Community
Emergency Response

Have You Met Your Neighbors Yet?

By Gabriel F. Miehl

Fixed facilities, either private or public, have policies and procedures that must be followed to prevent or respond to emergencies. Examples include:

•29 CFR 1910.38, Emergency Action Plans, which covers emergency reporting, evacuation plans, head counts, critical plant shutdown, rescue and medical duties and plans.

•29 CFR 1910.39, Fire Prevention Plans, which lists all major fire hazards (fuel loads and ignition sources), procedures to control fire hazards and assignment of responsibility for controlling fire hazards.

•1910 Subpart H, Hazardous Materials:

1) 29 CFR 1910.119, Process Safety Management, which covers employee participation, hazard data, process hazard analysis, operating procedures (including emergencies), training, contractor responsibilities, prestartup safety review and mechanical integrity.

2) 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, 1910.120(I), Emergency Response by Employees at Uncontrolled Hazardous Waste Sites, which addresses preemergency planning, chain of command, emergency recognition and prevention, evacuation, security, decontamination, medical treatment, emergency alerting

IN BRIEF
•General industry is required to plan for emergencies under several different local, state and federal regulations. But what happens when an emergency leaves the property line and travels into the surrounding neighborhood or an off-site emergency affects a facility?
•A key step when planning for emergencies is to meet the professionals who will respond during an emergency and develop an awareness of the surrounding neighborhood.
•This article is based on a community emergency response exercise project developed by the Erie County (PA) Local Emergency Planning Committee. It discusses regulatory emergency planning requirements; preemergency planning and coordination between fixed facilities and emergency response agencies; development of emergency planning discussion points; and development of a community emergency response exercise framework.

and response procedures, critique and PPE.

•29 CFR 1910.151, Medical Services and First Aid, which covers ready availability of medical personnel.

•29 CFR 1910.165, Employee Alarm Systems, which includes mandates for providing warnings for necessary emergency action.

On the environmental side, EPA requires some fixed facilities to report chemical hazards and develop similar emergency response policies and procedures. Examples include:

•SARA Title III/Emergency Planning and Community Right to Know Act, State Emergency Response Commis-

ERIE COUNTY LEPC, SUMMIT TOWNSHIP EXERCISE

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Tabletop Exercise Key Subject Points

Discussion item	Report through 9-1-1	Report through national response center
1) 9-1-1 center	A facility notifies 9-1-1 of a HazMat release because of: 1) Injury 2) Release moves off site 3) Help required *Questions:* •What information will 9-1-1 be looking for (e.g., what should the facility have available and be ready to provide)? •What protocol will be followed to dispatch fire, EMS, HazMat, police? Are courtesy calls placed to key individuals or organizations informing them of situation? •What follow-up written reports are required from the facility? What is the time frame for the reports? *Discussion:* What are area coordinators and their role in this situation?	The reportable quantity is (or believed to be) exceeded and a facility notifies the following regulatory entities: 1) National Response Center 2) SERC 3) LEPC The release is classified as continuing (*not contained, in this instance*). *Questions:* •What information should be provided by the facility to the regulatory entity? •What courtesy calls are placed to key individuals or organizations informing them of the situation? •What follow-up written reports are required from the facility? What is the timeframe for the reports?

Discussion item	Dispatched through 9-1-1 center	
2) EMS and hospitals	**Emergency Medical Services** are dispatched to the facility for: 1) Treatment of injured persons. 2) Medical monitoring of potential HazMat responders. *Questions:* •What information will EMS need while en route to the facility? What information will EMS need from other parties once on site and throughout the situation? •How will EMS get to the injured party? •Regarding decontamination and treatment, what actions will an EMS provider do, not do or refuse to do? **Hospitals** *Discussion:* What is a prehospital report, what information will be needed to complete the report and how is the report used?	
3) Fire service	*Questions:* •What information will fire need while en route to the facility? What information will fire need from other parties once on site and throughout the situation? •What actions will fire perform, not perform or refuse to perform? •How will operations be terminated at the facility? *Discussion:* How will an integrated incident command system be established with the facility personnel? How will roles, responsibility and authority be established?	
4) HazMat	*Questions:* •What information will HazMat need while en route to the facility? What information will HazMat need from other parties once on site and throughout the situation? •What actions will HazMat perform, not perform or refuse to perform? What are the associated fees? •How will operations be terminated at the facility? *Discussion:* How will an integrated incident command system be established with the facility personnel? How will roles, responsibility and authority be established? Who has cleanup responsibility?	
Special topic: PA Department of Environmental Protection (PADEP)	•Discussion on general reporting requirements under SARA Title III (Tier II and Form R) and EPCRA ("reportable quantities") •Review of EPA "List of Lists." •Review of EPCRA reportable quantity reporting procedure, including time frames and follow-up paperwork. •Discussion of PADEP role in hazardous chemical releases.	
Special topic: The LEPC	•Introduction and discussion on role and responsibility under state and federal law. •Discussion of off-site plan requirements as mandated by federal and state law (e.g., what they must include, when they must be filed, when they must be updates) •Discussion on who has access to the plans and how they are used for preincident planning. •Discussion on good plans versus bad plans.	

sion (SERC), local emergency planning committee (LEPC), Tier II forms for reporting of listed chemicals above a threshold planning quantity, development of emergency response plans for extremely hazardous substances above the threshold planning quantity, and immediate reporting of releases of extremely hazardous substances above a reportable quantity to the National Response Center, SERC and LEPC.

•Clean Air Act, Section 112(r), Risk Management Program, which covers hazard assessment of release scenarios and off-site impacts, and prevention and emergency response plans.

Facilities required to comply with these environmental regulations must share information with state and local emergency response agencies; however, the flow may be one-directional from facility to agency. These emergency response agencies can be indispensible resources when preparing a site emergency response plan and are often just a phone call or e-mail away from providing assistance.

The Emergency Response Plan

Emergency response plans often contain several sections, with each section focused on a specific topic. These topics are designed to provide specific guidance to be followed in the event of an emergency. Guidance may be presented in a checklist

format and may be tabbed to facilitate easy access within the plans. Plans also may include equipment inventories, maps and photos.

Typical emergency response plans include the following sections:

•Business-specific information, including facility contact information such as addresses, phone numbers and GPS coordinates. For contingency planning purposes, emergency back-up locations and contacts also may be listed.

•An emergency contact section for emergency responders and response agencies, insurance agents and public utilities. For contingency planning purposes, equipment suppliers and contract services also may be listed.

•A roles and responsibilities section identifying the business team that is responsible for developing, communicating and implementing the emergency response plan. This section also may include the process by which the business will communicate and coordinate the plan with local emergency responders and response agencies.

•A critical operations section that identifies safety-critical operations and the staff responsibile for developing and implementing specific plans to render these operations safe during an emergency.

•An evacuation plan that details how facility occupants will be notified of an emergency and moved to a safe location, as well as verification procedures for personnel accountability. Shelter-in-place procedures also may be detailed for situations in which it would be safer to protect employees inside the building than to evacuate or when there is not enough time to evacuate employees safely.

•A communications plan that designates personnel to act as public information officers for internal and external communications.

Several models are available online. One of the simplest plan templates is found at **www.ready .gov/business/_downloads/sampleplan.pdf**.

Emergency planning is contingent on each individual business or facility identifying what would constitute an emergency for the business. For example, a power outage may be a business interruption nuisance for a heavy fabrication business, whereas it would constitute an emergency for a residential care home that has clients who rely on ventilators to breathe.

The nature of the emergency will determine:

•who will need to act as a responder;

•who will be identified as a contact;

•what plans and procedures will be needed to mitigate the emergency;

•what resources will be needed to respond to the emergency.

A critical, yet often-overlooked element to emergency planning is practicing the emergency response plan. Active practice, such as conducting drills, tabletop exercises or even full-blown exer-

cises, is the only way to identify shortcomings in a written emergency response plan. Without practice, the plan is nothing more than a stack of paper stored in a three-ring binder.

Community Emergency Response: Have You Met Your Neighbors Yet?

Certain regulations require some facilities to have internal emergency response plans and to provide information about some of their activities to external agencies. So:

•What happens when a site has an emergency and its on-site activities affect its neighbors?

•When should site personnel meet their neighbors—before or during an emergency?

Both questions are difficult to answer. Most fixed facilities try to be good corporate citizens. However, from a regulatory perspective, a fixed facility is responsible for the safety of employees under the facility's direct supervision. Effects that extend byond the fence line will be managed by the authority having jurisdiction (AHJ). For example, in Pennsylvania, only the governor can compel an evacuation:

In Pennsylvania, the responsibility for evacuating persons from an area at risk is given to the political subdivisions through their elected officials (Title 35 Pa C.S. §7501). While only the Governor has the authority to compel an evacuation, state and local government as well as various other emergency response officials do have the responsibility to plan for, and when appropriate, order an evacuation as part of their response and recovery authority. (Pennsylvania Emergency Management Agency, 2006)

Open discussion of these effects can be awkward or even limited because of security concerns. However, communication and coordination before an emergency will increase the potential for a successful outcome.

The AHJ for community emergency response, often a department of public safety, emergency management agency or office of emergency management, can act as a liaison to bring together fixed facilities and their neighbors. The AHJ can create a neutral scenario that brings these groups face-to-face to discuss emergency response strategies. This discussion can lead to resource sharing, improved interfacility communications and a better understanding of the emergency response process.

After the first common-interest tabletop exercise, the focus was shifted to conducting additional exercises at the community level. Seven communities were visited over a 4-year period, with more than 150 facilities and organizations participating in the exercises.

Table 2
Seven Communities Visited Since 2006

Community	Area (sq. miles)	Population	Population density (people/sq. mile)
North East, PA (11ma)	1.31	4,198	3,207
Corry, PA (2011)	6.10	6,331	1,038
Edinboro, PA (2011)[a]	2.32	6,570	2,837
City of Erie, PA (2011)	22.0	103,571	4,716
Fairview, PA (2011)	29.2	10,140	348
Summit Township, PA (2011)	23.9	5,529	232
Greene Township, PA (2011)	37.5	4,768	127

Note. [a]Does not include a state university.

Case Study: Fixed Facilities With Common Interests

In September 2004, the Erie County (PA) LEPC began to explore outreach with local facilities, both private and municipal entities. It was agreed that communication and cooperation needed to improve within the community.

At that time, Erie County had an area of 1,558 sq. miles and a population of 280,000. LEPC decided to focus the educational exercise on facilities that used anhydrous ammonia or chlorine in their operations. This focus was determined based on information summarized from Tier II reporting, which indicated that the county has a large number of ammonia and chlorine users, mostly food processors, water treatment plants and metal finishing businesses.

To plan for the tabletop exercise, a matrix was developed to identify key subject points centered on a generic incident involving the unexpected release of ammonia or chlorine (Table 1, p. 36).

The exercise goals were:

1) Outline the steps each discipline of the emergency management system will take during a HazMat release so that facilities will understand what to expect should an incident occur.

2) Promote discussion between disciplines of the emergency management system and facilities to practice sharing of information, consider implementation of an integrated incident command system, and understand each other's authority and responsibility.

3) Increase the level of cooperation between the disciplines of the emergency management system and facilities (including resource sharing).

Representatives from the county emergency management agency, county fire and paramedics associations, local hospitals, state department of environmental protection and LEPC members representing ammonia facilities were engaged to develop

NIMS: National Incident Management System

According to FEMA, National Incident Management System (NIMS) "provides a systematic, proactive approach to guide departments and agencies at all levels of government, nongovernmental organizations, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life and property and harm to the environment."

Homeland Presidential Security Directive 5 mandated the development of NIMS and also mandated all federal agencies to utilize the NIMS framework for all emergency planning and response activities. NIMS was first issued by the Department of Homeland Security in March 2004. Its framework has five key components:

•**Preparedness:** Increase the odds of a successful response to incidents by "planning, organizing, training, equipping, exercising and evaluating" all under the spirit of continuous improvement.

•**Communications and Information Management:** Simplify communications across emergency response disciplines by using common terms and following the theme of "interoperability, reliability, scalability and portability."

•**Resource Management:** Ensure that correct resources are available when needed for an emergency response by following a standardized system of "typing, inventorying, organizing and tracking."

•**Command and Management:** Implement command structures that will allow responses to easily expand and contract by focusing on standardization of "the Incident Command System, Multiagency Coordination Systems and Public Information."

•**Ongoing Management and Maintenance:** NIMS is based on continuous improvement with National Integration Center's Incident Management Systems Integration (IMSI) Division tasked

to work with stakeholders to develop and refine the system.

Business and industry must understand and adopt the NIMS framework when planning for emergencies. Emergency responders and response agencies must follow NIMS, with grants and funding often tied to compliance. As each agency responds, the responding agency's command-and-control structure can easily be integrated into the larger command-and-control structure. By understanding and integrating NIMS concepts, business and industry will be more prepared to operate as partners with emergency responders and response agencies.

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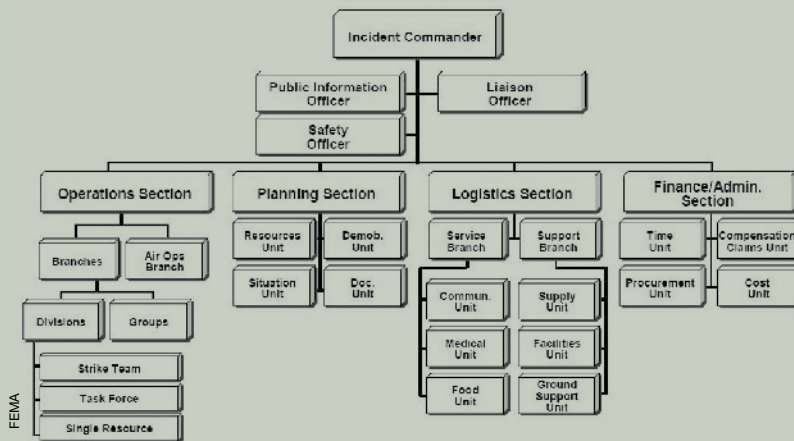**FEMA.** (2008, May 1). ICS review material. Retrieved Aug. 28, 2011, from **http://training.fema.gov/EMIWeb/IS/ICSResource/assets/reviewMaterials.pdf**.

short presentations based on the matrix. LEPC developed a guest list for the educational exercise using information that identified each anhydrous ammonia and chlorine facility in the county (both private and public) and the emergency response agencies that serviced these facilities.

Fifty-seven people attended the exercise, including representatives from local businesses, municipal water treatment facilities, paid and volunteer fire departments, police departments, educational institutions (high school and college), ambulance service providers, municipal government and hospitals. Participants provided several suggestions for future exercises through the postexercise critique:

•Develop site-specific presentations on chlorine, water and wastewater treatment process, and emergency response steps.

•Keep presenting throughout the county to promote involvement.

•Hold regular meetings to keep facilities informed of recent developments.

•Distribute a copy of the county HazMat team organization, equipment and capability presentation.

•Discuss how to plan and organize a training drill.

•Keep a similar format, including targeting similar types of facilities. Include retail facilities.

•Develop a quick reference guide.

•Tour different sites and participate in mock drills.

•Hold sessions more frequently.

•Conduct mock drills to illustrate how agencies work together.

•Develop more community/industry outreach and training.

Case Study: Community Response Exercises, May 2006 to Present

After the success of the first common-interest tabletop exercise, the focus was shifted to conducting additional exercises at the community level. Seven communities (Table 2, p. 37) were visited over a 4-year period, with more than 150 facilities and organizations participating in the exercises.

Fixed facilities with a potential interest in participating were identified through Tier II reporting information. Volunteers, often local emergency management coordinators with knowledge of the exercise community, helped identify educational institutions, personal care homes, childcare facilities, emergency response groups and government agencies that also would benefit from participating. These local volunteers were critical to the success of the exercise as they were able to reach out to potential participants and encourage attendance, or answer any questions that potential participants had

regarding the exercise. They also enabled exercise facilitators to focus on developing the exercise.

To help develop the original exercise, a task sheet was developed with the assistance of a project manager from a local company. The exercise was based on a transportation incident that would involve as many participating locations as possible. A transportation incident was used to maintain a neutral atmosphere for participants and allow each location to develop a response to the incident.

Local traffic accident information and commodity (chemical) flow studies were used to develop the incident to ensure plausibility. As the incident unfolded, participants were asked to describe their response, with each event escalating the situation, starting with the initial 9-1-1 call through evacuation and business continuity considerations.

To begin the exercise, a brief review of emergency action plans and communication systems was conducted with the intent of prompting participants to think about their own policies and procedures with a focus on critical products, services and operations (Table 3).

The exercise was structured to introduce each element of the emergency response with a discussion of the actions that would be taken by each responder. Figure 1 and Table 4 (p. 40) summarize the flow of the exercise.

The format was standardized into a customizable PowerPoint template that can be easily adapted to fit any community in the county. Local emergency management coordinators often add photos and specific area information to the presentations, which makes the exercises more realistic. Tools such as CAMEO and its modules MARPLOT (mapping) and ALOHA (modeling) allow emergency responders and planners to enter local information and develop incident scenarios to better prepare for chemical emergencies. WISER (Wireless Information System for Emergency Responders) and Google Earth also add an element of realism and allow the participants to see the science and technology behind the emergency response process.
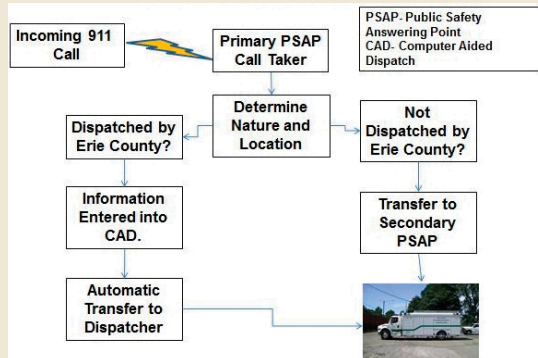
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Exercise Feedback

Each exercise ends with a critique in the form of a "hot wash" question-and-answer review between facilitators and participants. Participants also

<div style="float:left; font-style:italic;">The exercise was structured to introduce each element of the emergency response with a discussion of the actions that would be taken by each responder.</div>

complete a written critique. Information gathered is used to develop after-action reports that are reviewed at the next LEPC meeting. Participants also are asked to rate amenities (e.g., seating arrangements, refreshments) at the location that hosted the tabletop exercise to ensure that participants continue to have a positive learning experience. These critiques and reports are used to improve the exercise format and presentation.

In general, participants have viewed the exercises as a positive experience. The community-specific exercise format allows attendees to focus on and develop a better understanding of the response process. Participants are challenged to develop an appropriate response to a situation instead of working on technical problems related to an emergency.

Common issues documented on critiques are discussed during the exercises:
- need to conduct preemergency planning with local response agencies;
- need to establish a common language and review common acronyms;
- involvement of the state department of transportation when incidents occur on a state roadway;
- inclusion of mutual-aid agreements between municipalities and fixed facilities;
- need for emergency response procedures to include alternate command sites;
- need to check backup communication plans;
- use of local subject-matter experts to help with emergency response activities;
- need to take lessons learned from the exercise and improve existing emergency response plans.

Feedback from and follow-up with participants have revealed that several personal care facilities have since developed a mutual-aid agreement to share resources in the event of an emergency. A resource CD was developed for future exercise participants; it includes a copy of the exercise presentation along with various checklists and emergency planning resources from various federal agencies.

Conclusion

A plan is only a piece of paper; however, a practiced plan can mean the difference between disaster and success. For many fixed facilities and community organizations, communication before an emergency will increase the chances of a successful outcome to an emergency situation. Communication may not always be stress-free or comfortable, but local resources exist that can help ease community members into proactive community emergency response planning. **PS**

Figure 1
Exercise Scenario

Table 4
Examples of Responder Actions

Element	Description
Accident	**Chemical transport vehicle involved in a motor vehicle accident at a location that will threaten educational (pre-K through college), personal care and business facilities.**
Initial emergency services response	• 9-1-1 dispatch process. • Immediate police response, including traffic control. • Immediate fire response, including establishment of initial exclusion zones. • Notification of county emergency management, HazMat, hospitals, etc.
Initial community response	• Notification of local government, schools, personal care homes, etc. • Initial response actions. • Process for obtaining updated emergency information.
Evacuation process	• Reluctant evacuees—pet scenario. • Traffic congestion. • Multiple large occupant evacuation (medical and transportation assistance). • Reluctant evacuees—homestead scenario. • Notification of parents, guardians and caregivers on status and location of children, parents, wards, etc.
Incident command process	• Establishment of the incident command post for local government. • Good samaritan assistance (volunteers, donations, etc., including security concerns). • Dealing with the media. • Lawyers. • Sympathy victims and copycats. • Nuisance reports. • Communication to the business community (shift cancellations, utility interruptions, etc.).

The Safety Officer

The safety officer is a command-level member of the incident commander's staff and is tasked with monitoring the safety of responders during an incident and developing safety policies and procedures that are to be implemented during a response. A safety officer is identified by the incident commander; however, as part of preplanning, a standing safety officer who has specific technical knowledge may be identified.

Per NFPA 1561, Standard on Emergency Services Incident Management System (Association), a safety officer's responsibilities include the following:
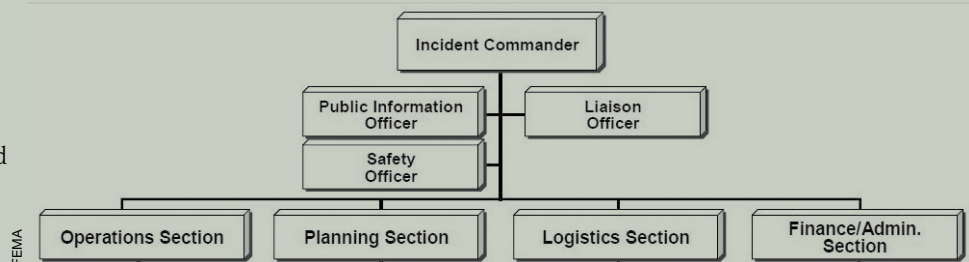- Participate in planning meetings.
- Identify hazardous situations associated with the incident.
- Review incident action plans for safety implications.
- Exercise emergency authority to stop and prevent unsafe acts.
- Investigate accidents that occur at the scene.
- Assign assistants as needed.
- Review and approve the medical plan.
- Maintain unit logs.

Per NFPA 1561, safety officers who will be involved in emergency operations "shall be trained in the incident management and personnel accountability systems to the anticipated level of their involvement" (p. 43). Additionally, as a command-level position, training must ensure that the safety officer is "familiar with the incident management system and the particular levels at which [s/he is] expected to perform." These definitions infer the use of policies and procedures that should be followed during an incident which will define the safety officer's role and responsibilities.

A traditional responsibility of the safety professional is to develop emergency action plans and emergency response plans. This development also includes the designation and training of personnel to fill response roles in the developed plans. Another traditional role of the safety professional includes "identification of hazardous situations," the role of the safety officer is often fulfilled by a safety professional.

The safety officer must actively participate in training that is provided to members of the emergency response team. The safety officer should be qualified to the same level as the team members to ensure a working knowledge of the activities that team members will be performing during an emergency response. This person should receive additional training on incident command tactics as the role is a supervisory role with the professional able to cease operations should the scene become unsafe. As part of incident preplanning, the safety professional should also identify and train other members of the emergency response team as safety officers in case assistants or backup personnel are needed.

FEMA

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