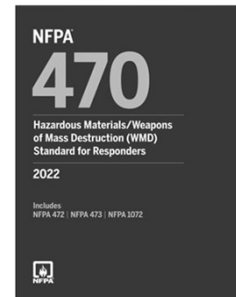


Assistant Safety Officer - Hazmat (ASO: HMSO)



NFPA 470

Standard for Professional Competence of Responders to Hazardous Materials/WMD Incidents



Role of the HMSO

Responsible for ensuring the safety of the incident scene and personnel by:

- evaluating hazards,
- developing safety plans, and
- providing technical advice to the IC, ISO, HMO and others



EMERGENCY RESPONSE 29 CFR 1910.120(q)

- Planning -ERP
- Rules Of Response
- Medical/Fit Testing



Hazardous Waste Operations and Emergency Response



Emergency Response Plan



OSHA requires the development and implementation of an ERP for those engaged in Emergency Response (no matter where it occurs).

ERP Required Elements

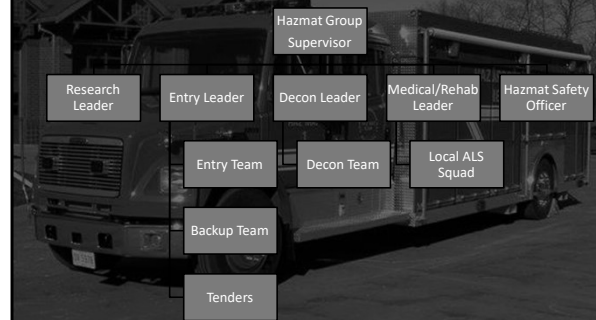
- Pre-Emergency Planning and Coordination with outside parties
- Personnel roles, lines of authority, training & communication
- Emergency recognition & prevention
- Safe distances & places of refuge
- Site security & control
- Evacuation routes & Response Procedures
- Decontamination
- Medical Treatment & First Aid
- Alerting & Response SOP
- PPE / Emergency Equipment
- Critique & Follow Up
- May Use LEPC/SERC Plans

OSHA Requirements for Emergency Response

OSHA 1910.120(q)(3)

- (i) Senior response official becomes IC & must use ICS to coordinate and control all responders
- (ii) Identify hazmat & address all hazards thru site analysis, engineering controls, exposure limits, handling procedures and new technologies
- (iii) Implement appropriate emergency operations, while using appropriate PPE
- (iv) SCBA required until air monitoring determines atmosphere is not hazardous
- (v) Limit number of responders & requires use of Buddy System
- (vi) Backup personnel standing by ready to rescue and EMS
- (vii) IC must appoint knowledgeable Safety Officer
- (viii) SO has authority to Suspend, Alter or Terminate IDLH activities
- (ix) Implement appropriate decontamination
- (x) Approved SCBA cylinder brands may be mixed

Incident Organizational Chart



Rule #1

- Senior response official becomes IC & must use ICS to coordinate and control all responders



Incident Command

The role of the Incident Commander (IC) will be assumed by the appropriate authority, as designated by state or local law. In many cases, the IC will be the most senior public safety officer (most likely the fire department chief or deputy chief; however, in some circumstances it may be a local sheriff or senior local or state police official).



As such, it is the responsibility of the IC to establish the Incident Command System (ICS) and to ensure that notifications of the above mentioned responders have been made or are in the process of being made. As the referenced agencies arrive, the IC will evolve into a Unified Command, as necessary.

Incident Organizational Chart



HMSO

- Reports directly to Incident Safety Officer (ISO)
- Works closely with HM Branch Officer (HMBO)



Typical Hazmat Branch Positions

- Hazardous Materials Officer (branch director)
- Hazmat Safety Officer
- Hazmat Medical/Rehab Leader
- Research Leader
- Entry Team Member
- Back-up Team Member
- Decon Leader



Hazmat Medical/Rehab Leader

- Coordinates medical care for hazmat team
- Coordinates pre and post entry screening
- Coordinates pre and post entry rehab of hazmat team personnel before returning to work



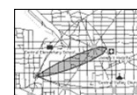
Hazmat Branch Director

- Assumes the role as hazmat team leader
- Responsible for control of the hazardous material
- Hot and warm zone operations



Research Team Leader

- Uses information resources to provide risk analysis to team
- Possession of all available documents such as shipping papers and SDS sheets
- Contact with Chemtrec, manufacturers and shippers for hazard identification and risk analysis



Hazmat Safety Officer

- Assigned to hazmat branch
- Responsible for safety of the hazardous material personnel
- Must suspend, alter or terminate IDLH conditions



Entry Team Leader

- Supervises all activities of the entry team, back-up team, suit tenders and hazard control
- Selects PPE, instruments and tactics for hot zone operations



Backup Team

- Stands by in PPE to rescue the Entry Team, if needed
- Uses special equipment for rescue and emergency decontamination



Rule #2

- (i) Identify hazmat & address all hazards thru site analysis, engineering controls, exposure limits, handling procedures and new technologies



Tenders

- Assist Entry and Backup Teams in getting dressed in PPE
- Preps meters and Entry Team equipment



Rule #3

- (i) Implement appropriate emergency operations, while using appropriate PPE



Decon Team Leader

- All activities related to decontamination of personnel, victims and equipment, including decontamination of all victims prior to Rehab



Rule #4

- (i) SCBA required until air monitoring determines atmosphere is not hazardous



Rule #5

- (i) Limit number of responders & requires use of Buddy System



Rule #8

- (i) Safety Officer has authority to Suspend, Alter or Terminate IDLH activities



Rule #6

- (i) Backup personnel standing by ready to rescue and EMS with BLS & Transport Capability



Rule #9

- (i) Implement appropriate decontamination



Rule #7

- (i) IC must appoint knowledgeable Safety Officer



Rule #10

- (i) Approved SCBA cylinder brands may be mixed



Medical Surveillance

- Members of an organized and designated HAZMAT team and hazardous materials specialist shall receive a baseline physical examination and be provided with medical surveillance
- Includes:
 - Medical examinations and consultations shall be made available by the employer to each employee
 - Prior to assignment;
 - At least once every twelve months for each employee covered unless the attending physician believes a longer interval (not greater than biennially) is appropriate;
 - At termination of employment or reassignment to an area where the employee would not be covered if the employee has not had an examination within the last six months.
 - As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that the employee has been injured or exposed above the permissible exposure limits or published exposure levels in an emergency situation;
 - As soon as possible following the emergency incident or development of signs or symptoms;

Respirators – OSHA 1910.134

- Fit Testing**
 - Fit testing is required prior to initial use,
 - Whenever a different respirator face piece is used,
 - At least annually thereafter.
 - After any change in employee's physical condition that would affect respirator fit



Medical Examination

- Medical examinations shall include a medical and work history with special emphasis on symptoms related to the handling of hazardous substances and health hazards, and to fitness for duty including the ability to wear any required PPE under conditions (i.e., temperature extremes) that may be expected at the work site.
- The content of medical examinations or consultations made available to employees shall be determined by the attending physician.
- All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and shall be provided without cost to the employee, without loss of pay, and at a reasonable time and place.

Respirators – OSHA 1910.134

- Use of Respirators**
 - Tight-fitting respirators shall not be worn by employees who have facial hair or any condition that interferes with the face-to-face piece seal or valve function.
 - Employees shall perform a user seal check each time they put on a tight-fitting respirator using the procedures in mandatory
 - 2 in – 2 out rule applies to IDLH atmospheres



Respirators – OSHA 1910.134

- Medical Evaluation**
 - Must provide a medical evaluation by a physician or other licensed health care professional (PLHCP) to determine employee's ability to use a respirator before fit testing and use, using a medical questionnaire (information required is contained in mandatory Appendix C).
 - Must obtain a written recommendation regarding the employee's ability to use the respirator from the PLHCP



NFPA 470 APIE

- Analyze** the incident
- Plan** the Response
- Implement** the Planned Response
- Evaluate** Progress
- Termination**



Analyze

- Identify and understand the safety considerations of the chemical(s)
 - Chemical and Physical Properties
 - Health Effects
- Identify and understand the safety considerations of the container(s)
- Identify and understand the safety considerations of the environment



ICS 208HM

Section IV. Hazard Monitoring			
20. LEL Instrument(s):		21. O ₂ Instrument(s):	
22. Toxicity/PPM Instrument(s):		23. Radiological Instrument(s):	
Comment:			
Section V. Decontamination Procedures			
24. Standard Decontamination Procedures:		YES:	NO:
Comment:			
Section VI. Site Communications			
25. Command Frequency:		26. Tactical Frequency:	
27. Entry Frequency:			
Section VII. Medical Assistance			
28. Medical Monitoring:		YES:	NO:
29. Medical Treatment and Transport In-place:		YES:	NO:
Comment:			

ICS 208 HM

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Plan

- Identify safety precautions which should be built into the plan (risk management)
 - PPE
 - Decon
 - EMS Plan
 - Rehab
 - Monitoring Plan
 - Mayday
 - Backup Team
 - Communications



ICS 208HM

Section VIII. Site Map	
30. Site Map:	
<div style="text-align: right;">↑</div>	
Weather <input type="checkbox"/> Command Post <input type="checkbox"/> Zones <input type="checkbox"/> Assembly Areas <input type="checkbox"/> Escape Routes <input type="checkbox"/> Other <input type="checkbox"/>	

SITE SAFETY AND CONTROL PLAN															
ICS 208 HM															
1. Incident Name:				2. Date Prepared:				3. Operational Period Time:							
Section I. Site Information															
4. Incident Location:															
Section II. Organization															
5. Incident Commander:				6. HM Group Supervisor:				7. Tech. Specialist - HM Reference:							
8. Safety Officer:				9. Entry Leader:				10. Site Access Control Leader:							
11. Asst. Safety Officer - HM:				12. Decontamination Leader:				13. Safe Refuge Area Mgr:							
14. Environmental Health:				15.				16.							
17. Entry Team: (Buddy System)				18. Decontamination Element:											
Name:				PPE Level:				Name:				PPE Level:			
Entry 1				Decon 1				Entry 2				Decon 2			
Entry 3				Decon 3				Entry 4				Decon 4			
Section III. Hazard/Risk Analysis															
19. Material:		Container type	Qty.	Phys. State	pH	IDLH	F.P.	I.T.	V.P.	V.D.	S.G.	LEL	UEL		
Comment:															

ICS 208HM

Weather <input type="checkbox"/> Command Post <input type="checkbox"/> Zones <input type="checkbox"/> Assembly Areas <input type="checkbox"/> Escape Routes <input type="checkbox"/> Other <input type="checkbox"/>	
Section IX. Entry Objectives	
31. Entry Objectives:	
Section X. SOP S and Safe Work Practices	
32. Modifications to Documented SOP s or Work Practices:	
YES: NO:	
Comment:	
Section XI. Emergency Procedures	
33. Emergency Procedures:	
Section XII. Safety Briefing	
34. Asst. Safety Officer - HM Signature:	
Safety Briefing Completed (Time):	
35. HM Group Supervisor Signature:	
36. Incident Commander Signature:	

ICS 208 HM

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ICS 208HM

weather <input type="checkbox"/> Command Post <input type="checkbox"/> zones <input type="checkbox"/> Assembly Areas <input type="checkbox"/> escape routes <input type="checkbox"/> other <input type="checkbox"/>	
Section IX. Entry Objectives	
31. Entry Objectives:	
Section X. SOP S and Safe Work Practices	
32. Modifications to Documented SOP s or Work Practices: YES: NO:	
Comment:	
Section XI. Emergency Procedures	
33. Emergency Procedures:	
Section XII. Safety Briefing	
34. Asst. Safety Officer - HM Signature: Safety Briefing Completed (Time):	
35. HM Group Supervisor Signature:	36. Incident Commander Signature:

ICS 208 HM
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Continuously...

- **Communicate and Coordinate with the IC, ISO, HMO, medical personnel, and external regulatory agencies.**



Implement

- Verify and enforce control zones
- Conduct Safety Briefings
- Observe compliance with plan
 - Activity levels
 - Duration of entry
 - Environmental factors
 - Hydration
 - Level of PPE
- Minimize psychological and physical stressors



Terminate

- Complete and submit reports, documentation, and follow-up
- Debrief personnel on health and safety issues
- Participate in critiques and prepare after-action reports to improve health and safety



Evaluate

- Identify dangerous conditions that:
 - Deviate from the site safety plan and IAP
 - Develop in the hot or warm zones during operations
 - Develop as psychological and physical stresses on responders wearing PPE
- Take corrective actions that:
 - Require you to send or receive emergency communications
 - Require you to alter, suspend or terminate an unsafe act
 - Require you to work with HMO to resolve



QUESTIONS

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 440-503-6607

