Emergency Preplanning and Prevention Activities:
The Key to a Successful Failure

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Introduction

Planning for emergencies can be broken into three specific time segments:

- Pre-emergency
- During the Emergency
- Post-emergency

Each time segment is important, as good planning and preparation increases the potential to either avoid the incident that causes the emergency or to minimize the effects created by the emergency.

Pre-emergency

Pre-emergency preparation can be broken into three phases: identification, planning, and practice. It is the most important segment of the emergency response process and needs to be done correctly as you get only one chance during an actual event to "get it right".

Identification

To begin the identification segment, the "big picture" needs to be considered. The picture changes for each site, industry, or process and needs to be defined as to what emergency is being planned for.

Emergencies need to be thought of as any unexpected deviation that can be caused or felt.

Caused: A maintenance crew performing a hot-work repair operation unexpectedly causes a fire that results in an evacuation and loss of use of a facility.

Felt: A traffic accident involving a tractor trailer carrying hazardous materials results in the need for a facility to shelter-in-place.

The planning process starts by brainstorming a list of emergencies. Guidelines are available through many different sources, such as NFPA, OSHA, and Department of Homeland Security, but the best sources for brainstorming are always the subject matter experts that reside in and around the planning organization. Sometimes more effort can be expended on looking for the perfect plan that developing a simple plan that can be executed with good results.

Identified emergencies need to be prioritized for plan development and resourcing. As an organization matures, the prioritization will assist with plan review and maintenance and will also assist with resource triage should economics cause a funding gap. Prioritization needs to consider the frequency and severity of the caused or felt emergency.

Frequency: How often could the emergency cause result, be felt, or how many people can be impacted?

Severity: Will the results be minor (first aid, near miss property damage, a "scare"), moderate (recordable injury, evacuation), or severe (fatality, lost production, destruction)?

Each emergency can be mapped into a frequency/severity chart to allow visual management of the planning and practice segment. This chart can also allow the subject matter experts that will be part of the planning process to choose an outlier emergency, a situation that may not be in the top three to five on the chart but is quite concerning, to highlight as an immediate planning need. Often these outliers are low in frequency but highest in severity.

	Severity Near Miss--→First Aid-→Disabling/Lost Work-→Fatality Nuisance-→Minor Damage-→Loss of Use-→Complete Destruction					
,Frequency Daily-→Weekly-→Monthly-→Yearly Single Employee-→Department-→Plant	Minor/Routine				CRITICAL	
	Nuisance				Major/ Non-Routine	

Exhibit 1. Emergency Frequency/Severity Chart

With the emergencies identified and prioritized, it is time to start the planning process.

Planning

Planning is the paperwork portion of the emergency response process. Standards and regulations need to be reviewed to ensure regulatory obligations are met best practices are incorporated. Caution must be taken not to overcomplicate a written plan. The best plans are short, direct a specific action tied to a specific situation, and assigns responsibility to a specific person or group for the action. Good use of appendices to detail information such as emergency contact lists, response checklists, and equipment inventories can make the written plan easy to update. Minimizing changes to the core plan makes it easier to practice the plan.

Getting the right resources, subject matter experts in this case, to participate in the planning process improves the quality of the final product. Subject matter experts need to be pulled from cross function areas and include both technical types, such as engineers and human resource professionals, and also floor level operators and technicians. Plan reviews should also include top management and, if applicable, union officials to facilitate the future practice and during emergency actions. External resources, such as consultants, insurance experts, and emergency responders can also provide knowledge and experience to generate a well-rounded plan.

Plans need to follow the hierarchy of controls. The plan itself is an administrative control; however, hazards identified during the planning process provide an opportunity for implementation of engineering controls. If technology can be used to eliminate a hazard, the need to plan and respond to an emergency is minimized. Resource needs will also be identified during the planning process. Personal protective equipment and other assets needed for response should be attached to specific response activities in the plan.

Practice

A plan is of no use unless it can be implemented. Implementation means practice; however, remember the age-old guidance that "you need to start slow to go fast". Practice plans starting with tabletop exercise. A tabletop exercise will allow you to identify flaws that would derail a full-scale exercise and will allow the team tasked to implement the plan to become familiar with the plan.

Once trust and confidence in the plan is built, proceed to small-scale mock drills. These drills will transfer the trust and confidence of the tabletop team to the actors tasked with implementing the full-scale plan.

To round out the practice segment, conduct full-scale drills with external emergency responders. These drills will build confidence with external agencies that the plan can be followed to a successful outcome. It is also important, for the success of actions taken during emergencies, that the leadership team tasked with carrying out the emergency plan meets with the officers of the responding agencies before an actual emergency event. The drill will allow for practice of the incident command system to see how the teams will integrate. As the saying goes, you shouldn't wait to meet your emergency responders until an emergency.

During the Emergency

The two most important elements to consider when implementing a plan during an emergency are command and control. The plan will be used to control the emergency; therefore, practice should make perfect. Those implementing the plan will fall under a command structure. How well the internal structure fits the structure used by external emergency responders will determine the

outcome of the event. The base structure that should be referenced is the NIMS-ICS (Incident Command System) structure that has been successfully used by the fire service for many years. The key to this system is assigning roles, training to the role, and then having the roles work together as a coordinated team. Practice in the planning stage makes perfect.

In almost every situation where external emergency responders are present, these responders will have overall command of the event. It is important that the team tasked to carry out the internal plan is prepared to yield control and stand by to support the external responders. This may entail simple reporting of evacuation status to assembling a team of facility experts ready to cut utilities and provide information on a section of a building that is on fire. It is important that the internal team has a "commander" that will be the single voice speaking to the external responding agencies. Practice in the planning stage makes perfect.
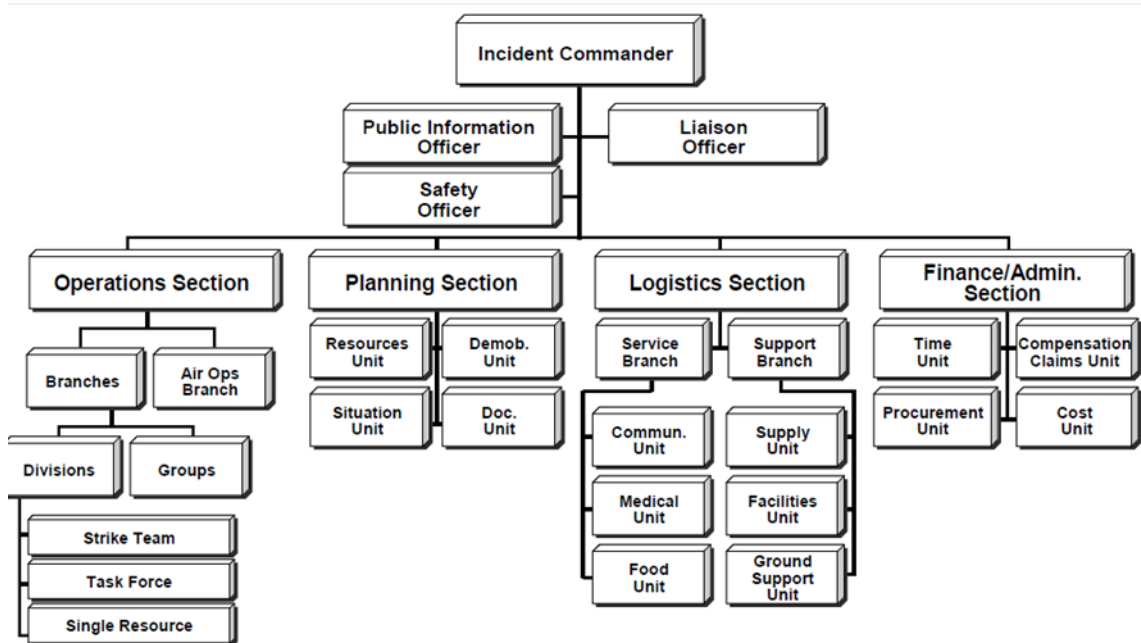
Exhibit 2. Incident Command System chart (F E Agency)

Post-Emergency
This is the critique and follow-up portion of the emergency event. It is important that all actions, reactions, events, and effects are reviewed. These critiques are done for various reasons:

- Prevention of future events.
- Regulatory reporting purposes.
- Insurance reporting purposes.
- As part of a larger event review (the "felt" incident, ex.- shelter-in-place).
- To ensure employee well-being (future impact of the event).

Critiques should be completed with the same team used to develop the written plans that were used to respond to the emergency event. Affected personnel should be included; however, it is also important that a neutral facilitator be used to lead the critique. This neutral person can be

used to uncover flaws or highlight best practices that may have had a major influence on the event. External responders should also be included as subject matter experts and as a gauge to how well command and control of the written plan was implemented.

Follow-up items and needs will be identified by the critique. These items and needs need to be documented with a person assigned responsibility and a due date set for follow-up. Any items and needs identified should also be prioritized as either need-to-do or nice-to do, with regulatory and best practice requirements elevated over process improvements. A similar frequency versus severity chart can be used to ensure that resources spent on these follow-up items and needs create the biggest impact to a future emergency event.

Summary

Emergencies are complex events that require structured planning and response to ensure a successful outcome. It is easy to become focused on developing the best plan; however, engagement of key stakeholders both internal and external to an organization along with proper practice increases the chances of a successful outcome.

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