A Cleaner Climate with Chemical Safety

Chemicals In Transit

Nicholas Child, MA MPA MEPP
Chief Emergency Planning & Preparedness Officer
Hyndman PA Derailment

August 2, 2017 – 5:00 AM
Incident Priorities

#1 — Life Safety
(Responders & general public)

#2 — Critical Infrastructure
(Public water, wastewater, critical transportation points, etc.)

#3 — Environment
(Oil & Hazmat control, containment, cleanup)

#4 — Property
Pipelines
Railroad
Rail Lines and Responders

Legend

- MA Trains
- Town Halls
- Local Police
- State Police
- County Sheriff
- Fire Stations
Roadways
Which Mode Has Most Releases
Total Number and Damages of Hazmat Incidents by Mode

15,928 reported incidents

Source: US DOT PHMSA
When are releases happening?
Total Release Summary by Transport Phase

- Unloading: 50%
- Loading: 20%
- In Transit: 26%
- Storage: 4%

Source: US DOT PHMSA
What is spilling?
Total Releases by Hazard Class

Source: US DOT PHMSA
MassDEP Releases by Material

- Diesel fuel: 35%
- #2 fuel oil: 22%
- MODF: 12%
- Hydraulic fluid: 8%
- Hazardous material: 5%
- Gasoline: 2%
- Waste oil: 1%
- Motor oil: 1%
- Kerosene: 1%
- Mineral spirits: 1%
- #4 fuel oil: 1%
Truck Releases by Class (15,167)

Source: US DOT PHMSA - DOT
Rail Releases by Class (714)

- FLAMMABLE - COMBUSTIBLE LIQUID: 57%
- CORROSIVE MATERIAL: 20%
- MISCELLANEOUS HAZARDOUS MATERIAL: 9%
- FLAMMABLE GAS: 5%
- NONFLAMMABLE COMPRESSED GAS: 3%
- POISONOUS MATERIALS: 2%
- POISONOUS GAS: 1%
- FLAMMABLE SOLID: 1%
- DANGEROUS WHEN WET: 1%
- ORGANIC PEROXIDE: 1%

Source: US DOT PHMSA - FRA
Boat Releases by Class (47)

Source: US DOT PHMSA - USCG
So how should we prepare?

• Focus on the most likely modes for accidents
  – Roadway / Truck
  – Rail / Train

• Focus on the most likely hazard classes:
  – Flammable liquids
  – Corrosives

• Facilities in your town and your neighboring towns.
Hazardous Materials at Fixed Facilities
Transportation Routes as Local Planning Buffer Zones

Railroad Planning Zones

Legend
Railroads by Use
- Active Rail Service
- ROW used for Hiking and Biking
- Abandoned ROW in Public Int
- Abandoned or Out of Service
- Unknown
- Railroad Buffer 500ft
- Railroad Buffer 1000ft
- Railroad Buffer 1500ft
- EPA Tier2 Classified Sites

Public Water Supply Sources
- Community Well
- Surface Water Intake
- Emergency Surface Water Intake
- Non-Community Well
- Proposed Well
- Police Stations
- Fire Stations
- Schools
- Nursing Home, Rest Home
- Hospital
- Prisons
- Towns
- WPA
- Zone II Wellhead Protection Area
Statewide HazMat Transportation Study

The Maine Example
<table>
<thead>
<tr>
<th><strong>Maine Priority Hazardous Materials</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Anhydrous Ammonia</td>
</tr>
<tr>
<td>Chlorine</td>
</tr>
<tr>
<td>Crude oil</td>
</tr>
<tr>
<td>Compressed Natural Gas</td>
</tr>
<tr>
<td>Ethanol</td>
</tr>
<tr>
<td>Formaldehyde</td>
</tr>
<tr>
<td>Hydrochloric Acid</td>
</tr>
<tr>
<td>Hydrofluoric Acid</td>
</tr>
<tr>
<td>Hydrogen Peroxide</td>
</tr>
</tbody>
</table>
Upcoming Training

Computer Aided Management of Emergency Operations

Hands-on CAMEO System Training
October 10-11, 2017 8:30 AM to 4:30 PM
MassDEP Worcester,
SuAsCo Main Conference Room
8 New Bond Street, Worcester MA 01606

Presented in collaboration with the Environmental Protection Agency Region I
Thank You

Nicholas Child
MassDEP 2\textsuperscript{nd} Floor
1 Winter Street,
Boston, MA 02108
(617) 574-6847
Nick.Child@state.ma.us