

Risk Management Planning



Departments of:

Crime Control & Public Safety
Agriculture & Consumer Services
Environment & Natural Resources

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Revitalizing the Risk Management Planning Program



Background & Context



- Reaction to 1984 Bhopal, India tragedy and other similar events in the US
- Passage of Emergency Planning & Community Right-To-Know Act in 1986
- Passage of CAAA Section 112(r) – Risk Management Planning Program in 1990
- 9/11 & War on Terror – Potential Targets



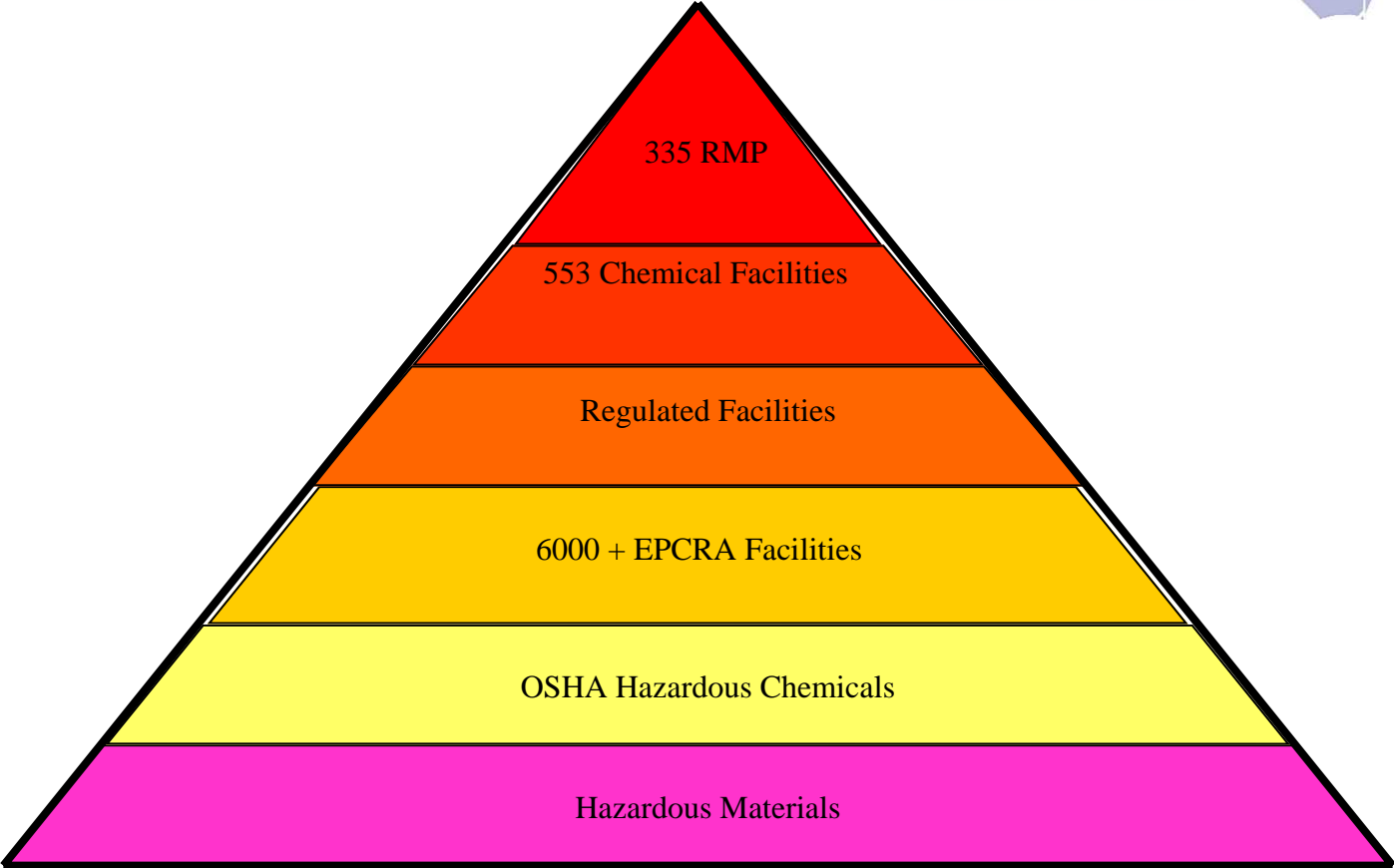
Current Situation in North Carolina



1. 335 Active Facilities/Locations
2. 1258 Active Processes/Chemicals
3. 51 Chemicals both Flammable & Toxic
4. Located in 82 of 100 Counties
5. Vulnerable Zones impact over 15 million people (Some populations counted multiple times as they are covered by more than one vulnerable zone.)



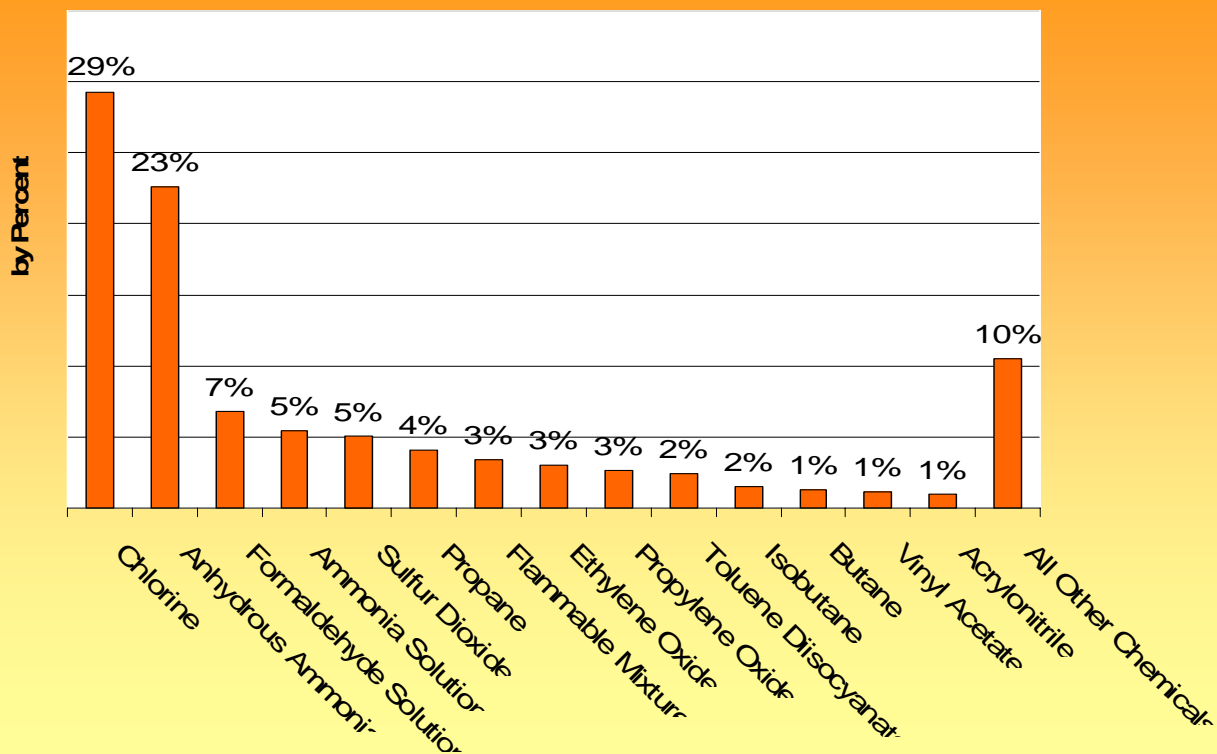
NC Hazmat Universe



Current Situation



Top 15 RMP Chemicals



Basics of RMP



- The RMP regulation is designed to prevent accidental releases to the air of substances that may cause immediate, serious harm to public health and the environment and to mitigate the effects of releases that do occur.
- The regulation applies to facilities that have more than a threshold of any of 77 acutely toxic substances and 63 highly volatile flammable substances that will present off-site consequences in a release or accident scenario.



Basics of RMP, Continued



- Each facility must comply with the five main components of RMP:
 1. A hazard Assessment;
 2. A management plan;
 3. A prevention program;
 4. An emergency response program; and
 5. A risk management plan that describes these activities.

40 CFR Part 68



Hazard Assessment



A Hazard Assessment Includes:

1. A five year detailed accident history of serious accidents involved the regulated substance, including specific impacts on the site or surrounding community.
2. Descriptions of potential accidental release scenarios involving the regulated substances, including the worst-case and alternative worst-case scenarios.



Management Plan



A Management Plan Includes: (If off-site potential)

1. A system to oversee the implementation of the risk management program elements and an assignment to a qualified person with clear lines of authority.
2. Documents the implementation of the program.



Prevention Program



A Prevention Program Includes: (Applies to program level 2 and 3 facilities)

1. A system formally dedicated to eliminate hazards by process controls, fail-safe systems, employee, operator and responder training, maintenance activities, inventory control, etc...
2. Documents the implementation of the program.



Emergency Response Program



An Emergency Response Program Includes:

1. Must coordinate its response activities with the LEPC(s) that may be impacted by the Worst Case Scenario.
2. If the facility chooses to implement a full emergency response program, it must have a plan, training, and plan review and updates.
3. Documents the implementation of the program.





RMP facilities are a vital part of our national infrastructure.

All RMP facilities are attractive targets for terrorists – The idea is to make them less attractive, inherently safer by design and location in the community, and involve local governments to secure the needed time, space, emergency response and other resources necessary to prevent catastrophic consequences to the public if attacked.



RMP Program Plan



Program Goal:

To Reduce or eliminate the threat of EHSs being released from Risk Management Planning (RMP) Program Facilities by terrorist attacks or accidental causes.

Key Benefit:

Reduced community vulnerability to the use of EHSs as weapons of mass destruction or from chemical accidents.



RMP Program Plan, Continued



Program Objectives: Use threat reduction management that goes beyond a safe facility ethic to one that promotes a risk or threat avoidance ethic. We will:

1. Eliminate hazards where possible;
2. Reduce inventory, toxicity, or opportunities for intentional or accidental releases;
3. Encourage communities to support appropriate time/distance considerations in zoning and community planning;
4. Ensure the effective coordination of the emergency response plans; and
5. Increase general awareness of the program and the potential impacts presented by EHSs.



RMP Program Plan, Continued

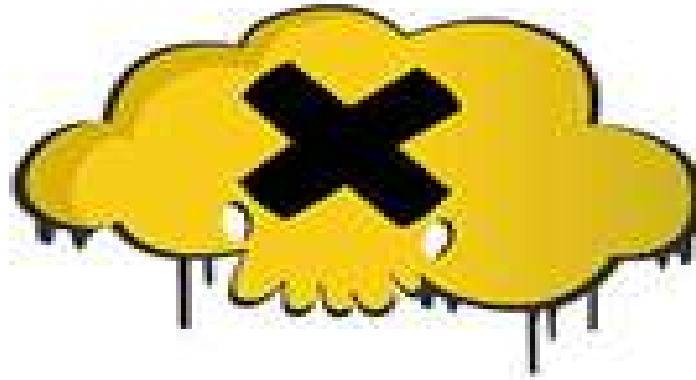


Key Performance Indicators:

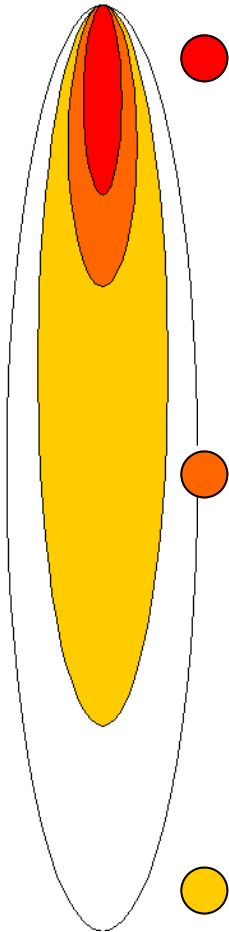
1. Reduced community vulnerability as measured by, number of critical facilities, number of sensitive and vulnerable populations, and census number of the overall population living within vulnerable zones by 5% per year.
2. Reduced chemical emergency consequences as measured by improvements to coordinate 10 facility and local emergency response plans per year.
3. Incorporation of time/distance hazard specific considerations in zoning ordinances or Comprehensive Plans in at least one community per year.
4. Increased program awareness by presenting at 12 LEPC meetings per year or more. LEPC members' awareness represents an indicator of overall community awareness.



Chlorine Release Scenario



Toxic Plume Response Considerations



Sheltering not protective, IDLH is exceeded w/in minutes. 0.2 miles indoor concentration exceeded LOC at 7 minutes. Evacuation impossible, death or permanent harm will occur even indoors. Community responders won't arrive rapidly enough to mitigate, internal responders have only moments to mitigate release.

Sheltering effective for up to 1.5 hour duration releases. After the this 0.7 miles extent, indoor concentration never exceeds LOC. The release reaches the 0.7 mile extent at 13 minutes. As the alternate worst case release duration is 1 hr 51 minutes, responders have a 1.5 hour window to knock down plume after which indoor air concentrations exceed LOC.

Evacuation not possible within plume.

Level Of Concern (LOC) of AEGL-1 (0.05 ppm) never exceeded. Harmful exposure unlikely. Self-evacuation likely but forced evacuation difficult. Plum reaches this extent at 1 hour 24 minutes. Sheltering is protective for the duration of the release.

0.03 ppm odor threshold exceeded for a considerable distance downwind. No harm likely from direct chemical exposure. Population may self-evacuate. Many calls are received by public institutions expressing concern. Sufficient calls may overwhelm the system and mask relevant aid calls.

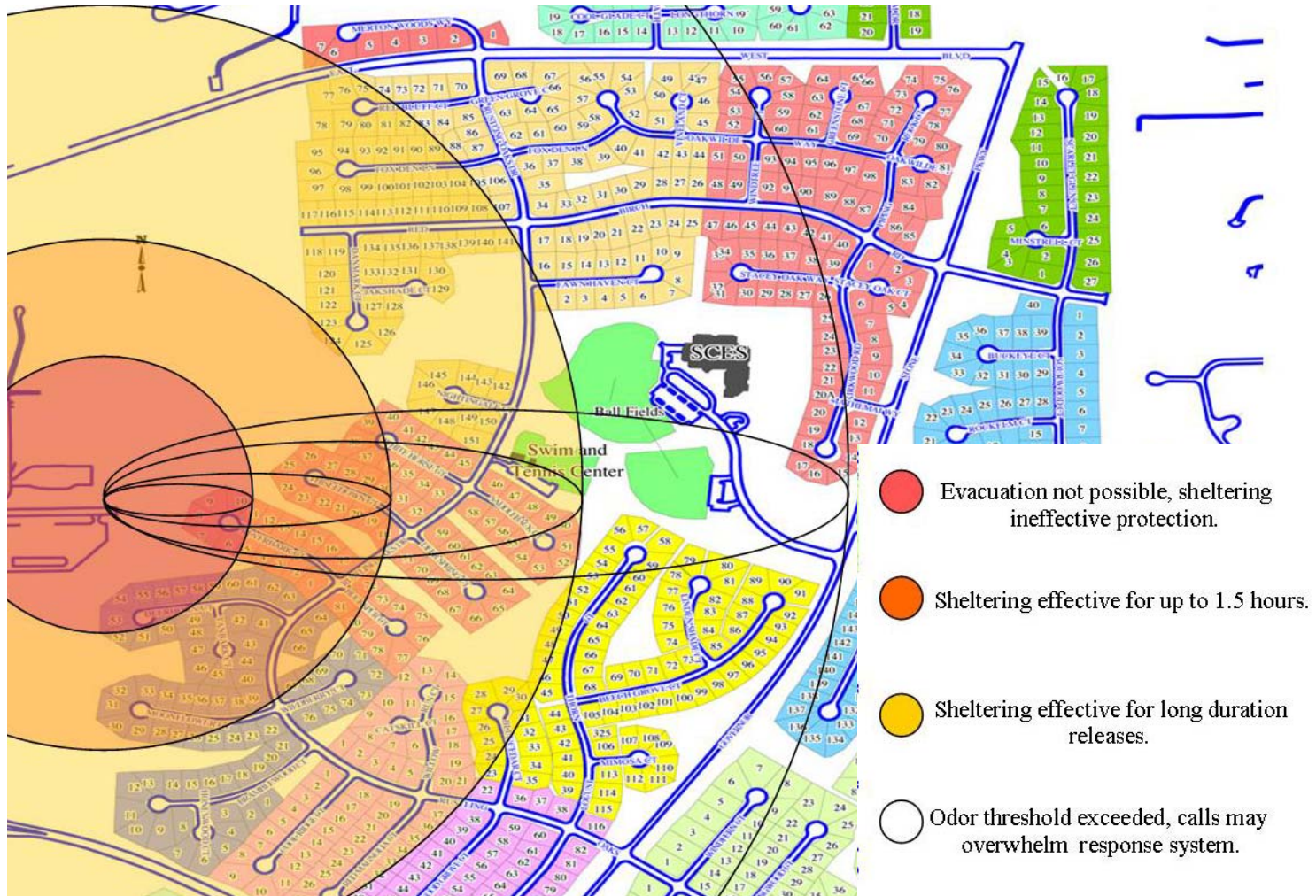
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- Nearly all toxic gas plumes, regardless of substance, will have similar considerations.
- IDLH—Immediately Dangerous to Life and Health
- LOC—Level of Concern
- One ton Chlorine cylinder release under USEPA worst case conditions with alternate consideration for longer duration release



Any Town, NC

* Plume not to scale in a fictitious community.



Toxic Plume Response Considerations

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Release Event Begins

Release reaches 0.7 mile distance at 13 minutes. Between this point and T + 7 responders have 1.5 hours to mitigate release to prevent harm to sheltering population. Evacuation of this population prior to the plume reaching this point is unlikely.

Responders arrive and begin mitigation effort. (Optimal Time Frame)



Plume reaches 0.2 mile distance at 7 minutes. Between this point downwind and the release site, evacuation is not possible and sheltering is not protective.

1 Ton Chlorine Cylinder Release Event
 Produced with both worst case and alternate worst case release scenarios using NOAA ALOHA model.
 The effort was to identify key time/distance decision points that will drive response operations and planning.

- Typical responses of qualified responders may take upward of 30 minutes to arrive and longer to mitigate the release.
- Responders will be unable to mitigate the release to assist population within the 0.2 miles extent of the plume.
- Responders have less than 1.5 hours to eliminate the source of the plume to assist the population living between .2 and .7 miles.
- Planning can not rely on evacuation as the means to protect populations.
- Similar considerations can be identified for most toxic chemical releases.

Plume reaches 4.75 mile distance at 1 hour 24 minutes. Between this point and T + 13 sheltering remains effective after 1.5 hours. Populations outdoors can be harmed and the 0.03 ppm odor threshold will be exceeded for a considerable distance downwind.



RMP Program Regulatory Update



- RMPs must be fully updated and resubmitted every five years
- Reporting Deadline: June 2009
- Use **RMP*eSubmit** via an online reporting system
- The RMP can be accessed securely online at anytime
- An estimated 8,000 RMP facilities are due to resubmit nationally and 335 for North Carolina.
- **First time submitters**: go to www.epa.gov/emergencies.
- **OTHER REQUIREMENTS**: include providing employee refresher training, performing compliance audits, and updating your safety information, hazard review (or process hazards analysis), operating procedures, and offsite consequence analysis.
- **MORE INFORMATION?** Go to <http://www.epa.gov/emergencies/rmp>
- To sign up for the EPA list serve to receive periodic updates:
www.epa.gov/emergencies/newsroom.htm#listservs



North Carolina Tier II Reporting for CY 2008

[NC will be utilizing Electronic Form Submission](#)

- File NC Tier II reports using E-Plan, the Emergency Response Information System, at www.erplan.net
- Goto www.ncem.org and look for the EPCRA Tier II Reporting Guidance link in left-hand window to obtain detailed instructions.
- There are **no fees** for NC State submission
- Reporting Deadline: March 1, 2009
- Check with your County LEPC and responding fire department for their reporting requirements. Alamance, Mecklenburg, Wake and Wilson counties require that you use their systems for submission.



NCEM Planning & Support Branch Initiatives



Recent NCEM Planning Branch Initiatives

1. Achieved Emergency Management Accreditation Program (EMAP) accreditation in November 08' in all 63 focus areas.
2. Working to combine homeland security, advisory role to NCEM, and emergency planning missions under the direction of the State Emergency Response Commission (SERC).
3. Revitalizing the Risk Management Planning (RMP) program to support focus on prevention and mitigation.
4. Developed and adopted a Technological Hazards Mitigation Plan.
5. Completed a set of Emergency Management Division directives.
6. Provided key leadership in enhancing situational awareness capabilities within the WebEOC system.

