



# Property Risk Consulting Guidelines

XL Risk Consulting

A Publication of AXA XL Risk Consulting

PRC.1.7.0.2

## EMERGENCY RESPONSE TEAMS AND INCIDENT MANAGEMENT SYSTEMS

### INTRODUCTION

A key part of an emergency response system is to create the necessary emergency organization that can react to emergencies that may arise at the facility. In addition, this section also addresses incident management systems and how they impact the pre-emergency planning. For details on pre-emergency planning see PRC.1.7.0.

### POSITION

#### Emergency Response

A facility may elect to organize emergency response teams (ERT) that perform the following emergency response functions:

- Fire response;
- Medical emergency response;
- Haz-Mat response;
- Confined space rescue response.
- If more than one function has to be performed, there are four possible choices:
- Multiple ERTS, perform a single emergency response function. (See Figure 1)
- A single ERT composed of personnel who are trained and equipped to provide multiple emergency response functions. (See Figure 2)
- A single ERT composed of sub teams who each specialize in a single emergency response function. (See Figure 3)
- A combination or variation of the above.

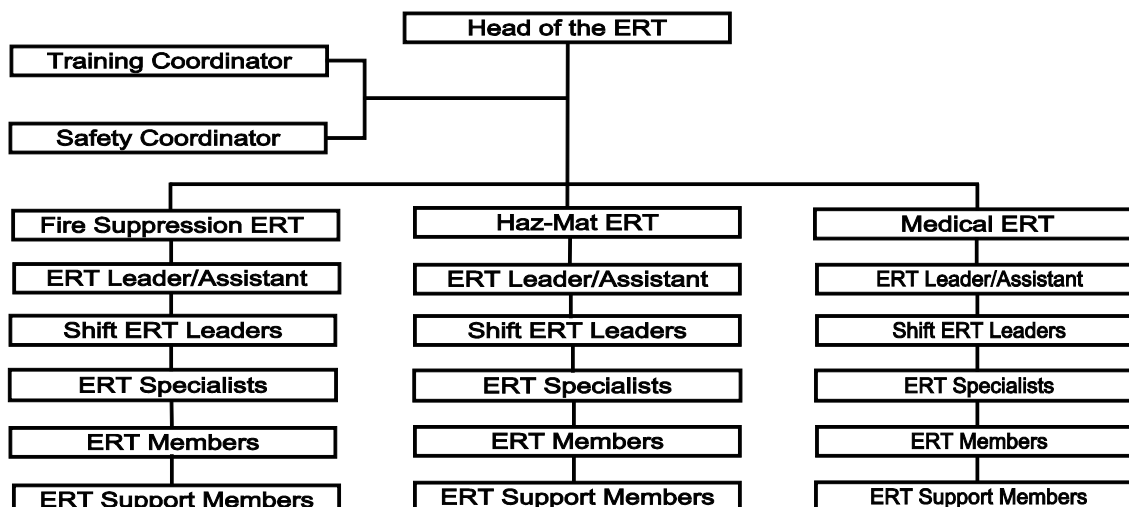


Figure 1. Flowchart For Multiple ERTs.

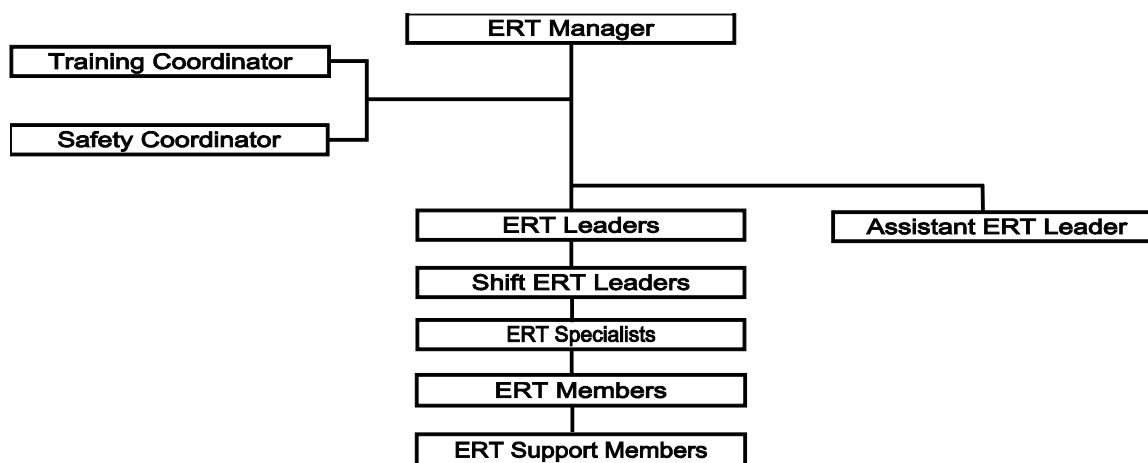


Figure 2. Flowchart For Single Team.

### ERT Personnel Roles and Responsibilities

Regardless of how the facility chooses to organize its emergency response team(s), certain basic roles and responsibilities must be assigned to individuals to ensure that the emergency response team performs as intended.

**Head of the ERT.** This is the individual who has the ultimate responsibility for the emergency response team. He/she has the responsibility for ensuring that the team is organized in accord with organizational guidelines and standard operating procedures. While this person is not expected to be involved in the day-to-day activities of the ERT, he/she is to serve as the interface between facility management and the ERT.

**ERT Safety Coordinator.** This individual is responsible for overseeing and coordinating the ERT safety program and ensuring that the safety needs of ERT members are being met.

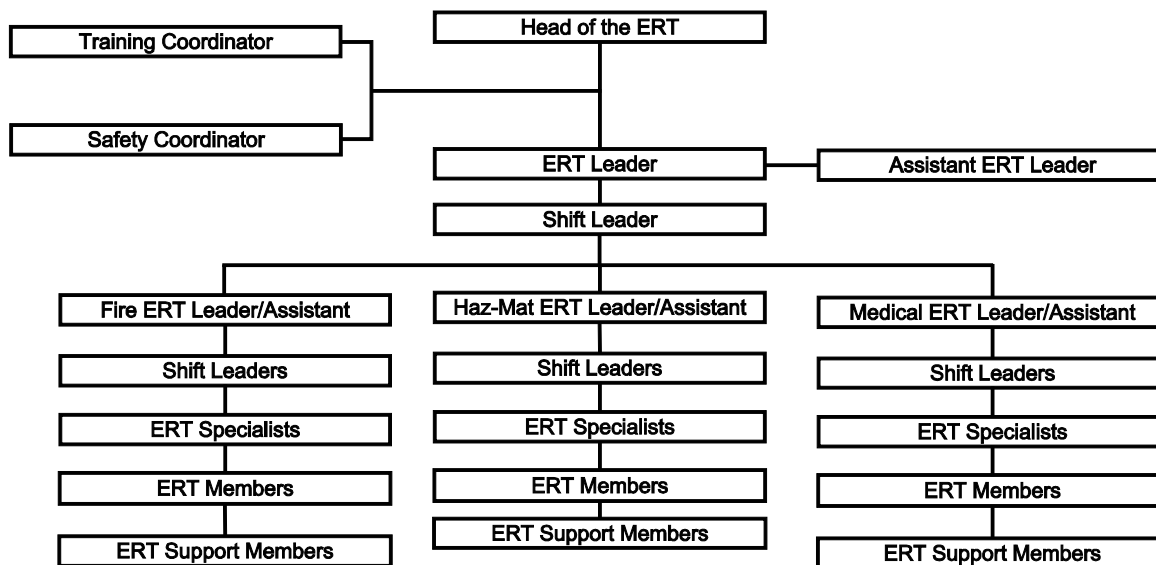


Figure 3. ERT For Single Team Made Up Of Sub-Teams.

**ERT Training Coordinator.** This individual is responsible for overseeing and coordinating the training program and ensuring that the training needs of members are being met.

**ERT Leader.** The ERT Leader is responsible for the day-to-day administration of the ERT and is responsible for ensuring that the basic needs and requirements of the ERT are met.

**ERT Shift Leader.** This individual is responsible for the operation and activities of the ERT during the specific shift to which he/she is assigned.

**ERT Specialists.** These individuals are designated as specialists to function as sector commanders or supervisors for specific emergency response functions to direct ERT members who have less experience or training.

**ERT Members.** These individuals have the responsibility for performing assigned emergency response duties at the performance level required.

**ERT Support Members.** These individuals are not expected to enter the warm or hot zones at the emergency scene, but are expected to perform a variety of specialized or support services from the cold zone to assist members operating in the warm and/or hot zones. ERT support members may be responsible for:

- Instituting property conservation procedures to minimize primary and secondary damage caused by the incident.
- Maintaining control of nonemergency personnel and equipment to keep access to the incident area open to emergency response personnel and equipment.
- Staging spare breathing apparatus cylinders, assisting members in replacing empty cylinders, and in some cases recharging cylinders.

Figure 4 shows a sample organizational chart for a three-shift response team.

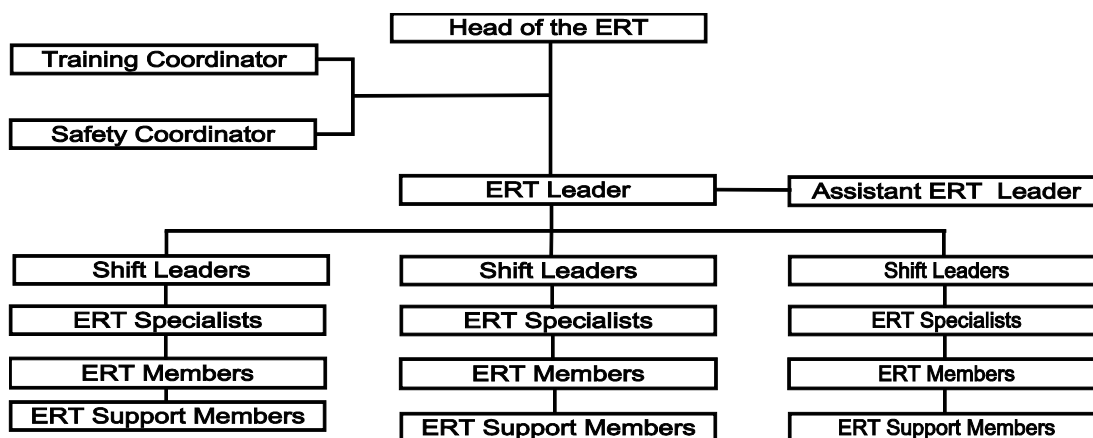


Figure 4. Three-Shift Organization.

### ERT Staffing

If an emergency response team is to be effective, staffing must ensure that a sufficient number of personnel are available on each shift to allow the ERT to safely perform their tasks as intended. Tables 1 and 2 show performance requirements for Fire Brigade and Haz-Mat ERTs.

### Staffing For An Incipient III Level Fire Suppression ERT

Functions and minimum personnel required:

- Fire Attack
  - Portable extinguishers: 1 member for fire attack and 1 member for back-up with charged extinguisher;
  - Low-volume handline: 2 members for fire attack and 2 members for back-up with second charged low-volume handline;
  - High-volume handline: 3 members for fire attack.
- Fire Attack Support 2 members
- Incident Command 1 member
- Support Functions:
  - Personnel Evacuation: number as needed;
  - Electrical Power Control: 1 member;
  - Utility Control: 1 member;
  - Sprinkler System Control: 1 member;
  - Fire Pump Control: 1 member or as needed;
  - Property Conservation: 4 members;
  - Incident Scene Control: as needed.

**TABLE 1**  
**Fire Brigade Performance**

Level	Incipient I	Incipient II	Incipient III	Advanced Exterior	Advanced Interior	Advanced Interior / Exterior
Duties and Limitations	<ul style="list-style-type: none"> <li>Offensive and defensive action limited to incipient interior and exterior fires</li> </ul>	<ul style="list-style-type: none"> <li>Offensive and defensive action limited to incipient interior and exterior fires</li> </ul>	<ul style="list-style-type: none"> <li>Offensive and defensive action on incipient interior and exterior fires</li> <li>Defensive action only from cold zone on advanced exterior fires</li> </ul>	<ul style="list-style-type: none"> <li>Offensive and defensive action on incipient interior and exterior fires</li> <li>Defensive action on advanced exterior fires</li> </ul>	<ul style="list-style-type: none"> <li>Offensive and defensive action on incipient interior and exterior fires</li> <li>Defensive action on advanced exterior fires</li> </ul>	<ul style="list-style-type: none"> <li>Offensive and defensive action on incipient interior and exterior fires</li> <li>Defensive action on advanced exterior fires</li> </ul>
Equipment Used	<ul style="list-style-type: none"> <li>Portable extinguishers</li> </ul>	<ul style="list-style-type: none"> <li>Portable extinguishers</li> <li>Low-volume handlines</li> </ul>	<ul style="list-style-type: none"> <li>Portable extinguishers</li> <li>Low-volume handlines</li> <li>High-volume handlines</li> <li>Master stream devices</li> </ul>	<ul style="list-style-type: none"> <li>Portable extinguishers</li> <li>Low-volume handlines</li> <li>High-volume handlines</li> <li>Master stream devices</li> </ul>	<ul style="list-style-type: none"> <li>Portable extinguishers</li> <li>Low-volume handlines</li> <li>High-volume handlines</li> <li>Master stream devices</li> </ul>	<ul style="list-style-type: none"> <li>Portable extinguishers</li> <li>Low-volume handlines</li> <li>High-volume handlines</li> <li>Master stream devices</li> </ul>
Primary Function	<ul style="list-style-type: none"> <li>Incipient fires only</li> </ul>	<ul style="list-style-type: none"> <li>Incipient fires only</li> </ul>	<ul style="list-style-type: none"> <li>Incipient fires</li> <li>Control advanced exterior fires</li> </ul>	<ul style="list-style-type: none"> <li>Incipient fires</li> <li>Advanced exterior fires</li> </ul>	<ul style="list-style-type: none"> <li>Incipient fires</li> <li>Advanced interior fires</li> </ul>	<ul style="list-style-type: none"> <li>All fires</li> </ul>
Actions: Offensive Defensive	<ul style="list-style-type: none"> <li>Incipient: offensive &amp; defensive</li> </ul>	<ul style="list-style-type: none"> <li>Incipient: offensive &amp; defensive</li> </ul>	<ul style="list-style-type: none"> <li>Incipient: offensive &amp; defensive</li> <li>Advanced Exterior: defensive</li> </ul>	<ul style="list-style-type: none"> <li>Incipient - offensive &amp; defensive</li> <li>Advanced Exterior - offensive &amp; defensive</li> <li>Advanced Interior - defensive</li> </ul>	<ul style="list-style-type: none"> <li>Incipient - offensive &amp; defensive</li> <li>Advanced Interior - offensive &amp; defensive</li> <li>Advanced Exterior - defensive</li> </ul>	<ul style="list-style-type: none"> <li>Incipient - offensive &amp; defensive</li> <li>Advanced Interior - offensive &amp; defensive</li> <li>Advanced Exterior - offensive &amp; defensive</li> </ul>
Control Zones Permitted	<ul style="list-style-type: none"> <li>Cold, warm</li> </ul>	<ul style="list-style-type: none"> <li>Cold, warm</li> </ul>	<ul style="list-style-type: none"> <li>Incipient: cold, warm</li> <li>Advanced Exterior: cold</li> </ul>	<ul style="list-style-type: none"> <li>Incipient: cold, warm, hot</li> <li>Advanced Exterior: cold, warm, hot</li> <li>Advanced Interior: cold, warm</li> </ul>	<ul style="list-style-type: none"> <li>Incipient: cold, warm, hot</li> <li>Advanced Interior: cold, warm, hot</li> <li>Advanced Exterior: cold, warm</li> </ul>	<ul style="list-style-type: none"> <li>Incipient: cold, warm, hot</li> <li>Advanced Interior: cold, warm, hot</li> <li>Advanced Exterior: cold, warm, hot</li> </ul>
Protective Equipment Required	<ul style="list-style-type: none"> <li>None</li> <li>Normal work clothing</li> </ul>	<ul style="list-style-type: none"> <li>None</li> <li>Normal work clothing</li> </ul>	<ul style="list-style-type: none"> <li>None</li> <li>Normal work clothing</li> </ul>	<ul style="list-style-type: none"> <li>Thermal protective clothing</li> <li>SCBA</li> </ul>	<ul style="list-style-type: none"> <li>Thermal protective clothing</li> <li>SCBA</li> </ul>	<ul style="list-style-type: none"> <li>Thermal protective clothing</li> <li>SCBA</li> </ul>
Physical Capabilities	<ul style="list-style-type: none"> <li>Normal job requirements</li> </ul>	<ul style="list-style-type: none"> <li>Normal job requirements</li> </ul>	<ul style="list-style-type: none"> <li>For use of high-volume handlines</li> </ul>	<ul style="list-style-type: none"> <li>For advanced fire suppression</li> <li>Use of SCBA</li> </ul>	<ul style="list-style-type: none"> <li>For advanced fire suppression</li> <li>Use of SCBA</li> </ul>	<ul style="list-style-type: none"> <li>For advanced fire suppression</li> <li>Use of SCBA</li> </ul>
Knowledge and Skills	<ul style="list-style-type: none"> <li>Site-specific Incipient I</li> </ul>	<ul style="list-style-type: none"> <li>Site-specific Incipient II</li> </ul>	<ul style="list-style-type: none"> <li>Site-specific Incipient III</li> </ul>	<ul style="list-style-type: none"> <li>Site-specific Advanced Exterior</li> </ul>	<ul style="list-style-type: none"> <li>Site-specific Advanced Interior</li> </ul>	<ul style="list-style-type: none"> <li>Site-specific Advanced Interior/Exterior</li> </ul>

**TABLE 2**  
**Haz-Mat Performance**

Level	First Responder – Awareness	First Responder - Operations	Haz-Mat Technician	Haz-Mat Specialist	On-Scene Incident Commander
Duties and Limitations	<ul style="list-style-type: none"> <li>• May discover release or potential release</li> <li>• Recognize presence of Haz-Mat</li> <li>• Initiate emergency response</li> <li>• Avoid release area</li> <li>• Alert others to avoid release area</li> </ul>	<ul style="list-style-type: none"> <li>• Member of initial response team</li> <li>• Responds to release or potential release</li> <li>• Protect nearby persons, property, or environment from effects of release</li> <li>• Perform defensive operations to contain release from a safe distance to keep it from spreading and prevent exposures</li> </ul>	<ul style="list-style-type: none"> <li>• May be member of initial response team or Haz-Mat Response Team</li> <li>• Responds to release or potential release</li> <li>• Approaches point of release</li> <li>• Plug, patch or otherwise stop release</li> </ul>	<ul style="list-style-type: none"> <li>• May respond as member of HazMat Response Team; may be specially called</li> <li>• Provides support to Haz-Mat Technician</li> <li>• Has more focused knowledge of the material involved</li> <li>• Site liaison with government authorities</li> </ul>	<ul style="list-style-type: none"> <li>• Member of initial response</li> <li>• Responds to release or potential release</li> <li>• Assumes command of the incident</li> </ul>
Primary Function	<ul style="list-style-type: none"> <li>• Recognize Haz-Mat release</li> <li>• Initiate emergency response</li> </ul>	<ul style="list-style-type: none"> <li>• Assess incident</li> <li>• Protect exposures</li> </ul>	<ul style="list-style-type: none"> <li>• Stop or mitigate release</li> </ul>	<ul style="list-style-type: none"> <li>• Advise Haz-Mat Technicians</li> </ul>	<ul style="list-style-type: none"> <li>• Manage incident</li> </ul>
Actions: Offensive/ Defensive	<ul style="list-style-type: none"> <li>• Defensive only</li> </ul>	<ul style="list-style-type: none"> <li>• Defensive only</li> </ul>	<ul style="list-style-type: none"> <li>• Offensive and defensive</li> </ul>	<ul style="list-style-type: none"> <li>• Technical support</li> <li>• May be offensive or defensive</li> </ul>	<ul style="list-style-type: none"> <li>• Incident command</li> </ul>
Control Zones Permitted	<ul style="list-style-type: none"> <li>• Cold</li> </ul>	<ul style="list-style-type: none"> <li>• Cold, warm</li> </ul>	<ul style="list-style-type: none"> <li>• Cold, warm, hot</li> </ul>	<ul style="list-style-type: none"> <li>• Cold, warm</li> <li>• May be hot, if qualified</li> </ul>	<ul style="list-style-type: none"> <li>• Cold, warm</li> <li>• Should not be in hot zone</li> </ul>
Protective Equipment Required	<ul style="list-style-type: none"> <li>• None</li> <li>• Normal work clothing</li> </ul>	<ul style="list-style-type: none"> <li>• Minimum level</li> <li>• May be thermal protective clothing (fire brigade)</li> <li>• SCBA not required</li> </ul>	<ul style="list-style-type: none"> <li>• Highest level of chemical protective clothing</li> <li>• Level A or B with SCBA</li> </ul>	<ul style="list-style-type: none"> <li>• May be normal work clothing</li> <li>• May be highest level (Level A or B with SCBA)</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal</li> <li>• May be normal work clothing</li> </ul>
Medical & Physical Capabilities	<ul style="list-style-type: none"> <li>• Normal job requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Normal requirements for emergency response team</li> </ul>	<ul style="list-style-type: none"> <li>• Highest level</li> <li>• Work in hot zone with protective equipment</li> </ul>	<ul style="list-style-type: none"> <li>• May be normal job requirements or same as Haz-Mat Technician</li> </ul>	<ul style="list-style-type: none"> <li>• May be normal job requirements or same as for emergency response team</li> </ul>
Knowledge and Skills Required	<ul style="list-style-type: none"> <li>• Understand Haz-Mat labels and containers</li> <li>• Realize when emergency response is required</li> <li>• Initiate emergency response</li> </ul>	<ul style="list-style-type: none"> <li>• First Responder-Awareness plus: Hazard and risk assessment</li> <li>• Basic control, containment and/or confinement</li> <li>• Basic decontamination</li> </ul>	<ul style="list-style-type: none"> <li>• First Responder- Operations plus: Implementation of emergency plan</li> <li>• Select and use proper chemical protective clothing</li> <li>• Advanced control, and/or containment, and/or confinement operations</li> <li>• Basic chemical terminology and behavior</li> </ul>	<ul style="list-style-type: none"> <li>• In-depth hazard and risk assessment</li> <li>• Select and use proper chemical protective clothing</li> <li>• Advanced control, containment, and/or confinement operations</li> <li>• Determine and implement decontamination procedures</li> <li>• Chemical, radiological and toxicological terminology and behavior</li> </ul>	<ul style="list-style-type: none"> <li>• At least First Responder- Operations plus: Implementing in-house incident management system</li> <li>• Implementing employer's emergency response plan</li> <li>• Implementing local emergency response plan</li> <li>• Safety of incident scene</li> <li>• Decontamination procedures</li> </ul>

**NOTES:** Terminology used in Tables 1 and 2.

**Advanced Exterior Fire.** A fire beyond the incipient stage located outside of a structure or building.

**Advanced Interior Fire.** A fire beyond the incipient stage located inside a structure or building.

**Control Zones.** Zones established to delineate risk and limitations to personnel performing operations.

**Hot Zone.** The control zone that surrounds the actual emergency incident. This zone represents the greatest risk to personnel.

**Warm Zone.** The control zone surrounding the hot zone. The warm zone represents less risk to personnel than the hot zone.

**Cold Zone.** The control zone surrounding the warm zone. Personnel in the cold zone are safe from the effects of fire.

**Defensive Actions.** Actions taken to keep a fire from extending to another area.

**High-Volume Handline.** A hoseline with nozzle attached which can flow up to 300 gpm (1140 L/min).

**Incipient Fire.** A fire that has not progressed beyond the point at which it can be extinguished with portable extinguishers or low-volume handlines.

**Low-Volume Handline.** A hoseline with nozzle attached which can flow up to 125 gpm (473 L/min).

**Master Stream Device.** A portable or fixed fire-fighting appliance supplied by hoselines or piping that flows in excess of 300 gpm (1140 L/min).

**Offensive Actions.** Actions taken to reduce the size of the fire.

**SCBA.** Self-contained breathing apparatus.

**Thermal Protective Clothing.** Helmet, boots, gloves, hood, trousers, and coats designed to protect fire brigade members in fire suppression operations.

### Staffing for an Operations level Haz-Mat ERT

Functions and minimum personnel required:

- Confinement/defensive team - 2 members;
- Team Support - 4 members;
- Incident Command - 1 member;
- Support Functions:
  - Personnel Evacuation: number as needed;
  - Electrical Power Control: 1 member;
  - Utility Control: 1 member;
  - Property Conservation: 4 members;
  - Incident Scene Control: as needed.

### Staffing for an advanced level Fire Suppression ERT

Functions and minimum personnel required:

- Fire Attack
  - Two low-volume handline teams: 4 members for fire attack;
  - Back-up team: 2 members with charged low-volume handline.
- Fire Attack Support 4 members;
- Incident Command 1 member;
- Support Functions:
  - Personnel Evacuation: number as needed;
  - Electrical Power Control: 1 member;
  - Utility Control: 1 member;
  - Sprinkler System Control: 1 member;
  - Fire Pump Control: 1 member or as needed;
  - Property Conservation: 4 members;
  - Incident Scene Control: as needed;
  - Breathing Apparatus Support: 1 member.

### Staffing for a Hazardous Material Response Team

Functions and minimum personnel required:

- Entry Team: 2 members;
- Back-up team: 2 members;
- Secondary Entry Team: 2 members;
- Entry Team Support: 2 members;
- General Support Personnel: 4 members;
- Incident Command: 1 member;
- Decontamination: 4 members;
- Support Functions:
  - Breathing Apparatus Support: 1 member;
  - Personnel Evacuation: number as needed;
  - Electrical Power Control: 1 member;
  - Utility Control: 1 member;
  - Sprinkler System Control: 1 member;
  - Fire Pump Control: 1 member or as needed;
  - Property Conservation: 4 members;
  - Incident Scene Control: as needed;

Emergency response team forms for keeping records of drills, individual training, and annual training may be found in PRC.1.7.0.2.A.

### Incident Management Systems

An incident management system is the management system or command structure used during emergency operations to clearly identify who is in command of the incident and what roles and responsibilities are assigned to various personnel. The purpose of using an incident management system is to provide structure and coordination to the management of emergency operations to effectively and efficiently manage the incident and to provide for the safety and health of personnel involved in these operations.

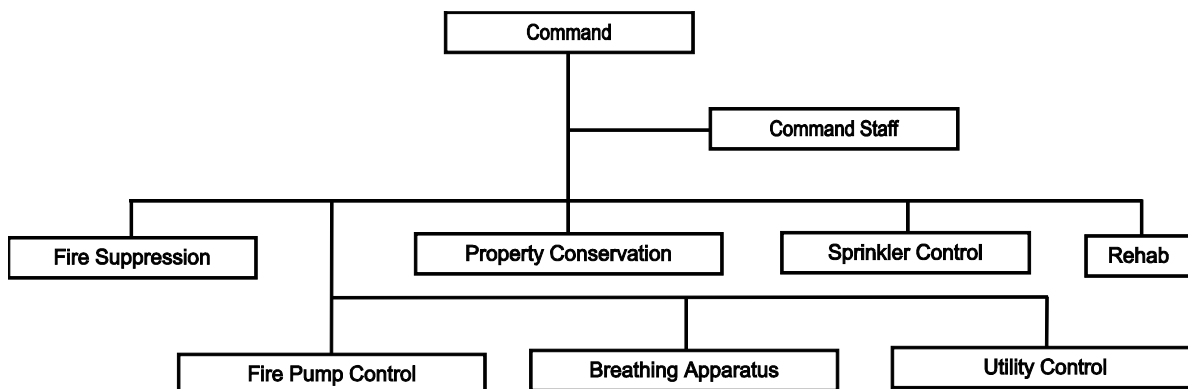


Figure 5. Sample Incident Command Model For A Fire Incident.

One of the most popular incident management systems is the Incident Command System (ICS). See Figure 5. This model and various community-specific adaptations of it have been adopted by most emergency response organizations in the United States. In the ICS, the first emergency responder at the scene establishes command of the incident. This person becomes known as the Incident Commander and is charged with the responsibility of managing all operations at the scene of the emergency.



Initially, the Incident Commander defines the control zones and establishes a command post located in the cold zone. As additional personnel arrive, the Incident Commander establishes the sectors needed to manage the incident. Command of the incident can be transferred by the Incident Commander once he/she has briefed the individual who is to assume command.

The incident management system allows for the escalation of the incident management process without requiring any major change in what is already being done. In the event of needed escalation because of the complexity of the emergency management operations, the command post and/or Incident Command may be relocated to a command vehicle or an emergency operations center that is staffed by the key staff members required for advising the Incident Commander. When this occurs, the original command post may be designated "Operations" or some other functional name.

Intermediate levels of command report to the Incident Command and are responsible for managing sectors, branches or sections. Sector commanders are assigned responsibility for supervising certain geographical portions of the operations or for supervising specific functions. They are identified, not by their title or by their normal radio call signs, but rather are identified by their sector identifiers. Once at the scene of the emergency, people assume titles that are descriptive of their location or incident command role with regard to the specific incident.

The in-house emergency plan allows the Head of the ERT to be acting incident commander until relieved by the responsible individual from the public sector. In some rare cases the Head of the ERT may continue to serve as incident commander. These transition of authority is a vital part of the pre-emergency planning effort.

### **Objectives of an incident management system**

An incident management system is intended to achieve a number objectives. A properly structured IMS:

- Assigns overall command authority and responsibility to the individual designed as the Incident Commander;
- Provides structured authority and responsibilities for the various command levels and positions;
- Provides a structured hierarchical reporting system with a manageable span of control at each level;
- Is used to coordinate all incident scene operations;
- Ensures that everyone involved in operations at the incident scene has a relationship to the incident management system that includes reporting and receiving assignments in a standard manner;
- Is documented in written standard operating procedures;
- Is simple and familiar and is used routinely at all incidents;
- Bases supervisory assignments on functions, locations, or both;
- Establishes communications protocols to match the IMS;
- Provides for a structured system for the response of resources and for summoning additional resources;
- Provides for expansion, escalation, transfer, and transition of command roles and responsibilities;
- Requires safety and health of emergency response personnel to be managed as major strategic and operational priorities in all cases;
- Employs standard tactical approaches that are applied to different situations and circumstances;
- Leads to the eventual termination of the incident.

### **Guidelines for an incident management system**

The following guidelines are intended to provide a foundation for the development or adoption of an incident management system.

An effective incident management system should:

- Define how incident command is established. An individual is in charge from arrival until termination of the incident.
- Define circumstances and procedures for transferring incident command.
- Define the risk management policy.
- Be used on all emergencies, training activities, and drills.
- Be based on written procedures to define IMS duties.
- Include written procedures for communications that:
  - Utilize standard terms.
  - Utilize easily understood text.
  - Establish a procedure to assign priority to emergency (mayday) messages.
- Identify standard emergency response supervisory functions.
- Support escalation of any incident from small to large or routine to unusual without necessitating major changes in what is being done.
- Encompass interagency coordination:
  - Integrated IMS - with other agencies;
  - Establish a “unified command” where multiple agencies are involved;
  - Coordinate operations with other agencies.
- Include procedures for staging - where resources are assembled.
- Establish a command structure for use in all incidents.
  - Identify a series of supervisory levels. These levels depend on scale and complexity of the incident.
  - Establish modular elements should be - use only those elements needed for the incident.
  - Establish a routine process for escalation or downsizing command structure.
  - Incident Commander decides what is needed for each incident.
- Define standard supervisory assignments such as role, authority and responsibilities by function or by location.
- Establish a personnel accountability system.
  - Account for all personnel who respond to the incident.
  - Account for all personnel who enter the hot and warm zones.
  - Make all supervisors responsible for accounting for their team members.
  - Account for location and function of all teams at all times.
  - Provide a control point to warm and hot zone entry.
  - Control and record entry of personnel.
- Establish a procedure for the emergency retreat/evacuation of the hot zone or incident scene when personnel may be in imminent danger.
- Establish a method for alerting personnel in danger area to retreat.
- Establish a procedure for setting up a rehabilitation sector (Rehab) for personnel at each emergency to provide:
  - Medical evaluation and treatment;
  - Food and fluid replenishment;

- Relief from extreme weather conditions.



OVERVIEW FORMS PACKET  
(See PRC.1.7.0.2 in the OVERVIEW Manual)  
Published as part of AXA XL Risk Consulting

### REPORT OF FIRE BRIGADE DRILL

DEPARTMENT: \_\_\_\_\_

SHIFT: \_\_\_\_\_

TRAINER: \_\_\_\_\_

FIRE BRIGADE MET ON: \_\_\_\_\_

FIRE BRIGADE MEMBERS PRESENT:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

FIRE BRIGADE MEMBERS PRESENT:

_____
_____
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