



Community and Emergency Planning

J. Andrew Irwin, PE, LSP, TURP



Introduction

Community Right to Know and Emergency Planning

1. Planning with the Community
2. Vulnerability Assessment
3. Accident Prevention



Risk Communication

Accept and Involve the Public as a Legitimate Partner.

People and communities have a right to participate in decisions that affect their lives, their property, and the things they value.

Risk Communication, Risk Statistics, and Risk Comparisons: A Manual for Plant Managers

Vincent T. Covello, Peter M. Sandman, and Paul Slovic, Chemical Manufacturers Association, 1988



Risk Communication

Goal of risk communication should not be to diffuse public concerns or avoid action.

The goal should be to produce an informed public that is involved, interested, reasonable, thoughtful, solution-oriented, and collaborative.

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Actions versus Words

To build trust companies must develop serious programs to reduce the risks facilities pose to the surrounding communities.

Credible actions include:

- Reduction of the use of toxic substances
- Safer technology and safeguards
- Reduction of emissions, and
- Reduction in generation of hazardous waste



Local Emergency Planning Committees

Section 301(c) specifies that each LEPC organization should include, at a minimum, representatives from each of the following groups:

- State/Local Officials
- Law Enforcement
- First Responders
- Emergency Management
- Health
- Broadcast/Communications Media
- Print Media
- Emergency Medical Services
- Transportation
- Local Environmental Groups
- Community Groups
 - (Red Cross, Salvation Army, special needs groups, Animal Shelters, Ministerial Alliance, Chamber of Commerce, Garden Club, Rotary Club, Kiwanis, Lion's Club; groups focused on environmental justice issues)
- Facility Owners/Operators
- Other Residents



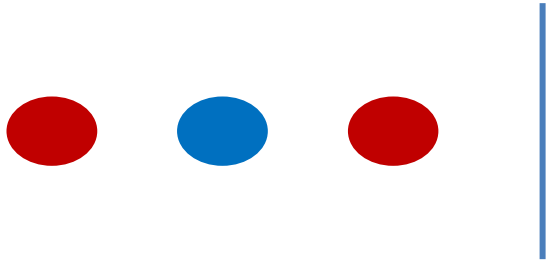
Local Planning & Reporting

- Ensure first responders and citizens are prepared for an accidental chemical release.
- Increase the public's knowledge of and access to information on:
 - The presence of hazardous chemicals in their Communities (Annual Tier II Reports)
 - Releases of hazardous chemicals into the environment.



Vulnerability Assessment

- Community Assessment
 - Assets the community will want to protect
 - Factors in evaluation of Critical Exposure Pathways and Risk under MCP Regulations.



Environmental Justice Populations

<https://maps.massgis.digital.mass.gov/MassMapper/MassMapper.html>



[https://maps.massgis.digital.mass.gov/
MassMapper/MassMapper.html](https://maps.massgis.digital.mass.gov/MassMapper/MassMapper.html)



Site Location



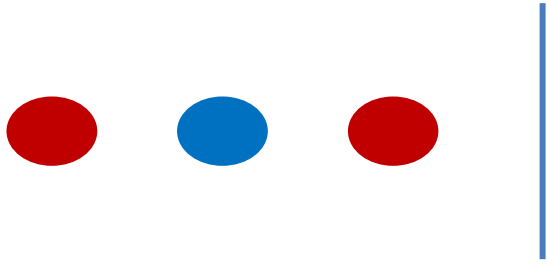
Environmental Justice Populations

<https://maps.massgis.digital.mass.gov/MassMapper/MassMapper.html>

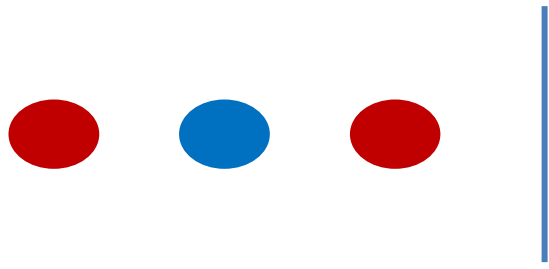




<https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html>



EJ Area Statistics



Registered Daycare Facilities

https://eeclead.force.com/EEC_ChildCareSearch



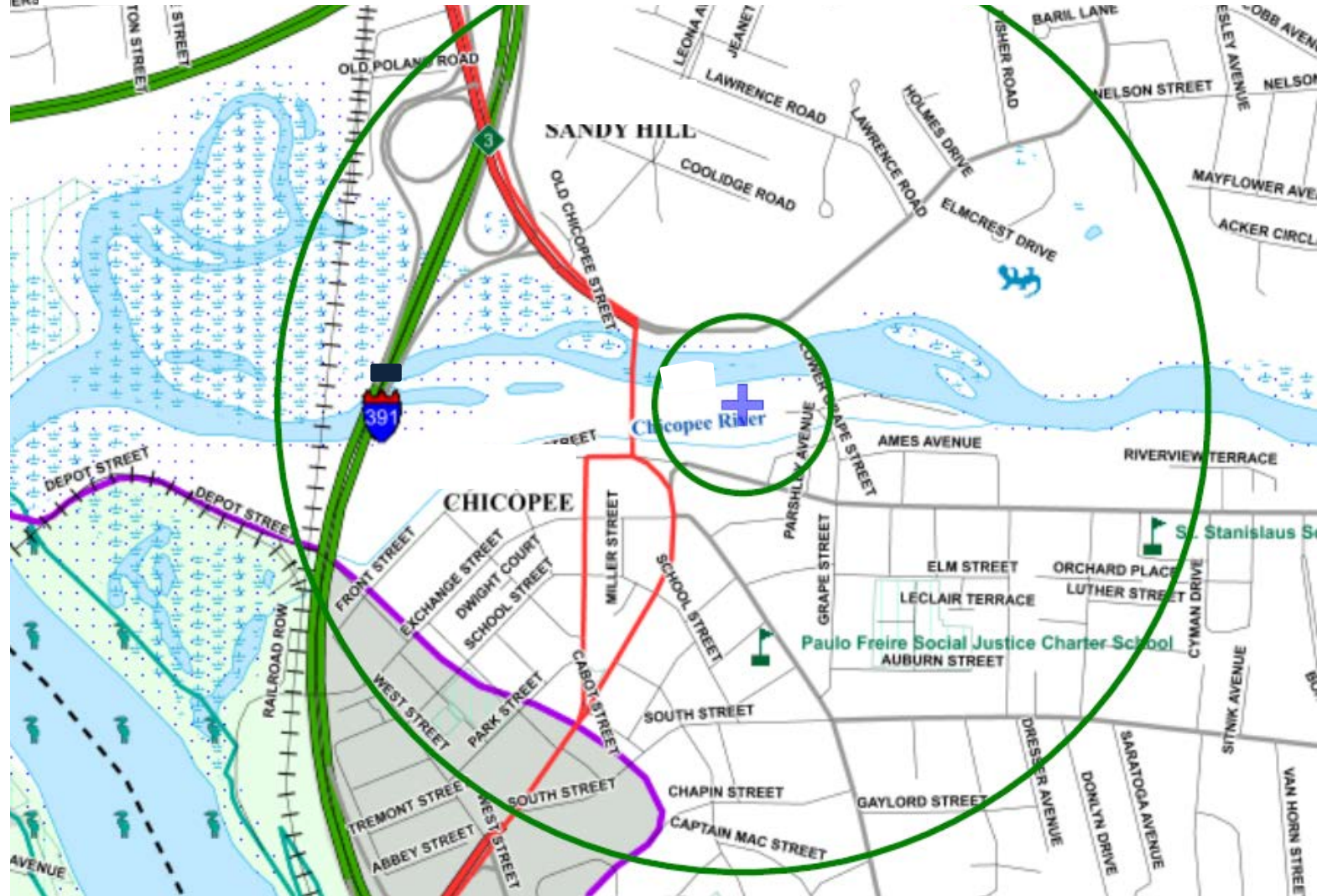
Vulnerability Assessment

- Sensitive Ecosystems
 - Surface Water Quality Standards
 - Habitats
- Groundwater Classification
 - Current Drinking Water
 - Potential Drinking Water



Environmental Mapping

<http://maps.massgis.state.ma.us/images/dep/mcp/mcp.htm>

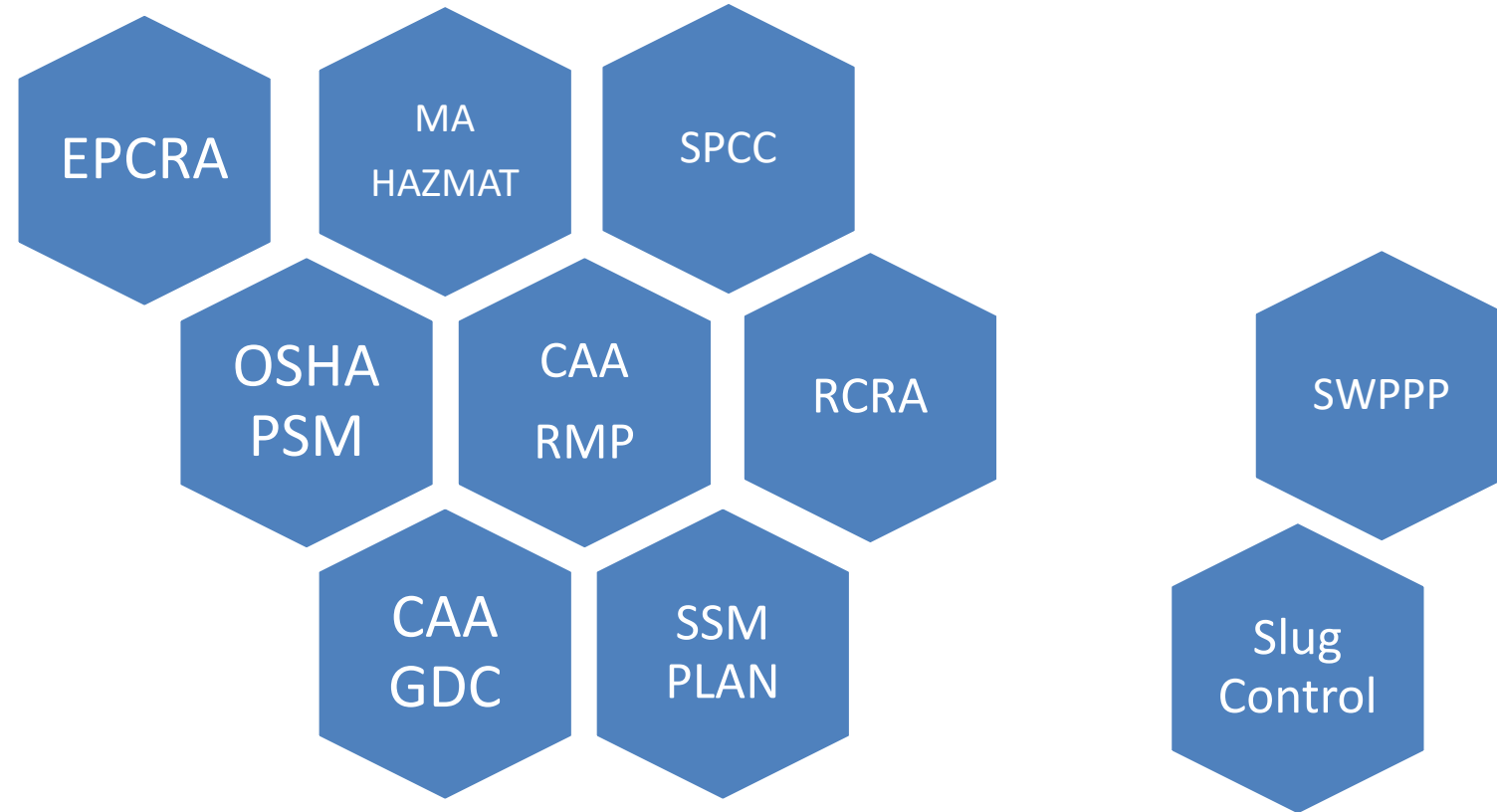




Vulnerability Assessment



Emergency Planning





General Duty Clause 112(r)(1) of CAA

Prevention of Accidental Releases

The owners and operators of stationary sources ...have a general duty, ... to identify hazards which may result from such releases **using appropriate hazard assessment techniques, to design and maintain a safe facility** taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur.



Design and Maintain a Safe Facility

- **Process Hazard Analysis**
 - **Process Safety Information**
 - Proximity of Vulnerable Receptors
 - Chemical/Physical Hazards
 - Toxicity – Exposure Limits
 - **Recognized and Generally Accepted Good Engineering Practice**
 - RAGAGEP = Codes and Industry Standards
 - Routine Operations – Work Procedures/Critical Safety Sensors & Controls
 - Non-Routine – Startup/Shutdown Procedures, Malfunction Response
 - Containment Systems
 - Mitigation Systems
 - Emergency Procedures
 - **Process Hazard Evaluation** – HAZOP, “What if?”, FMEA



Design and Maintain a Safe Facility

- Maintenance and Inspection
 - Housekeeping
 - Preventive Maintenance
 - Containment Integrity
 - Sensor Reliability
 - Mitigation System Operability
- Management of Change
 - Safer Alternatives Evaluation
 - Process Safety Reviews



Emergency Preparedness

- Know capabilities and limits of in-plant response
- Make preparatory arrangements and have orientation for contracted support
- Coordination and orientation for local emergency response services



Walking the Talk

- Safer Processes
 - Input substitution
 - Process Modernization/Redesign
- Emissions Reduction
 - Fugitive Emissions
 - Energy Conservation/Sourcing
- Resource Conservation
 - Water Use
 - Solid Waste Generation – Recycling/Reuse
 - Hazardous Waste Minimization – Integral Recycling/Reuse



Emergency Planning Review

- Planning with the Community
 - Participate in the Community Planning Effort
 - Walk the talk on safer processes and products
- Vulnerability Assessment
 - Know what are you protecting
 - Know who are your stakeholders
- Accident Prevention and Preparedness
 - Manage process safety for reliability/sustainable production
 - Be prepared for circumstances beyond your control



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