SECTION 2

Washoe County
LOCAL EMERGENCY PLANNING COMMITTEE
Regional Hazardous Materials Emergency Plan

Medical Annex

Approved by LEPC

Section 2: Medical Annex

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HAZARDOUS MATERIALS EMERGENCY PLAN SECTION OVERVIEW

** Request these sections from the Washoe County Emergency Manager*

1 Introduction

1.1 Interface with District Board of Health Multi-Casualty Incident Plan

This Annex identifies special considerations for medical responders providing care to victims of a hazardous materials incident. All procedures and protocols directly interface with the Multiple Casualty Incident Plan (MCIP). Primary consideration is given to establishing a communication network to keep each participating agency informed about the hazardous material(s) and their nature; to implementing appropriate safeguards and procedures as indicated in the presence of hazardous materials, and to effectively interface activities of medical personnel to ensure maximal safety. **If a hazardous material incident results in only a few victims, this document can stand alone from a planning and guidelines approach**. If it is determined there are multiple injured victims, the Multiple Casualty Incident Plan may be activated.

Under Section 323 of SARA TITLE III, in a medical emergency, an owner or operator of a facility is required to provide to the patient's physician or nurse information about on site chemicals to treat a medical emergency, even if the information is proprietary in nature.

1.2 Overview of Agency Responsibilities

The following are primary agency responsibilities as related to a Hazardous Material Incident:

a. **Responding Fire Departments/Hazardous Materials Response Team**

Mitigates hazardous material releases; establish incident control and safety zones; oversee rescue and decontamination adequate to be able to provide safe transportation and treatment of victims and incident personnel, equipment and vehicles; communicate chemical identification, medical care, safety and other information to the Medical Branch Director to complete the Hazardous Spill Emergency Information Form (HSEIF) [see Appendices]. Also conducts a critique and after action report per OSHA 1910-120.

b. **REMSA Medical Dispatch**

Is the major communication link to keep medical personnel on and off scene informed, and as they receive more information will relay the identity, nature, and special health and treatment information regarding the hazardous materials involved, and will provide copies of the HSEIF form to the hospitals.

c. **Responding Ambulance Providers**

Provide triage, treatment and transport of decontaminated patients, may fill ICS medical branch positions, and provide medical support services to the Hazardous Materials team members.

d. **Receiving Medical Facilities**

Prepare to receive patients exposed to hazardous materials either transported from the scene who may require secondary decontamination or primary decontamination for walk-in patients; provide an agency representative to the scene as appropriate or when requested to enhance two-way communications; implement safeguards and protective procedures; and provide follow-up health information to patients if available. The primary method of hospital to scene communication is for the hospital

to contact Medical Dispatch who will coordinate medical information through the Medical Branch Director.

e.

f. **Washoe County Health District**

Provides technical expertise to incident management, the Hazmat Team, EMS and hospital personnel as requested, and should arrange for a debriefing in coordination with the Incident Commander following Hazmat Incidents which involve casualties and/or at the request of a specific agency. Staff may act as a liaison for other Washoe County resources.

g. **Social Services/Red Cross**

Arrange and manage evacuation/relocation shelters. They may contact the Incident Commander or Medical Branch Director for information on symptoms and treatment regarding the hazardous materials to which shelter victims may have been exposed.

All participating agencies are responsible for all record keeping of medical operations and extraordinary associated costs during the incident for critique purposes and potential recapture of incident costs.

1.3 Activation

The 911 centers routinely notify REMSA of hazardous material spills in our community as REMSA responds to provide back-up Advanced Life Support Ambulance service to the responding fire agencies to meet OSHA requirements [29CFR1910.120(q)(3)(vi)], or is contacted to provide transport if victims are ill or injured. The 911 Centers also provide notification of hazardous material spills to multiple other agencies. The 911 Centers will supply and update REMSA with information such as the type of hazardous material (solid, liquid or gas), properties such as flammable, explosive, etc., if the materials are burning, the potential number of people exposed or injured, the location and identity of the Incident Commander, the location of staging or patient loading areas, ingress and egress information, the best upwind route, etc.

1.4 Treatment

Currently, no specific agency has been assigned the sole responsibility of coordinating all treatment information. The Washoe County Health District Hazardous Material staff (328-2436), the Portland Regional Poison Control Center (982-4129), the Agency for Toxic Substances and Disease Registry (ATSDR) (1-404-639-0615), the Center for Disease Control Biological Hotline (770-488-7100) and CHEMTREC (1-800-424-9300) all have 24-hour numbers as noted. The Regional Poison Control Center and ATSDR have a Ph.D. and medical toxicologist on call for advice on a 24-hour basis. CHEMTREC provides MSDS information from their broad database and can also link callers to physicians working with the San Francisco Regional Poison Control Center for medical treatment information.

2 Prehospital Operations

2.1 REMSA Dispatch

REMSA Dispatch notifies the area hospitals and the Washoe County Health District when REMSA is notified of any Level II Hazardous Material incident or a Hazmat MCI. Hospital notification is usually accomplished through patching all the hospitals onto one medical channel radio frequency to expedite communication. Hospitals are asked to immediately inform REMSA Medical Dispatch of the type and potential number of contaminated victims they can accommodate, as well as which hospital entrance to use to deliver patients.

REMSA Dispatch dispatches ambulances with authority from agency having jurisdiction (AJH), and when known, advises them of safe access routes, the type of hazardous materials, the number of people exposed or injured, the ambulance staging area for patient loading, the location and identity of the Incident Commander, and any information they have on the type or properties of the chemicals involved.

It is critical for REMSA Dispatch to advise the hospitals when the incident is terminated and/or all patients have been transported because of the staff and equipment the hospitals commit to provide decontamination.

All of the acute care hospitals have a copy of ATSDR's "Managing Hazardous Materials Incidents, Medical Management Guidelines for Acute Chemical Exposure, Volume III." The guidelines contain 27 chemical specific (plus an unknown chemical) protocols. These protocols provide information on chemical description, acute and chronic health effects, prehospital management (including triage, decon, PPE, etc.), Emergency Department management and patient information (discharge instructions).

Some of the antidotes that may be needed for patients are not routinely carried or are carried in only minimal amounts on ambulances. Therefore, early antidote identification and procurement by medical facilities is a prime consideration.

2.2 First on Scene and Scene Safety

a. Before approaching any scene, look for signs of a hazardous material. Never assume any spilled material is safe. Use precautions and know limitations.

b. All persons involved in the incident must act to "isolate" the incident, i.e., minimize the number of persons involved, provide relief teams, minimize time on the scene, secure the area, and use safe techniques.

c. The first in unit will, after identifying a hazardous materials incident, review HAZMAT Resources for initial response guidelines and perimeter control. The appropriate fire jurisdiction will be advised, and ambulance personnel will remain behind the recommended perimeter until the fire department arrives on scene and determines the scene is safe.

d. If the incident meets MCIP activation criteria, the first in fire or ambulance personnel shall alert REMSA Dispatch. When the first arriving ambulance gets to the scene, they shall consult with the Incident Commander and confirm the MCI with REMSA Dispatch.

e. Try to identify substances only from a safe distance.

f. Wait for fire services to get to the scene before making an attempt to care for any victims within the hot zone.

2.3 Incident Command System (ICS)

The Incident Commander and Safety Officer have the critical responsibility to assure that the appropriate decontamination, personal protective equipment (PPE) and treatment information is provided both to scene personnel and off scene agencies who will receive patients or contaminated incident personnel. They are also responsible for insuring that shelter managers receive information on potential signs and symptoms of exposure, and that hospitals are notified of the final chemical identification, which is sometimes hours or days after the incident occurs.

On-scene decontamination of all victims and resources is a top priority. In all instances, clear risk information must be provided to the ambulance personnel so precautions and correct transport decisions can be carried out.

The Hazardous Materials Response Team will recommend triage information during the decontamination of the victim(s) to the Medical Branch personnel.

2.4 Medical Group Supervisor/Branch Director Responsibilities

This is only a partial list specific to hazardous materials incidents, which includes but is not limited to:

a. The Medical Branch Director will assume overall medical responsibilities after being briefed and assigned by the Incident Commander. He will also obtain an update from scene medical personnel.

b. He will immediately notify REMSA dispatch and the hospitals of any victim potential.

c. Maintain close liaison with safety officer to update medical personnel regarding scene safety issues.

d. Use hospital base stations and other sources such as the Regional Poison Control Center, ATSDR, etc. to gather information regarding decontamination and treatment, and alert REMSA Dispatch of this information.

e. Integrate and coordinate emergency medical services with HAZMAT team;

f. Coordinate medical treatment information for victims and incident personnel.

g. Coordinate and implement monitoring of hot and warm zone personnel. This will be done from the cold zone.

h. Coordinate ambulance staging areas with Safety Officer and Operations Chief.

i. Arrange for immediate turnaround of ambulances at hospitals. Units will be designated as primary transport units that must return to the incident site for further transport assignments to insure minimal contamination of limited transport resources.

j. Consider the safety of responding air ambulance units and their staging areas.

k. Obtain protective clothing and equipment for medical personnel, as needed and available.

l. Utilize on-scene hospital representatives if present for scene-to-hospital updates on pertinent chemical identification, treatment and decontamination information, and inform REMSA Dispatch of the identity of the hospital representative and their role.

m. After completion of medical operations, coordinate decontamination of ground and air ambulances with the Incident Commander and the Washoe County Health District.

2.5 Hazmat Team Support Services

Prime risks for HAZMAT team entry members are heat related injuries and dehydration which may require initiation of fluid replacement as soon as possible after the decontamination process. Another risk is hypoxia if air supplies are depleted before decontamination. The Team has its own Standard Operating Procedures (SOPs) regarding medical monitoring.

2.6 Perimeters

All ambulances will first report to the access control point at the scene. If an access control point has not been assigned, they will report to the area designated by Incident Command.

Ambulance and triage areas must be established far enough from the incident to minimize risk to people and resources. Ambulances and responding medical personnel will remain behind the Limited Access (Warm) Zone in the Cold Zone.

2.7 Victim Triage and Patient Care

Ambulances maintain specialized equipment needed at scene, i.e., pulse oximeter, extra drugs, antidotes, etc. Each ambulance service should develop hazardous material treatment protocols approved by their medical director.

2.8 Decontamination

It is critical for the hospitals to be able to identify quickly and accurately for each patient the method and level of decontamination utilized by the fire departments at the scene. The Inter-Hospital Coordinating Council requests the fire departments and Regional Hazmat Team utilize a clearly identifiable "tagging" method for this purpose. The prehospital and hospital record should contain information on the decontamination methods used in the field and in the hospital.

Decontamination does not end after all patients have been transported. The Incident Commander is responsible for insuring all resources used at the scene are evaluated for the need for decontamination. This includes ambulances, buses, equipment, etc.

2.9 Preparation for Patients and Ambulances for Transport

Any victim of a hazardous materials incident must be considered to be contaminated until further information becomes available. Consequently, a potential exists for ambulances and receiving facilities to become contaminated. Appropriate protective equipment and procedures must be utilized at all times.

Decide which specific ground units will be used as transportation vehicles. Obtain information on how to transport patients with minimum risk to EMS personnel. This might include specialized transporting precautions and equipment.

Transport decontaminated patients to designated, alerted hospitals in a safe and expedient manner to the pre-designated hospital entrance.

2.10 Scene-To-Hospital Communications

Ongoing, updated communications are essential between the on-the-scene medical personnel, REMSA Medical Dispatch, and the hospital(s) to provide as much advance information as possible, including number of contaminated and non-contaminated victims, type of contact, and hazardous material identification.

2.11 On Scene Communications

It is up to the Incident Commander to determine command and tactical frequencies. REMSA Medical Dispatch will assign an on scene medical channel support frequency for use by medical personnel.

2.12 Decontamination of Personnel, Equipment and Vehicles

As medical units are no longer involved in the incident, contact the Incident Commander to have personnel, vehicles and equipment inspected to determine if decontamination is required. If contamination is known or suspected, agencies will commence decontamination of medical personnel, vehicles, and equipment before leaving the scene.

2.13 Corpses

Corpse removal and custody is the responsibility of the Coroner, working in conjunction with law enforcement. The Coroner should be notified of any deceased on scene. The Coroner will coordinate removal of the deceased from the hot zone and decontamination with the Incident Commander. See Coroner "Mass Casualty Management" plan

2.14 Patient Valuables on Scene

Valuables belonging to patients who have been decontaminated are to be left on scene, and are the responsibility of the Incident Commander. They are to be viewed as potential hazardous waste. The Washoe County Health District Hazardous Materials staff is a resource for decontamination guidelines for patient valuables.

2.15 Use of Helicopters

Extreme caution should be used when considering requesting a helicopter to a hazardous material spill. If the material is a gas, the substance can pose an unreasonable threat to life, health, or property if the aircraft flies through or near a danger zone, especially if the rotor wash penetrates the zone.

The helicopter rotor wash down draft could theoretically spread the danger zone of gaseous toxic materials. If the aircraft is utilized, the helicopter should always approach and stay on the upwind side of the danger zone.

Consideration needs to be given to accidents from Hazmat impaired pilots and from mechanically impaired aircraft engines. If the helicopter is needed:

a. Keep the pilot well informed as to wind direction and the specific location of the hot zone.

b. Land the aircraft near the cold zone.

c. If necessary, have ground ambulance transport a well-decontaminated patient to the aircraft.

Normally Care Flight does not respond to hazardous materials incidences.

3 Hospital Emergency Department Operations

3.1 Notification

Advance notification of the hospitals in a hazardous materials incident is even more critical than in an MCI because of the lead-time needed for hospital decontamination setup and obtaining treatment information. If available medical dispatch will fax MSDS sheets to the ER Doctors. The hospital is responsible to notify medical dispatch of current fax numbers.

3.2 Walk-ins

ATSDR's guidelines have been provided to the hospitals for PPE and decon decisions.

3.3 Emergency Department Preparation

Each hospital has its own protocols regarding preparations to receive patients requiring primary or secondary decontamination.

3.4 Patient Valuables in the Emergency Department

The hospital will consult with Washoe County Health District Hazardous Materials staff on the decontamination of any walk-in patient's valuables. Valuables will not be returned to patients without first being evaluated for the need for decontamination. All patient valuables are to be considered potential hazardous waste until a determination is made.

3.5 Inter-Hospital Coordinating Council (IHCC)

The Inter-Hospital Coordinating Council is an ad hoc organization comprised of hospital Emergency Department leaders and Safety Officers in Washoe County, the Director of Washoe County Emergency Management, the Washoe County Health District EMS Coordinator, and REMSA management. This group meets regularly to address the four phases of emergency management from a medical perspective. The Council produces recommended practices for specific issues, such as standardized protocols for hospital decontamination of an unknown chemical.

4 Training

Each agency routinely participating in the care of victims of a hazardous materials incident is responsible to assure adequate training of their personnel. OSHA guidelines must be followed. Annual retraining of personnel and periodic mock drills are to be scheduled. Medical personnel training should include but not be limited to:

a. The LEPC Plan and Medical Annex.

b. Recognition and notification of a hazardous or potentially hazardous situation and knowledge of first line response.

c. Protective equipment, supplies, and procedures.

d. Handling of contaminated victims, decontamination.

e. Special medical treatment protocols.

5 Appendices

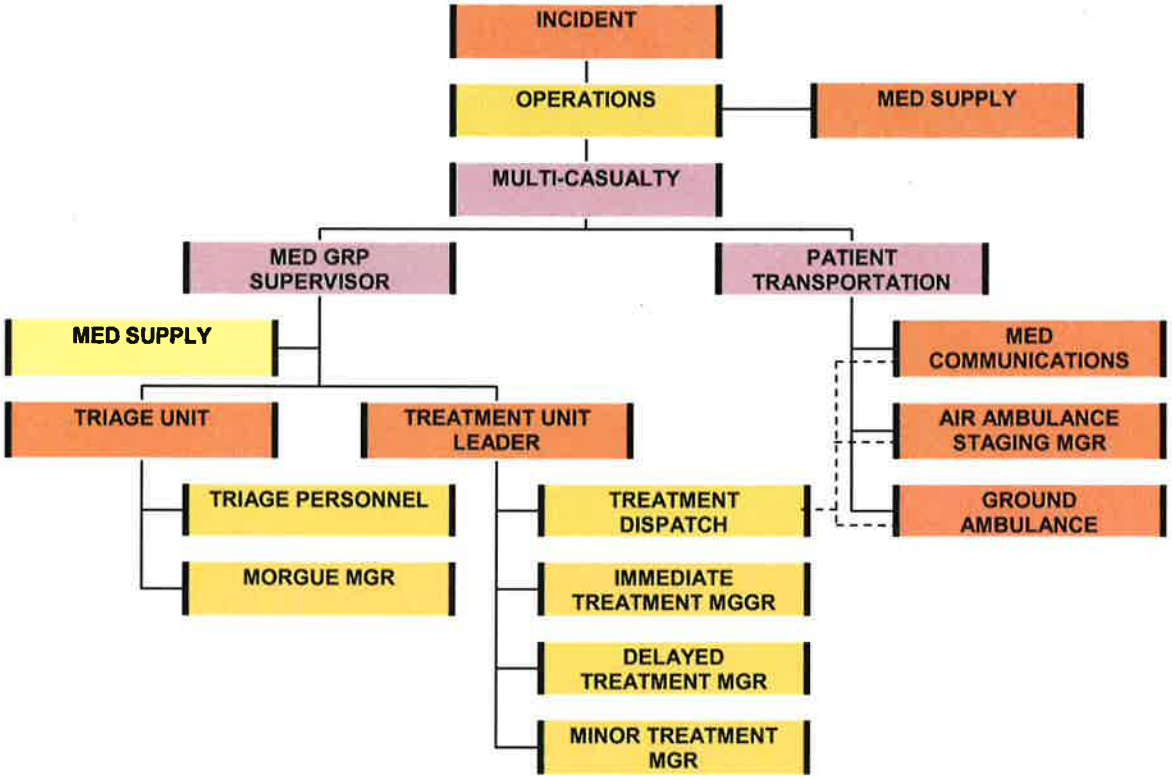
Appendix A Checklist for First In EMS Hazmat Size-Up and MCI Chart

Appendix B AMA Form Template

Appendix C Instructions for Hazardous Materials Spill Emergency Information Form

Appendix D Hazardous Materials Spill Emergency Information Form

Appendix A Checklist for First in IMS Hazmat Size-Up and MCI Chart



MCI Initial Size Up Information	Hazmat Incident Additional Information
1. The type and cause of incident. 2. An estimate of the number of casualties. 3. An estimate of the condition of the casualties. 4. An estimate of the additional resources needed. 5. The exact location of the incident. 6. The appropriate routing into the incident. 7. The identification, if any, of special hazards. 8. The establishment of command and name of the incident. 9. The exact location of the Incident Command Post. 10. The exact location of the initial staging area. 11. The identity of the Incident Commander.	1. Chemical name if known. 2. Solid, liquid, gas or powder? 3. Placard classification. 4. Potential # of people initially exposed. 5. Best upwind route. 6. Access control point. 7. Minimum safe distance from DOT book. 8. Name of Hazmat Branch Director/Group Supervisor.

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Appendix B AMA Form Template

On _____ at approximately _____ Emergency Medical Services staff saw you because you were possibly exposed to a hazardous material.

You were told we don't yet know for certain what the chemical might be. You have turned down the Emergency Medical Services staff's offer to take you to the hospital for a medical checkup. It's very important you know that with some chemicals, signs of physical problems can show up hours or days later.

We want to make sure you understand you need to go to the Emergency Department or immediately contact your doctor if you start feeling sick, especially if you have any:

- Chest pain, chest tightness or irregular heartbeats
- Hoarseness, difficulty speaking or trouble swallowing
- Coughing, wheezing, shortness of breath or trouble breathing
- Burning of your eyes, throat or skin or discharge from your eyes
- Stomach pain, vomiting or diarrhea
- Dizziness, weakness, confusion or fainting
- Blurred vision
- Fever
- Unexplained drowsiness, fatigue or headache
- Numbness or weakness in your arms or legs or difficulty walking
- Muscle twitching
- Drooling or anxiousness

Once the chemical is identified, the Washoe County Health District will be called so they will know what the long-term health effects might be.

_____ _____
Patient Name Date and Time

_____
Signature

_____ _____
Address Phone Number

_____
EMS Staff Person

NOTE: Agencies should review this draft form with their medical director and risk manager before using.

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Appendix C Instructions for Hazardous Materials Spill Emergency Information Form

The purpose of this form is to help REMSA Dispatch provide information to the Medical Branch Director and the hospitals that will receive patients from a hazardous materials incident. Initial information may be limited, and the section entitled "UPDATES" should be used to document further information when it is obtained. Any updated information should also be relayed to the Medical Branch Director and the hospitals.

1. Name of incident (usually assigned by fire) and location.
2. Incident type refers to vehicle accident, railroad derailment, fire, gas release, fume exposure, explosion, etc.
3. Either chemical or product name, Department of Transportation four digit ID Number, or other information regarding the specific chemical.
4. Physical state of the chemical.
5. Placard description, e.g. combustible, flammable gas, flammable solid, flammable, dangerous, poison, corrosive, explosive, oxidizer, radioactive, etc.
6. Manufacturer of the chemical if known.
7. How many potential victims were exposed?
8. Current # of people requiring treatment.
9. Best upwind route for response vehicles to approach the staging area.
10. Location of staging area for responding personnel (away from contaminated area). Ambulance staging may be separate from general staging area.
11. Access control point on perimeter of secured area where resources are funneled into the warm zone.
12. Identify precautions necessary to prevent contamination of medical personnel in the field, during transport and at the hospital.
13. Description of antidotes, if existent or known.
14. Describe field decontamination method/procedures being set up.
15. List of signs or symptoms of exposure. This information may be relayed as material is identified, classified and health risks become known.
16. Long term health effects are those delayed effects after exposure which occur usually after 12-24 hours, and may occur months or years later.
17. Reference used for treatment, medical information.
18. Other information: self-explanatory.

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Appendix D Hazardous Materials Spill Emergency Information Form

Reporting Agency: _____ Date: _____ Time Notification: _____

Name: _____ Time of Release: _____

	Time		Time
1. Incident Name and Location:		10. Staging location:	
2. Incident Type:		11. Access Control Point:	
3. Chemical Name of Substance:		12. PPE required for Medical Personnel:	
4. Solid, Liquid, Gas or Powder?:		13. Antidotes:	
5. Placard Classification: 4 Digit I.D. #:		14. Field Decon Method:	
6. Manufacturer:		15. Immediate Health Effects:	
7. Potential # of people initially exposed:		16. Long Term Health Effects:	
8. Current # of people requiring treatment:		17. Main Reference Source:	
9. Best upwind route:		18. Other Information:	

Hazardous Materials Spill Emergency Information Form Continued

UPDATES

(To be provided to hospitals and scene personnel**)

Time	Source	Information	Time Notified

** = MEDICAL BRANCH DIRECTOR, SMH, WMC, NNMC & VAMC

Note: Fax this form and Material Safety Data Sheets (if available) to hospital ERs