An Internet Solution to Incident/Emergency Response

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Key Words: ASP, crisis management, HAZMAT, internet, chemical spills, TranSafe, Live Spill Help, MSDS, SiteSafe, RMP, incident management, emergency response

Abstract:

Objective - To educate the audience on the latest on-line service for real-time management of incidents involving hazardous materials.

Scope - This presentation will involve a live demonstration of an Internet solution for incidents involving hazardous materials. Attendees at the conference and ACHMM members elsewhere in the United States will collaborate on-line.

An Internet Solution to Incident/Emergency Response

Issues - Examining real-time management of incidents using paper, non-Internet electronic support systems and Internet-based systems. Advantages and disadvantages of Internet-based systems.

Developments - Internet-based, real-time systems for incident/emergency response; logistics abnormal situation management; sharing RMP documents with LEPCs over the Internet; wireless Internet solutions.

Conclusions - The Internet and Application Service Provider (ASP) on-line solutions hold tremendous promise for improvements to real-time incident management and emergency response. These on-line services permit real-time collaboration and expertise delivery that is not possible with paper-based or non-Internet electronic systems.

Hazmat Transportation and Community Safety©

Are We Prepared?

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Spring, 2001

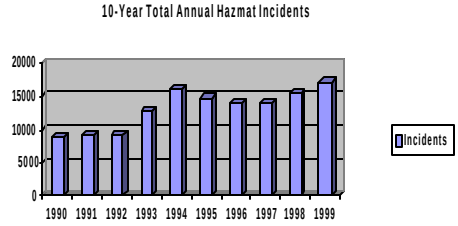
What is the Likelihood of a Major Community Disaster?

How Many Near Misses?

Are We Prepared?

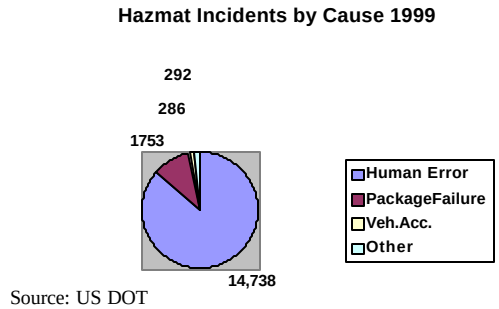
What do most Fortune 500 Companies rely on today to respond to chemical emergencies?

Ten-year Total Hazmat Incidents



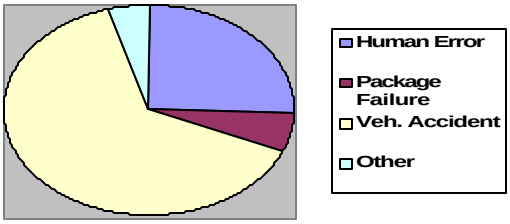
Source: US DOT

Total Hazmat Incidents by Cause 1999



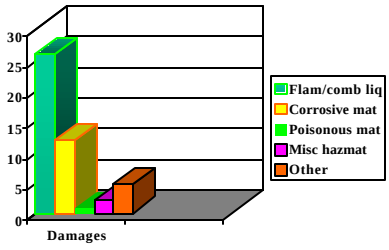
Source: US DOT

Total Hazmat Damages by Cause 1999

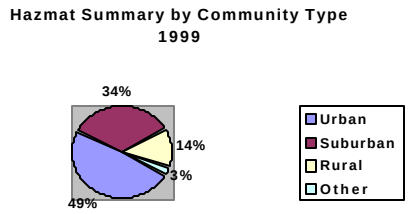


Source: US DOT

Incidents and Damages by Hazard Class - 1998



1999 Hazmat Incidents by Community Type



Source: US DOT

Some Observations

- Hazmat incidents in transportation are expensive to shippers, carriers and the public.
- Total hazmat incidents in transportation are increasing, annually.
- Public and private costs are not fully accounted for.
- Similar issues exist at fixed facilities.

Examples of Near Misses

- Location – Houston, 1999
- Type – tank truck
- Chemical – fuming sulfuric acid
- Incident – overflow during filling
- Outcome - near miss
- Worst-case scenario

Worst Case Scenario

- During loading, spilled fuming sulfuric acid comes into contact with water.
- Reaction with water increases heat.
- Explosion results with release of toxic fumes and fire.

Worst Case Scenario

- Chemical – fuming sulfuric acid.
- Danger zone – 3.5 mi.
- Emergency response resources in danger zone.
- Sensitive receptors in the danger zone.
  - 96 schools.
  - 37 daycare centers.
  - 3 nursing homes.

Hydrogen Fluoride Incident

- Location: rural Texas (I-10), 1998
- Type: tank truck
- Chemical: hydrogen fluoride
- Incident: traffic accident
- Outcome: evacuation (400); Damages ($480,000)
- What if location was Houston (I-10)?

Worst Case Scenario
Houston

- Chemical - HF.
- Danger zone 1.8 mi.
- Emergency resources in the danger zone.
- Sensitive receptors in the danger zone.
  - 4 hospitals.
  - 29 schools.
  - 11 daycare centers.

Community Impacts

- What would the damages be if a near miss became a worst case scenario?
- Is your company prepared? Your community?
- How can we improve the situation?
  - Reduce human error – how?
  - Improve critical event management – how?
  - Employ technological advances – which ones?

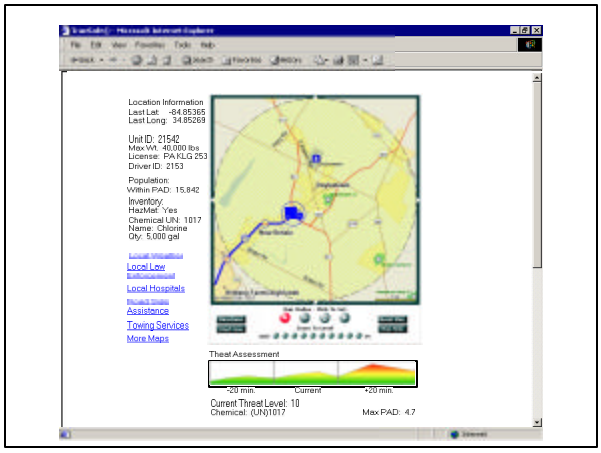
Improve Critical Event Management

- Real-time data analysis
- Document sharing
- Risk assessment tools
- Collaboration
- Access to subject matter experts
- Community Involvement

Employ Technological Advances

- Electronic format crisis plans and procedures
- Use of the internet
- ASP services
- GIS/GPS
- Wireless applications
- Document/knowledge management
- Algorithms for consequence assessment


TranSafe Alert
An incident has been started by your group.
Please go to www.wtsafe.com for more details.
EXIT
TranSafe users receive a text message that alerts them to a new Incident.
Incident #1345
Location:
Doylestown, PA
Chemicals:
(UN) 1017 Chlorine
E.A.D:
4.2 miles
EXIT
Incident Summary Screen
Sensitive Receptors
Schools (23)
Child Cares (15)
Nursing Homes (4)
Kindergartens (7)
Universities (1)
Jr. Colleges (0)
List of Sensitive Receptors
Schools within PAD
Geyman Elem School
215-348-2334
Doyle Elem School
215-345-1331
Linden Elem School
215-345-4313
Contact Information:
Click the highlighted number to contact by phone.


Location Information
Last Lat: -84.85365
Last Long: 34.85269
Unit ID: 21542
Max Wt: 40,000 lbs
License: PA KLG 253
Driver ID: 2153
Population:
Within PAD: 15,842
Inventory:
HazMat: Yes
Chemical UN: 1017
Name: Chlorine
Qty: 5,000 gal
Local Law Enforcement
Local Hospitals
Hazmat Waste Assistance
Towing Services
More Maps
Threat Assessment
-20 min.
Current
+20 min.
Current Threat Level: 10
Chemical: (UN)1017
Max PAD: 4.7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EMERGENCY HELP OPTIONS
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Conclusions

- Industry and transportation companies can now employ internet-based, real-time systems for incident management/emergency response.
- ASPs and wireless systems hold tremendous promise for system-wide improvements in efficiency and safety.
- Paper-based or non-internet based systems cannot provide the same opportunities for collaboration and sharing of knowledge as ASP systems.