



GENERAL ORDER

GENERAL ORDER 330.02

Hazardous Material/WMD-CBRNE Plan

Emergency Services Bureau

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1 APPLICABILITY

2 All Personnel

3 POLICY

4 The Howard County Department of Fire and Rescue Services (Department) shall establish, through this
5 policy, an operational plan to handle incidents involving hazardous materials and weapons of mass
6 destruction-chemical, biological, radioactive/nuclear and explosive (WMD-CBRNE). This policy shall also
7 establish minimum levels of training and equipment required for specific actions.

8 DEFINITIONS

- 9 ➤ **Area of Safe Refuge** – An area within the hot zone where exposed or contaminated people are
10 protected from further contact and/or exposure. This is a “holding area” where people are
11 controlled until they can be safely decontaminated, treated or removed.
- 12 ➤ **Chemical Protective Clothing** – Any material or combination of materials used in an item of
13 clothing for the purpose of isolating parts of the wearer’s body from contact with a hazardous
14 chemical.
- 15 ➤ **CHEMTREC** - The Chemical Transportation Emergency Response Center, a public service of the
16 American Chemistry Council, which provides emergency response information and assistance on a
17 24-hour basis for responders to hazardous materials/weapons of mass destruction (WMD)
18 incidents.
- 19 ➤ **Contamination Reduction Zone (Warm Zone)** - The area where decontamination takes place.
- 20 ➤ **Decontamination corridor** - A distinct area within the contamination reduction zone that
21 functions as a protective buffer and bridge between the exclusion zone and the cold zone, where
22 decontamination stations and members are located to conduct decontamination procedures.
- 23 ➤ **Emergency Decontamination** - The physical process of immediately reducing contamination of
24 individuals in potentially life-threatening situations with or without the formal establishment of a
25 decontamination corridor.
- 26 ➤ **Exclusion Zone (Hot Zone)** - The area where contamination does or could occur.
- 27 ➤ **Hazardous Material** - A substance (either matter — solid, liquid, or gas—or energy) that when
28 released is capable of creating harm to people, the environment, and property, including weapons
29 of mass destruction (WMD) as defined in 18 U.S. Code, Section 2332a, as well as any other



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- 30 criminal use of hazardous materials, such as illicit labs, environmental crimes, or industrial
31 sabotage.
- 32 ➤ **Hazardous Materials Incident** - The release or threatened release of hazardous material(s).
 - 33 ➤ **Material Safety Data Sheet (MSDS/SDS)** - A form, provided by manufacturers and compounders
34 (blenders) of chemicals, containing information about chemical composition, physical and
35 chemical properties, health and safety hazards, emergency response, and waste disposal of the
36 material.
 - 37 ➤ **Technical Decontamination** - The planned and systematic process of reducing contamination to a
38 level that is as low as reasonably achievable.
 - 39 ➤ **Support Zone (Cold Zone)** - The uncontaminated area where members should not be exposed to
40 hazardous conditions.

PROCEDURES

PRE-PLANNING

42
43 Howard County Office of Emergency Management (OEM) shall maintain a list of all businesses in Howard
44 County that meet the State reporting requirements for hazardous materials storage. This list shall be
45 kept current and updated annually. This information will be made available to the Department Special
46 Operations Team.

47 The Special Operations Team will conduct site visits to perform pre-incident survey and planning at
48 locations determined to have extremely hazardous substances and hazardous materials over the
49 threshold quantity as defined in the SARA Title III law. The information collected on these visits will be
50 stored and available to Hazmat Team members in the event of a response to that facility. The information
51 will be protected and secured to prevent unlawful use of information.

52 The Department shall maintain a medical surveillance program which includes baseline physicals and
53 annual physical evaluations of career Department members. The Department Bureau of Occupational
54 Safety and Health (BOSH) shall maintain an exposure reporting and record keeping system to document
55 any actual or suspected exposure of members to hazardous materials. Post-incident physical
56 examinations may be required in the event of an actual or suspected exposure.

TRAINING

57
58 All Department members (volunteer, career and contingent uniformed personnel) shall be trained and
59 recertify annually to the Hazardous Materials First Responder Operations Level in accordance with OSHA
60 29 CFR 1910.120 subpart (q).

61 Department Special Operations members shall be trained and recertify annually at the Hazardous
62 Materials Technician level or higher in accordance with OSHA 29 CFR 1910.120 subpart (q).

63
64 Official records of initial training and recertification for all hazardous materials responders shall be
65 maintained by the Bureau of Education & Training.



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67 **COMMUNICATIONS**

68 Communicate in accordance with this General Order, the Communications General Order 410.01 and the
69 Incident Command System General Order 300.07.

70 **RESPONSE**

71 While companies are en route to an emergency, the highest ranking responding officer will make
72 operational decisions related to the incident.

73 All members responding to an incident involving a reported hazardous material will have full protective
74 clothing in place before the apparatus responds (as appropriate.) Positive pressure self-contained
75 breathing apparatus (SCBA) shall be available and ready for use for all members who are responding to
76 the incident, to include apparatus drivers.

77 The first arriving unit shall approach the incident from an uphill and upwind direction, if possible, and
78 attempt to determine what is involved or confirm dispatcher information from a safe distance through
79 the use of binoculars or a telescope. The initial safe distance should be determined from
80 recommendations in the Emergency Response Guidebook (ERG) for all outside spills or releases or a
81 minimum of 300' for any spill or release within a structure. This initial safe distance will be the exclusion
82 zone and may shrink or expand as conditions change or more information is obtained.

83
84 All subsequent arriving units shall Level II stage at an appropriate location until direction is received from
85 the Incident Commander. If no officer is designated, the Engine Company officer from the first engine to
86 arrive in the Level Two Staging area shall assume the role of Staging Officer. Channel six (6) of the
87 incident's assigned zone will be used for staging communications.

88 **SIZE-UP/INITIAL ACTIONS**

89 No action shall be taken to contain the release of a hazardous material or to attempt rescue when such
90 actions will cause unsafe exposure to the substance by an unprotected responder.

91 Several Special Operations Hazardous Materials Response Tactical Operating Guides (TOG's) can be
92 referenced at T:\Fire\Special Operations\Spec Ops forms and TOGS\Howard County DFRS Spec. Ops PDF
93 Forms\Hazmat

94
95 The first arriving officer shall conduct and communicate their size-up, their determination of overall
96 incident strategy, their initial action plan and establish command by transmitting an Initial Radio Report.
97 The report shall include:

- 98 • Unit ID and arrival to the scene
- 99 • Structure or site description
 - 100 ○ Size of structure
 - 101 ○ Number of stories



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- 102 ○ Occupancy Type
- 103 ○ Description of outside location
- 104 ○ Equipment involved
- 105
- 106 • Problem description
- 107 ○ Active leak
- 108 ○ Spill
- 109 ○ Vapor cloud
- 110 ○ Release with fire
- 111 • Initial IAP and actions taken
- 112 ○ Control access to scene
- 113 ○ Contain the substance
- 114 ○ Control a small leak
- 115 ○ Emergency decontamination of victims or personnel
- 116 ○ Etc.
- 117 • Declaration of strategy
- 118 ○ Offensive
- 119 ○ Defensive
- 120 • Assumption of command
- 121 ○ Naming of command
- 122 ○ Mode of command
- 123 ○ Accountability location
- 124 • Resource determination
- 125 ○ Consider additional alarm assignments if civilians are exposed to or trapped by the
- 126 hazardous materials release

127 If mutual aid units are first arriving, the first arriving Howard County Department of Fire and Rescue
128 Services officer will normally transition and assume command as the initial Incident Commander.

129 Command shall be established by transmitting an Initial Radio Report that includes a command statement
130 for all incidents where two or more units are investigating an incident or are actively engaged in
131 operational tasks. Once command is established, units that are en-route and on-scene shall coordinate
132 and communicate any subsequent unit actions or observations through "Command."

133 **PLANNING/DEVELOPING IAP**

134 The incident's overall strategy must be determined prior to formulating the initial Incident Action Plan
135 (IAP). There are two distinct strategies; offensive and defensive. The two distinct strategic choices
136 dictate in simple and understandable terms how close emergency responders will get to the incident's
137 hazard zone. This overall strategy will then serve as the basis for formulating the IAP. Safety is the
138 number one priority for both civilians and responders and effective safety practices begin by being in the



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139 right overall risk management strategy, either Offensive or Defensive. Which strategy is chosen depends
140 on the incident's size-up assessment and critical factors weighed against the following **Incident Risk**

141 **Management Plan:**

- 142 • We will risk a lot, in a calculated manner, to save savable lives.
- 143 • If there is a possibility that there are victims within the exclusion zone, and it is reasonably safe to
144 take offensive actions without unprotected exposure to the material, the offensive strategy is
145 appropriate. If incident conditions indicate that the conditions within the exclusion zone are not
146 survivable or that unprotected exposure to the material will occur, offensive actions within the
147 exclusion zone are not an option, and the defensive strategy is required.
- 148 • We will risk a little, in a highly calculated manner, to save savable property and protect the
149 environment.

150 If civilian life safety is not a critical incident factor, and it is reasonably safe for responders to conduct
151 offensive actions, a carefully calculated lower risk offensive strategy is appropriate.

152 We will not take any risk at all to attempt to save what is already lost.

153 If incident conditions indicate that the exclusion (hot) zone is not survivable, or that offensive actions
154 would not be reasonably safe, operations within the exclusion (hot) zone are not an option. The
155 defensive strategy is required.

156
157 Offensive operations will only be performed when the Incident Commander determines that actions to
158 rescue civilians or to control or contain the release of a material can be done safely and within the
159 member's training level and Personal Protective Equipment (PPE) available. If there is any doubt
160 regarding the safety of Department members, the decision regarding an offensive or defensive operation
161 shall err on the side of safety of our members.

162
163 Once the overall incident strategy is established, tactical priorities and the Initial Incident Action Plan
164 (IAP) can be formulated. If the overall incident strategy changes, the IAP will also change and a
165 structured process will be used to communicate the change to all operating units. Incident size-up is an
166 ongoing process.

167
168 The Incident Commander must ensure that an adequate initial size-up of the incident scene has occurred,
169 that the incident's critical factors have been identified, and that an overall strategy decision has been
170 made and communicated PRIOR to formulating an IAP or beginning operations within the exclusion zone.
171 Additionally, it is crucial that both the initial Incident Commander and the strategic Incident Commander
172 continually reassess these things and continually evaluate the risk versus benefit of all tasks to be
173 accomplished on every incident.

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175 The Incident Commander shall assess the hazard to life, property and the environment based on
176 information from the Emergency Response Guidebook (ERG), Material Safety Data Sheets (MSDS), Safety
177 Data Sheets (SDS) and all other available reference documents. The Incident Commander shall
178 determine, based on this assessment, the need to evacuate or shelter-in-place civilians within the hazard
179 zone.

180
181 The Incident Commander shall designate an Incident Safety Officer on any hazardous materials incident.
182 When Technician level responders are conducting operations within the exclusion zone a Technical Safety
183 Officer will be designated and will work for the Incident Safety Officer.

184
185 The Incident Commander shall initiate action to obtain information from available local references. Initial
186 reconnaissance should be geared toward identification of the product, description of the container,
187 quantity of the container, conditions, and spill quantity or leak rate. Appropriate technical assistance
188 should be obtained from shipper and/or manufacturer representatives with assistance from CHEMTREC
189 as needed.

190
191 Hazard Control Zones shall be established by the Incident Commander. The shape and size will be based
192 on identification or classification of the material(s) involved, the concentration of the product, weather
193 conditions, topography and exposure potential. These zones include:

- 194 • Exclusion (Hot) Zone – High hazard, restricted access area.
- 195 • Contamination Reduction (Warm) Zone – Limited access area where the contamination reduction
196 corridor and other decontamination stations are located. The outer boundary of this zone is
197 based upon the combined distance of the initial isolation zone and the protective action distance
198 as identified in the Emergency Response Guidebook (ERG) or based upon other references for the
199 material(s) involved.
- 200 • Support (Cold) Zone – Support area where members can operate without Personal Protective
201 Equipment (PPE) without fear of exposure.

202 **IMPLEMENTING THE IAP**

203 Each of the hazard control zones shall be communicated to all responders on the incident and shall be
204 clearly marked with tape, cones or other available materials.

205
206 If civilians must be evacuated, units not required to control access to the contamination reduction (warm)
207 zone will be used to perform the evacuation as directed by the Incident Commander. The area affected
208 and type of protective action (evacuation or shelter-in-place) shall be identified by the Incident
209 Commander and communicated to Communications so that the community notification system can be
210 used to assist in this process.

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212 Civilians who must be evacuated will be relocated to an area of safe refuge. If the evacuation involves
213 large numbers of evacuees, the Office of Emergency Management (OEM) should be notified to assist with
214 establishing shelters.

215
216 In most cases, there will be a single entrance to the contamination reduction (warm) zone and the
217 exclusion zone. Normally, exit from the exclusion zone will be through the contamination reduction
218 corridor and exit from the contamination reduction zone will be through a clean area. Any members or
219 civilians exposed to the hazardous material(s), will be decontaminated prior to exiting the contamination
220 reduction (warm) zone. This may require the removal of clothing to prevent contamination of apparatus,
221 equipment, other personnel or the medical treatment area. Members or civilians who must exit the
222 exclusion (hot) zone rapidly because of a medical or other emergency must pass through the emergency
223 decontamination station.

224
225 The selection of the proper type and level of protective equipment for use within the exclusion (hot) zone
226 shall be mission driven. For the purposes of rescue, members should use Personal Protective Equipment
227 (PPE) that provides them adequate protection from exposure and attempt to avoid any contact with the
228 hazardous material(s). For any action, other than rescue, within the exclusion zone that may result in
229 contact with the hazardous material(s) selection will be based upon the product and protective equipment
230 compatibilities. All members operating in chemical protective clothing shall be subject to medical
231 screening before entry and upon exit. Caution shall be exercised in the application of normal firefighting
232 protective equipment in the mitigation of hazardous materials incidents.

233
234 Non- Department personnel who are skilled in the operation of certain equipment, such as mechanized
235 earth moving or digging equipment or crane and hoisting equipment, and who are needed temporarily to
236 perform immediate emergency support work that cannot reasonably be performed in a timely manner by
237 Department members may at times be needed on a hazardous materials incident and are exempt from
238 OSHA 1910.120 (q) training requirements for emergency responders. At the discretion of the IC these
239 personnel may be used to affect the outcome of the incident. These personnel shall be given an initial
240 briefing at the incident scene prior to their participation in the emergency response. The initial briefing
241 shall include instruction in the wearing of appropriate personal protective equipment, what chemical
242 hazards are involved, and what duties are to be performed. All other appropriate safety and health
243 precautions provided to Department members shall be used to assure the safety and health of these
244 personnel.

245 **EVALUATING**

246 All personnel shall continually assess the incident's existing and developing critical factors and the risk
247 versus benefit associated with ongoing operations. The Incident Commander, all supervisors, and all
248 firefighters must ensure that a Risk Assessment of members has been completed. If members are
249 operating within the exclusion (hot) zone, an emergency decontamination station must be established.



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250 **TERMINATING**

251 The IC shall ensure that proper decontamination of all members, apparatus and equipment is achieved.
252 Items shall be disposed of when they cannot be properly decontaminated. The disposal of all
253 contaminated fluids, equipment and apparatus shall be in accordance with appropriate Environmental
254 Protection Agency (EPA) and Department of Energy (DOE) regulations.

255 The Incident Commander shall conduct a debriefing of all members operating on the incident at the
256 conclusion of the incident before members or units return to service. This debriefing shall review the
257 incident and identify any signs and symptoms which members might exhibit indicating an exposure to the
258 hazardous material(s) involved. Instructions for reporting any reactions and how to obtain treatment
259 shall be provided.

260
261 An incident critique shall be conducted within 14 days after the conclusion of the incident. The critique
262 will involve, at a minimum, all officers involved in the incident. If possible, all officers should be invited to
263 participate in the critique. The emergency response plan should be reevaluated based on information
264 present during the critique and necessary adjustments made.

265
266 A written report of each hazardous materials incident shall be prepared and submitted to the Special
267 Operations Team Leader. The After Action Report shall contain:

- 268 • A time based synopsis of all incident related events
- 269 • ICS application and assignments
- 270 • Resource summary
- 271 • Outside agencies used
- 272 • Costs incurred
- 273 • Lessons learned
- 274 • Proposed future changes in operations
- 275 • Recommendations for recovery of costs

276 **REFERENCES**

- 277 • NFPA 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass*
278 *Destruction Incidents*
- 279 • OSHA 29CFR1910.120, *Hazardous Waste Operations and Emergency Response*
- 280 • NAERG, *North American Emergency Response Guidebook*
- 281 • Howard County Code, Title 17, Section 17.104, Howard County Fire Prevention Code

282 **SUMMARY OF DOCUMENT CHANGES**

283 Document updated using new order format. Content modified to reflect updates to other operational
284 orders.



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287

FORMS/ATTACHMENTS

288

289

APPROVED

290

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292

293

Deputy Chief John S. Butler

294

Operations Command