

Massachusetts Department of Public Health
Bureau of Environmental Health
Radiation Control Program

Local Public Health and Radiological and Nuclear Emergencies in Massachusetts

Schrafft's Center, Suite 1M2A
529 Main Street
Charlestown, MA 02129

Outline

I. Radiation Control Program Authority

II. Program Organization

- > Radioactive Materials Unit
- > Low Level Radioactive Waste Unit
- > Mammography/Healing Arts Unit
- > Radon Unit
- > Massachusetts Environmental Radiation Laboratory (MERL)
- > Planning and Monitoring Unit

III. RCP Emergency Response

Capabilities/Resources

- > NIAT
- > NERHC
- > FRMAC

IV. Nuclear Power Plant Incident Response

Outline

- V. Other Radiological/Nuclear Incidents and Threats
- VI. Potassium Iodide (KI) Distribution
- VII. Local Public Health Role in Radiological/Nuclear Incidents
- VIII. Resources
- IX. Contacting RCP and NIAT
- X. Questions

I. Radiation Control Program Authority

- Massachusetts is an Agreement State. Under Section 274 of the Atomic Energy Act of 1954, the US NRC entered into an agreement in 1997 with the Commonwealth of Massachusetts to discontinue its legal authority over most radioactive materials
- NRC maintains authority over nuclear reactors, exports, exempt source distribution, and areas under exclusive federal jurisdiction
- Mass Law assigns RCP the authority to regulate, control, prohibit and respond to sources of radiation throughout the Commonwealth to protect public health, safety and welfare from the harmful effects of radiation

II. Program Organization

- Radioactive Materials Unit
- Low Level Radioactive Waste
- Mammography/Healing Arts
- Environmental monitoring and emergency planning
- Planning and Monitoring Unit
- Administrative Support

Radioactive Materials Unit

- Regulates all uses of radioactive material in the Commonwealth as part of the Nuclear Regulatory Commission (NRC) Agreement State Program
 - > Licensing
 - > Inspections and enforcement
 - > Sealed source & device reviews
 - > Event and allegation investigations



Low Level Radioactive Waste Unit

- Conducts annual survey
- Reports to House and Senate
- Liaises with Low Level Radioactive Waste Forum
- Administrative tasks
- Fees based on volume of waste generated over previous 12 months



Mammography/Healing Arts Unit

- Licenses and inspects 185 mammography facilities
- Inspects medical, dental (16,202) and industrial X-ray facilities (1,100 machines)
- Licenses Radiologic Technologists



Radon Unit

- Radon Program
 - Administers EPA State Indoor Air Radon Grant
 - Advises homeowners, municipalities
 - Consult with owners on remediation plans
 - Training and outreach

Massachusetts Environmental Radiation Laboratory (MERL)

- Carries out routine sampling and analysis of environmental media around nuclear power plants, within the MA emergency planning zones, based upon sampling plans developed in partnership with BEH's Environmental Toxicology Program
- Supports Radioactive Materials Unit and Nuclear Incident Advisory Team

Planning and Monitoring Unit

- Emergency Planner works with MEMA, municipalities, nuclear power utilities
- Maintains air monitoring equipment in emergency planning zone for Pilgrim Nuclear power stations

III. RCP Emergency Response

- RCP protects public health from real and potential incidents involving radiation sources through:
 - Regulation of radiation sources
 - Planning for emergencies
 - Responding to concerns, threats, accidents and emergencies involving nuclear/radiological materials

Emergency Response Capabilities/Resources

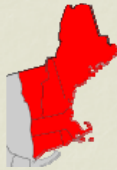
- Nuclear Incident Advisory Team (NIAT)
- New England Radiological Health Compact (NERHC)
- Federal Radiological Monitoring and Assessment Center (FRMAC)

Nuclear Incident Advisory Team (NIAT)

- NIAT provides expert consultation, support and assistance on radiation protection to state and local officials.
- Radiation specialists from RCP, MERL, and experts across Massachusetts in radiological health
- 24/7/365 response to all radiological events including major nuclear incidents and "trash calls"

New England Radiological Health Compact (NERHC)

- Mutual aid agreement among the 6 new England states, signed in 1967
- Provides for mutual assistance to states on radiological matters upon request by Department of Public Health
- Federal agencies (NRC, EPA, FDA, DHS and others) and states, some foreign countries attend NERHC meetings.
- Potential for expansion of NERHC to other states
- Compact Administrators are heads of state RCP's and FDA & EPA regional radiological reps

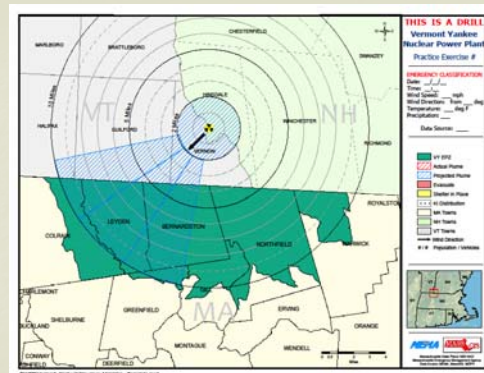


Federal Radiological Monitoring and Assessment Center (FRMAC)

- FRMAC is an interagency organization with representatives from different federal, state, and local radiological response organizations
- Provides support for major radiological incidents
- Activation through DOE Regional Coordinating Centers

IV. Nuclear Power Plant Incident Response Plan

- Emergency Planning Zone (EPZ) - 10 mile zone surround plant, where radiation would likely be deposited in an accident.
- Serves as the basis for planning
- Response aligned with position of "keyhole" and wind direction and wind speed



IV. Nuclear Power Plant Incident Response Plan

- Radiation Emergency Response Plan (RERP) describes all actions to be taken by all partner agencies in the event of a nuclear power plant accident
- All actions including precautionary and protective actions decided upon by RCP and MEMA.

IV. Nuclear Power Plant Incident Response Plan

Response measures for DPH include but not limited to:

- Field assessments of radiation dispersion
- Decision making on protective actions, evacuation
- Provision of potassium iodide (KI) to evacuating populations, institutionalized persons, response workers
- Dose projections for exposed populations
- Assessments of exposed persons at Reception Centers, hospitals, field sites.
- Coordination with state, federal and local radiological health response partners

VI. Potassium Iodide (KI) Distribution

Factors affecting KI distribution:

- KI is limited in efficacy:
 - a. Only effective for exposure to Iodine-131
 - b. Must be taken within several hours of actual exposure
 - c. Prevents radiological impacts to the thyroid only
 - d. Most effective only in children and young adults
 - e. Incidents where longer term exposures possible make it difficult to ensure an adequate supply of KI
- Distribution: Pre-event to Boards of Health; Post-Event to evacuating public through KI dispensing sites

VII. Local Public Health Role in Radiological/Nuclear Incidents

- Identification of volunteers to assist with local response
- Communication with local emergency management officials and community members
- Long term monitoring of affected populations
- Coordinate pre-distribution of KI as requested by local populations in EPZ's.

VII. Local Public Health Role in Radiological/Nuclear Incidents

Reporting Requirements

105 CMR 120.012: Additional Requirements

(B) Any person who finds or detects any source of radiation that is not under the physical or administrative control of a licensee or registrant, and that is not excluded, exempted or otherwise authorized under the provisions of 105 CMR 120.000, shall immediately report such source to the Radiation Control Program.

Local Public Health Role in Radiological/Nuclear Incidents

Trainings

- Participate in exercises with radiation-based scenarios

SNS Distribution

- Support SNS distribution as necessary

RCP Notifications

- Respond as necessary to RCP contacts and materials-related calls (128 calls in 2011)

VIII. Resources for Radiological/Nuclear Incident Response

- Planning Guidance for Response to a Nuclear Detonation
<http://www.remm.nlm.gov/PlanningGuidanceNuclearDetonation.pdf>
- Nuclear Regulatory Commission (NRC)
www.nrc.gov
- Mass. Radiation Control Program
<http://www.mass.gov/dph/rcp>
- CDC Radiation Toolkit
<http://www.bt.cdc.gov/radiation/publichealthtoolkit.asp>

IX. Contacting RCP and NIAT

- Contact MEMA or State Police for information or to activate NIAT

Massachusetts Radiation Control Program
Schrafft Center, Suite 1M2A
529 Main Street
Charlestown, MA 02129

24/7 Emergency: (617) 242-3453
RCP Mon-Fri: (617) 242-3035

X. Questions?