OTA RESOURCES & CLIMATE CHANGE PREPAREDNESS

Tiffany Skogstrom, MPH
Outreach & Policy, Massachusetts Office of Technical Assistance (OTA)
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Toxics Use Reduction Act (TURA) of 1989

Three partnering agencies:
+ MassDEP (Regulatory)
+ TURI (Research & Grants)
+ OTA (Technical Assistance)
CHEMICAL SAFETY & CLIMATE CHANGE RESILIENCY PROJECT

Toxics Use Reduction + Climate Change Resiliency Planning = Reduced Risk of Industrial Accidents
Rhonda Ragsdale
@profragsdale

There is a thick smell of oil in the air downtown Houston
11:25 AM - Aug 27, 2017

RFH
@rfh02

@DisasterPIO There is a widespread gas smell in Houston's East End. Any info?
12:52 PM - Aug 27, 2017

Raquel de Anda
@deAndaAnda

Rancid chemical smell near Houston @ValeroEnergy refinery. What's going on? Why all the flaring? Folks Can't Breathe
#HurricaneHarvey
2:20 PM - Aug 27, 2017
First responders file suit against Arkema over ‘serious bodily injuries’ in Houston chemical plant fire after Hurricane Harvey

- First responders filed a lawsuit in Harris Count court alleging Arkema failed to take adequate safety steps to secure dangerous chemicals ahead of Hurricane Harvey
- The lawsuit filed by seven police, fire and emergency service workers seeks at least $1 million
Floods

- Chemical Releases & Spills
- Emergency Shutdowns

Extreme Heat

- Chemical Temperature
- Explosion Risks

Climate Change & Chemical Releases

Extreme Cold

- Power Outages
- Frozen pipes
- HVAC Failure

Storms

- Power Outages
- HVAC Failure
- Infrastructure Failure
DANVER, MA - THANKSGIVING MIRACLE
Floods Are Getting Worse, and 2,500 Chemical Sites Lie in the Water’s Path

By HIROKO TABUCHI, NADJA POPOVICH, BLACKI MIGLIOZZI and ANDREW W. LEHREN  FEB. 6, 2018

More Than 2,500 Sites That Handle Toxic Chemicals Are Located in Flood-Prone Areas Across the Country.

- Site in area at high risk of flooding
- Site in area at moderate risk of flooding

The Houston area is home to more than 100 facilities that handle toxic chemicals and are located in flood zones.

Fertilizer factory in White Springs, Fl.
OTA MAP OF TOXICS AND VULNERABILITIES

- **Toxics Data Layers**
  - Tier II Facilities
  - Major Facilities
  - Underground Storage Tanks
  - Active Railways

- **Vulnerability Data Layers**
  - Flood Zones
  - Hurricane Zones
  - Environmental Justice Zones
  - High Risk Dams

[Link: MASS.GOV/EEA/OTA-CLIMATE]
CHELSEA CREEK

FALL RIVER & NEW BEDFORD

LAWRENCE

EAST BOSTON

www.mass.gov/eea/ota-climate
Dangerous Chemical?

Human / Environmental Contact?

Potential for Hazard?
EVALUATE RISKS

Chemical Properties
- Toxic
- Flammable
- Combustible

Weather Risks
- Flood
- Hurricane
- Freezing
- Heat

Chemical Storage
- Secondary Containment
- Compatibility

Toxics Use Reduction
- Product Substitution
- Reduce Inventory
- Engineering
MARK RICHEY WOODWORKING – ENERGY EFFICIENCY AND TOXICS USE / WASTE REDUCTION

Massachusetts Toxics Users and Climate Vulnerability Factors

Reductions:

120 gallons lacquer thinner / acetone / other chemicals per year
1,200 gallons denatured alcohol per year
12 tons VOCs per year

Savings of $16,435

Almost Off the Grid
Reductions:

- 3,870 lbs mineral spirits per year
- Went from Large Quantity Generator (LQG) to Small Quantity Generator (SQG)
- Savings of $1,000,000 in efficiency improvements, $100,000 in scrap reductions, and $60,000 in hazardous waste reductions
COLUMBIA MANUFACTURING – ZERO WASTEWATER DISCHARGE & HAZARDOUS WASTE REDUCTION

Massachusetts Toxics Users and Climate Vulnerability Factors

Reductions:

- 147,000 lbs of water per day in plating operations
- Recovered 98% of plating chemistry (nickel and chromic acid), saving 600 lbs per week
- Exempt from air / water discharge & hazardous waste treatment permits
- Savings of $3,000,000 in water / sewer fees, $3,850,000 nickel purchases, $8,000,000 chrome purchases
Unite Chemical Safety & Emergency Preparedness

- OTA Services to Businesses
- Incorporate Trainings Into L/REPC Culture
- Form Business Alliances
- Govt. Agency Resources

OPPORTUNITIES
# Remaining Training Dates and Locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Organization</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haverhill</td>
<td>Merrimack Valley Planning Commission (MVPC)</td>
<td>Tuesday, March 27, 2018</td>
<td>8 a.m. - 12 p.m.</td>
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<tr>
<td>Holyoke</td>
<td>Pioneer Valley Planning Commission (PVPC)</td>
<td>Tuesday, March 27, 2018</td>
<td>8:30 a.m. – 11:30 a.m.</td>
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<tr>
<td>Greenfield</td>
<td>Franklin Regional Council of Governments (FRCOG)</td>
<td>Tuesday, April 3, 2018</td>
<td>4 p.m. - 6 p.m.</td>
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<tr>
<td>Charlton</td>
<td>Central Massachusetts Regional Planning Commission (CMRPC)</td>
<td>Thursday, April 12, 2018</td>
<td>9:30 a.m. – 12:30 p.m</td>
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[www.mass.gov/eea/ota-climate](http://www.mass.gov/eea/ota-climate)
THANK YOU!

OFFICE OF TECHNICAL ASSISTANCE & TECHNOLOGY

FOR MORE INFORMATION:

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