

Forward

Over the years, in the Fire Service, as both a volunteer and a paid professional I have come to know that the becoming a good Hazardous Materials Technician / Specialists requires a great deal of commitment. The key to this, if you are to remain safe, and perform your work task successfully has three parts.

The 1st is: To thoroughly know your adversary. That adversary is the product, the container and the container's environment. The product's physical, chemical, biological or radiological properties must be known or determined, identified and confirmed. The adversary's container must be identified; each has its own unique characteristics, materials of construction, safety features as well as capacities. You have non-bulk, intermediate and bulk containers. They are stationary at fixed facilities or are found in the 5 modes of transportation. Each industry has its own nomenclature & terminology which increases the amount of information the Hazardous Materials Technician / Specialists must be aware of. Any competent Technician / Specialists worth their salt, knows, what they don't know, and strives to increase their knowledge of the adversary. Only when the adversary is thoroughly known, can it be overcome and defeated both strategically and tactically.

The 2nd is: Determining when can I work safely? This is a four part question you have to ask yourself each time you are challenged by your adversary. First, do I have the Knowledge & Skills necessary to perform the work task? To provide an example is the best way to explain this: if you are using a monitoring device to help identify an adversary. You need to know how the tool works, and, is it capable of finding what I'm looking for. How do I turn it on and off, what's the tools settings, what its operating limitations in certain environments (will it work where I intend to use it), the physco-motor skill now comes into play. Application and applying what I have learned to the task at hand. Can I place the probe the exact right location for the appropriate amount of time to get a precisely accurate measurement of the adversary? After I have done all this, and the monitoring device has given me a reading, can I interpret the data properly and make strategic and tactical decisions based on the information. Secondly do have I have the right Tools and Equipment to perform the work task? Here a good example might be the right type of extinguisher for the right type of fire. Will I make conditions worse or better by the application of the extinguishing agent? Will the extinguisher be adequate or will I need several? Keep in mind, that the more tools & equipment you are provided, the more training will be required to ensure competency in the use and limitations of the equipment. Our third question is, do I have the right PPE to perform the work task? This is based on the physical & chemical properties of the product (how can it hurt me?) and the environment I am about to enter to deal with the adversary. Will the PPE be adequate to enter the environment, for the entire time, of the work task or will it require multiple entries? Does the PPE provide complete or limited protection; do I have to limit my time near the adversary? Radiation is a good example, depending on the type, your time with

the adversary may be limited. Lastly our fourth question is, have I properly evaluated the Hazards & Risks to perform the work task? The Hazards are created by the adversary (product, container, and environment) and risk is performing the work task (leak control (product & container), spill control (container & environment) or fire control (extinguishment, controlled burn or withdrawal). There is a certain element of risk in every work task we perform. The question is, and will always be, what have I done to eliminate or reduce the risks associated with the work task? As the Safety Officer or the Supervisor for the Haz-Mat Team, this burden falls on you to recognize an unsafe act, to alter, suspend or terminate the action before it results in injury or damage. However the burden is not yours alone. Every member of the team shares in that responsibility.

The 3rd is: Your role or mission within the Haz-Mat Team. This concept is important to understand and practice within your team. Every job is important, and the team will not be totally successful if any part of the team fails to do its job. The components of a successful team involve entry, back-up, decon, resource and the officer or team supervisor. Each element has its own role or mission and operational priorities. This increases safety, operational efficiency and competency within the group. The role involves two parts: mission (work task) & operational priorities. Operational Priorities are what you revert to when there is no time for consultation with superiors and the time element prohibits extend wait times.

The Entry Team's mission is to perform the essential work task (hazard ID, leak, spill and / fire control or a combination of the three). The Entry Team's operational priorities are rescue, recon and or mitigate the hazard. Tools and equipment are mission dependent. Given the following situation you can get a sense of what I am talking about. The entry team is given a mission of recon. During the course of recon a victim is found. They immediately revert to their operational priority (rescue). The victim now takes priority over the reconnaissance of the original mission.

The Back-Up Team's mission is to rescue the Entry Team and support safe operations. That's its only role. When it performs any other task, it is no longer the Back-Up Team. Its sole focus should be on the Entry Team. In line of sight operations it should be observing the actions of the Entry Team and be ready to spring into action to retrieve the Entry Team if they cannot self-evacuate. In non-line of sight operations it must remain focused on radio transmission and be ready to intercede at the first sign of trouble. Their tools & equipment vary but support entry operations. As an example, an Entry Team is plugging a leaking tank of fuel. The ground is slippery and there is a chance of ignition; what should they do to support the Entry Team mission of leak control? The Back-up Team improves the ground surface by putting down absorbent material to make walking less of a hazard and reduces contamination. At the same time it has an extinguisher or line in place and ready to use to protect the Entry Team in case of an ignition.

The Decon Team's mission is to reduce or eliminate exposure (in you) or contamination (on you). The Decon Team must keep the hazards in the hot zone and prevent its spread. The tools and equipment vary and are dependent on the type of decon to be performed (dry or wet)

and whether penetration, permeation or degradation has occurred. Its operational priorities are complicated. It must prioritize who gets deconned first and who gets done last. As a general rule they follow: Life threatening injuries come first (ABC's airway breathing & circulatory problems), personal running out of air, most seriously exposed, the injured; then all others based on general health and age considerations.

The Resource Team is to gather, supply information, and document the incident and report as necessary to the appropriate agencies. Its operational priorities is to gather and supply information for Entry Team operations first. It then documents all relevant information about the incident for future use. It makes notifications as per SOP's or local, state or federal requirements.

The Haz-Mat Team supervisor's mission is first and foremost for the team's safety. The operational priorities are Team Safety, Operational Strategy (control if the incident), Tactical Supervision (work task assignments).

This book is about all of the above; does it accomplish everything that needs to be said? Quite obviously the answer is no, but no book does. This book is a great starting point, and a building block of the many blocks you will need to be an accomplished Hazardous Materials Technician or Specialist. The book will good for future reference, planning and training purposes. As with any reference or training material it will need to be updated over time because of changes in laws regulations and standards and advances in science and technology as well.

Stay Safe, Live Long,

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NEVER FORGET