

CHEMICAL ATTACK – CHLORINE TANK EXPLOSION

SCENARIO

The Universal Adversary terrorist group plan and execute an attack on the rail road transportation system by planting multiple improvised explosive devices on a train's tankers as it slows down for a community crossroads. There is an immediate explosion and release of chlorine gas into the air. A light (five miles per hour) breeze carries the plume toward residential and commercial areas. There are a moderate number of casualties and only two fatalities on site, but people in the immediate area are contaminated with chlorine.

Emergency warnings are issued for residents in the immediate area to shelter-in-place. It is estimated that nearly 100,000 people may be exposed to the smoke and chlorine as the plume moves downwind. Your hospital, 5 miles from the incident, has also been instructed by local officials to immediately shelter-in-place.

The media are reporting the incident as terrorism, and show the hazmat teams and fire/EMS personnel attempting to put out the fire. The local EOC is immediately activated. There is widespread fear of contamination by residents, even though they are not in the plume area, and many begin presenting to the hospital for treatment. The chlorine cloud and smoke are expected to impact your facility within the hour, and the chlorine may cause facility damage and will require cleanup and decontamination.

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INCIDENT PLANNING GUIDE

Does your Emergency Management Plan Address the following issues?

Mitigation & Preparedness

Does your hospital have a plan and procedures shelter-in-place, including:

1.
 - The immediate shutdown of HVAC systems?
 - Lockdown or securing access to the facility?
 - Sealing the facility?
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2. Does your hospital have a chemical decontamination plan that can be immediately activated and receive victims? Does your plan include provisions for gross decontamination of the victims until full decontamination can be conducted?
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3. Does your hospital have a procedure for individually controlling HVAC and return air for impacted areas?
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4. Does your hospital have a procedure to obtain incident and chemical specific details from local officials immediately after the incident and regularly throughout the response?
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5. Does your hospital have a process to ensure medically qualified and test-fitted personnel are available and assigned to use PPE and provide patient decontamination?
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6. Does your hospital provide staff training and exercising on use of chemical detection/monitoring equipment and maintain ready state of equipment?
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7. Does your hospital have immediate access to medication/antidotes?
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8. Does your hospital have a plan to seal the facility and prevent contamination of staff, current inpatients and facilities?
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9. Does your hospital have procedures for the management of contaminated and non-contaminated personal belongings?
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10. Does your hospital have pre-event standardized messages for communicating the risks associated with this event and recommendations to the public and the media?
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11. Does your hospital use expert information sources (e.g., poison control, DOT Emergency Response Guide, CDC web site, city or county emergency operations plan) when planning for chemical incidents and decontamination?
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Response & Recovery

1. Does your hospital have procedures with assigned responsibilities to rapidly initiate shelter-in-place?
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2. Does your emergency management/operations plan address how your hospital receives timely and pertinent incident information from field incident command (e.g., chemical information, decontamination provided/recommendations, etc.)?
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3. Does your hospital have a procedure to notify field incident command of hospital decontamination location, and ingress and egress routes for EMS?
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4. Does your hospital have a procedure to secure the decontamination area?

 5. Does your hospital have a procedure to provide agent information to decontamination team, all treatment areas, security, and Hospital Command Center?

 6. Does your hospital have a process to contain or divert water run off collection and disposal in conjunction with local EPA and local water authority, and appropriately notify authorities when decontamination is activated?

 7. Does your hospital have a procedure to notify local EOC of operational status?

 8. Does your hospital have a procedure to ascertain the status of other area hospitals?

 9. Does your hospital have a procedure to consult with resident experts/Poison Control Center for assessment and treatment guidelines?

 10. Does your plan include an emergency patient registration procedure?

 11. Does your hospital have a procedure to regularly inventory bed availability/census?

 12. Does your hospital have a procedure to regularly inventory antidote supplies?

 13. Does your hospital have a procedure to inventory blood products?

 14. Does your hospital have a process to identify and address issues associated with ongoing shelter in place, if applicable?

 15. Does your hospital have a procedure to provide scheduled family briefings and provide for a family assistance center?

 16. Does your hospital have a process to modify family visitation policy?

 17. Does your hospital have a process to establish Media Conference area, a procedure to provide scheduled media briefings in conjunction with local EOC/JIC, and a plan to work with local EOC to address risk communication issues for the public?

 18. Does your hospital have a process to address fatality issues in conjunction with law enforcement and medical examiner/coroner?

 19. Does your hospital have a process to address bio-waste disposal?

 20. Does your hospital have a procedure to clean up decontamination area and other “contaminated” areas and reopen them for normal operations?

 21. Does your hospital have a procedure to perform air quality monitoring in facility?

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INCIDENT RESPONSE GUIDE

Mission: To protect the staff, patients, and facility in the event of an external threat, and to effectively and efficiently triage, decontaminate, treat, and track a surge of victims with respiratory needs.

Directions

- Read this entire response guide and review incident management team chart.
 - Use this response guide as a checklist to ensure all tasks are addressed and completed.
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Objectives

- Implement shelter-in-place
 - Protect the facility, staff, patients and visitors from contamination
 - Patient triage and medical management
 - Provide decontamination of patients and facility
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Immediate (Operational Period 0-2 Hours)

COMMAND

(Incident Commander):

- Receive notification about the incident from local officials
- Notify the emergency department of possible incoming casualties that have been exposed to numerous chemicals (inhalational and dermal problems); may have blast injuries (pressure and fragment wounds); fire burns; and other possible trauma
- Implement the shelter-in-place plan
- Activate and implement the decontamination plan
- Activate the Emergency Operations Plan and the HCC
- Appoint Section Chiefs and Branch Directors and Medical/Technical Specialist -- Chemical, appropriate
 - Establish operational periods
 - Establish operational objectives
 - Protecting life safety of existing personnel & patients
 - Provide decontamination

(PIO):

- Monitor media outlets for updates on the incident and possible impacts on the hospital
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INCIDENT RESPONSE GUIDE

COMMAND

(Safety):

- Implement decontamination operations and safety measures including staff, patient and facility protection
- Conduct ongoing analysis of existing response practices for health and safety issues related to staff, patients, and facility, and implement corrective actions to address

(Medical/Technical Specialist - Chemical):

- Investigate agent identification and disseminate clinical management information
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OPERATIONS:

- Activate Medical Care, Infrastructure, HazMat, and Security Branch Directors
 - Notify the emergency department of possible incoming casualties that have been exposed to chlorine gas (inhalational and dermal problems) and who may have skin irritation or burns and other possible trauma
 - Set up decontamination area and implement decontamination plan and procedures for adults, pediatrics, and patients with special needs
 - Direct implementation of procedures for technical and emergency decontamination and ensure proper use of PPE
 - Implement staff monitoring in and rotation through the decontamination area
 - Relocate medications/antidotes to clinical care and decontamination areas and prepare specific patient antidote dose amounts (e.g., pediatric, geriatric)
 - Implement shelter-in-place as determined by the Incident Commander and at the direction of local officials
 - Isolate HVAC systems in treatment areas, if possible
 - Provide information and instructions to staff, visitors, and patients regarding sheltering-in-place
 - Consult with Medical/Technical Specialist - Chemical and internal and external consultants, including Poison Control Center, Agency for Toxic Substances and Disease Registry (ATSDR) of the CDC to ascertain treatment protocols
 - Provide facility security, traffic and crowd control
 - Activate surge capacity plan and patient registration emergency procedures
 - Prepare for fatalities, including contaminated remains, in conjunction with local law enforcement, coroner/medical examiner and EOC
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INCIDENT RESPONSE GUIDE

OPERATIONS

- Provide mental health support for staff, visitors, families and volunteers, in collaboration with Logistics Section
 - Secure/lockdown the facility to prevent contaminated individuals from entering or leaving, and establish a clear perimeter with directions to the Decontamination Area

PLANNING

- Establish operational periods and develop the Incident Action Plan, in collaboration with the Incident Commander
 - Implement patient, materiel, personnel and bed tracking

Intermediate (Operational Period 2-12 Hours)

COMMAND

(Incident Commander):

- Ensure communications and decision making are coordinated with external agencies and healthcare facilities
 - Direct implementation of surge capacity plan
- (PIO):
 - Manage media relations/public information /risk communication and integrate public relations activities with the Joint Information Center

(Safety Officer):

- Continue to monitor decontamination areas, staff and patient safety and use of personal protective equipment

OPERATIONS

- Ensure the victim decontamination is in compliance with established decontamination practices
 - Implement procedures for patient valuables management, evidence collection and security
- Evaluate and update staff scheduling to accommodate decontamination team supplementation
 - Implement family notification procedures in conjunction with family assistance center operations
 - Ensure proper waste water and expendable materials disposal

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INCIDENT RESPONSE GUIDE

OPERATIONS

- Continue patient management and facility monitoring activities
- Monitor the air quality in the facility and evaluate effectiveness of shelter-in-place measures

PLANNING

- Update and revise the Incident Action Plan and initiate demobilization assessment and processes
- Continue patient, materiel, personnel and bed tracking

LOGISTICS

- Monitor the health status staff who participated, supported or assisted in decontamination activities and ensure appropriate medical care and follow up
- Facilitate procurement of supplies, equipment and medications for response and patient care
- Continue to monitor the air quality in the hospital

FINANCE/ADMINISTRATION

- Continue tracking response costs and claims and report to the Incident Commander
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INCIDENT RESPONSE GUIDE

Extended (Operational Period Beyond 12 Hours)

COMMAND

(Incident Commander):

- Continue regular briefing of Command staff/Section Chiefs. Address issues identified

(Public Information Officer):

- Continue patient information center, as necessary
- Coordinate efforts with local/state public health resources/JIC

(Liaison Officer):

- Continue to ensure integrated response with local EOC
- Continue to communicate personnel/equipment/supply needs to local EOC
- Continue to update local public health of any health problems/trends identified

(Safety Officer and Medical/Technical Specialist-Chemical):

- Continue to monitor decontamination operations and begin facility decontamination as appropriate
- Monitor patient and staff safety and appropriate use of PPE

OPERATIONS

- Monitor air quality in the facility
 - Once the plume has passed and local officials advise it is safe to do so, discontinue shelter-in-place
 - Once the plume has passed and local officials advise it is safe to do so, conduct a external inspection of the facility for damage from chlorine and need for decontamination of the external facility
 - Facilitate law enforcement requests for patient/staff interviewing
 - Manage ongoing patient care issues
 - Maintain infrastructure support and services
 - Continue security and facility decontamination and plan for return to normal services
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INCIDENT RESPONSE GUIDE

PLANNING

- Review and update the Incident Action Plan and plan for demobilization and system recovery
 - Ensure documentation is being completed by all Sections
 - Continue patient, personnel, materiel and bed tracking
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LOGISTICS

- Once the plume has passed and local officials advise it is safe to do so, discontinue shelter-in-place
 - Implement medical surveillance of personnel
 - Provide for staff food and water
 - Ensure adequate supplies, equipment, personnel and facilities to support extended response operations
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FINANCE/ADMINISTRATION

- Compile response costs and submit to the Incident Commander
 - Track any claims/injuries and complete appropriate documentation, compile report
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Demobilization/System Recovery

COMMAND

(Incident Commander):

- Oversee and direct demobilization and system recovery operations

(Public Information Officer):

- Provide final briefings as needed to patients/visitors/staff/media, in cooperation with JIC

(Liaison Officer):

- Prepare a summary of the status of the hospital and disseminate to Command staff/Section Chiefs and to public health/EMS as appropriate

(Safety Officer):

- Oversee facility decontamination and declare facility safe to conduct normal operations
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OPERATIONS

- Manage decontamination of the facility and restore patient care and facility to normal operations
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INCIDENT RESPONSE GUIDE

PLANNING

- Finalize the Incident Action Plan and demobilization plan
 - Compile a final report of the incident and hospital response and recovery operations
 - Ensure appropriate archiving of incident documentation
 - Write after-action report and corrective action plan to include the following:
 - Summary of actions taken
 - Summary of the incident
 - Actions that went well
 - Area for improvement
 - Recommendations for future response actions
 - Recommendations for correction actions
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LOGISTICS

- Provide for mental health (acute and long term) services for staff and patients, in collaboration with Operations Section's Mental Health Unit Leader
 - Provide for equipment and supply repair or replacement
 - Provide ongoing support to injured staff or family of deceased staff
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FINANCE/ ADMINISTRATION

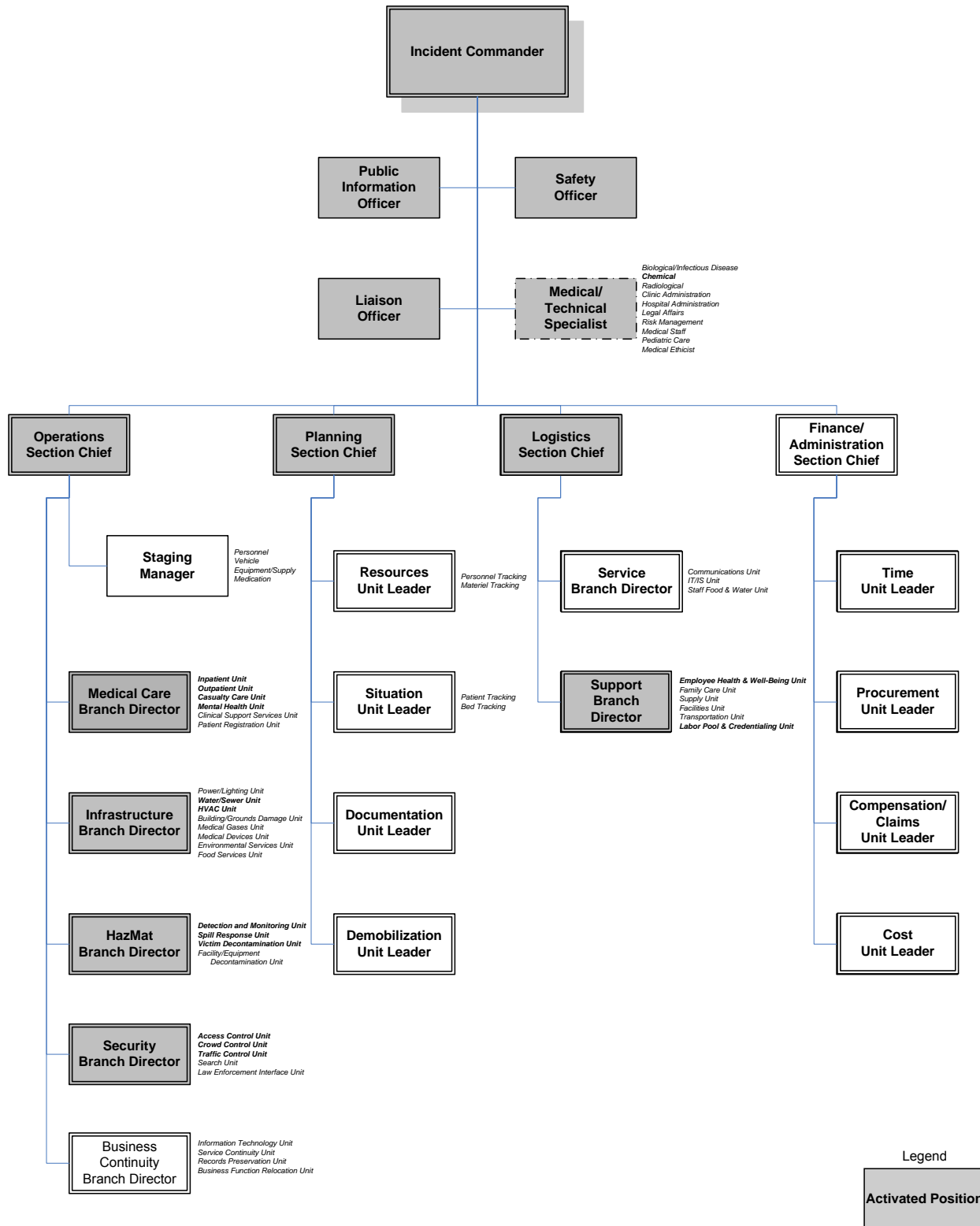
- Submit final response expenses to the Incident Commander for approval and to appropriate external authorities for reimbursement or other assistance
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Documents and Tools

- CDC Medical Management Guidelines for Chlorine
 - Hospital Emergency Operations Plan
 - Hospital Decontamination Plan
 - Hospital Mass Casualty Incident Plan
 - Isolation Protocols
 - Patient Tracking Form
 - HICS
 - Hazmat and terrorism/WMD annexes of local Emergency Operations Plan
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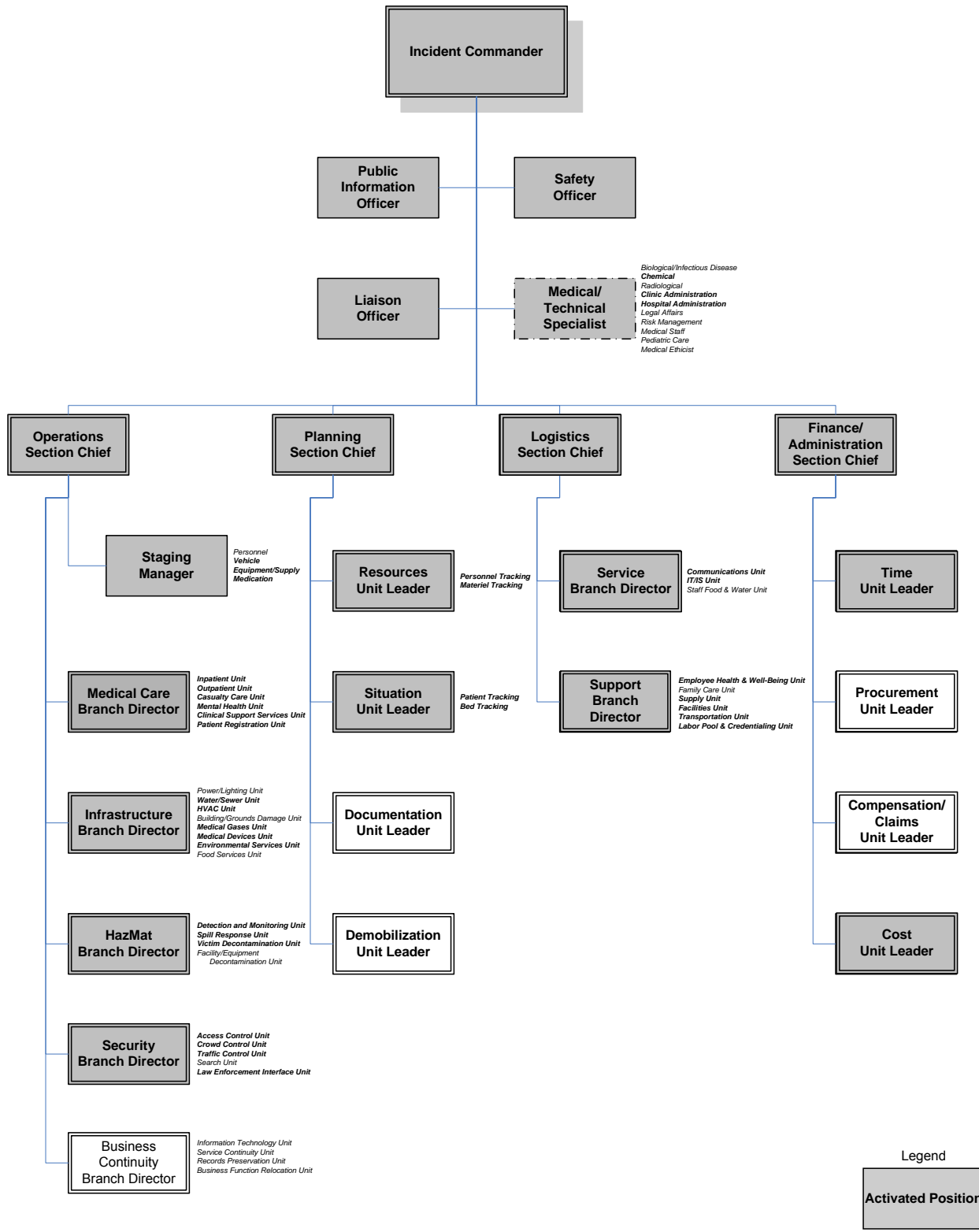
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INCIDENT MANAGEMENT TEAM CHART -- IMMEDIATE



CHEMICAL ATTACK – CHLORINE TANK EXPLOSION

INCIDENT MANAGEMENT TEAM CHART -- INTERMEDIATE

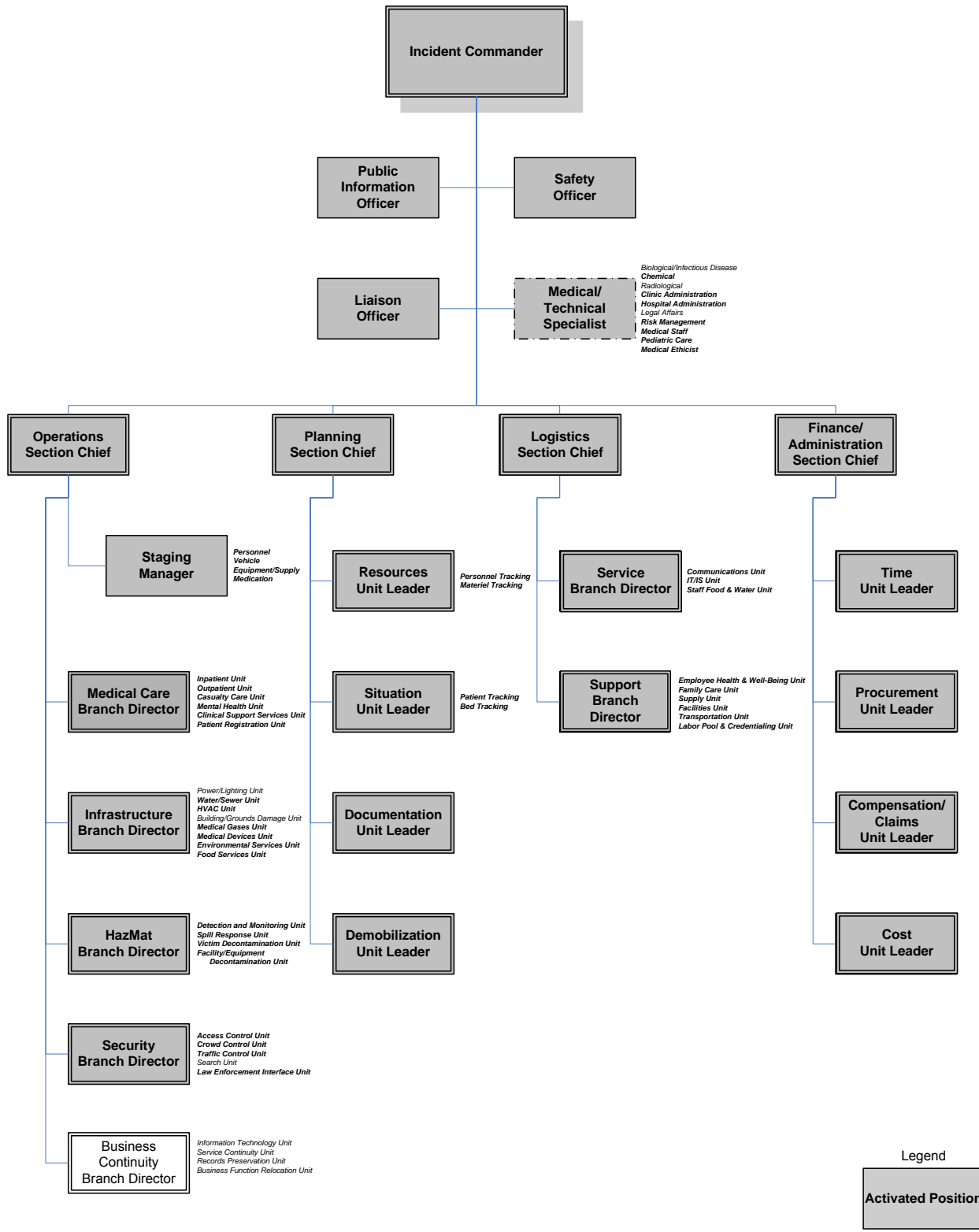


Legend

Activated Position

CHEMICAL ATTACK – CHLORINE TANK EXPLOSION

INCIDENT MANAGEMENT TEAM CHART -- EXTENDED



CHEMICAL ATTACK – CHLORINE TANK EXPLOSION

INCIDENT MANAGEMENT TEAM CHART -- DEMOBILIZATION

