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Conference Updates

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CHATROOM



What's new in the 2024 ERG?

Here are the anticipated changes:

QR Code for Reporting Incidents: The 2024 ERG will include a QR code on the back cover. Responders can scan this code to quickly report incidents to the USDOT.

Electric Vehicle Information: Given the increasing prevalence of electric vehicles, the ERG will provide additional guidance related to handling incidents involving electric vehicles and their batteries.

Expanded Guides: Several guides within the ERG will be expanded. Notably, Guides 115 and 140 will receive more comprehensive information.

Updated Marking, Labeling, and Placard ID Charts: The charts located in the front of the ERG, which help identify hazardous materials based on markings and labels, will be updated.

What is the Backup Teams duty on an **Encapsulating Entry?**

By Jeff Zientek

This question comes up often when discussing a Level A (or an encapsulating Level B) entry.

There is the concept of the Backup Teams duty is to finish the job in case the Entry Team cannot, but also



in place for a rescue should the Entry Team have an issue. Then there is the other concept that the Backup Teams duty is simply to be dressed equal to Entry, on air, and in close proximity (eyes on Entry preferably) to rescue any member (Entry or Backup) in case they have an issue. There are arguments for each

case that are valid, and this article is meant to allow teams to discuss and develop a clear definition of what the main purpose is for their Backup Team, stick to it and train on it, but also remember that member safety should always be the main concern!

After reading that last statement, you have probably guessed my stance on the topic. The system I grew up in, in my hazmat tenure, we dressed our Backup Team the same as the Entry Team and when everybody was ready, they all went downrange on air. The Backup Team had their pre-designated staging area (eyes on Entry but not in the product), and the Entry continued on to the work area. This provided MAXIMUM member safety in case something was to happen to the Entry Team. Let's face it, Level A or Level B encapsulating chemical protective clothing (CPC) is the worst type of PPE a member can operate in. We

often think that there is little chance that something will happen (reaction-wise, splash, exposure etc.) while working around the product in the CPC, however we forget the possibility of a person having a medical emergency inside these suits (most likely). The rescue of a member down, inside an encapsulating suit, in a chemical environment, with nothing to grab on their suit to assist in rescuing, transporting them out of the hot zone to safety, is a difficult task in itself, plus than having to get them out of their encapsulating suit to provide medical attention. That is a ton of work to accomplish! Add in to that if the Backup Team is staged half or three-quartered dressed in the cold zone, they have to quickly go on air, get zipped up properly, and make their way to the work area in the hot zone and hopefully there are no obstacles such as key, card, or coded locked

doors, stairs up or down to negotiate, and then locate the stricken member(s). All these factors came into the reasoning for our system to have the Backup Team located in close proximity to where the Entry Team is working. Yes, there is the argument that the Backup Team is using air that they may need to perform a rescue. In all of the studies we conducted the Backup Team had more air leftover than the Entry.... for obvious reasons. And the Backup Team only needs to get them out of the hot zone and to a safe area where another team (the Rescue team) can perform a quick decon and the suit cut out, then hand off to medical (which will be discussed in a later article). There also is the argument that there are not enough members to fulfill this concept. In other words, if the Entry Team does not accomplish the task, there is another team ready to go in and continue the work, as

opposed to burning 4-8 members per entry. This is a valid point, however, if your team is this small, this may be a case to bolster the number of members for your team.....an increase to address member safety! I know that may be a pipedream, but teams should always strive to increase their teams' members, knowledge, equipment, capabilities, and of course.... safety!



So, what do OSHA and NFPA say about the hazmat Backup Team?
OSHA's description states: "Back-up personnel shall stand by with

equipment ready to provide assistance or rescue. Advance first aid support personnel, as a minimum, shall also stand by with medical

equipment and transportation capability" (1910.120(q)(3)(vi). This description, in my opinion, allows for some wiggle room for not sending your Backup Team to monitor the Entry Team. However, it seems to lean more towards rescue being at the top priority instead of "assistance" (however a team would define that general term).

As for NFPA, until recently (Jan. 2017) they agreed that they did not have an actual definition or function statement for Backup Team (that is not paraphrased but the exact wording of meeting notes). Some may argue that having general descriptions for hazmat operations allows for more flexibility at incidents, while others may say it's better to have a clearer, more defined way to operate. A clearer definition allows teams to train consistently, operate consistently, and if they are unable to do that, they need to adjust their

program to fall into the standard. The definition for Backup Team in NFPA 470 states, "A required team compromising two or more responders equipped with approved personal protective equipment (PPE) chemical protective clothing (CPC) and assigned by the Incident Commander to provide emergency removal of a stricken member of the entry team in the hot zone" (3.3.7). Now, to be fair, there is a section in A3.3.7 which states: "The backup Team could be used to assist the entry team if help is needed assisting with equipment requests or more hands on tasks like working on top of a rail car. If a backup team goes in to assist the entry team, another backup team is put in place. If the entry team mission cannot be completed by the initial entry team the backup team can become the next entry team after a briefing where mission tasks are identified, and another backup team

is in place". There is a lot to digest there, I believe either side could state their case, depending on what statements you plan to use and what is a priority to the team (OUCH!). There is more wording surrounding the three sentences I took out of A3.3.7 and if a team struggles with the Backup Team concept, I encourage the team to read everything relating to Backup Team in the newly revised NFPA 470 and discuss with the team the way they intend to operate.

If your team's procedure is staging the Backup Team in the dressing area half or three-quarter dressed, keep this in mind. Don Abbott's Project Mayday came up with this statistic and conclusion after gathering data from real hazardous materials incidents Maydays; "All back-up teams involved in these operations were not completely ready for rescue (equipment lacking), average time

getting zipped up and on air in dressing and entry into hot zone (this is just the hot zone and not stricken member contact), 6:23 and Backup Team still required additional assistance to remove stricken member". Having the Backup Team dressed equally and on air, within close proximity to the Entry Team, greatly reduces the time to reach the stricken member and remove to safety, which in turn gets the member treated quicker and increases survivability! Here is something interesting to compare this to. NFPA 1710 established 5 minutes as the goal for response times for 90% of emergency incidents.... This is for the people we serve. If we are already at the scene of a hazmat incident, shouldn't we do at least as good.....but hopefully better, than what we do for our public?

Try this with your team; practice and drill on removing stricken members from the hot zone. And not just getting them out of the hot zone but getting them deconned, cut out of their encapsulated suit, on to medical, AND the remaining Entry and Backup members being deconned during this process. Note the efficiency and/or inefficiency of all aspects of the process, because a failure in one portion can have drastic effects on another part of the process. And of course, the more we train on it, the better we get, and it can become automatic.

Jeff Zientek is Fire Captain (Ret.), Hazardous Materials Technician, Technical Rescue Technician, Helicopter Rescue Crew Chief, & Author of Hazmat Response





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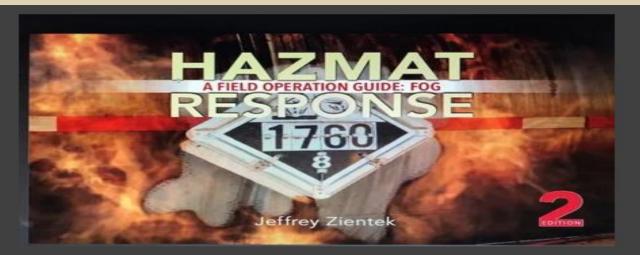
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This guide serves as a quick reference for First Responders,
Emergency Response Technicians, Hazardous Materials
Technicians, or any members that respond and deals with
hazardous materials incidents. The guide includes many
chapters such as Team organizations, helpful hints for common
incidents, placards/GHS, rail and motor carrier identification,
chemical reference, CBRNE, and much more. This guide is a
must for emergency response personnel.

HAZMAT RABBIT HOLES

By Kevin Ryan,

The world of hazmat response can be full of

rabbit holes. The slang version of rabbit hole is defined by

dictionary.com as an extremely engrossing or time-consuming topic.



There are never ending

options in equipment, tactics, training, and personnel. Technicians can easily become consumed when confronted with choices or when searching for more information. Quality training (yes, I used that phrase again) focused on solving the problem makes all the difference. Solving the problem means finding the simplest solution to solve that problem. The world of emergency response presents

many rabbit holes to go down. A hazmat rabbit hole I have commonly seen is getting tunnel vision on the chemical involved in the incident. Chemical and Physical properties are important. Good research on chemicals involved determine PPE, detection, and incident actions. The issue I have seen arise is the lack of attention on solving the problem causing the release or spill. Here is an example everyone can relate to. Fire service responders take gas leak calls daily. A leaking natural gas valve has become compromised in some way. Natural gas is now escaping into the surrounding atmosphere. My question to students when I teach this scenario is this: Is the leaking gas or the damaged valve the problem? The real problem is the damaged or compromised valve. To solve the problem (i.e., bring the incident under control), the valve must be secured. Solving this problem may

mean closing a downstream valve to stop the flow of gas. The gas that has been released is simply another scene hazard to deal with. PPE is the means that allows us to enter an atmosphere to solve this problem. Solving the problem from a technician's perspective is no different. Let's take a leaking nitric acid tank truck incident at a chemical processing facility.

The leak starts from an incompatible gasket used in the flange of the valve. The volume leaking is about 5 gallons per hour and the tank truck contains 5,000 gallons. To solve this



SOLVE THE PROBLEM!!!!

problem, the IC must address the leaking valve. The nitric (non-fuming) is simply presenting a hazard that forces technicians into Level A or B with appropriate hand and foot protection. The valve needs to be controlled until the tank

can be offloaded. In the end a basic solution solved the issue. A double layer poly catch basin was created and wrapped around the valve. The truck only needed to travel one half mile to a containment area on the facility. Once in the containment area, the truck's nitric acid load was emptied into holding tanks. The nitric acid was then turned into wastewater via chemical treatment. Tunnel vision at this incident could have forced unneeded entries when the simplest solution was the most efficient. Rabbit holes in hazmat can lead to disorganized debacles. Bio detection is one huge rabbit hole when faced with preparing for a suspicious substance in a threat letter. Several detection options exist for these scenarios. Protein checks, immunoassays, basic papers, IR, and PCR are some of the choices you can make. The challenge becomes which of these do you utilize? It would be easy to

choose them all. The problem with this rabbit hole is the time spent in the hot zone. We are fortunate in the City of Baltimore to have the state lab in our backyard. Any incident we encounter with an elevated level of threat and credibility automatically goes to the lab for a definitive evaluation. Presumptive testing in the field is just that. Protein checks are nicknamed the 50\50's (half right, half wrong), immunoassays can experience false positives and field PCR demands proper sampling techniques along with a 25-minute run time not including sample collection and preparation. What is the goal here? Do we do a basic CBRN check then send it to the lab for definitive testing? Should we spend the extra time in the hot zone knowing our samples have to go to the lab no matter what? The answer lies somewhere in the middle of both options as no two scenarios are cookie cutter in

nature. Your decision making should be guided by solving the problem and avoiding the rabbit hole. The minutia of the incident must be

considered however it cannot drive an incident to closure. Rabbit holes in hazmat equate to tunnel vision. The IC must see the big picture to solve the problem at



hand. Avoid the rabbit holes, solve the problem.

THAT'S ALL FOLKS!!!

Kevin Ryan leads the Baltimore City FD Hazmat Operations Office. A 31-year veteran of the fire service with 26 years of experience in the world of hazmat response. He is a Level III instructor and adjunct at the BCFD Fire Academy.



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RESCUE TEAM & MAYDAY "HOW IT CAME TOGETHER"

By Darrell Wiseman

When it comes to the fire service, we have

all heard the classic, "We don't like change and surely don't like the way it is". That all came true 10



years ago when discussing Mayday while operating at hazardous materials incidents, more specifically while wearing encapsulating 1991 or 1992 suits. This question was asked in the region where I worked, and the only answer was "The backup team will do it" so we put it to the test. We were lucky to have a Special Operations Chief who allowed us to

perform over 100 different scenarios and cut up close to that many suits during a year and what we discovered drastically changed our way of operating. Collectively as a region we came together and went 1-2-3 save them "MAYDAY MAYDAY MAYDAY" and we soon found out how overwhelming it was to remove a person trapped inside a suit, deconned, and passed along to the medical team. The major safety issues we discovered and not in any certain order of importance were nonmonitored radio channels during hazmat operations, significant cross contamination of Entry/BackUp/Decon teams, along with many others but the one that truly stood out was the secondary Maydays we had while the Entry/BackUp teams who brought the stricken member out stood in line for decon and ran out of air. Some members wrote this off as it's part of doing business, but is it? As a Safety

Officer, I wouldn't agree at all, and we should always be looking at how to make things better as our forefathers did for us.

These secondary Maydays brought deep discussions on how to support not just the evacuation of the stricken member but more importantly what was the true issue. As was proven by Chief Abbott (RIP) at Project Mayday http://maydaystudy.com/ anytime those dreaded three words are announced over the radio heart rates and respiratory rates increase significantly hence the secondary Maydays we were having. The regional teams quickly realized assistance with decontamination would be needed and the Rescue Team was born. Now that the region was discussing the Rescue Team it was time to test this idea to make sure it truly was efficient and what it would look like. Two separate studies were created with the East side crews running

Mayday scenarios while their Rescue Team wore 1991 suits waiting outside the Hot Zone be it the Warm Zone and once again, they were met with many challenges. These challenges were limited to the Central/West study as Rescue Teams were outfitted in nonencapsulated 1992 suits. They were still positioned at a designated meeting place in the Warm Zone awaiting the Entry/BackUp team's arrival with the stricken member and once they received them, they made quick work of rescuing the technician from the suit they were trapped in because of the chemical on the exterior of the suit then handing them off to the Medical Team.

The increase in visibility along with better dexterity & mobility allotted the Rescue Team better function to complete each task. To clarify what and how a Rescue Team responds let us look at basic team responsibilities. Entry

Team – Mitigation in the Hot Zone Back-Up
Team – Backs up Entry Team in the Hot/Warm
Zone (Hot Zone is preferred, refer to the
BackUp Team article) Rescue Team – Rescues
stricken member from chemical protective suit
in the Warm Zone after providing emergency
decontamination.

In recent years definitions of the above teams were not identified more specifically by the NFPA until 2017 when they took a deep dive into laying out definitions as listed below for Rescue Team. A.3.3.71 RESCUE TEAM: The rescue team should be prepared to receive the stricken member from the backup team within one minute of activation unless otherwise instructed by the incident command. The rescue team should be responsible for initiating emergency decontamination and life-saving measures immediately after handoff by the backup team. The rescue team possesses the

equipment required to rescue the member from the chemical protective clothing such as suit cutters. The rescue team hands off the stricken member to EMS. A rescue team should be considered on all hazardous materials/WMD incidents.

I know just what we need is another team and where do we get more people considering we are already strapped for personnel, especially hazmat technicians. I can't argue fire departments around the nation are challenged with staffing and not only that but the exposure to more hazardous materials that continue to be produced and transported through our cities. This makes it even more imperative we look at increasing our safety options when responding to these calls with experience levels and our dedication to asking "Why do we do it this way" making it safer for the future of our members. Now let's look at

the composition of what a Rescue Team looks like. Who should be selected to be on the Rescue Team is a crew that understands chemical protective clothing along with decontamination, you notice I didn't say Hazmat Technician. An operational crew that has trained with the local hazmat teams and is confident could very well perform these duties. I think this might be a good time to breech the question that comes up often and that is "Aren't you talking about a RIT crew"? I am not, they are two different teams along with responsibilities and while referencing NFPA 1407 & 1710 RIT is significant in the fire suppression world, but in Hazardous Materials operations we have an advantage while operating down range. Our operations require us to know who is going down range, we know what they're wearing, we hope to have somewhat of an idea of what they are going to

get into and mitigate, and most importantly we have an established safety net, be it the Back Up Team and now a Rescue Team in place. To up the ante on the hazmat side our Research Teams have advised us to wear such suits to protect us from the bad stuff we are going to encounter so the last thing we'd want is to get it on our person if not deconned before being extracted from the suit.

Let us look at some of the best practices we discovered over the last 10 years. We can all attest communication on emergency scenes is vital and most of the time, lack of communication contributes to the Swiss Cheese Failure Model. Standing up a Rescue Team to create a Mayday plan is a great solution to fill those holes as they will communicate this plan from top to bottom, from Entry Technician to Command, and everyone in between. The Rescue Team should

at no time be entering the Hot Zone where the Entry/BackUp teams are, they should be outside at a designated meeting place awaiting the stricken hazmat member. Once the mayday technician is handed off to the Rescue Team the Entry/BackUp teams will go to the established decontamination corridor that stays fortified for them while the Rescue Team heads to what they coordinated with the Decontamination Team Lead for an Emergency Decontamination. Some of the items that can assist with rescues some being specialized, and others readily obtained are cutters and exterior harnesses worn over the chemical protective clothing. We evaluated many cutters but preferred the tool to be a single constructed blade so no need to wonder if the blade had been changed out. The exterior hazmat safety harness is an item that has been in use in the region for over 20 years and is depicted in the

photo at the beginning of the article which allows for grip locations for the Entry/Backup when moving the stricken member onto a SKED board or Stokes basket then allowing the Rescue Team to grip and lift them onto a gurney for transportation through decontamination.

As Emergency Responders we will always have some sort of job security when it comes to the transportation and processing of chemicals. We can only hope to continue to train and prepare for what we will never know our next emergency run will be and hope we never hear those dreaded three words during our career. This doesn't negate our responsibility to always prepare for the worst and make sure we the responder have the best opportunity to get the needed help we can get from our fellow responder when we need it the most. Preparedness and training will always be

the Special Operations way. "A Mayday Technician in a hazardous materials incident should be a planned event inside an emergency scene."



Darrell B. Wiseman retired as a 32-year veteran Fire
Captain with the Phoenix Fire Department and a member
of their Special Operations Team as both Hazardous
Materials and Technical Rescue Technician along with
being a Helicopter Rescue Crew Chief. Darrell was a
member of the FEMA team for 23 years, Arizona Task Force
1 (AZTF-1) from 1997-2019, he was deployed to Salt Lake
City for the World Olympics and assisted with the
rescue/recovery of Hurricane Katrina. Darrell finished his
last 10 years assigned as the Special Operations Safety
Officer and Hazardous Materials Continuing Education
Manager.

The Power of Collaboration: Need for Hazmat Task Forces in Disaster Response

By Mike Bloski

In the aftermath of a natural disaster, the role of first responders cannot be overstated.



Among these brave men and women, local hazardous materials technicians often find themselves at the forefront of local rescue and recovery efforts working local needs. The long-term scale of destruction, the number of casualties, and the complexity of coordinating resources can quickly overwhelm even the most well-prepared departments that include technical rescues and hazmat responses. This is where the concept of hazmat task forces comes in. By pooling resources, expertise, and

manpower, a mission-specific task force can respond more effectively to these extraordinary situations.



Unprecedented Challenges:

To meet the unique challenges of teams focused on specific incidents, the

hazmat task force model capable of working together with local responders to address specialized responses. The planning started in 2018 with the first test of a small hazmat task force sent to the Florida panhandle after Hurricane Michael impacted the area. Under the direction of Chief Matt Marshall, a taskforce was rapidly created to address hazmat issues in the region which had only three localized teams over a 200-mile area.

During that deployment, Chief Marshall was checking on local Tier II location found a business that had lost power critical to proper storage of chemicals. This was identified and addressed. With lessons learned in Michael in 2020, the state Florida Hazardous Responders (FLHAR) drafted a plan to develop a specialized taskforce for state teams to stage in the disaster area and provide specific response options. Developing this plan, a few objectives were created to address the task-force needs.

Resource Management:

The two main concepts were a devoted hazmat liaison to work with



local EOC functions. Their job functions under ESF-10 were to coordinate resources with mutual aid agreements in place, define the



mission, support logistical support and developing operational daily planning. The next stage was

responder based with the formation of a Rapid Needs Assessment Team (RNAT). The primary focus was the area staged recon/ response team devoted to only to hazmat related incidents. That team was composed of task force leader, hazmat technicians (8-12), engine company (4 personnel at operations level), a water tender (2 personnel at operations level), and ALS rescue (staffed with tox medics).

Collaboration and Communication:

Collaboration and communication are essential for a hazardous task force to be successful. The task force needs to cooperate with other groups, exchanging resources and information

as needed. When not reacting to local hazardous incidents, the main mission comprised multiple tasks, such as in-person interactions with Tier II facilities for well-being assessments and haz-waste scouting/identification. Containers were identified, evaluated, GPS-marked, and the location was forwarded to the state environmental department for disposal and processing.

Real-World Success Stories: In September 2022, Hurricane Ian made



landfall in southwest Florida as a devasting storm to an urban area. The state created three large rapid response hazmat task forces that deployed to the area and operated under ICS

but independently to accomplish the requests for response. After 14-days, three counties had been accessed and operations could be downscaled to focus on critical impacted areas. A team was deployed with 8 personnel and focused on the hardest damaged area after US&R operations had made primary evaluation of hazmat located.

That team continued follow-up of those



locations. While conducting hazmat assessments as our primary mission, 145 containers of hazardous materials were observed

and marked using GIS mapping. This information was collected daily and passed on to the local EOC. This was accomplished while responding to local hazmat incidents that

included flaring LPG containers and natural gas leaks. As an area (16 square miles) was covered, that team was able to make personal contact with citizens aid in humanitarian assistance. We were also available to answer questions from the public relaying information on disaster relief. A special emphasis was placed on electric vehicles and lithium powered batteries devices with storm water exposure. This team was equipped for UAS/Drone operations and were able to create on-site maps to forward to the EOC on impact. Using drones, we were able to fly lower than aircraft and able to quickly assess incidents as reported such as fuel leaks for boats offshore.

Lessons Learned: A formal AAR was created and passed onto the state about the operations conducted after Ian. In short, these are areas

for improvement: The need for task force selfsustainment in theater. The taskforces were staged with success in established FEMA assembly areas. The quick need for established local radio and points of contact. This was aided by local departments. The additional room for PPE, as a hazmat team carrying extra logical equipment to support the mission, we had to be creative on storing it for rapid response. Because of the need for a quickattack vehicle, we needed a smaller off-road vehicle to access some areas. This was provided by local EM and was 100% needed as we had larger squad vehicles that could not fit down in local streets with large debris piles.

Conclusion: When it comes to disaster response, hazmat task forces are an invaluable and essential tool. These task forces, another

potent weapon in the local ICS's toolbox, may handle the particular difficulties of area incidents by assembling specialized teams and resources. They offer specific response services that could fall outside the control of the on-site disaster response team. Planning, cooperation, and communication have allowed Florida to successfully place a package to meet these demands.



Captain Mike Bloski has been in the fire service for 32 years, starting his career as a volunteer firefighter in northwest Florida, in 1992. In 1997, was employed by the Southern Manatee Fire Rescue District. We are rising through the ranks, responding to thousands of incidents in the region that have included train derailments, natural disasters, and major hazmat responses. Serving as the

local hazmat team leader, he serves on the administrative staff and is responsible for providing and managing the operational readiness, regulatory compliance, and training activities for the members of the Special Operations Team. Under his stewardship, the department's response team achieved Type I capability requirements within a remarkable two-year timeframe



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CONFERENCE DATES

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Michigan HazMat Responders Conference Apr 15th – 17th 2024

Mid-West HazMat Conference May 3rd & 4th 2024

Oklahoma HazMat Conference May 15th – 17 2024

IAFC Baltimore HazMat Conference Jun 5th – 9th 2024