
Province of New Brunswick

**A Concept of Operations
for Emergency Site
Management**

New  Brunswick

**A CONCEPT OF OPERATIONS
FOR
EMERGENCY SITE MANAGEMENT**

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INTRODUCTION

The aim of this publication is to establish a concept of emergency operations in the context of the Emergency Site Management (ESM) course program through the study of the fundamentals of emergency management.

The student will gain an understanding of:

- the principles of emergency management
- the types of emergency operations
- the conduct of emergency site operations
- organization, command, control and communication.

The purpose of an emergency response is to protect and save lives and to minimize losses to public and private property. For emergency response agencies the dilemma is, "What should they combat first: the cause of the disaster or its effects?"

Three primary elements influence the success of any emergency response:

- resources: the right people, equipment and other special resources
- strategy, tactics and action plan: the way in which the resources are applied
- management of the operation: including the intangibles of leadership, personality, co-operation and communication. This is the most critical element.

Definitions

In the event of a major disaster, the secondary effects and its subsequent consequences will require the mobilization of the total resources of the municipality. The mustering of the municipal emergency response will begin with the implementation of the municipal emergency plan. In support of this concept of operations are three definitions:

Emergency Management is the establishment of a framework (overall plan of action) through which the effects of a disaster are mitigated and a return to normality is achieved. Two key elements are necessary in the management of emergencies at the municipal level: the municipal emergency operations centre and emergency site management.

The *Municipal Emergency Operations Centre* (EOC) is the place where the emergency operations control group gathers to co-ordinate the municipal response. The prime responsibility of an EOC is to look after all aspects of support to the emergency site team. The EOC must also ensure that the long-range plan and daily operations of the municipality are respected.

The *Emergency Site Management* (ESM) is the individual appointed to control the operations at the site of an emergency. His/her purpose is to locate victims, save lives, reduce pain and suffering, and mitigate damage.

CHAPTER I

PRINCIPLES OF EMERGENCY MANAGEMENT

The principles that should guide all emergency response managers in planning and conducting an emergency operation are discussed in this chapter.

Know the Aim

The first few hours of a disaster are the most critical. The crisis aspect of any emergency demands a clear understanding and acceptance of the purpose of emergency response by all those involved. A clear prior understanding of the aim is considered the most important overriding principle in disaster management.

The aim of the emergency site operation is derived from the overall aim of the municipal plan. (See page 13 of Collegeville Plan). Emergency site managers must be capable of setting priorities, assigning tasks and select tactics to contain the problem. Limitations may be imposed upon the ESM, such as the time available, resources, evacuation routes, and the like. However, ESMs should be given the widest scope possible to use their initiative with the minimum restrictions.

Finally, the aim and its limitations together constitute essential elements of the problem that emergency operations must resolve. Before any emergency can be tackled, the leaders of the response must all agree on what is the problem and how best to attack it in order to save lives and property. The inability to agree on this point could mean the failure of emergency operations.

Know the Resources

A thorough knowledge of available resources, both human and material, is essential for effective emergency management. This includes a sound understanding of the organization and the abilities and weaknesses of the various participating emergency services and agencies.

Knowledge of the locations and quantities of resources despatched to the site is the key to resources management. This information gives emergency managers a clear appreciation of what they have on site, its accessibility and operability.

The most important resource committed to any emergency is the human one. Management of this resource must not be overlooked. Responders will work under stressful situations and their morale must be maintained. This will depend in part, on their belief in the success of the operation, their confidence in the managers and in their own ability to perform duties or assigned tasks. It is therefore imperative to cater to their needs and to equip them properly to perform their mission. This calls for adequate supplies of fuels, foodstuffs, transport and equipment.

Get Information

No action plan can be made until certain vital information is available: layout, weather, approaches to site, population distribution, type of chemical involved, and the like. Even negative information about the problem may be useful.

Emergency managers must first acquire the information they need, then collate and evaluate it to minimize confusion, exaggeration and rumours and finally pass it to those most directly affected.

Reconnaissance efforts must be co-ordinated to obtain the detailed information needed to implement the emergency plan. These efforts will obviously be limited by the time and resources available. Reconnaissance and the gathering of information is an ongoing process throughout the operation. The timely passage of situation reports is the best way to pass information to various headquarters and command posts.

Maintain Good Communication

Communication can make the difference between a failed operation and a successful one. The problems associated with communication relate to message content, means of despatch and the interpretation of the message by the recipient.

The municipal emergency plan should establish procedures to rectify any anticipated communications problems. If responding and supporting agencies arrive on site with incompatible communications equipment, emergency managers must be able to call upon additional measures already identified in the communications plan.

Learn to recognize the two different categories of communication problems.

Internal Problems: Generally, systems used to relay communications within an agency are geared to handle a specific amount of information. In an emergency, staff may increase. The communications systems may not be adequate to accommodate the overload, and the process is slowed down. Also, channels of communication that are distinct in normal times become blurred when several individuals occupy a position normally held by one person, or when officials assume tasks for which they are not normally held by one person, or when officials assume tasks for which they are not normally responsible. Consequently, the normal channels of communications will not be sufficient to ensure that all relevant information will reach those who need it.

Problems Between Agencies: Communication between agencies may fail because the informal basis that normally exists may not suffice. New contacts, difficult to establish at the best of times, will have to be formed during the emergency. Communications between agencies will frequently not proceed smoothly under such circumstances.

An integrated communication plan is needed to formalize an inter-agency communications plan as quickly as possible.

Exercise Foresight

Planning is always concerned with future events. During an emergency the lack of (or evidence of) foresight will greatly influence the outcome. Forecasting future events will provide managers with information upon which good and sound decisions can be based. Forecasts must be as accurate as possible and based upon the best available information. Resource demands will often compete with other needs. Such demands must be substantiated. Foresight estimates resource requirements, anticipates timing and action, foresees problems and adjusts the action plan accordingly.

Emergency managers must anticipate the next stage in an operation, to overcome the inevitable time lag in the delivery of emergency support material to the site.

Remember that the higher the level of decision-making, the earlier the planning for resources must begin. If the ESM is planning his or her action one hour ahead, the Emergency Operations Centre should anticipate such action at least two to three hours ahead.

Emergency managers must have constant access to the evolving action plan and the administrative plan must evolve in concert with the site action plan it supports.

Know the Authority

Line of Authority: A recognized line of authority must be established early at the emergency site. The ESM's authority must be clear at the outset, and it should be plainly stated in the municipal emergency plan. All responding agencies and their members must understand the ESM's position. The limits of authority and control of all responders must be clearly stated. Actions of an individual operating without authority must not jeopardize the overall emergency operation.

Legal Authority: Laws and policies, at all levels, control and set limits on the actions and scope of emergency managers. It is essential that legal authority, municipal bylaws and emergency plans be promulgated to establish the parameters within which the ESM may operate.

Other legal authority already exists within services such as police, fire, public works. ESMs should be aware of the additional authority of these services to act.

Problems: Emergency managers may have to deal with four problem areas:

- There is a strong tendency, especially at higher levels, for officials to work too long. This has two results: first, overtired personnel become inefficient; secondly, when they are eventually replaced, their replacements will lack information because crucial unrecorded data will have accumulated in the heads of a few individuals.
- Questions almost inevitably arise about which agencies have the authority to assume unusual disaster-related tasks, such as mass burials of the dead or large-scale search and rescue operations. This issue should normally be resolved by assigning specific responsibilities in the municipal emergency plan.

- Problems sometimes arise between established agencies and outside groups over traditional tasks. For example, area security is traditionally a local police function. There can be problems if provincial or federal police or the military also attempt to provide security. Again, such problems should be anticipated in the development of the municipal emergency plan.
- Disasters frequently cut across the jurisdictional boundaries of local organizations, creating potential for conflicts. In normal times unclear or overlapping responsibilities can often be ignored. During disasters these conflicts will sharpen.

Unresolved jurisdictional issues often surface at the height of an emergency. Areas of potential conflict should be identified and resolved during the planning process.

Establish Priorities

At the outset of an emergency operation, personnel and material are usually in short supply. Establishing priorities for the use of resources is absolutely essential, particularly when response agencies are arriving on site with minimal resources.

The imaginative use of available resources will save time and effort. If priorities are well delineated, co-ordinated efforts will be easier to achieve.

At the site, the ESM must be able to alter priorities quickly to meet the changing situation and unexpected developments. This entails, above all, flexibility in making decisions.

Conserve Resources

A good action plan also calls for the use of only those resources needed to accomplish the task.

Operations will never go according to plan. Emergency managers must maintain some reserves to react to unexpected events. Alternative sources of supply, a reasonable reserve of personnel and transport, and material placed to be readily available, will allow the emergency manager to maximize the use of limited resources.

Control and accountability of stores and resources throughout emergency operations should be maintained. Failure to do so will cause great expense to the municipality.

Promote Co-operation and Co-ordination

Co-operation: All responding agencies must achieve the maximum combined effort. Good will and the desire to co-operate are essential at all levels, owing to the increased interdependence of all organizations and agencies.

More and more, emergencies require many agencies of various jurisdictions to work together. In many cases, urban growth has led to an overlapping of responsibilities either physically or administratively. Agencies often have difficulty co-operating and co-ordinating their action in day-to-day situations, let alone in a state of emergency.

Co-ordination: All responding agencies agree, in principle at least, to co-ordination in times of disaster. However, the means of achieving “co-ordination” is neither self-explanatory or a matter of consensus. At one extreme, co-ordination is viewed as informing other groups of what their own group will be doing. At the other extreme, co-ordination is seen as the centralization of decision-making into a particular agency or a few key officials. It is not surprising that problems arise, even when a pre-disaster agreement forms part of the emergency plan. Again, the newness of many emergency tasks (handling many dead, for example) can create strain in relationships between agencies that have worked together before. The greater the number of agencies or groups that respond to an emergency, the greater the co-ordination problem. The problems may be compounded by the fact that some agencies may come from outside the area, may have a different structure and a mode of operation not understood by the emergency manager. Conversely, outside agencies may not understand the local structures and methods of operation.

To overcome this barrier, a pre-agreed emergency site management technique is recommended. This will greatly assist agencies to work together and to share resources to their mutual advantage. An adequate ESM structure will enhance the sharing of local emergency resources, and also provide a means of obtaining help quickly within a municipality, and from outside agencies.

The Emergency Site Manager should make effective use of the special skills and capabilities of various emergency response agencies and resources. A flood may require co-ordination of law enforcement services to police the area, search forces to locate the survivors and victims, fire services for heavy rescue and fire suppression, air and ground ambulances for evacuation of injured and a variety of support services such as public works, social services and transport services.

Support Your Workers

Emergency response agencies require meals, fuel, special equipment, transport and other stores. Stock of these materials may be available or they may have to be acquired from other sources. Equipment must be maintained on site or removed from the site to be repaired. The sick and injured must be treated and evacuated to hospitals. The emergency response forces must be rotated, reinforced and rested. The ESM team must identify, quantify and communicate these logistic needs to the EOC. On the other hand, the EOC must anticipate and provide for those needs. All action in support of the operation must be properly documented for legal claims and post-emergency reporting. Discipline and authority must be quickly established through a chain of command easy to understand and follow. The psychological needs of the human resources on site must also be provided for.

Depending on the magnitude and duration of the response operation, a small staff is needed to assist the ESM in carrying out both operational and administrative planning on the site. Since in most municipalities each service has minimum administrative plan must cater to these various needs and provide a co-ordinated approach.

The specific logistic functions the emergency managers must address are:

Psychology and / or Chaplain Services

- to the injured
- to the rescue workers
- to evacuees

Financial Records

- accounting for public funds
- overtime record
- emergency funds

Reinforcement

- shift rotation
- rest and recuperation
- debriefing / briefing
- new equipment and operators
- personnel registration

Record / Documentation

- status of personnel
- status of equipment
- logging of special events
- frequency of status report
- listing of resources

Material Supply

- fuel, oil
- meals: hot, cold
- stores
- shelter
- spare parts
- vehicles
- special stores

Transport

- ambulance
- police / fire
- evacuation
- petroleum
- water truck
- engineer, dump trucks
- heavy tractor
- heavy wheeled transport
- recovery vehicles

Repair and Recovery

- repair on sites
- recovery systems

Water Supply

- for personal usage
- for firefighting apparatus, etc.

Legal

- record keeping for claims against the municipality legal advice

Public Information

- media control
- control of dissemination of public information
- administrating, conducting and assisting all media
- photo / video records of emergency
- press release

Morgues

- siting
- preservation / storage
- body bags
- record keeping
- hospitals' roles

Jurisdiction: Municipal / County / Province / Federal

- relationship between level of governments
- legal authority
- re-establishing control
- re-establishing public utilities
- curfews
- handling of evacuees.

CHAPTER II

TYPES OF EMERGENCY OPERATION

Emergency management is a tool. It permits officials to manage a transition from a state of normal operation to that of an emergency response in a disaster and back to normal again. Proper management of this transition should allow the resolution of emergencies at minimum cost to the municipality, and reduce the time spent dealing with the event.

The type of emergency operation to be conducted will be dictated by the level of warning. Emergencies or disasters have been classified by EPC as:

- gradual
- sudden
- predictable
- unpredictable
- unexpected

Three different types of emergency management operations may take place:

- pre-emergency (gradual, predictable)
- life-saving (sudden / unpredictable / unexpected)
- post-emergency (applicable to all)

Pre-emergency Operations

This type of operations is based on the premise that sufficient warning allows the mobilization of resources. The operation will deal with warning the public, the evacuation of those who wish to leave, allocation and marking of main evacuation routes to reception areas, establishment of reception centres and action to reduce the impact of the oncoming emergency. This operation will also include security to protect evacuated property from looting.

Life-saving Operations

In this case insufficient warning has prevented the municipality from conducting a pre-emergency evacuation. This operation will deal with the rescue of the injured, provision of medical care, evacuation of homeless, fire-fighting, route clearance, salvage, etc. in and around the damaged area immediately after impact.

Post-emergency Operations

This type of operation leads to full recovery and a return to a state of normality. For a municipality it would consist of:

- road and debris clearing
- damage control
- rebuilding
- health hazard elimination
- re-establishment of essential services
- financial assistance
- legal reporting and claim investigation.

The ESM would not likely be extensively involved in this, but he or she might initiate some of the above activities before being withdrawn when the potential for damage is over and cleanup begins.

CHAPTER III

CONDUCT OF EMERGENCY SITE OPERATIONS

Emergency site operations, irrespective of type, must be conducted so that resources and their use quickly arrive in the stricken area. The process can be divided into the following stages:

- deployment and site layout
- emergency control
- restoration.

Deployment and Site Layout

This stage unfolds rapidly through a series of concurrent activities. It begins with an information / alert phase, followed by a control phase by the first responders, then by an additional response phase. At this point response by the three key agencies (police, fire and ambulance) must be co-ordinated for effective emergency site management.

Deployment

Annex A is a diagram illustrating the alerting and other procedures required for effective emergency site management.

If time is available, the three first responding agencies study the site to assess the situation and report to their dispatchers when asking for further assistance. The first responders then attempt to deal with the situation using the resources on hand. As the response increases, co-ordination becomes essential.

On arrival, the emergency site manager must first determine the magnitude of the situation, locate the perimeters, the primary rescue sites and the centre of the emergency site. Debriefing the first responders should form part of this action. These people represent the best source of information available at that moment.

Carrying out a detailed reconnaissance is another important action. This might be done by a police motor cycle squad with mounted search and rescue experts, if available. This group should be given limited but specific objectives within the identified perimeter. The result of this reconnaissance should determine specific "Hot Spots," the extend of the damage, and yield an idea of the type of emergency response needed. The site manager can then determine the organization needed to co-ordinate operations.

Site Layout

During the initial response phase a number of unco-ordinated activities occur. The appointment of an ESM signifies that the stage of co-ordinated and controlled responses has begun. Resources must be acquired and controlled. The improvement and control of access routes and the identification of staging areas must be addressed early to avoid confusion. Heavy rescue equipment must be marshalled if required. The process of assembling and deploying all resources on the site ensures a workable and flexible operation. Site layout will be different for every situation, but the principle of organization remains the same. Refer to Annex B for a typical emergency site layout.

Emergency Site Manager's Field Headquarters (ESM-HQ)

One of the most important considerations is the placement of the ESM HQ. It must be fairly central so that the emergency site manager can co-ordinate and control all activities and observe the access routes. To provide that control, the emergency site manager must have facilities to communicate easily with the senior officials of all the key responding agencies as well as outside agencies, groups or organizations whose help may be needed.

The headquarters must have access to telephone lines. The larger the number of responders, the greater the number of lines required. Because of the intensive use of radios, the headquarters should be on high ground where interference is minimal on all the frequencies used. Headphones are a must.

All responding agencies should co-locate their respective command posts with headquarters.

So that all responders can recognize the headquarters as soon as they arrive, it must be well identified, easy to see and to reach. Banners, large signs and even guides can be used so that agency chiefs or managers can report for directions from the emergency site manager. By their reporting, the emergency site manager can keep track of the resources on site and make the best use of them. Normally, key response agencies will provide their designated control officer with his or her own mobile command post (MCP). These various MCP vehicles, together with the ESM command centre, constitute what has been termed the ESM Headquarters. Attached, as Appendix 1 to Annex B, is a graphic layout of an ESM Headquarters with collated response agencies MCPs.

Security

Security of the site is a police responsibility. In a major emergency, two perimeters should be established. The inner perimeter includes the immediate emergency area only and may include, in case of a large number of casualties, an emergency medical care centre. Only essential staff and equipment should be allowed within this perimeter, and residents or workers should be evacuated as soon as possible. Entry should be strictly controlled with only one or two access points.

Beyond this zone, the police will establish an outer perimeter. The outer perimeter should include the entire area affected by arriving personnel and equipment. Staging areas for the different response agencies, parking areas for workers and emergency vehicles, a temporary morgue, and an information centre should be established here.

All the agencies involved should set up their operating base in the area between the inner and outer perimeters. Here they will prepare to assist in fighting the emergency.

Access through the outer perimeter should also be strictly controlled. There should be only one access route although a second may be maintained to facilitate entry of emergency personnel and equipment. The outer perimeter must be patrolled and guarded to ensure that unauthorized persons do not penetrate this line. It is also at this line that spectators converging on the site must be controlled. The line must be far enough from the emergency site that it does not interfere with the response and any unexpected and new dangers such as explosions, collapsing buildings, radioactive materials or gases that could affect the crowd.

Police officers must ensure that all equipment and personnel from the responding agencies are provided with unobstructed access and directed to the proper locations. It follows that these officers have to be briefed on the location of command posts, staging and parking areas. As well, the security officer at the access point should notify the emergency site management headquarters of the arrival of personnel and equipment. The security personnel also have to direct media representatives to the media centre and authorized visitors to the areas that they are allowed to visit. A special pass system should be implemented to facilitate access control through the outside perimeter.

Traffic Control

In addition to traffic control at access points, traffic control within the perimeter area is essential. If possible, a traffic plan calling for separate in and out routes should be established. Ideally, the IN route should pass by the emergency site headquarters. This allows the headquarters organization to confirm what personnel and equipment are available and to make sure that they are directed to the proper location. IN and OUT routes should be clearly marked.

Staging Areas

Staging areas are established to hold resources to move on short notice. They should be established by the emergency site manager. A staging area can be wherever mobile equipment can be temporarily parked to await assignment. Staging areas may include temporary sanitation and fuelling services. The ESM, with the help of the police should assign a manager for each staging area under the supervision of a staging area co-ordinator.

Parking Areas

When equipment, not immediately required, enters the outer perimeter, it should be directed to a pre-designated parking area. To ensure order in the parking lots, security personnel should ensure that the vehicles are parked properly and do not obstruct the movement of other vehicles. If at all possible, drivers should stay with their vehicles so to move theirs if necessary. Ignition keys should never be removed if a driver leaves a vehicle; this will facilitate movement by others. Specific parking areas should be assigned to all responding agencies.

Casualty Clearing Areas

The proper management of this area will contribute to the preservation of the maximum number of lives. The area must be situated where the IN and OUT routes are adequate because the traffic flow, when the casualties are being evacuated, will be high. The area should be large enough to accommodate the different sub-areas required for the types of casualties – a separate area to place the dead, loading areas for casualties, and a first-aid post. Supervisors are required at sub-areas.

Traffic to this area will have to be controlled. Ambulances (or other means of transportation) will report to their parking area and be called to a staging area as required so that no traffic jam occurs. This also facilitates the despatch of casualties to the proper hospitals. It is important that this area be far enough from the disaster site that casualties and the medics will not be endangered by smoke and other factors associated with the disaster, e.g. the exhaust fumes of waiting ambulance and other vehicles.

Information Centre

To help control media personnel, it is important to set up a media information centre and to notify media people that the only place where information will be issued is from that point. This appointment of a liaison officer is essential. This person should normally come from the Public Information Office. The police force, however, often assumes this responsibility.

Morgue

If the emergency involves a number of fatalities, it may be necessary to preserve the site and the property of these people to facilitate the activities of the authorities¹ trying to determine the identify and cause of death and to ensure that the decease's property is disposed of appropriately. A morgue should to be set up on site, or nearby, and areas must be set aside where belongings can be identified and kept safely until they can be released. The establishment of a property office by the police is essential and is part of the morgue function.

Logistics Areas

Logistics areas must also be located inside the outer perimeter, for the issuance and receipt of equipment, and for maintenance and recharging of various equipment. Areas where personnel can be decontaminated² if necessary and where the crews will be able to rest and eat are also needed. Personnel reporting on and off duty should report through this area.

Depending upon the size of the emergency, more than one such area may be necessary where each major responding agency can take care of its own needs. As well, the emergency site manager may want to regroup some specific logistics functions to provide more efficient support for the whole team. An example of this could be the regrouping of all facilities to recharge airpack cylinders, or the establishment of one decontamination area, as opposed to one for each service.

¹ Bodies are not moved until tagged, photographed, and details of location and position of body is recorded.

² Decontamination should be conducted as close to the inner perimeter as possible.

Emergency Control Stage

There is no clear demarcation line in both time and space between this stage of the operation and the deployment and site layout stage. The nature of the tasks dictates that this operation begins as early as humanly possible, primarily for life-saving operations.

Responding Agencies

Proper site management should be guided by a clear understanding of the operational responsibilities of the three principal responding agencies committed to life-saving operation. Major operational responsibilities at the site are:

Police

- protection of life and property
- traffic and crowd control
- care of dead bodies
- evacuation
- securing the perimeter of emergency site
- investigation of criminal acts
- investigation of all fatalities
- record keeping
- co-operation and assistance for other emergency agencies when required
- establishment of an emergency police control command post
- appointment of a senior officer to assume the function of emergency site management if directed
- activation of police mutual aid, if required.

Fire

- prevent or control fire
- containing hazardous material incidents
- preventing structural collapse
- search and rescue
- assistance with basic emergency care until ambulance or medical responders arrive
- assistance to other emergency agencies, when required
- establishment of an emergency fire control command post
- appointment of a senior official to assume the overall emergency site management if directed
- activation of mutual fire aid, if required.

Ambulance / Medical

- initial triage and primary assessments of injured victims
- essential emergency patient care
- request for medical site teams, where indicated
- removal of patients from scene and transport to hospital
- assistance to other agencies, when required
- establishment of an ambulance / medical command post
- activation of ambulance / medical mutual aid, if required

Supporting Agencies

Supporting agencies can be defined as those functional departments that could be assigned specific operational responsibilities in support of the three primary responding agencies. Supporting agencies could include:

- Public Works³
- Social Services
- Transportation
- Personnel
- Health

Depending upon their involvement at the scene, they may be expected to establish a small command post or have a desk in the ESM headquarters to better co-ordinate their response.

Speciality Teams

Depending upon the nature of the emergency and its impact, speciality teams may be called to the scene to assist or to assume full control of a specific action. The nature of their role and responsibilities, although very narrow, could become the key to a successful operation. (Rescue Environmental Radiological Inspectors, Transportation of Dangerous Goods experts are examples.) Their expertise and advice should be utilized whenever possible.

Management of Resources

The convergence of various agencies calls for co-operation. Resources should be managed by the ESM in three different ways, depending upon the needs of the emergency.

Single Resource (Task Unit)

This is the smallest unit that can operate independently, or be assigned a task. This may include a piece of heavy equipment with an operator, a search dog with handler, an ambulance and driver, each of which can be assigned as a primary tactical unit. A single resource is therefore the equipment plus the required individuals to use it properly.

Site Team

A site team is a grouping of like resources such as fire, police, ambulance or public works. It will have an established minimum number of members. Each site team will have a leader and common communications. Site teams will therefore be known as fire site teams, or police site teams, in order for them to become useful tactical response units.

³ These departments could be assigned a lead role depending on the type of emergency, and therefore could assume the ESM function.

Task Force

A task force is a combination of site teams and single resources temporarily assembled for a specific mission. All resource elements within a task force must have common integrated communication and a link to the ESM HQ, and each task force must have a leader. A task force is established to meet a specific need and will be subsequently disbanded, returned to the site team from which it was drawn or reorganized into another task force.

The use of site teams and task forces is encouraged, whenever possible, to maximize the use of resources, increase the management control of a large number of single resources, and reduce the communications load.

To maintain an up-to-date and accurate picture of resource use, all resources must be assigned a current status conditions must be made promptly.

Status Conditions

Three status conditions should be established for use with resources:

- Assigned: performing an active role within the perimeter.
- Available: Ready for assignment. All resources in staging areas should be available.
- Unavailable: Not ready for "Available" or "Assigned" status.

All resources in the parking area or the logistics area should be so designated.

Changes in Status

Normally the control officer who makes the change in a resource's status is responsible for providing that information to a Staging Area Co-ordinator in the ESM HQ.

The Restoration Stage⁴

The operation does not stop with the removal of the cause or the completion of the life-saving operation. There could be a situation where restoration takes place during the emergency control stage, such as re-establishing utilities in support of the operation. The site must be restored to its original state. At this stage the emergency site manager provided by one of the primary responding agencies will likely be replaced by an expert, probably provided by one of the supporting agencies from the previous stages. The responding agencies will return to their usual and routine occupations and, in turn, assume a supporting role. Task forces will disband as the site is restored.

⁴ The restoration stage is the lead-in to a post-emergency operation.

Some of the functions to be performed are:

- clean-up
- route clearance
- inspection of buildings
- enquiries
- legal recording
- reconstruction
- sanitation / hygiene
- assistance to returning residents
- claims
- re-establishing utilities and services.

CHAPTER IV

ORGANIZATION, COMMAND CONTROL, COMMUNICATION

The first few hours and often the first few minutes of an emergency are the most crucial. Probably the largest single factor facing the Emergency Site Manager (ESM) is this “crisis aspect.” While each official is managing crises every day on the job, he or she is doing it in a familiar, relatively unemotional and structured environment. Conversely, the ESM at the scene of a major emergency is placed in an unfamiliar, highly emotional and often hostile working environment. He or she must deal effectively with problems for which there may have been little, if any, direct training or experience.

Selecting the ESM

To minimize the effects an emergency has on the community, the ESM must be well trained in handling pressure. Adequate training will make the ESM more

- effective in decision-making
- capable of managing people and groups
- capable of managing available resources
- aware of the need for good communication with his or her team, superior, the media and the public
- flexible, so that he or she can alter plans of action and emergency response organization if the situation warrants such a change
- able to deal with facts and maintain proper records
- aware of the time constraints involved.

Normally, the first person of authority on the scene will become the ESM. He or she will keep this responsibility until the incident has been resolved in the case of minor incidents, or until replaced by someone of higher rank in more protracted incidents. This person will most likely be designated through the municipal emergency plan. In some instances, the ESM can be designated in provincial laws for specific types of emergencies such as air crashes. And, in some other cases, the municipal plans call for the type of emergency to govern the selection of the ESM. For example, in a large fire, the senior fire officer on site would become the ESM.

Where the emergency covers a large area, the site can be sub-divided into smaller areas and a task force leader can be appointed for each area. In this case, co-ordinating response on all sub-sites becomes very important so that the influence of one action does not adversely affect actions at another part of the scene. As well, the ESM can change as a reflection of the stage of the emergency.

Setting Up at the Site

Once the ESM has been designated or appointed, he or she must set the organization in motion. First, personnel must be assembled and the required equipment must be summoned to the site. As soon as the magnitude of the job becomes apparent, attention should be given to setting in place a self-sustaining, on-going command organization capable of functioning efficiently over the foreseen time period. It is imperative to have an organization and management system that will deal effectively and efficiently with the crisis.

Initial Organizational Structure

Under the discussion of Command and Control, an ideal organizational structure will be laid out. It is based on unconstrained approaches where resources are not at a premium and no time factors are incorporated. The ESM must set an imprint quickly on the emergency site and from which to manage and control. The ESM must first establish a structure (staff and line) that will permit him or her to exercise operational control; then the logistic support system when and if needed. The initial organization must allow for growth toward the larger and ideal organizational structure if the extent of the emergency calls for it.

The initial structure will depend upon the level of resources a municipality wishes or can commit at the site. The ESM organization should contain the following:

- ESM
- Assistant ESM (OPS / LOGISTIC / PLANNING)
- Area Co-ordinator (SITE OPERATION)
- Liaison Officer
- Communications Officer
- Site Control Officers

Annex D contains a diagram displaying the initial organizational structure. This organization can be put into operation quickly and be truly efficient and effective.

Annex E lists the principal responsibilities of the ESM staff during emergency operations.

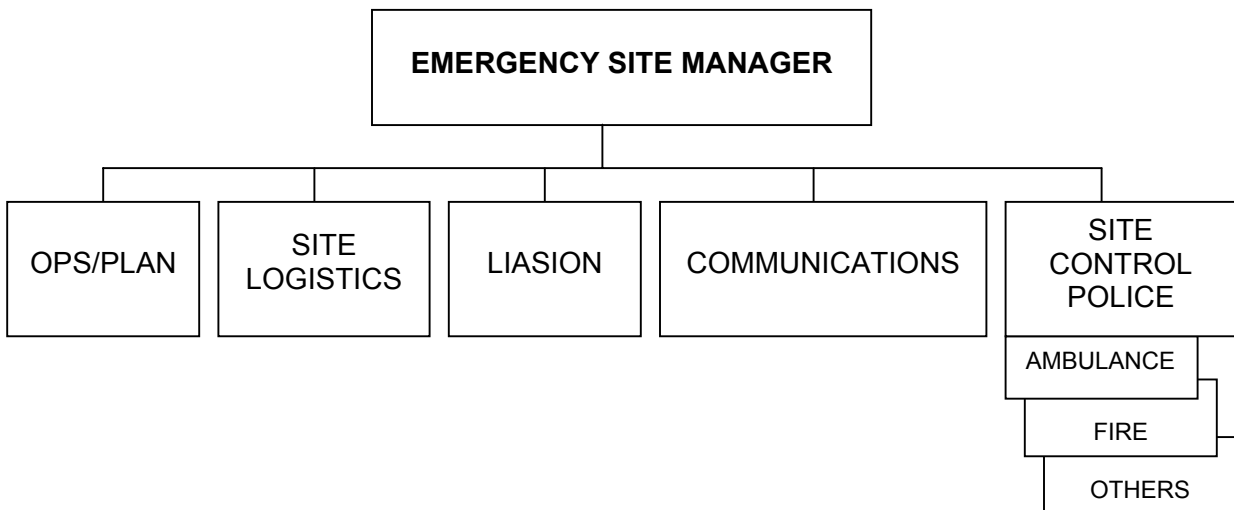
Command and Control

In an emergency the EOC would focus its attention on the direction and control of the total response in the stricken area. However, a command and control structure at the site is needed to ensure an efficient co-ordinated response.

The type of emergency site management organizations formed will normally depend on the type of emergency operations, the duration of the emergency and the person appointed as emergency site manager. If site management is to be efficient it must be organized to manage properly five functional elements:

- operations / planning
- site logistics
- liaison
- communications
- site control of response agencies.

These components are structured as follows:



Emergency Site Manager

The emergency site manager should normally be appointed from one of the responding agencies. Once appointed, the ESM is responsible for overall management and control of the emergency response at the site, to include:

- defining ESM objectives
- determining ESM strategy by
 - ensuring co-ordination of the activities of response agencies
 - developing a consolidated action plan
 - ensuring maximum use of all assigned resources
- approving all requests for ordering and releasing key resources
- supervising all ground operations
- supervising air operations if necessary
- supervising the action of all “co-ordinating staff.”

The ESM objectives and strategy form the foundation upon which subsequent action planning should be based. For this purpose, the ESM must be provided with support staff to meet co-ordinating responsibilities.

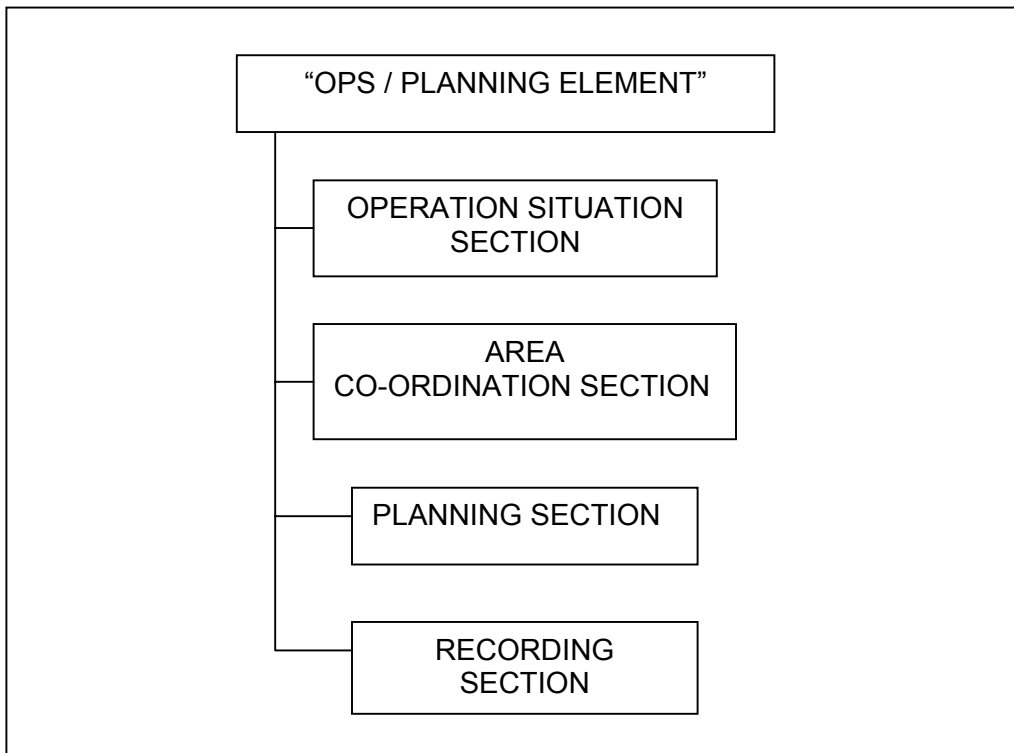
Ops / Planning Element

This staff element is responsible for the direct management of all emergency operations through the collection, evaluation and dissemination of information, to include:

- assisting in developing the consolidated action plan
- co-ordinating all ground operations
- co-ordinating air operations, if needed
- providing advice to the EOC on the overall administrative planning in support of the emergency site operation
- overseeing the layout and the establishment of the ESM HQ as well as controlling access to it
- developing short-term plans
- tracking / reporting current and predicted events
- maintaining status of emergency resources

- documenting emergency activities
- maintaining operational maps

You will find as Appendix 5 to Annex E a control chart to assist in area co-ordination at the site.



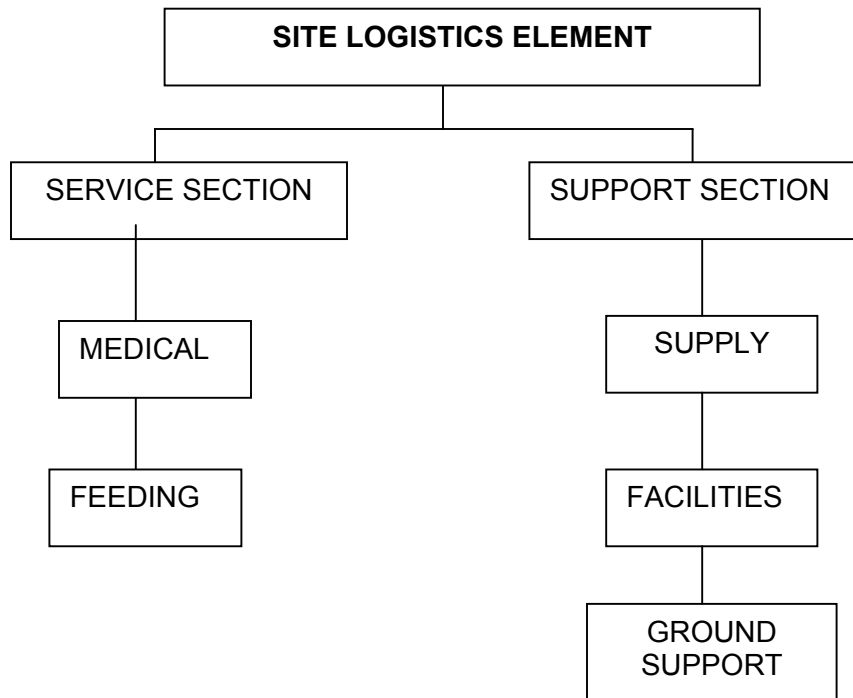
From the listing of responsibilities, the Ops / Plan element could be subdivided into various sections as in this diagram.

Logistics Element

This staff element should be established as quickly as feasible after discovering that the emergency site operation will be a lengthy and complex one. It would be responsible for estimating, requesting and co-ordinating facilities, materials, personnel and supplies in direct support of the emergency site and for liaison with their appropriate emergency operation control group officer at the municipal EOC. These functions would likely be staffed by the appropriate supporting department, such as Public Works, Medical Officer of Health, Social Services, Public Transportation, Purchasing and Stores, which would send their respective specialist teams to the scene.

Their responsibility would include:

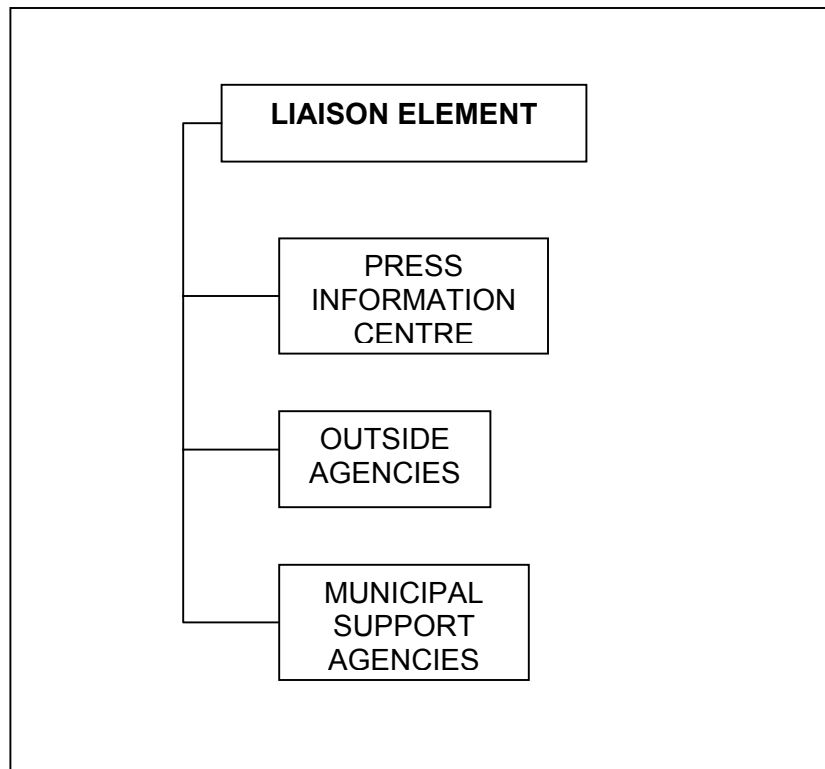
- requesting from EOC all personnel and equipment necessary to carry out the logistics functions.
- receiving, recording, storing, and distributing all personnel and equipment.
- providing facilities for rest, feeding, and maintenance on site.
- providing fuelling, transportation and repair services on site.
- providing medical services on site.
- recording time for personnel and equipment on site.



Liaison Element

Provides a contact point to outside agencies in need of access and advice to the ESM and vice-versa, to include:

- dealing with media relations by:
 - taking calls from the media
 - establishing and operating a media information centre
- opening and maintaining lines of communication with supporting agencies until the logistic element is operational.
- seeking and obtaining advice from those specialist advisers.
- providing facilities to specialist agencies within ESM field headquarters.
- maintaining a liaison log.



Communications Element

The communications element provides communications equipment and personnel to meet the integrated communications need at the site to include:

- establishing the ESM communications needs with advice from EOC.
- pooling existing communications system on site if needed.
- establishing and staffing a radio communication system on site.
- allotting frequencies to newly created radio networks as provided by EOC or the emergency plan. Emergency frequencies must be obtained from Communications Canada beforehand, and should form part of the City Emergency Plan.
- requesting and distributing communications equipment.
- maintaining radio and communications discipline on ESM communications nets.
- providing operators on a 24 – hour basis.
- establishing a small message control centre, if needed.

Police Control

This function represents the local police authority on site and have overall command of and responsibility for the maintenance of law and order in the emergency site area to include:

- commanding and controlling all police personnel assigned and site team operations on the site.
- establishing and staffing a Police Command Post (PCP) as part of ESM Headquarters.
- maintaining communications with Police Headquarters through the Communications Centre on the police network.
- maintaining contact with the Police Chief or his alternate at the EOC.
- assisting the ESM in formulating an overall strategy and co-ordinated action plan.
- providing complete coverage of all matters related to police and ensure that matters requiring joint efforts are co-ordinated through the ESM staff.
- maintaining a police control log.

You will find as Appendices 1 and 2 to Annex E control charts to assist in the co-ordination of Police Operations at the site.

Fire Control

This function provides fire-fighting and/or prevention, and search and rescue operations at the site to include:

- commanding and controlling all fire-fighting operations and equipment on site.
- establishing and staffing a Fire Command Post (FCP) as part of the ESM HQ.
- maintaining communications with the fire despatch.
- maintaining contact with the Fire Chief or alternate at EOC.
- assisting the ESM in formulating an overall strategy and a co-ordinated action plan.
- providing complete coverage of all matters related to fire-fighting operations and ensuring that matters requiring joint efforts are co-ordinated through the ESM staff.
- maintaining a Fire Control Log.

You will find at Appendix 3 to Annex E the control chart to assist in the co-ordination of fire operation at the site.

Ambulance/Medical Control

This function provides a co-ordinated ambulance service operation to include:

- commanding and controlling all triage, treatment and evacuation site team operations on site.
- establishing and manning an Ambulance Command Post (ACP) as part of the ESM HQ.
- maintaining a casualty count.
- allocating all ambulatory resources to casualty evacuation
- maintaining contact with local hospital (s) and the medical officer of health at EOC.
- assisting in formulating an overall strategy and a co-ordinated action plan
- providing complete coverage of all matters related to medical operation and ensuring that matters requiring joint efforts are being co-ordinated through the ESM staff.
- maintaining an Ambulance Control Log.

You will find in Appendix 4 to Annex E the control chart to assist in the co-ordination of Ambulance Operations at the site.

Communications

In all phases of an emergency operation, especially at its inception, communication is of the utmost importance. Good communications must be maintained among the various functional elements operating at the site.

Initial Communications:

Initial communications will be established by the first responder at the scene through the response agency radio link. He or she will notify the dispatcher of the extent of the emergency, its location and the assistance required. If needed, the fan-out or alerting procedure will then be initiated. Until an ESM is appointed and a field headquarters is established, all forms of reporting from the site to the EOC should be conducted through one of the response agencies.

Integrated Communications:

Communications should be managed through an integrated communications plan and a site-based communications centre established solely for emergency operations support to resources assigned to the site. Telecommunications should be in plain language. No codes should be used. All radio communications should be confined to essential messages only. The communications co-ordinator is responsible for all communications planning at the site. This will include site-dedicated radio networks, on-site telephone, public address, and off-site telephone/microwave/radio/ repeater systems. You will find attached at Annex C a communications layout that would support this concept of operations.

At a large emergency site communications will normally be organized as follows:

ESM Command Net: (Frequency 2)	To link together the emergency site manager with staff members, site control officers, task force leaders and specialist teams at the site.
Operations / Site Net: (F. 4, F. 5, F.6)	There will be several, established around site team force responding/supporting agencies or departments, to control their respective site teams operations.
Site Logistic Net: (F.3)	Established primarily to handle resource status changes, to support requests and certain other non-operational or command traffic.
Ground-Air Net:	Established if helicopters are in use. Regular nets may also be used to co-ordinate ground to air traffic.
Link to EOC: (F.1)	Assures communications back to the Emergency Operation Centre Co-ordinator to handle special requests, and situation reports and to co-ordinate EOC support to the site. As soon as practicable a telephone link should be established. A telephone link is preferable to radio for security reasons.

Communications Equipment

An emergency communications system must provide “command communications” for key of officials and agencies, and be able to augment existing internal agency communications. It must also be flexible enough to be superimposed upon existing links at short notice. The following list of equipment is proposed for a mobile / portable command communications system. It can be scaled up or down depending upon the need.

Ideally equipment should be stored and maintained in a mobile command communications vehicle large enough to house the following:

- 25 VHF 3-5 watts portable radios with spare batteries, rapid chargers, and speaker mikes with 10 programmable channels.
- 5 emergency telephone net connectors
- 1 CB transreceiver, SSB, 40 channels
- 10 magnetic mount VHF to extend range when mobile
- 2 fully synthesized 2000-watt HF radios capable of operating in SSB FSK and FM modes between 1.8 and 30 Mhz
- 2 portable generators 2500 watts
- public address system
- -loud hailers, hand held
- 110 volt power cable.

Communications Plan

The Communications Co-ordinator must evaluate the communications systems available at and around the emergency site, including:

- telephone
- runner
- courier
- VHF radio land mobile
- amateur radio
- GS radio system.

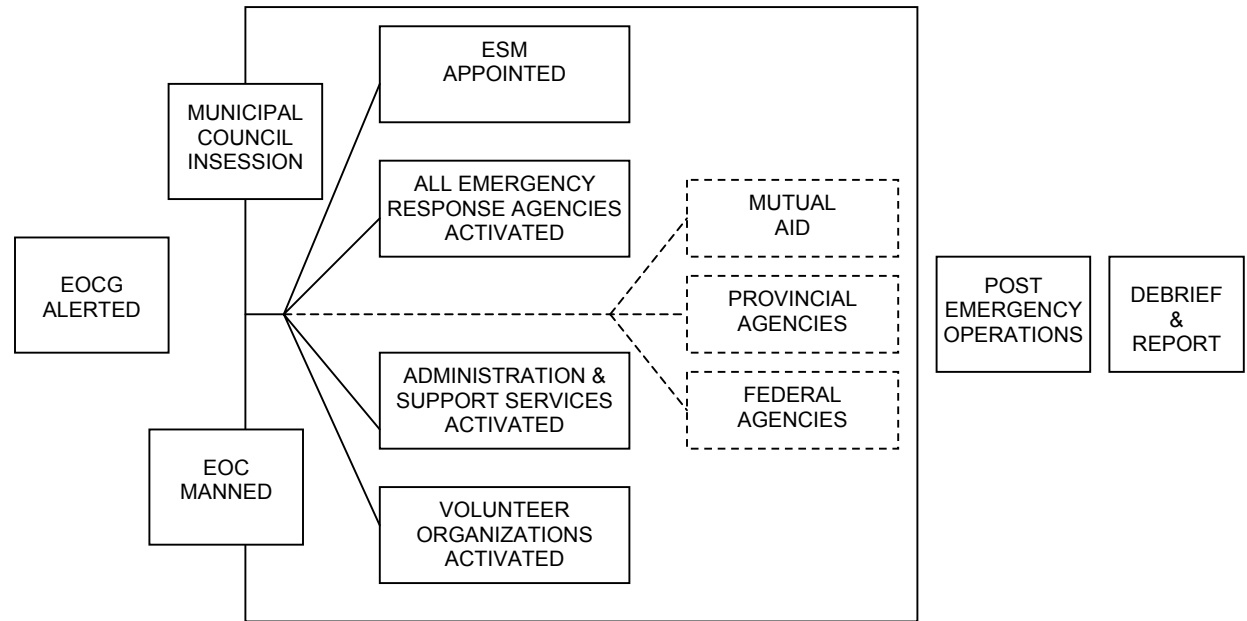
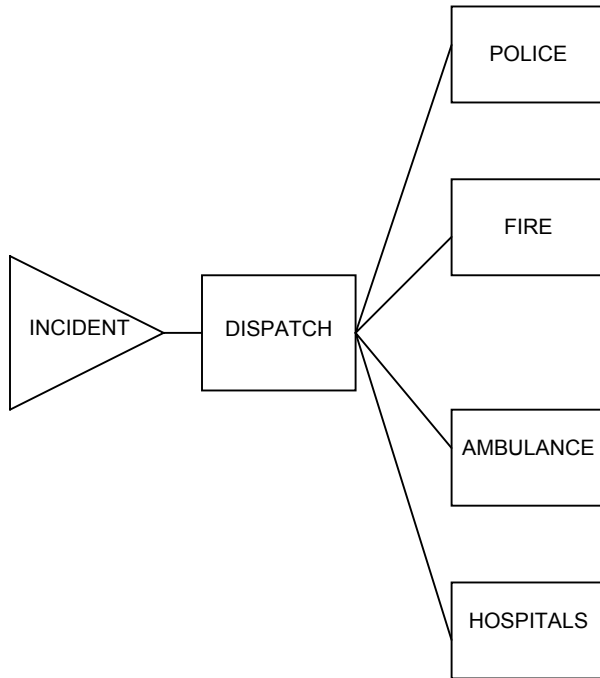
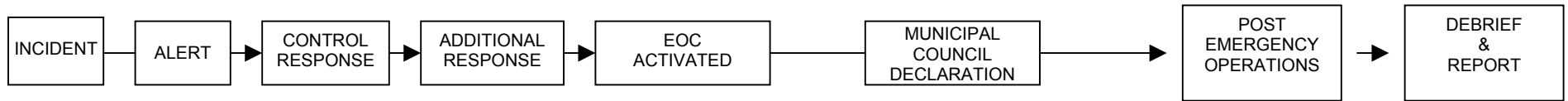
Factors that must be considered in formulating an integrated communications plan are:

- coverage
- capacity
- speed
- security
- type of message
- set-up time
- manpower
- frequency interference.

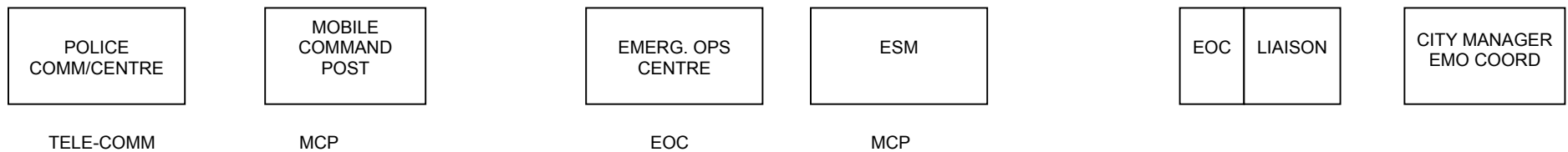
LIST OF ANNEXES

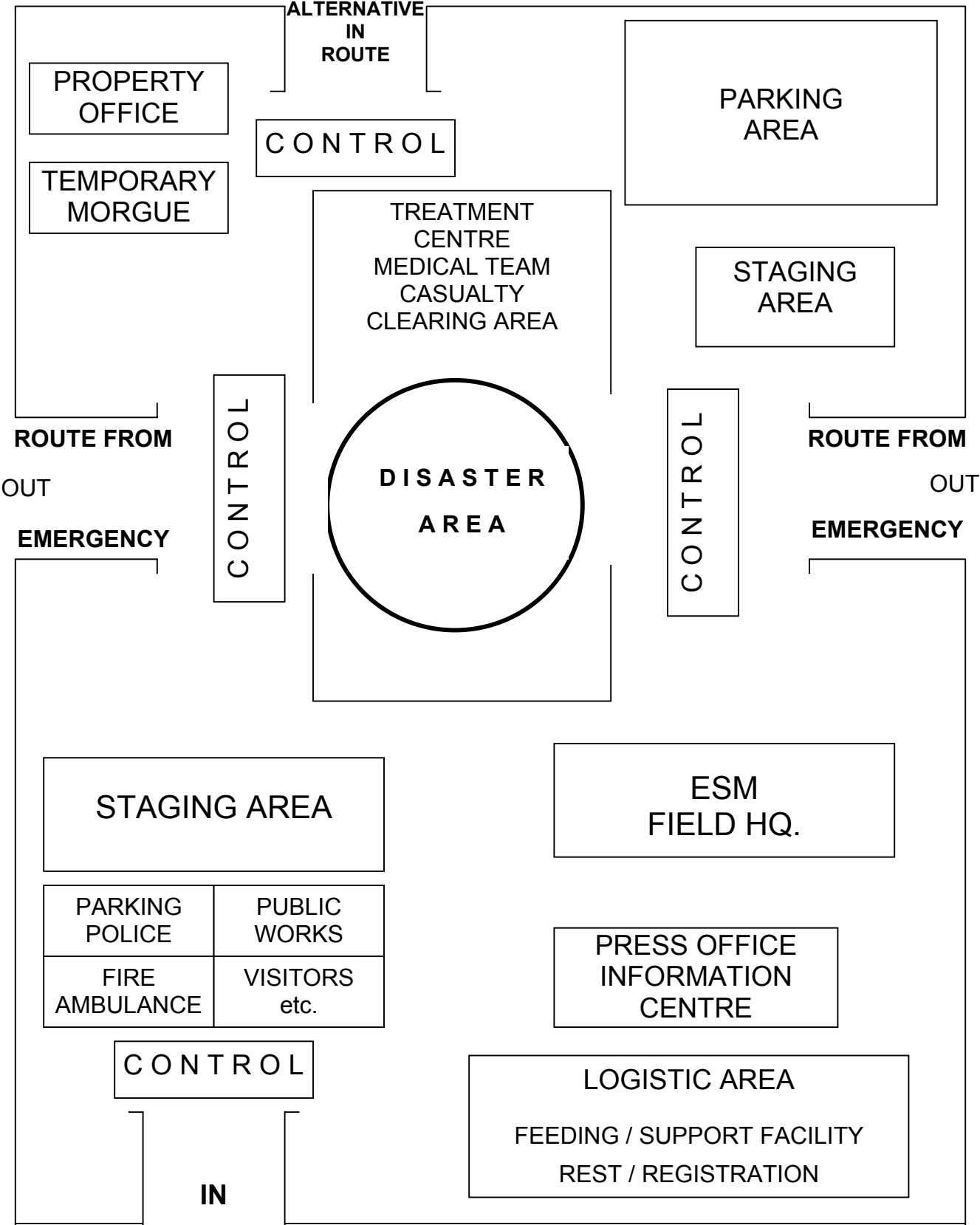
- ANNEX A – Procedure to Initiate the Collegeville Plan
- ANNEX B – Site and ESM Headquarters Layout
- ANNEX C – Communications Diagram
- ANNEX D – Initial Organization Structure
- ANNEX E – Key Staff Responsibilities
 - Appendix 1 and 2 to Annex E – Police Control Log
 - Appendix 3 to Annex E – Fire Control Log
 - Appendix 4 to Annex E – Ambulance Control Log
 - Appendix 5 to Annex E – Area Coordinators Log

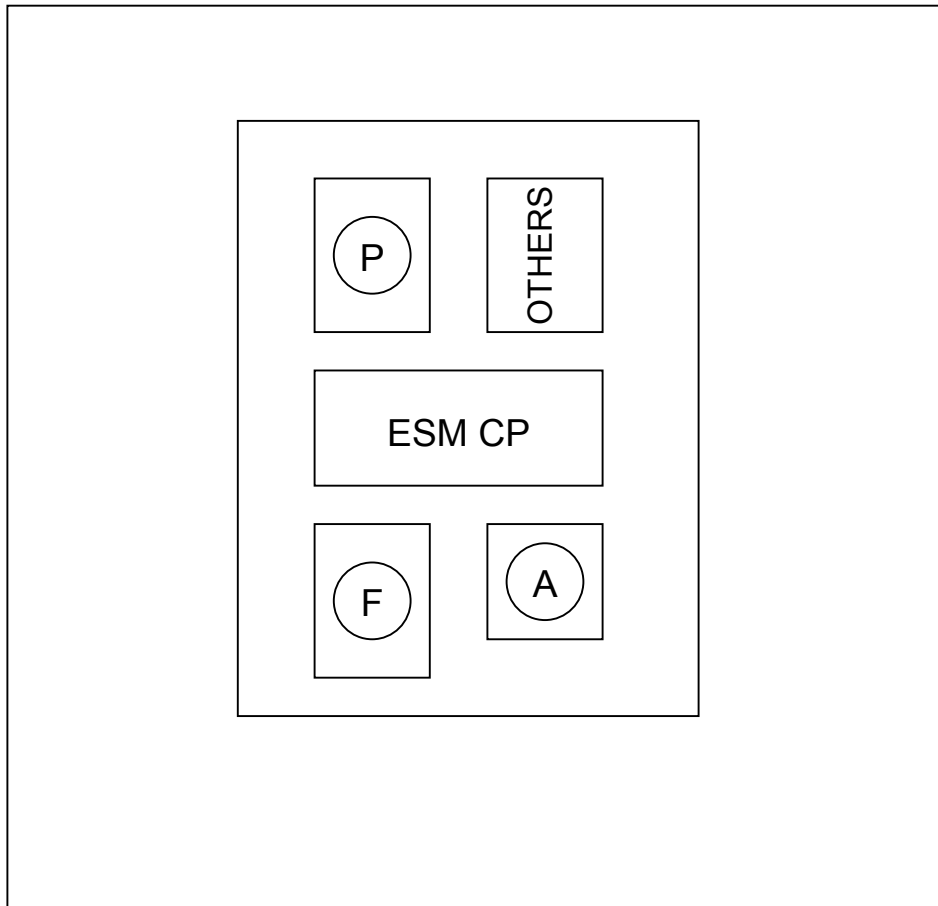
**COLLEGEVILLE
EMERGENCY PLAN INITIATION SEQUENCE**



COMMAND/CONTROL/COMMUNICATION





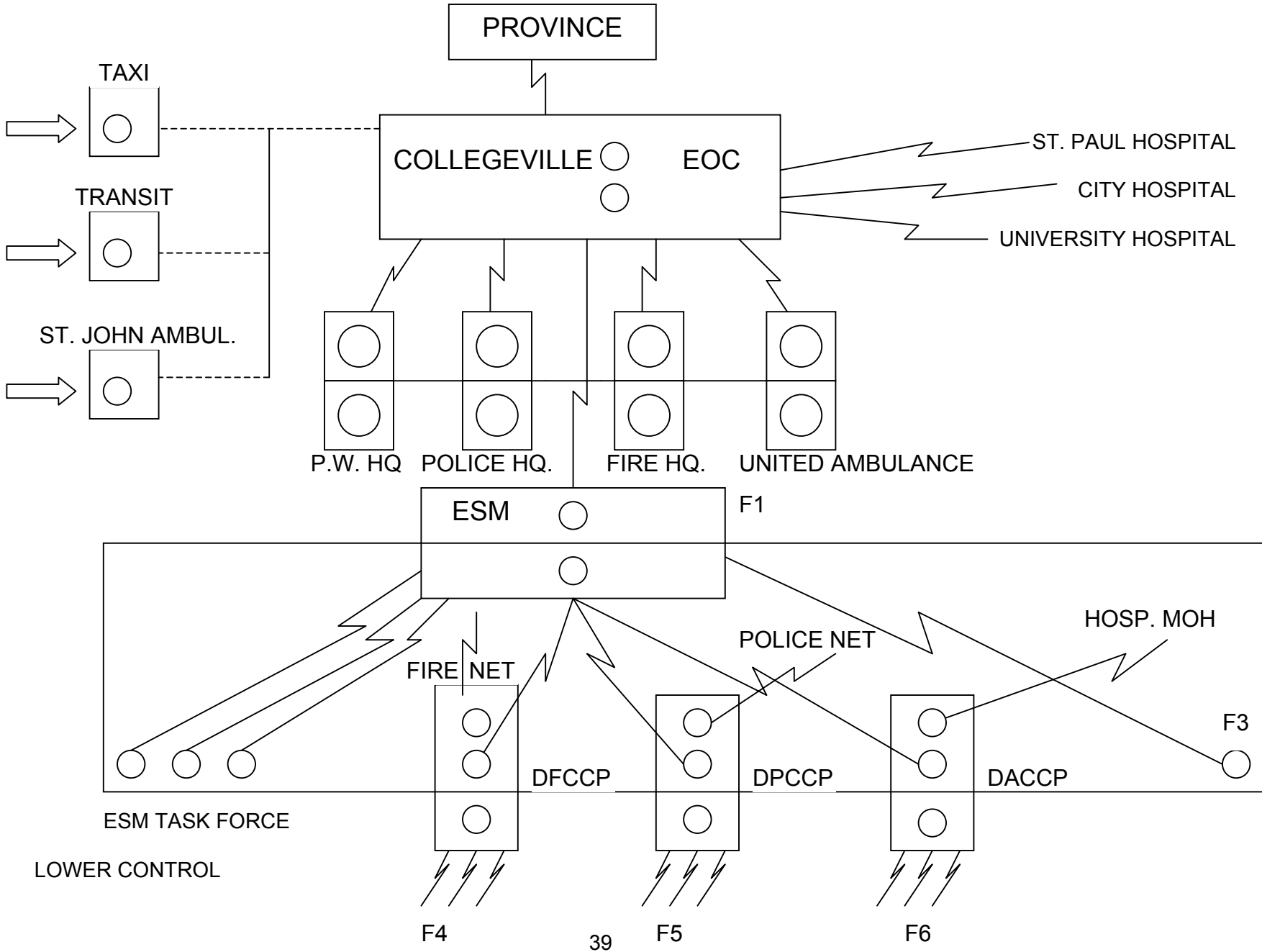


LEGEND

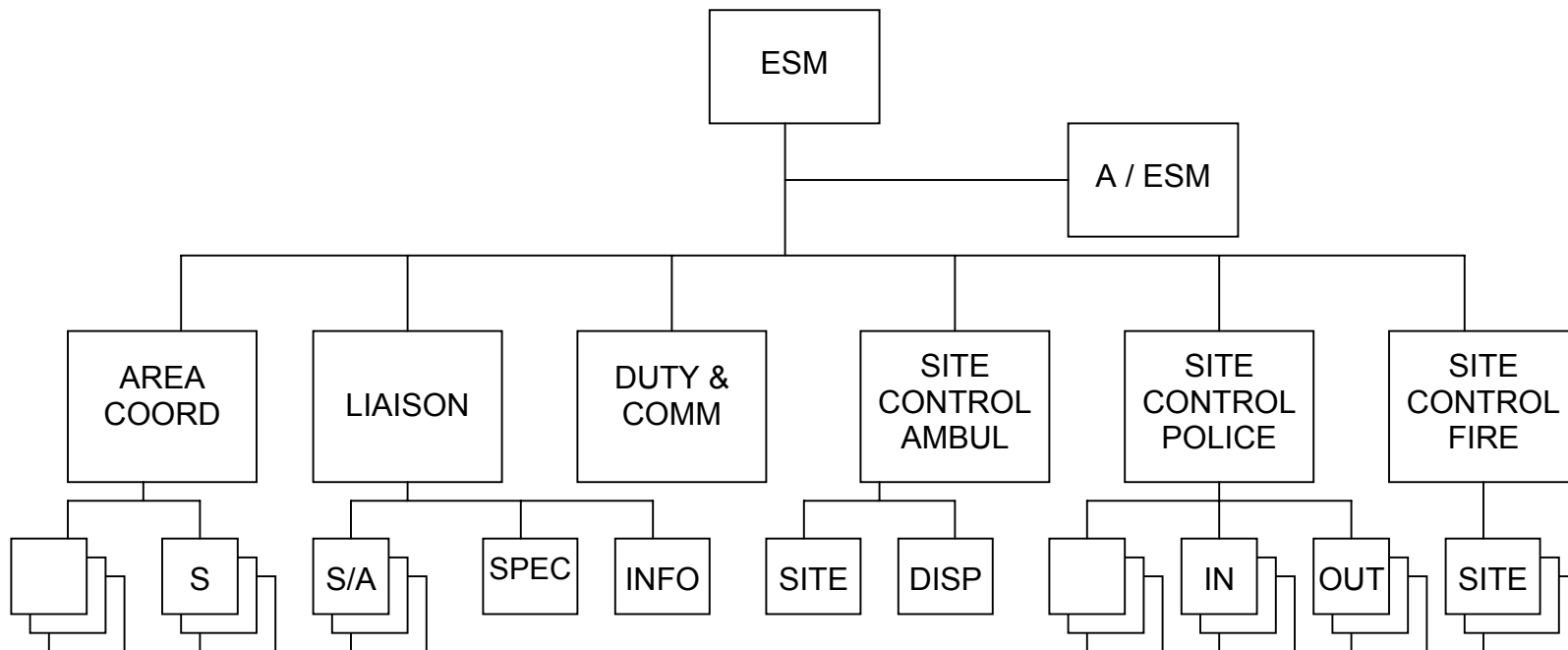
P - POLICE COMMAND POST

F - FIRE COMMAND POST

A - AMBULANCE COMMAND POST



INITIAL ORGANIZATIONAL STRUCTURE



KEY STAFF RESPONSIBILITIES

The principal tasks of ESM staff in any type of emergency operation are:

- assisting the ESM by co-ordinating activities between all “on-site” responding and supporting agencies and task forces
- assisting the ESM to develop strategy objectives through an estimate of the situation and the production of the action plan
- estimating the extent of damage, layout of the disaster site and likely course of action. This entails co-ordinating the activities of all reconnaissance task forces
- issuing instructions
- short-term planning for site control operations
- obtaining the necessary maps, photos and essential listings
- arranging additional and special resources from EOC
- advising EOC on consumption rates of material supplies and medical stores
- disseminating action plan and instructions
- planning site logistics and advising EOC on logistics requirements
- obtaining weather forecasts
- allocating resources to parking/staging areas
- positioning logistics unit, area and resources
- integrating all communications system into ESM communications plan
- informing EOC of the latest tactical situation on the site
- maintaining a reserve of personnel and other resources at the site
- traffic control and overall site layout

POLICE CONTROL OFFICER CHART (1)

ESM
RADIO CH.

ASST-ESM
RADIO CH.

LIAISON OFF
RADIO CH.

AREA COORD
RADIO CH.

	Unit	Time	Tasks	Location
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				

	Unit	Time	Tasks	Location
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

This chart is to be used to record the tasks given to police site team other than perimeter control duties. Such duties may include parking, staging area, morgue, information centre, inner perimeter access control, identification duties etc.

PERIMETER CONTROL CHART

NORTH

	UNIT	TIME	LOCATION (perimeter post)
1			
2			
3			
4			
5			
6			

	UNIT	TIME	LOCATION (perimeter post)
37			
38			
39			
40			
41			
42			
43			
44			

	UNIT	TIME	LOCATION (perimeter post)
29			
30			
31			
32			
33			
34			
35			
36			

	UNIT	TIME	LOCATION (perimeter post)
7			
8			
9			
10			
11			
12			

	UNIT	TIME	LOCATION (perimeter post)
13			
14			
15			
16			
17			
18			
19			
20			

	UNIT	TIME	LOCATION (perimeter post)
21			
22			
23			
24			
25			
26			
27			
28			

N

Inner	Perimeter
Inner	Perimeter

S

WEST

EAST

SOUTH

FIRE CONTROL OFFICER CHART

ESM
Radio Ch.

ASST-ESM
Radio Ch.

LIAISON OFF
Radio Ch.

AREA COORD.
Radio Ch.

LOCATION OF EMERGENCY					
TIME OF EMERGENCY			TYPE OF EMERGENCY		
Unit	Time of Arrival	Assisgnment	QUADRANT		Special Requests
			Exposure/sector		Command post
			3		ESM
					Evacuation
			B	C	Utilities
			2		Foam truck
					Food/drink
			A	D	Fuel
			1		Haz.-material
					Ambulance
					Search/resuce
					Police
					Relief pers.
NOTES:					

Appendix 4 to Annex E to EPC 1406

AMBULANCE CONTROL OFFICER'S CHART

LOCATION OF EMERGENCY		TIME EMERGENCY REPORTED				TYPE OF EMERGENCY				ESTIMATED NO. OF CASUALTIES												
Primary Site 1 _____		SITE 1 _____				___ Natural ___ Transportation				SITE 1 Major ___ Minor ___ Dead ___												
Sec'dry Site 2 _____		SITE 2 _____				___ Fire/Expln. ___ Riot/Terrorist				SITE 2 Major ___ Minor ___ Dead ___												
Sec'dry Site 3 _____		SITE 3 _____				___ Industrial ___ Others				SITE 3 Major ___ Minor ___ Dead ___												
COMMUNICATIONS					HOSPITAL PATIENT CAPACITIES					VEHICLES STATUS												
CODE	HOSPITALS	A L T	D A P C T	H S T	CODE RED		CODE YELL		CODE GRN		CODE BLK	TOTAL	VEH NO	TO SITE			FROM SITE				ARR HOS	
					SENT	CAP	SENT	CAP	SENT	CAP				Site No	Disp	Arrv	DEST HOSP	PTS. CARRD				
UN	UNIV.																					
CT	CITY																					
SP	ST. PAUL'S																					
GN	GENERAL																					
WR	W. REED																					
M	MORGUE				X X	X X	X X	X X	X X	X X												
SPECIALITY UNIT STATUS					EMERGENCY MANAGEMENT																	
UNIT	DISP	TO(LOC)	ARRVD		SITE	TASKS	LOCATION	MST														
S1					#1	Triage Staging C.P./OIC Morgue																
SU 1						#2	Triage Staging C.P./OIC Morgue															
CCU							#3	Triage Staging C.P./OIC Morgue														
OTHR																						
MEDICAL SITE TEAM STATUS																						
HOSP	TIME REQ'D	SITE	TM ARRIVED																			
PATIENT CONDITION CODES:																						
RED: Urgent/critical/life-threatening					GREEN: Deferrable/Minor/Walking																	
YELLOW: Prompt/serious					BLACK: Dead																	
												INSTRUCTIONS FOR COMPLETION										
												1. Use time rather than X to indicate action completed 2. Use codes to indicate location 3. Complete in pencil to allow for updating of data as situation changes										
												ABBREVIATIONS										
												ALT - Alerted D.P. ACT - Disaster Plan activated MST - Medical Site Team DISP - Dispatched ARRVD - Arrived C.P. - Command Post OIC - Officer in Charge LOC - Location										

