SPOKANE COUNTY FIRE DISTRICT 8

Standard Operating Procedures

120.02.01 HAZARDOUS MATERIALS		Adopted: 12/20/16 Reviewed: 11/09/22 Revised: 11/21/19 Approved:

Purpose: Is for Spokane County Fire District 8 to provide an effective response to Hazardous Materials emergencies within the capabilities of its personnel's training and equipment.

References: WAC 296-305-03002
WAC 296-305-05011
WAC 296-842
WAC 296-843
NFPA 1993, 1990 Edition Standard on Support Function Protective Garments for Hazardous Chemical Operations

Procedure:

1. Handling of Hazardous Materials.
    a) Engine Company Functions - District personnel will not take any actions on hazardous materials incidents that cannot be safely performed in full personal protective equipment (PPE). Refer to Section 10: Limited Use of Support Function Garments, of this procedure.
        Guidelines:
        i. District personnel will respond in a defensive mode taking appropriate measures to avoid coming in contact with the released substance or taking actions to mitigate a release that would place them in danger of coming into contact with the released substance.
        ii. The primary function of the Operations-Level responder is to isolate the release from a safe distance, keep it from spreading, and protect exposures including the environment. The basic functions are:
            1. Isolate the hazard area and control access.
            2. Product identification.
            3. Hazard and risk assessment.
            4. Basic control, containment, and/or confinement appropriate to the level of training.

2. Hazardous Material Operations.
    a) While en route to the incident scene contact Dispatch and obtain available information.
        i. The nature of the incident, e.g., fixed facility, transportation related, etc.
        ii. The type of product(s) involved and its physical state (solid, liquid, gas) if known.

iii. The most appropriate direction for approaching the scene from upwind, uphill, and upstream.
iv. Who is on scene that may have information on the nature of the incident?
v. Any information on the incident situation that may be known and can be provided while en route to the incident scene.

b) Approaching the incident scene.
i. Approach the incident scene from upwind, uphill, upstream, or at right angles to the wind direction and/or gradient.
ii. Consider the escape routes. Be aware of situations that require entering areas with egress restrictions such as fenced compounds.
iii. Position the apparatus headed away from the incident scene. Do not park too close.

3. Establish Command - Establish command using the Incident Command System. Identify an appropriate location for the command post; determine a safe approach route and staging area for incoming units.

4. Control Access - The Incident Commander is responsible for establishing and maintaining site access control.
a) Begin scene control by reducing exposure to chemical, biological, physical and safety hazards. Isolate the hazard area and deny entry to the following:
i. Anyone not in a proper level of PPE.
ii. Anyone without a specific assignment.
b) While isolating the incident scene:
i. Avoid inhalation of all gasses, vapors, smoke and flames.
1. Do not assume that gasses or vapors are harmless, even if there is no odor.
ii. Treat all vapor clouds as being toxic and handle accordingly.
iii. Do not walk into or touch any spilled material.

5. Perform Rescue if:
a) The product has been identified.
b) It can be done safely without exposing rescuers to the products of the release.
c) It can be done safely using PPE.
d) Emergency decontamination procedures have been established and can be performed upon exiting the Hot Zone.

6. Attempt to identify the product.
    a) If the product is known, return to Section 4 and isolate in accordance with the appropriate DOT emergency Response Guidebook Table of Isolation and Protective Action Distances.
    b) If the product is unknown, from a safe distance, attempt to gather as much information as possible.
    c) Use DOT Emergency Response Guide 111, isolation recommendations, until the material is identified.
    d) Attempt to identify outward warning signs that are indicators of the presence of hazardous materials:
    These may include:
        i. Individuals that have collapsed or are incapacitated inside the hazardous area.
        ii. Any evidence of fire, as indicated by smoke that may increase all hazards.
        iii. A loud roar of increasing pitch from a container's operating relief valves.
        iv. Evidence of a leak indicated by a hissing sound.
        v. The presence of a vapor cloud.
        vi. Birds and insects falling out of the sky.
    e) Attempt to identify the material(s) involved by using:
        i. Placards and labels.
        ii. Container markings.
        iii. Driver/operator provided information including shipping paper, waybills, and bills of lading.
        iv. Material Safety Data Sheets (MSDS).
    f) Based on initial observations, identify a safe distance for initial incident isolation to begin. Some recommendations include:
        i. Single drum - not leaking = one hundred feet in all directions.
        ii. Single drum - leaking = five hundred feet in all directions.
        iii. Tank car or tank truck with BLEVE potential = one half mile in all directions.
    g) Communicate your observations to Dispatch.
    h) Anticipate shifting winds when establishing perimeters. Consult with the weather service to obtain accurate spot forecasts of changes that might impact your incident scene perimeters.
    i) Eliminate ignition sources if flammable materials are involved. Remember that some non-flammable materials, such as anhydrous

ammonia, are in fact, flammable, so always identify if the product has a flammable range.

j) Request additional fire, law enforcement and other necessary resources as needed to secure the incident scene and maintain perimeter control.

k) Conduct risk/benefit analysis, which includes asking the following questions in relation to the incident you are addressing.

i. What would the outcome be if we did absolutely nothing and allowed the incident to go through natural stabilization?

ii. Once you have identified the outcomes of natural stabilization, the next question you should ask is, "Can I change the outcomes of natural stabilization?"

iii. If the answers to this question in "NO" then isolate the hazard area, deny entry, and protect exposures such as people, the environment, and adjacent property/equipment.

iv. If the answer to this question is "YES" then the next question to ask is, "What is the cost of my intervention?"

v. If the Incident Commander determines defensive operations can stabilize/contain the incident and it can be done in full protective clothing (PPE), the IC shall conduct operations in accordance with the following defensive operational guidelines.

7. Defensive Operations.
   a) Attempt to stop, slow, or control the leak using defensive techniques (such as turning off a valve, etc.).
   b) If the leak cannot be stopped, utilize an appropriate containment procedure to prevent the material from flowing and increasing the exposed surface area (i.e. using dirt or absorbent).

8. Decontamination.
   a) Perform emergency field decontamination as prescribed in the "Post Activity Decon Procedure."

9. Clean Up.
   a) If the incident is on the roadway or public access area, the Incident Commander must ensure that a public safety agency (coordinate with law enforcement officials, i.e. WSP) remains on the scene to continue isolation procedures and stand by until a clean up company arrives.

10. Limited Use of Support Functional Garments – Rules.
    a) The following is a checklist of components that shall form the Structural Fire Fighting Protective ensemble. Also known as the Support Function Protective Suit and more commonly known as PPE (Personal Protective Equipment).
        i. Helmet and face shield.
        ii. Nomex hood.
        iii. Bunker coat.
        iv. Bunker pants.
        v. Protective boots.
        vi. Leather FF gloves.
        vii. Self Contained Breathing Apparatus (SCBA).
    b) Fire fighters involved in hazardous materials incidents shall wear the complete PPE as defined above.
    c) Limitations of use of PPE.
        i. The PPE provides respiratory protection at the Level A standard but only limited splash protection and no dermal vapor protection.
        ii. Firefighters shall not engage in operations likely to result in exposure to vapors that can reasonably be presumed harmful by way of dermal (direct skin) exposure.
        iii. Firefighters shall not engage in operations likely to result in significant exposure to liquid splashes that can be presumed to be harmful by way of dermal (direct skin) exposure.
        iv. The PPE does not provide or provides only limited protection from radiological, biological, or cryogenic agents or in flammable or explosive atmospheres. Firefighters shall not engage in operations contaminated with radiological, biological, or cryogenic agents. Firefighters shall not engage in operations in flammable or explosive atmospheres.
        v. PPE shall not be used for protection from chemical, or specific chemical mixtures, with known or suspected carcinogenicity.
        vi. PPE shall only be used in the hot zone of a hazardous materials incident if Level D protection is the appropriate level of protective clothing for the particular hazardous material operation.

11. Training – Guidelines.
    a) All designated personnel will participate in and maintain training at the Operations-Level for responding to hazardous materials incidents.