Emergency Response To Chlorine Incidents:

January 9th, 16th, 17th, 24th and February 10th

Course Overview

Course Location:

- Douglas Fire Department, Cochise County, Arizona.
- Attendants- First Responders from the US and Mexico.

Course Information:

- Funded through the EPA, Border 2012 Program
- Grant proposal, Cochise County Health Department
- Grant management, Douglas Fire Department
- Hosted by the Douglas Fire Department
- Course design and instruction provided by Mike McKearney

Course Information:

- The course consisted of classroom instruction, group activities, practical “hands on” activities and drills.
- The emphasis was on chlorine emergencies, however, some of the training was geared towards broader Haz-Mat response strategies and tactics.

January 9th, 2005
Day One- Morning Session:

- Welcome, introductions and class overview.
- Classroom instruction on hazardous materials identification and recognition.
- The class was then spilt into four groups and given part one of a three part scenario.

January 9th, 2005
Day One- Afternoon Session:

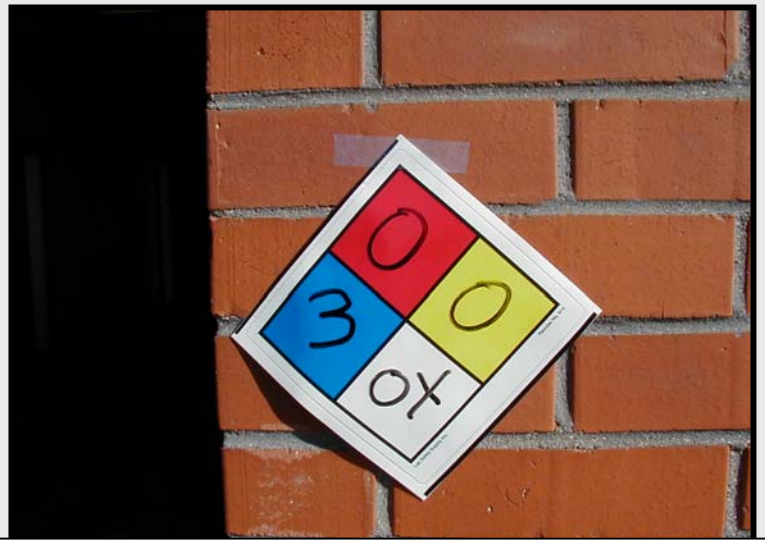
- Presentation on “site operations,” basically, how to operate as a Haz-Mat Team.
- Instruction on operating in Level-A PPE and the safety hazards.

January 9th, 2005
Day One- Afternoon Session:

- The class was split into two separate “Haz-Mat Teams,” each team consisted of first responders from the US and Mexico.
- Two separate drills were set up and ran simultaneously. When each team had completed there first drill, they switched and completed the second one.

January 9th, 2005
Day One- Afternoon Session

- Drill One- Reconnaissance Mission
- Scenario was a leaking chemical from a commercial building. No employees present and no further information given.



An NFPA 704 was placed outside the structure as the initial “Identification Item” found.

January 9th, 2005 Day One- Afternoon Session

- Dress out and medical surveillance in the cold zone.

January 9th, 2005
Day One- Afternoon Session

- The Entry Team entered the structure and found a leaking cylinder.

January 9th, 2005
Day One- Afternoon Session

January 9th, 2005
Day One- Afternoon Session

- Recon Information

✓ Structure layout

✓ Location of cylinder

✓ Label

✓ A “Liquid Leak”

✓ Valve assembly leak

✓ No victims found

January 9th, 2005
Day One- Afternoon Session

- Drill Two
- Level-A donning and application of a pipe clamp.

January 9th, 2005
Day One- Afternoon Session

- Drill Two

January 16th, 2005
Day Two- Morning Session:

- Classroom instruction on “estimating course harm.”
- The class was again split into four groups and were given part two of a three part scenario.
- Classroom instruction on choosing objectives, identifying options, and evaluation.

January 16th, 2005
Day Two- Morning Session:

- Group Scenario Part Two- Estimating Course and Harm.
- A chlorine leak in the city of Douglas.
- Incident elements were given to include location, leak and weather.
- After the groups finished the scenarios, an ALHO vapor footprint was created using the same incidents elements and placed at the same location on Marplot.
- The “CAMEO” information was then projected onto the screen and open classroom discussion facilitated.

January 16th, 2005
Day Two- Morning Session:

- Group Scenario Part Two- Estimating Course and Harm.

January 16th, 2005
Day Two- Afternoon Session:

- The class was again split into two “Haz-Mat Teams.”
- Team One completed practical activities on proper “plug and patch” tactics.
- Team Two completed a quiz on Identification and chemical research using reference materials.
- The teams then switched.

January 16th, 2005
Day Two- Afternoon Session:

- “Plug and Patch” practical activities:

January 16th, 2005- Day Two, Afternoon Session:

- “Plug and Patch” practical activities:

January 16th, 2005
Day Two- Afternoon Session:

- Team Two- ID and research quiz:

January 17th, 2005
Day Three- Morning Session:

- Classroom instruction on decontamination.
- Classroom instruction- An overview of Chlorine.

January 17th, 2005
Day Three- Afternoon Session:

- Team One-

✓ Using colormetric tubes

✓ Using the Drager “chip measurement system”

✓ Using pH paper for corrosive vapor and liquid monitoring

✓ Discussion on other product monitoring instrumentation and tactics.

- Team Two- Completed part three of the group scenario

January 17th, 2005
Day Three- Afternoon Session:

- Team One- Product monitoring

January 17th, 2005
Day Three- Afternoon Session:

- Team Two- Group scenario part three, choosing objectives, identifying options and evaluating.

January 24th, 2005
Day Four- Morning Session:

- Presentation on Chlorine 100 and 150 lb. cylinders.
- Presentation on application of the A-Kit.
- Group activity on application of the A-Kit.

January 24th, 2005
Day Four- Morning Session:

- Group Activity- Application of an A-Kit.

January 24th, 2005
Day Four- Morning Session:

- Presentation on chlorine one ton containers
- Presentation on application of a B-Kit.
- Practical activity on application of a B-Kit.

January 24th, 2005
Day Four- Morning Session:

- Group Activity- Application of a B-Kit.

January 24th, 2005
Day Four- Afternoon Session:

- Drills:

✓ Team One- Leaking cylinder

✓ Team Two- Leaking one ton container

January 24th, 2005, Day Four- Afternoon Session:

- Team One:

January 24th, 2005, Day Four- Afternoon Session:

- Team Two:

February 10th, 2005
Day Five- Morning Session:

- Presentation on chlorine rail, truck and intermodal manway covers, valves and pressure relief devices.
- Presentation on application of a C-Kit
- Review on containing leaks in chlorine cylinders.

February 10th, 2005
Day Five- Morning Session:

- Class trip to Ari-Mex shipping.

February 10th, 2005
Day Five- Morning Session:

- Class trip to Douglas City well #14.

February 10th, 2005, Day Five- Afternoon Session:

- Final Drill

February 10th, 2005, Day Five- Afternoon Session:

- Final Drill

February 10th, 2005
Day Five- Morning Session:

- Closing remarks

Thank you:

- Environmental Protection Agency
- Douglas Fire Department
- Cochise County Health Department
- First Responders