



EMERGENCY RESPONSE REVIEW

**Valmont Coatings / Oklahoma Galvanizing
Sulfuric Acid Spill
Catoosa, Oklahoma**

FINAL REPORT -- JANUARY 4, 2005

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The Environmental Protection Agency (EPA) Region 6 is issuing this Emergency Response Review as part of its ongoing effort to protect human health and the environment by responding effectively to chemical accidents.

Emergency Response Reviews are designed to:

- **Review with a local community and state officials the response procedures and outcomes to a specific chemical accident, affecting that community;**
- **Share information about chemical response safety practices;**
- **Develop potential recommendations and lessons learned to more effectively respond to an accidental release in the future;**
- **Build cooperation among local, state, and federal government agencies.**

Emergency Response Reviews are entirely voluntary and may include all local, state, and federal entities involved with the response, as well as the responsible party and their representatives.

This document does not substitute for EPA's regulations, nor is it a regulation itself. It cannot impose legally binding requirements on EPA, states, or the regulated community, and may not apply to a particular situation based upon circumstances. This guidance does not represent final agency action, and may change in the future, as appropriate.

SUMMARY OF INCIDENT

On the morning of August 30, 2004, a tank failure occurred at the Valmont Coatings / Oklahoma Galvanizing facility, in Catoosa, Rogers County, Oklahoma. The failure resulted in the spillage of approximately 1,000 - 1,500 gallons of 93 % sulfuric acid onto the parking lot and adjacent drainage ditch.

Valmont employees quickly began moving galvanized pipe with fork lifts from area saturated with sulfuric acid to dry areas.

The cause of the accident is not addressed within this report.

The Verdigris Volunteer Fire Department was the initial responding organization, with mutual aid assistance from the Claremore Fire Department. Additional support came from the Catoosa Fire Department, Rogers County Sheriff Department, and Med-Tec Ambulance.

Upon arrival to the scene, a heavy white cloud was observed venting in the rear of the facility. Response personnel instructed facility employees to move out of the "hot zone" as they did not have any personal protective equipment (PPE), nor adequate hazardous materials response training.

Response quickly established an incident command structure, with the Verdigris Fire District acting as Incident Commander.

Approximately 35 persons from surrounding businesses were evacuated as a precautionary measure. Sheriff Department personnel established a security perimeter around the facility to control traffic within the area.

Approximately 18 employees from the facility, who were potentially exposed to the acid vapors/liquid, were transported to Claremore Regional Hospital for observation. 2 additional employees were transported to Tulsa.

Valmont employees initially built an earthen berm to contain runoff of the acid within the facility, which was later reinforced by Fire Department personnel. Limestone was initially added to the acid product to attempt to raise the pH level to safer level.

It was determined that the limestone was not raising the pH adequately, so a solution of water and lime was added to the acid. By the next day, the pH had been raised to over 2.

EPA START contract personnel arrived and assisted by providing air monitoring at the site to ensure no off-site elevated contamination was occurring. Personnel from Oklahoma Department of Environmental Quality were on-site and oversaw the remediation of the site.

Sooner Emergency Services was contracted and began collecting/vacuumping runoff solution in the contained area on August 31. Emergency personnel were released from the site later on the 31st.

Additional information on this incident and response and can be found on the EPA Response Webpage:

www.epaosc.net/valmontcoatingsacid

OBSERVATIONS / RECOMMENDATIONS

Observation / Recommendation # 1	<p>All local response organizations should review protocols based on the following:</p> <p>“Response teams to a disaster scene have a responsibility to first protect themselves and their team members. If you or your team is injured, not only are the number of victims increased, but the response is now delayed, resulting in additional resource utilization. This delay and need for additional resources due to your inability to keep yourself and your team protected could cost other victims their lives.</p> <p style="text-align: center;">DISASTER Paradigm: Safety and Security</p> <p>Don't be selfish - protect yourself. Scene priorities:</p> <ul style="list-style-type: none">● Protect yourself and your team members first● Protect the public● Protect the patients● Protect the environment <p style="text-align: right;"><u>"Basic Disaster Life Support Manual, Version 2.5"</u></p> <p>At an incident, safety should be the first concern of any responder. When fire fighters, police officers or emergency medical technicians become injured or contaminated, they become part of the problem, instead of a solution. It's unfair to ask first responders to risk their life, health, or the health of their families by becoming contaminated at an incident. Difficult decisions need to be made and risks taken should be weighed against the possibility of a positive outcome.</p> <ul style="list-style-type: none">● OSHA 29 CFR 1910.120 -- Hazardous Waste Operations and Emergency Response (HAZWOPER)● OSHA 29CFR 1910.134 -- Respiratory Protection (Commonly referred to in the fire service as the Two In/Two Out Rule)● EPA 40 CFR 311 -- Worker Protection● NFPA 471 -- Recommended Practice For Responding to Hazardous Materials Incidents● NFPA 472 -- Professional Competence of Responders to Hazardous Materials Incidents● NFPA 473 -- Competencies for Emergency Medical Personnel Responding to Hazardous Materials Incidents● NFPA 1500 -- Standard on Fire Department Occupational Safety and Health Program
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<p>Observation / Recommendation # 2</p>	<p>All response / planning organizations within Rogers County should meet to determine the need and effectiveness to re-invigorate the LEPC within the County.</p> <p>The Superfund Amendments and Reauthorization Act (SARA), Titles I and III states the roles of local governments in hazardous materials.</p> <p>The federal government has directed local governments to set up mechanisms to assure that planning and training are taking place. The LEPC is responsible for this at the local level.</p> <p>The "Hazardous Materials Operating Sites Practices" course from the National Fire Academy states:</p> <p>"The LEPCs' planning responsibilities included the following:</p> <ul style="list-style-type: none"> ● Identifying local hazardous material facilities and transportation routes. ● Preparing emergency response procedures for facilities and operators, emergency responders, and medical personnel. ● Designating community and facility emergency response coordinators. ● Providing for timely release of detection and notification procedures. ● Maintaining an inventory of essential emergency response equipment and facilities. ● Assisting in the development of evacuation plans, training programs, and planned exercises." <p>Information on establishing and maintaining an LEPC can be found at:</p> <p>www.epa.gov/region6/lepc</p>
<p>Observation / Recommendation # 3</p>	<p>Response Organizations within Rogers County should ensure they have the 24 hour phone numbers for both EPA Region 6 (866-372-7745) and ODEQ (800-522-0206), as well as the phone number for the National Response Center (NRC 800-424-8802), and CHEMTREC (800-424-9300).</p>

Observation / Recommendation # 4	<p>As with virtually every other emergency response or simulated drill, communication was an issue in this response.</p> <p>This included 2 patients being transported from the site to Tulsa without the knowledge of Incident Command.</p> <p>All organizations within Rogers County should work to resolve these communications problems during a response, including coordinating EMS activities with Incident Command.</p>
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<p>Observation / Recommendation # 5</p>	<p>Most exposed workers were transported to Claremore Regional Hospital. The Hospital did an admirable job in handling all the victims, but this workload could have easily overwhelmed the personnel.</p> <p>All response organizations within Rogers County should work together to establish a multi-hospital program where multiple victims can be allocated to additional hospitals. This will ensure that one hospital is not overwhelmed during the response.</p>
<p>Observation / Recommendation # 6</p>	<p>Local governments that respond to hazardous materials emergencies should always be aware of the potential for reimbursement under the Local Government Reimbursement program, operated through EPA. More information on this program can be found at:</p> <p>www.epa.gov/region6/lepc</p>
<p>Observation / Recommendation # 7</p>	<p>All exposed victims should be decontaminated (gross decon at a minimum) before being transported to a hospital or medical center. This will help protect responders, hospital personnel, equipment, vehicles, and facilities from contamination.</p>
<p>Observation / Recommendation # 8</p>	<p>Anyone who responds to a hazardous materials incident should receive at least operations level HAZMAT training. All other individuals involved in the incident, including dispatchers, should be trained to a minimum of the awareness level.</p> <p>Awareness level training teaches you to recognize, identify, notify the proper authorities and to isolate an incident. All levels of HAZMAT training are required to have annual updates that demonstrate competencies.</p> <p>The Rogers County LEPC should work to obtain hazardous materials awareness, as well as basic Incident Command System (ICS), training for response personnel within the County who have not already received this training.</p>
<p>Observation / Recommendation # 9</p>	<p>Response organizations should investigate the most effective and safe procedures to decontaminate exposed victims (i.e., irrigation of eyes after acid exposure)</p>
<p>Observation / Recommendation # 10</p>	<p>Once perimeter security is determined to be needed, assure that access is only granted through established entry / exit points. This security information should be coordinated through the Incident Command.</p>

Observation / Recommendation # 11	Response organizations should ensure adequate coverage during an extended response so that rotations of entry / decontamination teams can occur more often, to reduce fatigue / safety issues
Observation / Recommendation # 12	<p>Response organizations should ensure consistency and consensus on the level of PPE to be used by entry teams.</p> <p>The established Safety Officer under Incident Command, with input from response personnel, should determine the proper level to be used by all entry personnel.</p>

Each of the emergency response reviews conducted within Region 6 show one consistent pattern: Emergency response personnel within Region 6 are be commended for their professionalism and sincere desire to protect the citizens of their communities.

Region 6 EPA is grateful for the efforts made by all emergency response personnel, and hopes the above recommendations can be used to improve the response and preparedness readiness of a community, if a future emergency occurs.

Emergency Response Review (November 1, 2004) Attendees

Steve Mason EPA OSC
Christy Tullis EPA-START
Steve Palladino Oklahoma Emergency Management
Bob Anderson Rogers County Emergency Management
Susie Rains Rogers County Emergency Management
Bradd K. Clark Claremore Fire Department
Dale Magnin Oklahoma Emergency Management
Michal Hall Catoosa Fire Department
David Horton Claremore Fire Department