Absorbent Technologies Inc. (ATI)

Albany, Oregon

October 15 – 21, 2013

Abandoned Facility Utilizing Acrylonitrile (AN)

OSC's Sibley and Heister

Absorbent Technologies, Inc. (ATI)

- Manufactured super absorbent soil amendments using acryllonitrile (AN)
- ATI went bankrupt and ceased operations on October 11, 2013
- After approximately 18 months of non-operational period

Absorbent Technologies
Albany, OR – Oct. 15

- After bankruptcy, facility, tank of (AN) and other hazmat abandoned. Homes nearby.
- AN is flammable, corrosive, unstable, carcinogenic, and requires a N blanketed.
- Two OSCs, START+ERRS respond to request from Albany FD.
- UC with Albany FD/Hazmat 3
- However, after 14 days of Shutdown mild mannered OSC Heister had become……

ATI

- Ceased operations October 11, 2013 After approximately 18 months of non-operational period
- Hazardous chemicals, product ingredients, and wastes left on site
- Main concern was ☠acyrlonitrile☠ (AN) (the key ingredient to their super absorbent dough)
- 140 SW Queen Ave.
  - Approx. 2,800 gal AN in 20,000 gal Tank under Nitrogen Blanket
- 2830 Ferry St. SW
  - Facility ½ mile S of Queen Ave. Facility
  - Pilot and R&D Facility
  - 2 x 3,000 gal Methanol Tanks under Nitrogen Blanket

Queen Avenue

- The main production facility and offices
- 20,000 gallon AN tank
- Bulk acids, bases, and oxidizers
- Various chemicals
- “Non-Hazardous Waste” 250 gallon polycarbonate totes
- Cyanide detected in head space of some totes
- START performed monitoring, first step analysis, and sampling for laboratory analysis

Queen Avenue

- Facility owners proposed running system to consume the AN after sitting for 18 months
  - Would take several weeks operating 200-300 gallon batches
  - Could not guarantee complete reaction of AN
  - Would leave significant amount of AN in the tank; would still need to clean the tank of residual AN
- Owners' plan rejected by EPA

Ferry Street

- R&D facility ½ mile south of main facility
- Pilot scale production of absorbent “dough”
- Two 3,000 gallon methanol tanks under nitrogen blanket
- Seventeen 250 gallon liquid totes marked “Non-Hazardous Waste”
- HazMat Building where AN was pumped into absorbent dough production
- Small-scale graft reactor

Ferry Street

- Waste totes were not RCRA hazardous wastes
- Cyanide found in graft reactor residue sample
- No emergency removal conducted at this site

Acrylonitrile (AN)

- Approx. 2,800 gallons of acrylonitrile in 20,000 gallon above-ground tank
- Flammable, corrosive, and carcinogenic liquid
- Will polymerize at temperatures exceeding 800 °F producing hydrogen cyanide gas
- Storage required under a nitrogen blanket to keep from reacting with oxygen

Acrylonitrile (AN)

- Stabilizing agent is added by manufacturer, but it degrades after 6 months
- The AN had been sitting in tank more than 18 months!
- Ionization Potential 10.91 eV: need FID, or 11.7 eV PID not standard 10.6 eV PID lamp.

Research, Plan, Implement

- Contacted AN experts
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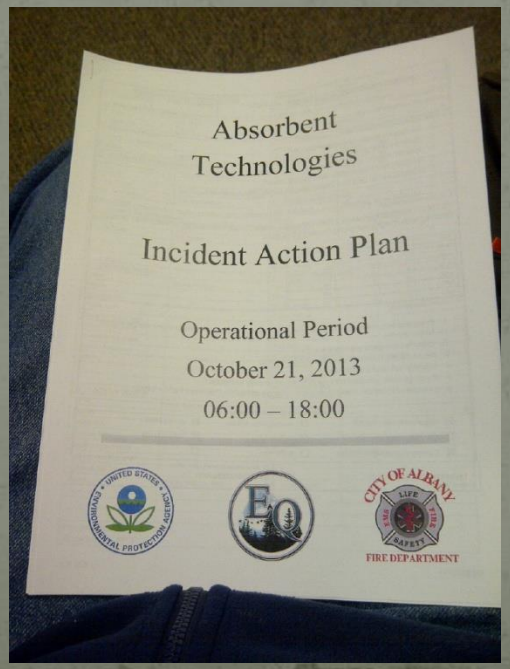
- Developed strategy
- Designed redundant safety measures
- Briefed and Executed



Removal of AN October 21, 2013

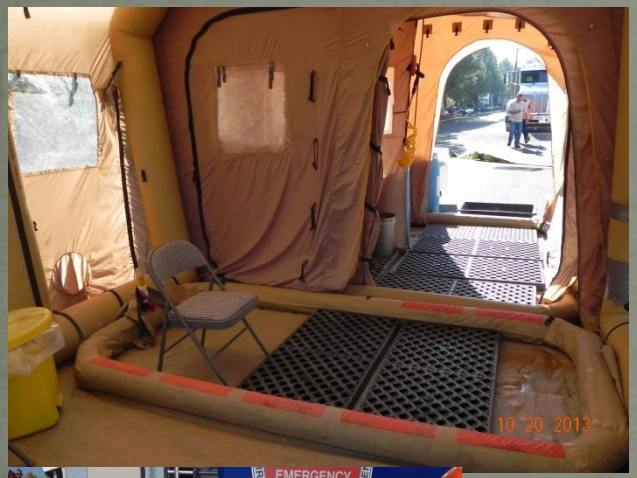
- Support Zone
  - Weather Station/Plume Modeling
  - Medical monitoring
  - Decon station
- Albany FD tasks
  - Monitoring restricted zone with FID
  - Manning fire-foam system outside restricted zone with foam truck
- Utilized the existing ATI vapor recovery/carbon filtration system to prevent fugitive AN vapors
- ERRS-supplied air (~3 hour work period!)
- AFD donned Level A, performed frequent personnel swap-out.
- Vac truck operator was suited up but could not enter (certification deficiency). ERRS operated truck

Removal of AN October 21, 2013

- Supported by Albany Fire Department (AFD) HazMat Team
- START ran ALOHA plume modeling for reverse 911 in case of release during transfer, performed remote air monitoring with AreaRAEs
- Stabilizer was added to vacuum truck to prevent AN polymerization during transport
- AN was pumped out into vacuum truck
- AN Tank was rinsed and pumped into vacuum truck
- AN, Stabilizer, and Rinse Water (Approx. 4,000 gal) hauled off site October 22, 2013 to incinerator in Beaumont, Texas.
- "Hot Wash" held 11/8


ALBANY FIRE DEPT.
PARAMEDIC UNIT
HAZMAT


10 20 2013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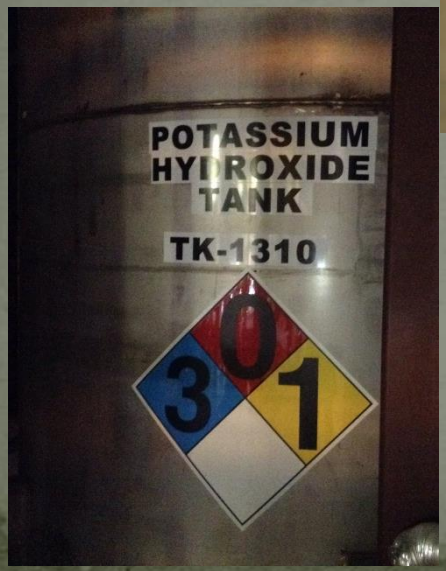
HAZMAT


EMERGENCY
RESPONSE


10 20 2013

Still on Site



- Still contamination in the various containers, tanks, vessels and piping at both properties
- Decontamination will be necessary before dismantling and removing equipment

Questions?