

9.0 RADIOLOGICAL EXPOSURE CONTROL

Radiological exposure control is described in the Massachusetts RERP, the MEMA Region I RERP and the EPZ community RERPs.

Radiological exposure control is the responsibility of local EPZ communities and the Commonwealth for state-directed personnel involved in EPZ and radiological monitoring activities. Technical guidance procedures and advisory personnel will be provided by the MDPH**-RCP** and its NIAT members. Dosimetry has been provided to the EPZ communities, the State Police, the Massachusetts Department of Transportation (MassDOT), MEMA Region I EOC, State Transportation Staging Area and radiological monitoring/decontamination location.

10.0 SUPPORTIVE ACTIONS

Section 10 of the Massachusetts RERP contains information on support functions. Site-specific information follows.

10.1 EMERGENCY MEDICAL SERVICES

Resources needed for the transporting of patients requiring medical care enroute to a receiving facility have been identified. Letters of Agreement for buses, ambulances, and wheelchair van support have been obtained. These resources will be used to assist in the evacuation of the EPZ hospital, health center, area nursing homes and homebound patients who may be mobility-impaired.

Reliance will be on the local and regional EMS systems for medical emergencies.

10.2 HOSPITALS

There are several medical facilities in Massachusetts capable of evaluation and treatment of contaminated injured individuals from the general public. A list of these facilities in contained in the Massachusetts Resource Manual for a Seabrook Station emergency. Lowell General Hospital has been identified in accordance with FEMA Guidance Memorandum MS-1, Medical Facilities, for treatment of individuals exposed to dangerous levels of radiation (see Table EX4-1).

This hospital has the necessary procedures, equipment, and supplies for treatment of contaminated injured individuals. A Letter of Agreement is maintained by MDPH**-RCP**.

Emergency Response personnel from the facility will participate in specialized initial training and annual retraining. Annual medical drills are also conducted in alternating years for the primary local medical facility.

Host hospitals have been established to accept patients evacuated from the EPZ hospital and the Amesbury Health Center. The Massachusetts Resource Manual identifies these hospitals and other hospital facilities that are in close proximity to the EPZ.

10.3 RECEPTION CENTER

The reception center for EPZ evacuees of Amesbury, Merrimac, Newbury, Newburyport, Salisbury and West Newbury is located at the Masconomet Regional School. Procedures have been developed for personnel operating the Masconomet Reception Center to open and staff reception center at the SITE AREA EMERGENCY classification level to ensure that if evacuation occurs, these facilities would be ready to receive area residents.

Emergency Workers will be prioritized for monitoring and, if necessary, decontaminated at the Reception Center. Also at the reception center, evacuees will be monitored, decontaminated (if necessary), registered and assigned and transported to a Red Cross-operated mass care shelter (if lodging is requested and transportation is needed). The registration, monitoring and decontamination of evacuees, including access and functional needs individuals (and service animals), are detailed in the MEMA Region I RERP.

10.4 MASS CARE SHELTERS

A list of identified mass care shelters is in the Massachusetts Resource Manual.

10.5 TRANSPORTATION PROVIDERS

10.5.1 Resources and Actions

Because of the number of schools, nursing homes and other special facilities within the EPZ, transportation resources have been identified and Letters of Agreement have been obtained to ensure that sufficient transportation capability exists for their evacuation, if needed.

Transportation providers will be notified at an ALERT classification level to allow sufficient time to mobilize their committed resources. At the SITE AREA EMERGENCY classification level, additional vehicles will be staged at the State Transportation Staging Area located at the Northern Essex Community College in Haverhill where drivers will be provided with required information and supplies prior to deployment to the EPZ. Based on community need, vehicles will be dispatched for the State Transportation Staging Area to six local Transportation Staging Areas in the EPZ. The local Transportation Staging Areas are:

Water Street Parking Garage, Amesbury
Merrimac Moose Lodge, Merrimac
Mass Highway Scotland Road Facility, Newbury
Graf Rink Skating Arena, Newburyport
Salisbury Fire Station Complex, Salisbury
Pentucket Regional School Complex, West Newbury

Vehicles will be dispatched from Local Transportation Staging Areas to pre-identified locations and access and functional needs individual's homes by the EPZ communities. State Transportation Staging Areas operations are outlined in the MEMA Region I RERP. Local Transportation Staging Area operations are outlined in EPZ community RERPs.

10.5.2 Pick-up Points

Buses will also be used along pre-identified routes to transport those individuals who may be transient dependent. The routes are published in public information materials distributed to area residents.

10.5.3 Access and Functional Needs Individuals

Vans and/or chair-lift vans may also be dispatched to the homes of persons identified through an annual survey as having access or functional needs or who call their community EOC and request transportation assistance, including those whose condition precludes walking to a location on the pre-designated bus routes. Ambulances will be provided for those persons who

need medical treatment enroute to a receiving facility or who require the transport of specialized medical equipment.

10.5.4 Traffic and Access Control

Traffic and access control points are reflected in the Traffic Management Manual for Seabrook Station.

11.0 RELOCATION, RE-ENTRY, AND RETURN

Section 11 of the Massachusetts RERP outlines the process for these actions. The MEMA Region I and EPZ community activities are described in their respective plans.

12.0 EMERGENCY PUBLIC INFORMATION

12.1 DISTRIBUTION OF MATERIALS

Emergency public information materials will be developed and distributed periodically to residents of the EPZ communities and to locations within the EPZ frequented by tourists and transients. The emergency public information materials will include public information **material** and related materials containing information on protective actions, public notification systems, maps of evacuation routes, location of the reception center, listing of local EAS radio stations and a toll-free public information number. In addition, an Access and Functional Needs survey prepared in the format of a postage-paid card will be distributed annually throughout the EPZ communities. The survey may be included as part of the emergency public information **material**. The survey will be designed to reach the access and functional needs residents and others requiring assistance in the event of an incident. Those residents who need access or functional needs assistance will be asked to return the completed forms. Various agencies will assist those individuals who are unable to complete the forms. Current information will also be available on MEMA's social media websites. Visit www.Mass.Gov/MEMA for more information.

Emergency public information **material** and posters will be reviewed annually and updated by MEMA and Seabrook Station. Distribution is made periodically to residents of the six EPZ communities and to business and lodging locations within the EPZ frequented by tourists and

transients. Spare emergency public information material is retained at community EOCs within the EPZ for new residents.

12.2 ANNUAL MEDIA BRIEFING

MEMA, in conjunction with Seabrook Station and New Hampshire Homeland Security and Emergency Management, will conduct coordinated briefings at least annually to acquaint the news media with the emergency plans, information concerning radiation, and points of contact for release of information in an emergency.

12.3 ACCESS AND FUNCTIONAL NEEDS SURVEY

Using the postage-paid cards returned by residents, a list indicating the name, address, and type of assistance needed is updated annually by the community emergency management directors. The list is available to the emergency management directors for use in directing the vehicles for pickup and/or for notifying and assisting access and functional needs residents as indicated on the list. The list of such persons is unpublished to protect the confidentiality of the individuals.

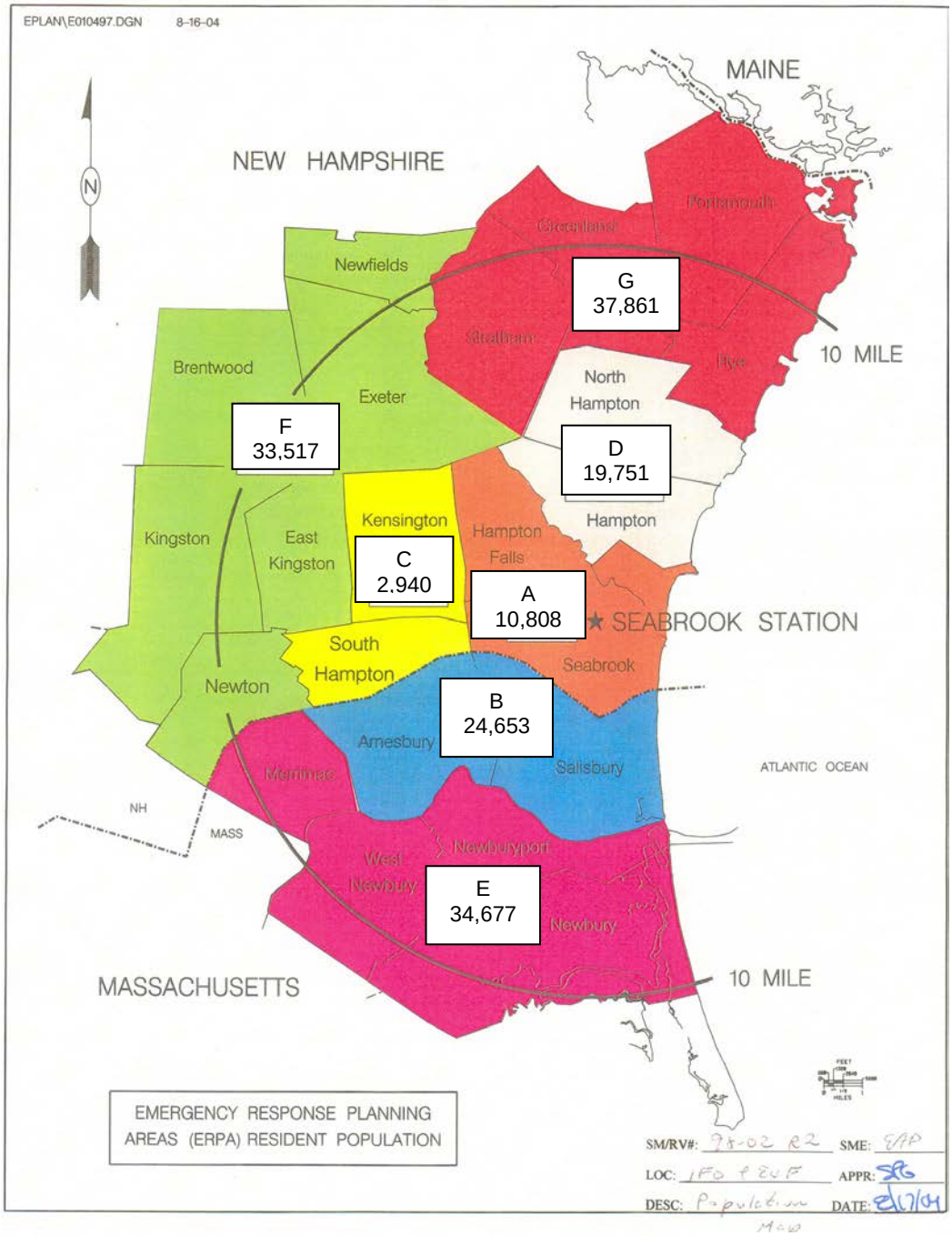
TABLE EX4-1

MASSACHUSETTS ACUTE CARE MEDICAL FACILITIES
CAPABLE OF TREATING INJURED, CONTAMINATED PATIENTS

FACILITY	TOTAL BEDS/AVERAGE CAPACITY
Lowell General Hospital 1 Hospital Drive Lowell, MA 01852	90/85

FIGURE EX4-1

PLUME EPZ EVACUATION AREAS AND POPULATION



Updated 1/2013

FIGURE EX 4-2

EVACUATION ROUTES AND RECEPTION AREAS

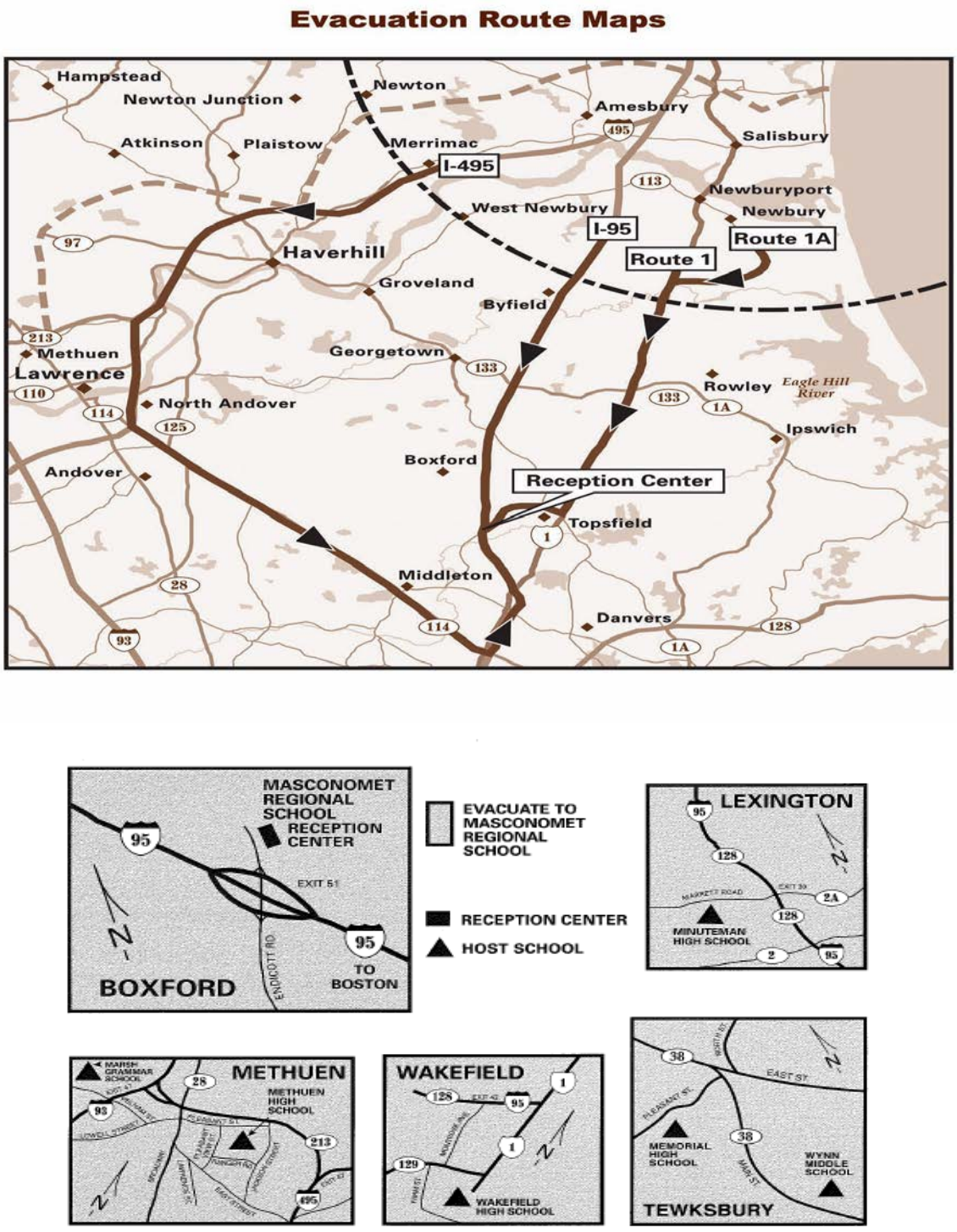


TABLE EX 4-2
Time to Clear the EPZ Boundary of 100 Percent of the Affected Population

	Summer		Summer		Summer	Winter			Winter			Winter	Summer	Summer
	Midweek		Weekend		Midweek Weekend	Midweek			Weekend			Midweek Weekend	Midweek Weekend	Midweek
Scenario:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Region	Midday		Midday		Evening	Midday			Midday			Evening	Evening	Midday
	Good Weather	Rain	Good Weather	Rain	Good Weather	Good Weather	Rain	Snow	Good Weather	Rain	Snow	Good Weather	Special Event	Roadway Impact
Entire 2-Mile Region, 5-Mile Region, and EPZ														
R01	5:05	5:05	5:00	5:00	5:00	5:00	5:00	6:00	5:00	5:00	6:00	5:00	5:00	5:05
R02	5:05	5:05	5:05	5:15	5:05	5:05	5:05	6:05	5:05	5:05	6:05	5:05	9:15	5:05
R03	6:20	6:25	5:10	5:30	5:10	6:15	6:35	6:55	5:10	5:10	6:10	5:10	9:45	7:50
2-Mile Region and Keyhole to 5 Miles														
R04	5:05	5:05	5:05	5:15	5:05	5:05	5:05	6:05	5:05	5:05	6:05	5:05	5:05	5:05
R05	5:05	5:05	5:05	5:15	5:05	5:05	5:05	6:05	5:05	5:05	6:05	5:05	5:05	5:05
R06	5:05	5:05	5:05	5:05	5:05	5:05	5:05	6:05	5:05	5:05	6:05	5:05	5:05	5:05
R07	5:05	5:05	5:05	5:05	5:05	5:05	5:05	6:05	5:05	5:05	6:05	5:05	9:25	5:05
R08	5:05	5:05	5:05	5:05	5:05	5:05	5:05	6:05	5:05	5:05	6:05	5:05	9:15	5:05
5-Mile Region and Keyhole to EPZ Boundary														
R09	5:10	5:10	5:10	5:25	5:10		5:10	6:10	5:10	5:10	6:10	5:10	8:50	5:10
R10	5:10	5:35	5:10	5:30	5:10		5:20	6:10	5:10	5:10	6:10	5:10	9:30	6:45
R11	5:10	5:15	5:10	5:15	5:10		5:10	6:10	5:10	5:10	6:10	5:10	8:40	7:20
R12	6:20	6:25	5:10	5:15	5:10		6:20	6:45	5:10	5:10	6:10	5:10	9:35	7:50
R13	6:10	6:10	5:10	5:15	5:10		6:20	6:40	5:10	5:10	6:10	5:10	9:35	6:10
Staged Evacuation – 2-Mile Region and Keyhole to 5 Miles														
R14	5:05	5:10	5:10	5:30	5:05	5:05	5:10	6:10	5:05	5:05	6:05	5:05	9:25	5:05
R15	5:05	5:10	5:10	5:30	5:05	5:05	5:05	6:05	5:05	5:05	6:05	5:05	5:05	5:05
R16	5:05	5:10	5:10	5:30	5:05	5:05	5:15	6:05	5:05	5:05	6:05	5:05	5:05	5:05
R17	5:05	5:05	5:05	5:05	5:05	5:05	5:05	6:05	5:05	5:05	6:05	5:05	5:05	5:05
R18	5:05	5:05	5:05	5:05	5:05	5:05	5:05	6:05	5:05	5:05	6:05	5:05	9:10	5:05
R19	5:05	5:05	5:05	5:05	5:05	5:05	5:05	6:05	5:05	5:05	6:05	5:05	9:25	5:05

EXHIBIT 5
AGREEMENTS

1.0 REGIONAL ASSISTANCE COMPACTS

Massachusetts has agreements with the five other New England states through the following agreements.

New England Compact on Radiological Health Protection

The New England Compact on Radiological Health Protection provides for assistance from the state public health agencies of each of the six New England states in accordance with approvals by the legislatures and governors of each of the party states, and as outlined in the New England Interstate Radiation Incident Plan prepared by the New England Radiological Health Committee.

Interstate Emergency Management Compact

The Interstate Emergency Management Compact provides for mutual aid among the state emergency management agencies of the six New England states.

The New England State Police Assistance Compact

The New England State Police Assistance Compact provides for mutual aid among the State Police agencies of the six New England states.

Emergency Management Assistance Compact

Per Massachusetts Legislation Chapter 339 of the Acts of 2000, the Commonwealth is also a member of the Emergency Management Assistance Compact (EMAC) and can request assistance from states throughout the nation.

1.1 LETTERS OF AGREEMENT

Letters of agreement between the Commonwealth of Massachusetts and support organizations not covered by Executive Order 144 are on file with the Massachusetts Emergency Management

Agency and the Massachusetts Department of Public Health. Local plans may also contain letters of agreement with individual communities. These agreements address many types of assistance covering many types of emergencies. The following is a summary of signed agreements with the Commonwealth which address themselves specifically to support to be provided during radiological emergencies at nuclear power stations:

American Red Cross

The "Statement of Understanding between the State of Massachusetts and the American Red Cross" outlines the responsibilities of the American Red Cross in responding to an emergency as a result of an accident at a nuclear facility. American Red Cross will manage the shelters that the evacuees will use.

Nuclear Power Plants

Letters of agreement between nuclear power plants and the EPZ states establish conditions regarding radiological emergency response planning, notification and response should an event at a nuclear power plant require Radiological Emergency Response Plan activation.

United States Coast Guard

The letter of agreement between the Commonwealth and the United States Coast Guard addresses support to be provided in response to emergencies at the Pilgrim Nuclear Power Station or Seabrook Station.

Laboratories

MDPH provides a laboratory to conduct radiation analysis. The New England Compact on Radiation Health serves as the backup to the MDPH laboratory.

The Integrated Consortium of Laboratory Networks organized by Homeland Security is available to assist for a major incident. It is under a letter of understanding to tie nationwide laboratories with capabilities to assist in maximizing limited laboratory resources.

Waste Disposal

The letter of agreement between Seabrook Station and the State of Massachusetts provides for the disposal or decontamination of contaminated materials or equipment resulting from any clean-up actions due to a release from Seabrook Station.

Massachusetts National Guard

A memorandum of agreement between the MEMA and the Massachusetts National Guard provides for use of certain guard resources in support of emergency response activities involving Seabrook Station once the Governor has declared a state of emergency exists.

EXHIBIT 7

SUPPORTING DOCUMENTS LIST AND STANDARD OPERATING PROCEDURES

PLAN OR PROCEDURE	PLAN SECTION IMPLEMENTED OR COMPLEMENTED
National Response Framework	1, 3, 4
Massachusetts Comprehensive Emergency Management Plan (CEMP)	1, 4, 10, 11
CEMP – Emergency Communication and Warning Annex	3, 4, 6, 8, 9, 12, 13, 14
Nuclear Incident Advisory Team (NIAT) Handbook	2, 3, 4, 6, 7, 8, 9, 11, 14, 16
Emergency Medical Services Communications Manual	3, 8, 10, 14
Massachusetts National Guard Domestic Emergency Standard Operating Procedures	3, 4, 6, 8, 10, 14, Exhibit 5
CEMP - Massachusetts ESF- 16 Military Support Annex	6, 8, 10, 14
Massachusetts Department of Transportation District Plans	4, 6, 7, 8, 9, 14
New England Interstate Radiation Assistance Plan (New England Compact on Radiological Health Protection Plan)	3, 4, 6, 7, Exhibit 5
Massachusetts State Police Radiological Emergency Support Plans (Troop A Plan **- Seabrook** and Troop D Plan**- Pilgrim**)	3, 4, 5, 6, 7, 8, 10, 14, 17
New England State Police Assistance Compact	3, 4, Exhibit 5
American Red Cross Disaster Services Regulations and Procedures	3, 4 6, 10, 14, Exhibit 5
CEMP – MA Statewide Mass Care And Shelter Coordination Plan	10, 14
Emergency Management Assistance Compact (EMAC)	3, Exhibit 5

State EOC Standard Operating Procedures (SOPs) for an Emergency at the Pilgrim and Seabrook Power Plants

PLAN OR PROCEDURE	PLAN SECTION IMPLEMENTED OR COMPLEMENTED
SEOC-01 Director/SEOC Manager	1, 3, 4, 5, 6, 8,10, 11,12, 14, 15
SEOC-02 Director's Assistant	3, 5, 14, 15
SEOC-03 Operations Section Chief	3, 4, 5, 6, 8, 10, 11, 12, 14, 15
SEOC-05 Communications Dispatcher	3, 5, 6, 7, 12, 14, 15
SEOC-06 Planning Section Chief	3, 4, 5, 6, 8, 10, 12, 14, 15
SEOC-07 Situation Unit	5, 14, 15
SEOC-08 Public Information Line	3, 5, 6, 8, 11, 12, 14, 15
SEOC-08A MASS 211 Public Information Line Staff	3, 5, 6, 8, 11, 12, 14, 15
SEOC-09 Radiological Liaison	3, 5, 9, 14, 15, 16
SEOC-10 Communications Coordinator/Supervisor	3, 5, 6, 7, 14, 15, 16
SEOC-11 Logistics Section Chief	14, 15
SEOC-12 Financial Section Chief	14, 15
SEOC-13A Public Affairs Officer	3, 5, 6, 7, 8, 11, 12, 13, 14, 15
SEOC-13B Public Affairs (EAS/WEA/MASS Alerts Messages)	3, 5, 6, 8, 11, 12, 13, 14, 15
SEOC-14 Documentation Unit Leader	14, 15
SEOC-15 Liaison Officer	14, 15
SEOC-16 EOF Liaison	3, 5, 7, 8, 14, 15
SEOC-17 Public Information Officer	3, 5, 6, 7, 8, 11, 12, 13, 14, 15
SEOC-18 EOPSS Liaison	
SEOC-19 Utility Technical Liaison	3, 5, 7, 8, 14, 15
SEOC-20 MDPH Coordinator	3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15
SEOC-21 MDPH Assistant Coordinator	3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15
SEOC-22 MDPH Food Protection Program	3, 4, 5, 7, 8, 10, 11, 14, 15
SEOC-23 Massachusetts Department of Mental Health	3, 4, 5, 6, 7, 8, 10, 11, 14, 15

SEOC-24	Massachusetts Department of Environmental Protection	3, 4, 5, 6, 7, 8, 10, 11, 14, 15
SEOC-25	Massachusetts Department of Fish and Game	3, 4, 5, 6, 7, 8, 10, 11, 14, 15
SEOC-26	Massachusetts Department of Agricultural Resources	3, 4, 5, 6, 7, 8, 10, 11, 14, 15
SEOC-27	Massachusetts Department of Transportation	3, 4, 5, 6, 7, 8, 9, 10, 14, 15
SEOC-28	Massachusetts State Police – SEOC Security	5
SEOC-29	Massachusetts State Police SEOC Liaison	3, 4, 5, 6, 7, 8, 9, 10, 14, 15
SEOC-30	Massachusetts National Guard	3, 4, 5, 6, 8, 10, 14, 15
SEOC-31	American Red Cross	3, 4, 5, 6, 8, 10, 14, 15
SEOC-32	United States Coast Guard	3, 4, 5, 6, 8, 14, 15
SEOC-33	MEMA ICP Liaison	3, 5, 7, 8, 10, 12
SEOC-34	GIS Technical Specialist	3, 5, 9, 11, 14, 15
SEOC-35	Technical Hazards Specialist	3, 4, 5, 6, 8, 10, 11, 12, 14, 15
SEOC-35A	Technical Hazards Support	3, 4, 5, 6, 8, 10, 11, 12, 14, 15
SEOC-36	MSP ICP Liaison	3, 5, 7, 8, 10, 12

PLANS AND STANDARD OPERATING PROCEDURES (SOPs) TO SUPPORT RESPONSE IN THE PILGRIM EPZ

REGION II

PLAN OR PROCEDURE	PLAN SECTION IMPLEMENTED/COMPLEMENTED
MEMA Region II RERP	3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
MEMA Region II SOPs	3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
Braintree RERP and SOPs	3, 5, 6, 8, 9, 10, 12, 14, 15, 16, 17
Bridgewater RERP and SOPs	3, 5, 6, 8, 9, 10, 12, 14, 15, 16, 17
Carver RERP and SOPs	3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
Duxbury RERP and SOPs	3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
Kingston RERP and SOPs	3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
Marshfield RERP and SOPs	3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
Plymouth RERP and SOPs	3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
Taunton RERP and SOPs	3, 5, 6, 8, 9, 10, 12, 14, 15, 16, 17
School, Day Care and other Support Plans	5, 6, 8, 9, 14, 15, 16, 17
Massachusetts Traffic Management Manual For Pilgrim EPZ	8, 9, 11
Access and Functional Needs Individuals Listing	8, 10, 12, 13

PLANS AND STANDARD OPERATING PROCEDURES (SOPs) TO SUPPORT RESPONSE IN THE SEABROOK EPZ

REGION I

PLAN OR PROCEDURE	PLAN SECTION IMPLEMENTED/COMPLEMENTED
MEMA Region I RERP Plan	3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
MEMA Region I SOPs	3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
Massachusetts Traffic Management Manual for a Seabrook Station Emergency	8, 9, 11
Amesbury RERP and SOPs	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
Salisbury RERP and SOPs	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
Merrimac RERP and SOPs	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
Newbury RERP and SOPs	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
West Newbury RERP and SOPs	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
Newburyport RERP and SOPs	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17
Masconomet Reception Center	3, 6, 8, 9, 10, 14, 15, 16, 17
Massachusetts Resource Manual for a Seabrook Station Emergency	5, 8, 9, 10, 11, 12
MEMA Region I Administrative Manual	5, 6, 8, 9, 10, 14, 16
Access and Functional Needs Individuals Listing	8, 10, 12, 13
School Superintendent, Day Care Center and other Support Plans	5, 6, 8, 9, 14, 15, 16, 17
Seabrook Station Public Alert and Notification System FEMA-REP-10 Design Report	3, 5, 6, 8, 12, 16
Seabrook Station Evacuation Time Study	8