



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 1 of 14**



---

**PURPOSE**

By definition a hazardous materials incident is one in which any material whether it is a liquid, vapor, or solid, escapes its intended containment and presents the potential for serious injury or harm to persons and/or the environment. The following procedures have been established as a guide for all to use in such incidents to ensure that each incident is responded to in a timely manner, with adequate resources to provide for proper control, and to ensure safe operations for mitigation of the incident.

**POLICY**

**Hazardous Materials Classifications**

Any incident suspected of/or involving any material in the following hazard classes will be established as a hazardous material incident.

- Flammable Liquids (inside a structure)
- Flammable Solids
- Radioactive Materials
- Organic Peroxides
- Cryogenics
- Poisons (gases, liquids, or solids)
- Flammable Gas
- Non-Flammable Gas
- Oxidizers
- Corrosives/Acids or caustics
- Biological Agents
- Environmentally Hazardous Substances (DOT Class 9 Materials)
- All Flammable or Combustible Liquids - over 20 gallons in an outside area.

**Responsibility**

According to federal regulations and standards, the Rogers Fire Department's Special Operations Team (SOT) shall act and perform at the city's hazardous materials response unit and provide:

- Technical expertise
- Assistance
- Appropriate equipment
- Response for the protection of life, property, and the environment

The shipper, spiller, and/or owner shall be financially responsible for the recovery, remediation, and clean up stages of the incident



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 2 of 14**



## **Hazardous Materials Response**

### **Hazardous Materials Response Assignment (within city limits)**

The City Wide Tour Commander (CWTC) shall evaluate incidents dispatched that may have the potential of being a hazardous materials incident. Besides the CWTC, any company officer may call for a 1<sup>st</sup> alarm hazardous materials response in the event they find themselves in a situation requiring additional resources and expertise. Dispatchers shall be trained to quickly identify hazardous materials situations and dispatch them appropriately; however it is imperative that all members recognize that sometimes hazardous materials events will be hard to identify based on how they are reported to the 9-1-1 center. The 1<sup>st</sup> alarm assignment for a hazardous materials event inside the city includes the following:

- 2 Closest Fire Companies
- Closest Medic Unit
- Truck 1
- Rescue 5
- Battalion 1

The standing orders for these first alarm companies are as follows:

- 1st Company: Investigation, Scene Assessment, Immediate Control Actions
- 2<sup>nd</sup> Company: Establish Decontamination Group
- Medic Unit: Establish Medical Group
- Truck 1: Establish Rapid Intervention
- Rescue 5: Establish Recon/Entry Group
- Battalion 1: Incident Command

The Incident Commander may return units they feel are not needed to safely control the incident after a complete size-up has been completed. Other Fire Department units may be dispatched during the first alarm, as needed. Responding units should ensure that the response to such incidents meet the procedures contained within this document.

### **Hazardous Materials Response Assignment (outside city limits of Rogers without Northwest Arkansas Regional Haz-Mat Team Activation)**

The requesting community shall as a minimum, have one engine company, one Incident Commander, and one local law enforcement officer at the scene of the incident.



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 3 of 14**



The Rogers Fire Department Special Operations Team shall work in conjunction with the local fire department, or agency requesting assistance. The requesting department, or agency shall have control of the incident and the RFD SOT members shall assist as a technical resource and provide specialized manpower (Haz-Mat Operations or Technician Level). The mutual aid response shall be approved by the CWTC. The standard out-of-city response of this nature shall be identical to the in-city assignment.

The officer-in-charge of any mutual aid assignment shall reserve the right to refuse any assignment that they deem too hazardous for the members. RFD SOT personnel shall not act as the Incident Commander for incidents within other communities or jurisdictions.

### **Hazardous Materials Response with Northwest Arkansas Regional Team**

When activation of the Northwest Arkansas Regional Hazardous Materials Team occurs, members shall be permitted to leave as their replacements arrive. If immediate assistance is needed, Rescue 5 can be immediately sent to the incident with the approval of the CWTC. On-duty members of the NWARD shall have to have the approval of the CWTC to leave their assigned duty post. Northwest Arkansas Regional Team members shall meet at Central Fire Station and utilize a staff vehicle for response to the hazardous materials incident. If equipment is required from the RFD, the NWARD members and Rescue 5 shall respond as a joint unit. Rescue 5 shall not be separated from its regular duty crew.

### **Response Guidelines**

Hazardous materials emergencies can pose a great threat to both the public and emergency responders. Following basic safety procedures can assist the emergency responders in ensuring the safety of those involved in these incidents. Since it is impossible to eliminate all risks associated with the release of a hazardous material there must be an effective emergency response procedure in place. The response activities should be based upon information received and the type of hazardous material released. The following alarm levels should serve to guide incident commanders with resource requirements:

- 1<sup>st</sup> Alarm: 2 Closest Fire Companies, Closest Medic Unit, Truck 1, Rescue 5, Battalion 1
- 2<sup>nd</sup> Alarm: 1<sup>st</sup> Alarm Assignment, plus Command Staff, PIO, 2 Additional Fire Companies, and Bentonville FD
- 3<sup>rd</sup> Alarm: 2<sup>nd</sup> Alarm Assignment, plus Northwest Arkansas Regional Hazardous Materials Response Team



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 4 of 14**



---

***Level I***

**Description:**

- Posses a minimal danger to life, property, and the environment
- Container size may be a small drum, bucket, package or bag
- Has a low fire/explosive potential

**Leak Severity:**

- No release or small release from the container
- Personnel can contain, or confine with available resources
- No damage to the container

**Environmental Impact:**

- Minimal
- Non-life threatening

**Suggested Response Level:**

- 1<sup>st</sup> Alarm

---

***Level II***

**Description:**

- Moderate danger to life, property, and the environment
- May have the potential of involving additional exposures
- Medium container size (i.e. 1- ton cylinder, portable container, multiple small containers)
- Medium fire/explosion potential

**Leak Severity:**

- Release may be controlled with special resources
- Medium amount of a corrosive, flammable, poison or toxin
- Medium release of any toxic vapors that may pose a life safety hazard
- Release of 40 pounds or more in a solid form
- Release of 100 gallons or more liquid

**Environmental Impact:**

- Moderate
- Localized area, limited evacuation area

**Suggested Response Level:**

- 2<sup>nd</sup> Alarm



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 5 of 14**



---

***Level III***

**Description:**

- Extremely dangerous to life, property, and the environment
- Release is beyond the initial property and effects exposures
- Covers a large geographical area, and may be long term
- Involvement of multiple hazardous materials

**Leak Severity:**

- Release requires multiple agencies
- Release may not be controllable, even with special resources
- Major release of flammable, corrosive, or toxic vapors
- Material release that affects major waterways
- Large release (e.g. rail tank car, tank truck, stationary storage tank, multiple medium size containers)
- Damage so extensive that catastrophic rupture is possible

**Environmental Impact:**

- Severe
- Requires mass evacuation
- Activation of Crisis Emergency Plan

**Suggested Response Level:**

- 3<sup>rd</sup> Alarm

The initial action of the first responding unit is critical to insure a positive outcome of the incident. They must establish control of the incident scene and isolate the public from the problem. The fire departments operations cannot begin until the Incident Management System is established.

**Information to be gathered initially:**

1. Obtain wind speed and direction.
2. Request the name of the hazardous material involved, if possible.
3. Determine the physical state of the material (Gas, Solid, Liquid)
4. Is there a vapor cloud present, and is it moving.
5. Plan your approach to the incident, Upwind, Uphill, Upstream.

**Response considerations:**

1. Obtain additional information from dispatch, if possible.



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 6 of 14**



2. The use of Haz-Mat IQ is strongly suggested for first in apparatus.
3. If the material is known, use the Haz Mat IQ process and other resources to determine the initial appropriate actions.
4. Reevaluate the response route if necessary.
5. If the material is in a fixed facility refer to the appropriate Target Hazard for addition information.

**Scene Arrival Actions:**

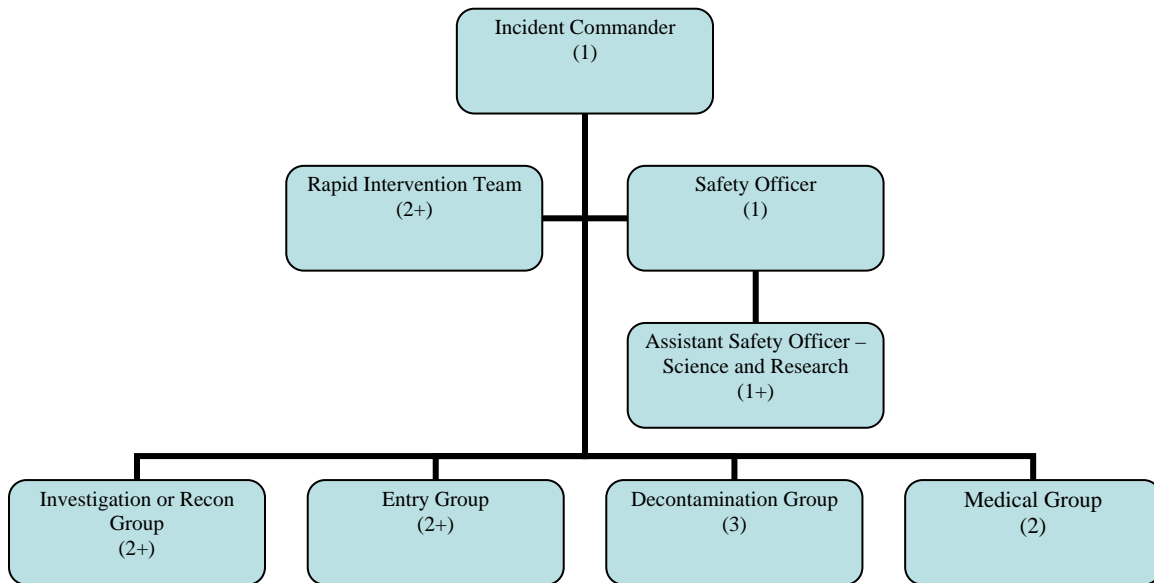
1. Avoid committing to a dangerous situation without considering options. Take a defensive role initially by utilizing basic hazardous materials awareness techniques: establishing control zones, notification of additional resources, and denying entry to the area.
2. Initiate the Incident Command System with a strong and possibly unified command presence.
3. The command post should be established a safe distance from the incident in the cold zone.
4. Staging should be considered for large amounts of resources. Formal staging requires a Staging Area Manager, usually the company officer from the first arriving unit in staging.
5. Personnel accountability should be initiated by collecting passport identification cards and managing them at the command post.
6. The problem should be confirmed and identified. Do not assume that the dispatch information was necessarily correct.
7. Identify the involved material, or materials.
8. Obtain information from the involved party.
9. Locate the shipping papers, MSDS sheets, label, or placard.
10. Notate the containers shape, size, and damage extent, if possible.
11. Isolate the area by establishing the Initial Safe Zone.
  - a. Use barrier tape, ropes, or natural barriers to keep people out.
12. Establish a separate holding area for contaminated civilians and response personnel.
13. Always wear protective clothing and SCBA anytime there is a possibility of exposure to the hazardous material.

**Intervention Tactics**

All hazardous materials incidents shall have a structured intervention system. This system, under NIMS, shall be group-based and have the responsibilities listed below. In large multi-strategy incidents, a hazardous materials branch may be enacted. Most incidents will involve an ICS setup similar to the chart below:



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 7 of 14**



In addition to normal ICS functions conducted by the Rapid Intervention Team, Safety Officer, and Incident Commander, other specialized roles must be conducted.

Assistant Safety Officer - Haz-Mat

1. Required for all Haz-Mat incidents (OSHA 1910.120).
2. Shall report directly to the Safety Officer.
3. Responsible for coordinating safety activities dealing with operations in the hazardous materials hot zone.
4. Has the authority to suspend, alter, or change any operation when deemed necessary to protect the safety of any responder.
5. Must have a high level of technical knowledge to anticipate a wide range of safety hazards associated with the Haz-Mat incident.
6. Shall be trained at the Hazardous Material Technician level.
7. Shall be responsible for assuring:
  - a. The Site Safety Plan has been developed and implemented.
  - b. The protection of all entry personnel from physical, chemical, and/or environmental hazards and exposure.
  - c. Identify and monitor all personnel operating within the Hot Zone.
  - d. That EMS personnel and/or units are provided.
  - e. That the Health exposure logs and records are maintained.
  - f. That the Personnel Accountability System is in place
8. Radio designation shall be "Haz-Mat Safety".



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 8 of 14**



---

Haz-Mat Science and Research Officer

1. Shall be responsible for researching all forms of data pertaining to the hazardous material incident. This shall include, but not be limited to product information, product ownership, area maps, and weather.
2. Shall report directly to the Incident Commander, Operations Section Chief (if enacted), or Haz-Mat Branch Director (if enacted).
3. Shall be trained at the Hazardous Material Technician Level.
4. Shall interpret environmental monitoring information including the analysis of Haz-Mat samples and the classification and/or identification of unknown substances.
5. Shall provide recommendations for the selection and use of protective clothing and equipment.
6. Shall give the potential environmental impact of the Haz-Mat release.
7. Shall have one individual appointed as the "Science Officer"
8. Radio designation shall be "Science Group"

Entry/Recon Group

1. Shall consist of all personnel responsible for entering and operating in the "Hot Zone" to accomplish the objectives as set forth in the Incident Action Plan.
2. Shall be trained at the Hazardous Materials Technician level.
3. Shall recommend actions to the Incident commander for controlling the emergency situation in the "Hot Zone".
  4. Shall implement all offensive and defensive actions as directed.
  5. Shall coordinate all entry operations with the Decontamination Group.
  6. Shall have one individual appointed as the "Entry Officer."
  7. Radio designation shall be "Entry Group".

Decontamination Group

1. Determine the appropriate level of Decontamination to be used.
2. Shall be trained at the Haz-Mat Operations or Technician level.
3. Provide the appropriate decontaminations procedures, including the area, set up, methods, procedures, staffing, and appropriate clothing.
4. Coordinate the decontamination operations with the Entry Officer and others in the hot zone.
5. Coordinate the transfer of decontaminated patients to the Medical Group.
6. Establish the Decon area before any members enter the "Hot Zone".
7. Monitor the effectiveness of the Decon operations.
8. Shall have one individual designated as the "Decon Officer".



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 9 of 14**



9. Radio designation shall be “Decon”.

Because of complexity of the hazardous material incident there are precise action that must take place to assure the safety of the public and emergency responders at the scene. The Special Operations Team must assure that the safety of all participants and the public be placed as the highest priority. Scene control must always be initiated upon arrival. This may include, but not restricted to, material identification, atmosphere monitoring, hazardous control zones, Decontamination, emergency medical, containment and control of the substance.

### **Hazard Control Zones**

The purpose for establishing control zones is to assure the highest level of control and personnel accountability. Defined zones also assure that workers do not inadvertently enter areas where they may become contaminated or overcome by the hazardous material. Hazard control zones are designated from the most dangerous to the least dangerous. The zones shall be established as the Hot Zone, Warm Zone, and Cold Zone.

#### Considerations in establishing Control Zones

- Weather conditions (current and forecast)
- Air monitoring and sampling.
- Air dispersion calculations
- Physical, chemical, and toxicological characteristics of the material.
- Potential for fire and explosion.
- Physical and topographic features of the incident site.
- Proximity to populated areas.
- Zone shape and size adequate for the conditions present.

#### Hot Zone

This is the area immediately surrounding the hazardous material. This zone may also be referred to as the “Exclusion Zone”. This zone is potentially Dangerous to Life and Health (IDLH) and may contain physical or chemical hazards. All personnel entering this zone must wear the appropriate level of protection. Entry and Exiting from the Hot Zone may only be done through protected corridors. These corridors shall be set forth in the site safety plan.

#### Warm Zone

This zone is directly outside of the “Hot Zone”. This area is where personnel and equipment Decontamination takes place. This is also the area in which the support for the



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 10 of 14**



“Hot Zone” operations takes place. This zone controls the “Hot Zone” corridors and perimeter.

### Cold Zone

This zone is considered the “Safety Control Zone”. This zone contains the command post and support functions. The “Cold Zone” also contains the Staging and EMS functions.

### **Monitoring and Detection**

Monitoring and detection is vital in establishing and controlling of the emergency scene. Monitoring provides for the evaluation of real time data. This data is used to determine the appropriate level of personal protective equipment to be used by hazardous materials responders. Monitoring also determines the Hazardous Control Zones, potential health effects of those exposed, and the appropriate action that must be developing in the site safety action plan.

#### Monitoring Procedure

1. Use the appropriate level of protective clothing.
2. Approach from Up Wind, Up Hill when possible.
3. Use the appropriate monitoring equipment.
4. Personnel should have an idea of what the reading should be.
5. Never assume the presence of only one chemical.
6. Interpret the readings in more that one manner.
7. Establish action levels based upon instrument readings.
8. Document all monitor readings or report readings to the incident Commander.

### **Response Tools and Equipment**

Because of the complexity of each incident, the SOT. must have, at its disposal, a large variety of tools and equipment that can be utilized during the incident. These tools may range from hand tools, to specialized tools that will be required to bring the incident to a controlled state. Other equipment that may be required is patch kits, absorbents, and packaging containers. Each SOT. member must be familiar with all equipment and its use.

#### Tool and equipment care

1. Tools and equipment shall be inspected for damage and or missing components during the weekly check and after each hazardous materials incident.



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 11 of 14**



2. All broken and damaged tools and equipment shall be taken out of service. All reports of damaged or broken tools and equipment should be forwarded to both the City Wide Tour Commander and Fire Chief.
3. All contaminated tools and equipment must be decontaminated before being placed back into service.
4. All tools and equipment shall be inventoried weekly according to the apparatus inspection policy.

### **Medical Evaluations**

Medical monitoring is the systematic, ongoing evaluation of the SOT Team. Medical monitoring allows for the obtaining of the pre-medical and post-medical conditions of all personnel performing activities at the incident scene. Medical monitoring also allows for early recognition of any adverse physiological effects resulting from the on scene activities.

#### **Pre-Entrance Medical Monitoring**

1. Pre-Entrance monitoring shall be performed on all members that must wear any type of chemical entry suit (Level A, Level B).
2. A designated and trained individual shall perform all pre-entrance medical evaluations.
3. Pre-Entrance monitoring shall consist of:
  - a. Blood Pressure.
  - b. Pulse.
  - c. Respiratory rate.
  - d. Temperature.
  - e. EKG rhythm strip (if available).
  - f. Skin evaluation (rashes, open sores/wounds, etc.).
  - g. Mental status (alert and oriented to time and place).
  - h. Medication use in the last 72 hrs.
  - i. Alcohol consumption in the last 24 hrs.
  - j. Weight

4. All medical information shall be recorded on the "Medical Evaluation Form".

#### **Post Medical Monitoring**

5. Upon completion of decontamination and suit removal all participants shall be medically monitored.



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 12 of 14**



6. The Post Medical Monitoring shall consist of:

- a. Any immediate effects from the contact with the hazardous material.
- b. Vital signs.
- c. Blood pressure.
- d. Respiratory rate.
- e. Temperature.
- f. EKG strip (if available).
- g. Skin evaluation.
- h. Mental status.
- i. Weight

7. If the following symptoms are present, transport to a medical facility immediately.

- a. Body weight loss greater than 3%.
- b. Increase in pulse greater than 20 beats per minute.
- c. A temperature greater than 101°F (oral) 102°F (core).
- d. Nausea, vomiting, diarrhea.
- e. Altered mental status.
- f. Respiratory, cardiac, or dermatological complaints.
- g. Systolic blood pressure decrease by 20mm of Hg at two minutes standing.

8. All the information shall be recorded on the “Medical Evaluation Form”.

### **Decontamination**

Each hazardous materials incident has the potential of personnel, equipment, and the general public coming into contact with the hazardous material and becoming contaminated. This contamination not only becomes a threat to the one that has become contaminated, but also to those individuals that have contact with the contaminated individual. For this reason, it is the responsibility of the SOT to confine all effected individuals in the “Hot Zone”. This must be done until an appropriate method of decontamination has been chosen and a decontamination corridor has been established.

### **Decon Site Selection**

The site selection should be located in an accessible area in the “Warm Zone”. Consideration should be made as to the ability for a water supply, run off potential, and



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 13 of 14**



environmentally sensitive areas. Always place the decontamination site uphill and up wind of the contaminated area.

#### Decontamination Corridor

The decontamination corridor is the area that leading from the “Hot Zone” into the Decon area. This corridor shall be established by the Decontamination Group and shall be identifiable by all personnel on the scene.

#### Decontamination Methods

This involves the contaminant’s physical removal from the exposed person and allows for proper disposal. This method only reduces the concentration of the product and does not reduce the hazard potential.

#### Physical Methods of Decontamination

1. Absorption and Adsorption.
2. Brushing and scraping.
3. Isolation and Disposal.
4. Vacuuming.
5. Washing.
6. Dilution

#### Chemical Methods of Decontamination

1. Chemical degradation.
2. Neutralization.
3. Solidification.
4. Disinfections or sterilization.

#### Chemical Decontamination Solutions

**Solution #1** 5% Sodium Carbonate (soda ash) + 5% Trisodium Phosphate  
(2 pounds + 2 pounds + 10 gallons of water)

**Solution #2** 10% Calcium Hypochlorite (Swimming Pool Chlorine) solution  
(6 to 8 pounds +10 gallons of water)

**Solution #3** 5% Trisodium Phosphate solution (can be used as a general rinse)  
(2 to 4 pounds + 10 gallons of water)

**Solution #4** See Jane’s Chem-Bio Handbook for Biologic and Chemical agents



**Rogers Fire Department**  
**Special Operations**  
**602 Hazardous Materials Response**  
**LAST REVISED: April 2011**  
**Page 14 of 14**



Solution #5 Sodium Hypochlorite solution (5.25% Bleach) If Biological Agent  
(1 gallon + 9 gallons of water) = 0.5% solution Minimum Contact  
( $\frac{1}{4}$  cup + 1 gallon water) for disinfectant 10 minutes

Guidelines for Solution Use

- |   |                  |
|---|------------------|
| 1. Inorganic acids, metal processing wastes   | Solution #1      |
| 2. Heavy metals such as Mercury, Leads, Cadmium, etc.                                 | Solution #2      |
| 3. Pesticides, chlorinated phenols, dioxins, PCP's                                    | Solution #2      |
| 4. Cyanides, ammonia and other non-acidic inorganic waste.                            | Solution #2      |
| 5. Solvents and organic compounds such as trichloroethylene, chloroform and toluene.  | Solution #1, #3, |
| 6. PBB's and PCB's  | Solution #1,3    |
| 7. Oily, greasy, unspecified wastes not suspected to be contaminated with pesticides. | Solution #3      |
| 8. Biological agents (minimum contact time 10 minutes)                                | Solution #4,5    |

Decontamination Site Set-up

Decontamination shall consist of the following elements at a minimum:

1. Entry and exit lanes
2. Tool drop area (Hot Zone)
3. Single wash and rinse station with the use of a liquid recovery pool  
The "Decontamination Group" shall use P.P.E. equal to or one step under those used by the "Entry Group".
4. SCBA removal station and reclamation site
5. Suit doffing area with disposal or reclamation drum
6. Medical monitoring station