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Emergency Management is Rocket Science

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Introduction

We often hear the expression "it isn't rocket science" as someone tries to explain to us that a specific task or concept isn't all that difficult. Or it may be they just consider us less than intelligent because we can't understand what they are saying. At the very least we should be able to break down the concept/idea/process into simple parts or at least be able to apply the KISS principle. And I have to admit that for most of career, which is now approaching 40 years, in the field of emergency management that I have tried my best to break down the various component and elements of a successful emergency management program into small, manageable parts. Using the old theory of…"What is the best way to eat an elephant? One bite at a time."

But the more I have learned about what makes an emergency management program truly successful (and I measure success in terms of preventing emergencies, responding effectively to an emergency and then recovering even more successfully) the more I have become convinced that emergency management truly is rocket science. And how and why have I come to this conclusion? An example is probably the best way to highlight my conclusions.

Components

Let's begin by examining the various components required to just create an emergency management program. For the purposes of this discussion we will use a fictions company called Confusion Unlimited. Confusion Unlimited has a corporate headquarters with approximate 250 personnel who occupy the floors 4-8 of a twelve story office building in Houston, Texas.

The company also owns a total of three production sites located in Florida, Missouri and California. Each of those sites are company owned and average 10 acres in size with one and two story buildings, storage tanks, raw materials, loading docks, administrative offices, hazardous materials storage area, lunch room, locker room, and railroad sidings at two of the sites. The number of employees at each site is approximately 350.

The company also maintains three sales offices in Washington, DC, Los Angeles and Chicago. Each of those sites employ approximately 10 people each and each office is within a downtown high rise building occupying approximately 4,500 square feet each.

All of the offices and production sites are connected by typical computer networks with the main computer system installed in the corporate headquarters. There is currently no offsite computer backup system.

Security is provided at the corporate headquarters and the three production sites through a contract security firm. Each of the three production sites have their own hazardous materials response team but they are only trained to conduct defensive operations and depend upon the local community hazardous materials response teams for offensive response. Clean up operations are under contract to an outside firm.

You have just been hired to be the new Corporate Emergency Management Coordinator. And as part of your duties you will coordinate with the Risk Manager to determine the type and amount of insurance coverage the firm will maintain. Plus you will have the Corporate Safety Manager report to you along with the Corporate Environmental Director. Security is handled by the Security Manager with whom you must coordinate. Your report to the Executive Vice President for Operations; who reports to the Chief Executive Officer.

So where do you begin as you evaluate the scope of your responsibilities? The easiest way is with the traditional big 6 questions: who, what, where, when, why and how.

Who is currently responsible for the various components of an effective emergency management program at the corporate headquarters, the individual production locations and the sales offices?

What is in place in terms of plans, procedures, policies, standards and legal requirements? Plus:

- Equipment
- Facilities
- Backup Systems
- Communications
- Interfaces with local community emergency response organizations

Where are the documents, equipment, facilities and personnel?

When will the emergency occur? The mostly likely time of the year, day of the week, hour of the day? When have emergencies occurred in the past?

Why are we doing this program?

- Insurance requirement
- Legal requirement – OSHA, NFPA, Sarbanes Oxley, EPA,
- Morally right
- Protect employees, customers and the business

How do we get this done?

- Planning
- Document development
- Training
- Drills and exercise
- Equipment acquisition
- Facility Development

At this point I believe the big six questions have provided at least 27 components to be address times seven (corporate headquarters, 3 product sites, 3 sales offices) for a minimum of 189 components (in various levels of complexity) that will have to addressed to just begin creating the emergency management program.

Taking a deep breath you decide that the best place to start is at the Corporate Headquarters. Thinking you will use the approach of what you develop for the headquarters will serve as the template for all the other offices. It will have to be tailored for each site but it will serve as the framework or template.

You begin by thinking you should determine what are the various nasty events that could occur which will not only be an immediate emergency to the people, facility and business but will require recovery efforts. Being located in Houston, Texas you realize that your "Vulnerability Analysis" will address weather conditions including: hurricane, flooding, draught, tornado, ice and severe thunderstorms. Plus you have the usual fire, hazardous materials, medical emergency, pandemic, work place violence, utility failure (water, sewer, electric, and natural gas), bomb threat, negative publicity, criminal vandalism, theft and sexual harassment issues to consider. And let's not forget computer system failure, computer virus and hackers and the shelter in place scenario.

This list is probably not complete but you know that at a minimum you are going to have to develop procedures/checklists to address both the common and unique actions for each threat. So that means at least twenty (23) procedures/checklists. And for each of those procedures each department within Headquarters needs to know what they are going to do individually and collectively for each potential emergency. There 18 departments within the Corporate Headquarters. So that results in potentially 414 checklists/procedures. Is this beginning to seem overwhelming?

Taking a deep breath you decide to take what you hope will be a fairly easy scenario and see how that will play out. You select the simple emergency of fire. It is the one emergency everyone should instinctively know what to do. After all we have been participating in fire drills since grade school, we know what a fire alarm sounds like and we know how to respond to a fire. Or do we?

You are encouraged to learn that there is an existing fire procedure and every employee (250 of them) has been trained on it. Your only initial, nagging doubt is that all of this still needs to be coordinated with the owner/operator of the building and you must to some extent coordinated with the other tenants in the building. And then you learn that there hasn't been a fire drill in at

least 18 months. But pushing forward optimistically you realize that every employee must do at least the following actions once a fire is discovered:

- If they discover the fire call for help, pull an alarm and/or try to put it out with a fire extinguisher.
- If the alarm sounds, recognize the sound for what it is.
- Shut down their computer
- Gather their purse and/or car keys
- Evacuate the building via the stairs
- Proceed to the assembly point
- Be counted.
- Stay at the assemble point until told to either return to the office or go home.
- Return to the office or go home.

So that is a minimum of 8 actions per employee for a total of 2000 actions. And you haven't included the actions that must be taken by the "sweepers" who make sure every floor is totally evacuated, the individuals who conduct the accounting for all employees, the individual who will interface with the responding fire department, employees who may be asked to provide specific information about functions/equipment in the various sections of the floors, and who interfaces with the building owner/manager.

Additionally, someone must interface with customers, the three product plants and the three sales offices. Ah, the initiation of recovery actions.

You begin to realize that this job is going to be much bigger than you thought. If we have potentially another 22 emergency scenarios to prepare for and every employee has to know at a minimum the basic actions they are expected to perform (an average of eight (8) steps) for each scenario we now have 44,000 actions. Thus for the 23 possible scenarios we have 46,000 actions.

And we haven't begun to look at the organization that is going to be required to prepare for, respond to and recover from the emergency. You know that the CEO is a hands-on administrator and he will want to be in the thick of any emergency. Plus you have the functions of IT, Transportation, R&D, Emergency Management, Public Affairs, Sales/Marketing, Purchasing, Engineering, Maintenance, Security, Human Resources, Finance, Safety, Legal, Administration, Production and Facilities who should be part of the Emergency Management Team (EMT). You want to go with the KISS principle so you stream line the EMT to key five positions plus administrative support. With the caveat that you can add more people to the EMT as the situation requires.

But just naming someone to the team doesn't mean they will know what to do, where to do it and how the team is going to work together. This will require creating checklists or procedures for each of them to follow; and each of those simple documents may have between 15 and 40 actions they must consider for every emergency. Thus you begin creating 18 checklists and begin wondering about the training requirements and conducting at least a tabletop exercise.

Next you begin the process of selecting both a primary and alternate Emergency Operations Centers. One will be within the existing building and the alternate will be at another facility. The

room will need to be equipped but with what? A quick listing of items include: telephones (landline and cell), tables, chairs, TV, radio (commercial and company), computers, printers, fax machine, duplication machine, coffee/tea, food service, white boards, flip charts, first aid kit, plans, maps, communication directories and identification of sleeping areas.

These questions must also be answered: Just where will all the equipment come from, whose budget will be tapped for the equipment, where will the equipment be store, and who will set up the EOC once the decision is made to make it operational?

You also realize that you should designate a primary and alternate Media Briefing Center (MBC). Just in case the news media makes an appearance. And those two rooms have to be staffed and equipped. More details that have to be addressed and can you really trust Public Affairs to do this correctly?

At this point you begin to wonder if this job is even doable because you realize you haven't begun to examine the actions under prevention, preparedness and recovery. You have an ally in the prevention function through your Safety Manager but at what point does machine safeguarding tie into emergency preparedness and insurance coverage?

In the middle of the night you awaken with the realization that every employee must be trained on their emergency response and recovery responsibilities. How will this be accomplished? Through a series of training sessions, use of a computer based training program, drills, or a combination of all three? And how often do you do the training? During basic orientation and then once a year? Who does the training? Who maintains the records? Where are the records kept and are they backed up?

Drills and exercises? But of course we must have a robust program of drills and exercises. But what type (evacuation drill, functional exercises, tabletop exercise, full scale exercise)? How often? Who participates? Who develops the scenario? Evaluators and evaluation forms? Critique, recommendations and follow up actions?

If you remain a complete optimist and begin to think that you might be able to get a handle on this job you are brought up short by the realization that you haven't even begun to delve into recovery. Or is it business continuity? Or continuity of operations? Even the titles become confusing.

How many timeframes are we talking about under recovery? Less than 48 hours? Less than seven days? More than two weeks? More than a month? Can some functions be restored to full operational status before others; and if the answer is "yes" which ones have to be done first i.e. the proper sequence?

Issues that come quickly to mind include:

- Have we identified the critical people, equipment, data and processes before the event?
- Where will our employees work from?
- Do the alternate locations have the necessary computer and communication connections?
- How many employees can be at each location?
- Do we have to work shifts to accommodate everyone in the alternate location(s)?

- What equipment do we need?
- How long will it take to obtain replacement equipment?
- What do we tell customers?
- How do we interface with the production sites and sales offices?
- If any of the senior managers are injured, or killed, who takes their place?
- Who is developing the ongoing interface with the news media?
- Who is working with the stockholders?
- Who is interfacing with the insurance company?
- Is the insurance company making payments?
- Who is monitoring the health of any injured employees?
- Who is interfacing with the families of injured or killed employees?
- Who is interfacing with federal, state and local regulatory agencies?

For Confusion Unlimited they have one more challenge. They need to create a highly efficient, very professional, highly experience group of key people from the corporate office who will be able to arrive at any of the 3 production sites within ten hours of an emergency and provide the necessary support for the response and recovery of that site. This is a Company "GO Team" and their role is not to take over, but to assist and bring the site and its employees back to normal as quickly as possible.

Time to give up? For some the answer is yes. The various components and the numerous people that you must interact and coordinate with as you create your emergency management program can just be either overwhelming or completely frustrating. At times you feel like a one person circus. You are the fortune teller reading the crystal ball (what disaster will happen next), the juggler keeping numerous balls in the air at the same time (plans, drills, training, meetings), the high wire acrobat balancing high above the floor (please don't let the emergency happen until you have finished), you are the lion tamer trying to keep negative influences at bay (senior managers who don't believe this is necessary), you are the concessionaire selling cotton candy and popcorn to the audience (your employees), you are the clown trying to round up the cats (visitors, guests and contractors), you are the ticket sale person trying to raise money (budget cycles), and you are the ring master keeping it all working seamlessly.

This is a job for neither the faint of heart nor the stubborn. You must realize both what you know and what you do not know. You have to be able to be firm in your convictions and yet flexible to adapt to meet the needs and capabilities of your employees. You have to know when to laugh when to cry. To know how to ask for money and how to spend it wisely. To anticipate the future and be lucky enough not to have the emergency occur before you are ready. And yes, you have to know when to hold them and when to fold them.

The only other individual who consistently has to know as much about what is going on in the company, what are the critical elements for continuation of the business, what are the events that could cause economic failure, and who are the key personnel who hold the company together and will be required to make it a success in the future is the CEO and/or President. Everyone else is slotted into their specific job description and do have very important roles to play in the success of the company. But they are focused on only one component of the business and are only affected by other parts of the company when something is delayed, is over budget or the computer system crashes.

It is the emergency management coordinator (or whatever title he/she has within your organization) who is responsible for the overall well being of the entire company. Of knowing how every part of the company functions and the interdependences within the company. Who are the critical employees, who are the critical customers, what are the critical pieces of machinery and how long will it take to replace them, what do you tell the press, and who will comfort and support the employee's families following an emergency? You are the Ring Master. You may not own the circus but it can't go on without you and it won't be an artistic and financial success without you.

Personal Characteristics

To provide yourself with the best opportunity for success, I believe that the Emergency Management Coordinator must possess the following traits:

- Common Sense: you are creating, managing and implementing a program that requires every employee, visitor, guest and contractor to follow/implement specific actions. Don't ask maintenance personnel to become security guards.
- Great Listener: you must coordinator with every department within the company and each one of them has unique requirements and issues. Not to mention personalities.
- Organized: you must be organized in how you put the program together and how it will be implemented. Done correctly your job will seem easy to those on the outside.
- Compromise and Build Consensus: you aren't going to get everything you want every time; nor is anyone else. Build teams and know when to "hold them and when to fold them".
- Principled: know your core values and stick to them. You will not succeed in this job if you waffle or are perceived to be wishy washy.
- Renaissance Man: you need to have a natural curiosity about how things work and be willing to learn about all the parts of the business.
- Communicator: express yourself through a variety of techniques so that your message is heard and understood.
- Lucky: carry the rabbit's foot, horseshoe and lucky charm with you at all times.

My friend from John Deere informs me that the combines they build have over 50,000 parts and is second only to a rocket in terms of the number of parts and interconnections. Any emergency management program that truly addresses the phases of preparedness, response and recovery has more than 50,000 parts. In this short period of time I hope you see that developing, maintaining and implementing a successful emergency management program is a very complicated, time consuming and delicate operation. And in my opinion it is rocket science.