



SURVIVAL FACTORS ATTACHMENT

RuralMed After Action Report/Improvement Plan

Teutopolis, IL

HWY23MH017

(17 pages)



RuralMed EMS Disaster Response and Evaluation Program

Teutopolis IL Anhydrous Leak and Evacuation, September 29-30, 2023

After Action Report/Improvement Plan

10/10/23



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Section 1: Response Overview

Disaster/MCI Details

Disaster Name

Teutopolis, IL Anhydrous Leak

Type of Disaster/MCI

Motor Vehicle Accident (MVA) involving a large Anhydrous Ammonia tank that was punctured in the accident and leaked Anhydrous Ammonia in close proximity to several homes, businesses, and the town of Teutopolis, IL.

Disaster/MCI Start Date

September 29, 2023 Approx. 2045

Disaster End Date

October 1, 2023, Approx. 1900

Duration

+/- 40 Hours

Location

Approx. 1.5 East of Teutopolis, Rt. 40 Lat/Long: 39.08.25N+88.26.22W

Mission

Rescue victims of MVC/Chemical Spill while maintaining responder safety and maintaining operational control of response and transporting patients to appropriate care centers.

RuralMed Internal Capabilities

Three ALS ambulances in Effingham, two ALS ambulances from Fayette, one ALS ambulance from Bond County. Total of six RuralMed ALS ambulances responded to the scene.

External Capabilities

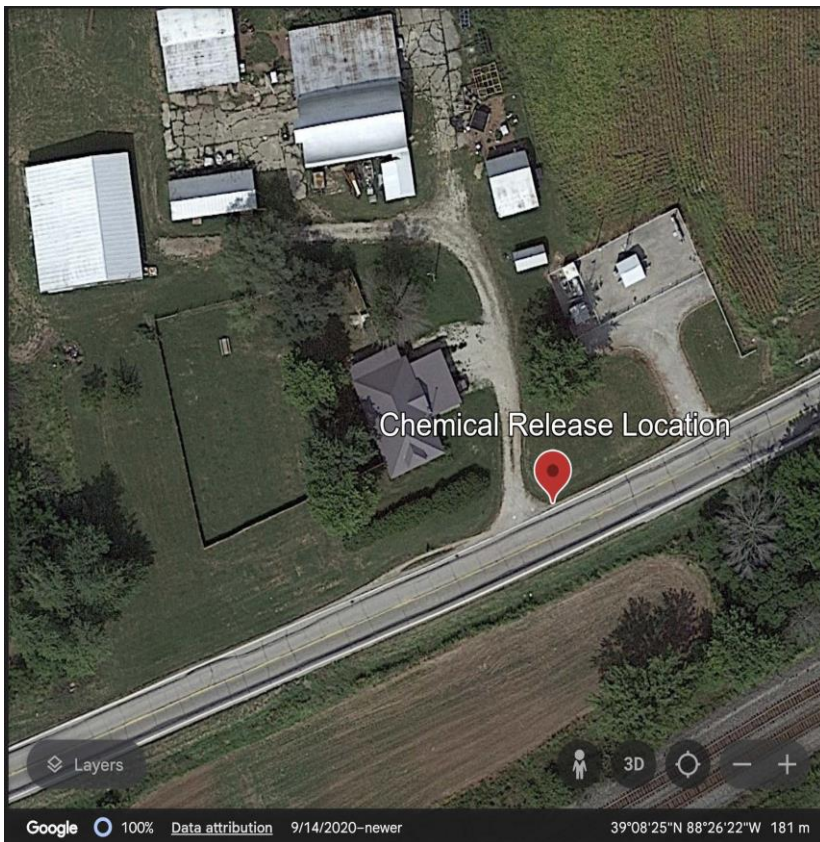
One ALS ambulance from Greenup Ambulance and two ALS ambulances from Casey-Westfield EMS responded, one ALS ambulance from Clay County responded to the Clay-Effingham County line for 911 coverage if needed. A total of three ALS ambulances to the county with one at the county line.

Disaster Type

Chemical Spill/Release

Executive Summary

On September 29, 2023 RuralMed EMS was dispatched to an MVC approximately one mile east of Teutopolis, IL. A double response of two trucks were dispatched via Effingham County dispatch. Teutopolis Fire Department was also dispatched with auto launch mutual aid from Montrose Fire Department. Upon arrival of the first units on scene it was apparent that there was a large chemical leak of unknown origin. RuralMed EMS had four ALS Ambulances staffed that day and one of the four was out of the response area transferring a patient to St. Louis. RuralMed dispatched the one remaining with the two ALS ambulances to the scene. RuralMed immediately began a shift of resources and received three more ALS Ambulances from Fayette and Bond Counties and began contacting mutual aid partners and activating them for response.



Actions on Objective

- **Scene and Personnel Safety**
- **Victim Rescue, if possible**
- **Decon and Transport**

Major Strengths

The major strengths identified during this disaster are as follows:

- Baseline three ALS ambulances less than 10 minutes away
- Mutual Aid/Box Card/RuralMed assets were requested and deployed from nearby counties and first mutual aid units arrived 20-30 minutes after request.
- Ability to shift assets from other counties internally to handle patient surge.

Timeline of RuralMed Operations

2043- Initial 911 tone for MVC

2045- Med 12,15 enroute from Effingham Base, Med 17 enroute from Vandalia, Med 15 takes Interstate to east side of incident

2050- Med 14 enroute from Effingham Base

2101- Med 6 enroute From Vandalia Base

2117- Med 10 enroute from Bond County

2139- Notification to not pull in the bays at the hospital, decontamination is to occur outside the bay.

2140- AirEvac 28, LZ at Teutopolis HS

2142- AirEvac coming over T-Town airspace, Med 12 advises bodily fluids coming from multiple places on patients.

Effingham County advised they are still trying to identify the substance in the tanker

2144- Arch advised AirEvac is enroute

2147- Med 15 has made contact with a patient, Salyers, J Rodgers, Fulk advised status secure

2148- Med 14 at St. Anthony

2149-2235 Med 15 status check, Med 17 arrived to east side of site, D. Frailey is assisting Med 15. Med 15 makes contact with east side patient #1 (Male patient found in ditch, J.B. triaged yellow) and directs them to Greenup EMS as patient #2 arrives at Med 15 (female patient, S.T., triaged yellow initially, then Red) Med 17 receives patient #3 (Elderly Female, T.T, Triaged Red) Patient #4 then arrives by backboard (female patient, A.D., Triaged Red, most critical), AEL 28 – Transported Patient #2, AirLife 2 – Transported Patient #4, Arch 3 – Transported #1, AEL 11 – Transported #3

2151- Med 12 wanting Med 6 location, needing assistance, Patient deteriorating

2152- Arch 3 landing

Med 14 – Washington & Main in TTown

2154- Med 6 to Caseys in TTown, Paramedic McNurlan to

2155- Med 14 enroute to another patient with Paramedic McNurlan

2155- 911 Dispatch calling for ambulance at [REDACTED] - 27 yo Diff Breathing



2157- Med 6 responds to [REDACTED]

2158- Arch 3, Air Evac 28, Montrose FD advises they need air medical at Montrose

2200- Med 6 on scene, Effingham Co 911, patient at 1950th St and Farmweld Ave cross streets. FD adv people are still in the cloud, RuralMed difficulty accessing scene

2202-Med 14 advised they picked up our crew enroute to St. Anthonys (634 W. Main, Teutopolis). Effingham County advises another patient at [REDACTED] US Rt 40

2204- Air Evac wants to know if they need more air medical support. Med 15 has patient that needs intubated and air medical at [REDACTED] National Road, Montrose. AirEvac later intubated patient #2 and transported by air from scene.

2205- Advised AirEvac we need 4 air medical, Med 15 confirming where the patient came from, Med 15 advises they found the patient in a storm drain (patient #2)

2207- Med 14 will respond to the other patient as soon as they clear the hospital

2208- Med 13 arrived at Childrens Hospital (interfacility transfer request before MCI)

2214- L Spencer arrived at Effingham base

2215- Med 15 to Effingham County to check on air medical for another patient transport

2217- RuralMed Command from Effingham City advising Air Evac getting ready to launch

2218- RuralMed 14 enroute to patient in Teutopolis, Med 15 working on a patient and has another that needs treatment

2220- Charleston HazMat 10 minutes out

2221- RuralMed Command leaving St. Elmo Base with bags to bring up another truck

2222- Effingham County advised Air Life enroute to Med 15

2223- Decon Unit passed Effingham Base

2226- MedCom advises Casey EMS sending 2 units

2234- Med 18 Available in Fayette County

2235- Effingham county 911 advises 603 requesting ambulance for staging on East side, Med 6 enroute to St. Anthonys, Med 15 and Med 17 supplies are depleted and have more patients. Effingham County advised RuralMed Command that no one is allowed to go into the hot zone.

2238- RuralMed Command advises his medics need oxygen for patients

2239- Med 10 is just west of Teutopolis

2240- RuralMed Command to Effingham County advised Med 4 needs to get to Med 15 for Oxygen, Effingham County advises that no one else is to enter the hot zone until HazMat clears it.

2241- Med 10 arrived at Staging Area in Teutopolis

2243- Effingham County 911 Advises female patient stuck in her van, difficulty breathing close to Farmweld on Rt. 40.

2249- Shumway Fire to Farmweld area, advised if they could find the patient, they will bring them to staging area

2254- Med 10 returning to Fayette Co for coverage, reports of anhydrous smell in Effingham City

2258- Med 4 Designated to HazMat Team

2301- Patient from Farmweld area was already transported to Firehouse earlier

2303- Med 14,15,17 advised all secure status, all units accounted for, east end units with air medical, Total patients flown is 4, ground transporting 1

2308- east side units awaiting 4 patients

2311- IC advises there are 4 in a house and 1 deceased

2313- Clark County EMS staging on east side of incident

2313- Air Evac 11 has 33-minute ETA for patient on east side of incident

2330- Med 14 to St. Anthony's for restock

2333- J Neihls enroute with thermal UAS for aerial recon of site to assess for victims or survivors still left in the hot and warm zones

2347- Med 15 and Med 17 arrived at staging area

2350- Med 13 enroute to Teutopolis

2357- Med 15 and Med 17 enroute to St. Anthony's for restock

0005- Med 13 back in county from St. Louis, enroute to staging area with oxygen replenishment, J Neihls at staging area, RuralMed Command releases Jasper County



Clark County on east side of incident to return to home stations. Med 6 to stage on the east side. 2 Clark County EMS units are covering the east side of incident.

0015- Med 13 arrives at staging area

0019- Status check of all RuralMed units, all advise secure, RuralMed Command releases Clay County back to home station

0027- Med 14 enroute back to staging area

0035- Med 14 arrives at staging area

0042- Med 15 and Med 17 enroute to staging area

0049- Med 15 and Med 17 arrives at staging area

0103- Jasper County EMS Released to return to home base, ISP advises that Rt 40 and 1950th St., Teutopolis

0119- Med 14 enroute to Brookstone 911 call, elderly male fallen

0132- Med 4 had a patient brought to them on a UTV and starts treatment

0155- Med 14 awaiting funeral home, patient was deceased on arrival at Brookstone

0200- Transports as below:

- Med 12- 2 refusals of transport
- Med 13- 0
- Med 14- 1 transport, 2 patients
- Med 15- 2 transports, 2 transfers of care to air medical
- Med 17- 1 transport
- Med 6- 0
- IEMA Incident # H202230812

0232- J Neihls clears scene for battery replenishment

0257- Med 6 released to go back to Fayette County for coverage, Med 10 to Effingham City to change out Medics

0258- Med 14 continues to wait for Funeral Home at Brookstone Estates

0301- Med 4 and Med 17 to staging area

0318- Mt Vernon HazMat Team Requested to staging area (MABAS 47)

0328- Sending in another ground recon team

0329- Med 14 clear Brookestone call, enroute back to staging area

0338- Med 14 to staging area

0348- Med 17 clear and returning to Fayette County for coverage

0450- Med 4 and Med 14 were advised that there are a couple of patients heading to Med 4

0505- Mt. Vernon HazMat team enroute to staging area, IC also requested BAF out of MABAS 45

0609- Mt Vernon HazMat arrives at staging area

0621- RuralMed Command advises MedCom all secure

0640- RuralMed Command and P Doty cleared to recover Med 12

0644- ISP does UAS fly over

0650- McNurlan (Med 4) and 7-8 fireman to recover deceased, possible 3 as of right now, Med 14 staging with Fulk, Salyers, and J Rodgers.

0657- RuralMed Command reports UAS in incident area, Effingham County confirms ISP UAS flights in progress.

0720- BAF arrives at staging area

0725- First recovery is underway

0731- IC requested a rep from EPA and IEMA to staging area

0741- Med 12 arrives at staging area

0742- Med 4 arrives at staging area with fatalities

0747- RuralMed Admin at Effingham Base transporting crews for shift change

0806- Med 4 clears last assignment, back of staging area

0835- Med 4 and 14 staffed, Med 12 at Rehab, Med 15 staged on East side

0851- Med 15 coming to staging area for crew change, RuralMed Admin enroute to staging area with new crews

0900- Med 4 and Med 12 staying at staging area, Med 15 is going to east side, Med 13 and 14 going to Effingham Base

0902- Med 4 requested for body removal



0909- Med 15 arrives at east side for staging, civilian vehicle runs barricads, going towards hot zone, Med 4 to hold position until scene is secure

0924- IC advises the tank was holding 7500 gallons of anhydrous, half has leaked out

0932- 373 and Med 4 can proceed to site for body removal

0933- RuralMed Admin and new crews arrive for crew change

0956- Hannigan, Berg, J Rodgers, Salyers, Fulk (Med 4,13,14) regrouping trucks and crews

0954- Med 15 to East side of incident with new crews

1002- Med 4 arrives to staging area with 1 body, transferred to refrigerated truck

1011- Fireman down at the 4 way stop in Teutopolis, Med 4 and Med 12 enroute

1021- Med 4 transported FF back to staging area for treatment

1024- RuralMed Command Requesting Effingham City to tone out truck for the firefighter that needs transported to St. Anthony's, rendezvous with Med 4 for patient transfer, Med 4 enroute

1025- Med 15 arrives at staging area on east side

1030- Med 14 arrives at staging area for transport of firefighter

1030- Demobilization – RuralMed Admin takes over RuralMed Command



Primary Areas for Improvement

Throughout the disaster, several opportunities for improvement in RuralMed EMS' ability to respond to the incident were identified. The primary areas for improvement, including recommendations, are as follows:

- Early activation of key administrative personnel, mutual aid activation, MCI Declaration Internally and Externally.
- “All Call” system to get more internal off duty responders to scene for assistance. Some key staff were indirectly notified of the disaster by social media hours after the initial incident.
- Maintaining Operational Control of RuralMed Assets during initial response, “who is where” and tracking transports and air medical transports from the scene.
- Ability to restock vital supplies, medications, and oxygen in short order to maintain operational readiness of ambulances.
- Ensuring proper decontamination of patients at scene or at hospital and before turning over to air medical.
- Early notification of the Medical Director that an MCI occurred. This could have led to the Medical Director coming to scene and assisting with procurement of medications and controlled substances.
- Early notification of the hospital so that they could declare a surge alert or declare a disaster protocol to get more staff and resources to the hospital and ready decon assets.
- RuralMed representative to the Emergency Room to assist with patient placement and flow and assist with the transitioning of patients to the Emergency Room.
- Improve individual equipment to facilitate difficult airway scenarios.
- Establishment of a RuralMed Central Command at the staging area based on the NIMS directorate utilizing the ICS system for better oversight of command and control, personnel, asset tracking, planning and operations, documentation, and financial tracking of resources.
- Implementation of an MCI channel on the Wave system for incident communications instead of using a talk around channel. This will decrease traffic and allow for isolation of information to the incident and better unit to unit communications.
- A RuralMed EMS unit was tied up with a 10-79 case and was out of service for an extended period of time due to the unavailability of a coroner. Our Medical Protocols dictate that we can only turn over a deceased individual to a medical professional, coroner, or funeral home. Is there a way during a disaster/MCI situation to relinquish custody of the body to a law enforcement officer in order to return that unit to available?



Participating Organizations

- MABAS 54
- Arch Air Medical
- AirEvac Lifeteam
- AirLife-Richland Co.
- Charleston Fire Department Haz-Mat
- Effingham County Sheriff's Dept.
- Illinois State Police
- Greenup EMS
- Clay County EMS
- Clark County EMS
- Mt. Vernon Fire Department (MABAS 47)
- SkyWatch UAS Engineering
- HSHS St. Anthony Hospital, Effingham



Section 2: Analysis of Capabilities

CAPABILITY 1:

Capability Summary: Capability to handle a surge or MCI of this magnitude or greater.

Summary: RuralMed surge capability was adequate as was our mutual aid plan and execution of plan. By RuralMed having the ability to shift assets across contiguous counties, we were in essence able to double our response capability in less than an hour.

Observation 1.1: If this had been a larger MCI, in which the tanker was punctured in a more populated area, or inside Teutopolis proper, our assets would have initially been stretched very thin and would have required a triage point closer to the hot/warm zone with treatment capabilities. On-board oxygen and airway supplies would have been completely depleted and the ability to replenish would have been non-existent, at least until we could have transported more units from Effingham and St. Elmo bases where main and portable tanks are stockpiled, and supplies could have been obtained. Early notification of command-and-control assets would have also made this easier to direct assets coming in from the outside areas. We may also look to expand our mutual aid agreements further out to possibly include Mattoon and Charleston Fire Department EMS, Carle EMS, and anyone in an hour radius of the county.

Analysis: Our analysis of this MCI leads us to work towards a larger surge capacity such as designing and deploying a surge trailer with oxygen and supplies for an extended operation, as well as elevated triage and DECON capabilities. We feel that we were very lucky in that the release was just outside a population center and the wind was out of a direction that kept that from happening. If this had happened in Effingham on one of the major roadways, we would have been easily overwhelmed in the sense that we would not have had enough resources to deal with the casualties at hand. We felt that the scope of this disaster was not truly made obvious until we were a few hours into the incident. Air Medical proved extremely valuable for providing critical patient care and rapid transport to appropriate tertiary care as well as burn units in the state. This allowed us to stay on-site to continue triaging, transporting, treating, and cutting critical time for patients to arrive at their needed destinations. Improvements can be made on the operational side, and we have identified these for after actions that will improve our capabilities moving forward.



Internal and External Recommended Improvements:

1. Improved identification of MCI/Surge Situations and how to communicate that clearly to Fire, EMS, LE and our other public safety partners. It is better to cry wolf and have the assets available than to have to play catch up in an incident. From our experience you will never catch up and mistakes compound on themselves. True scope of incident was not realized by key staff until hours into the incident, and some by social media.
2. Improve command and control assets to be mobilized earlier in the disaster. No true ICS was being utilized which made communication difficult. Delegation is key in these incidents and no one person or organization can take on that responsibility.
3. Contact the Hospital with MCI information early in the disaster, possibly right after the initial tone-outs to rescue personnel.
4. Improve Surge/MCI capabilities with the use of a stocked trailer and improved triage capabilities. Possibly working with the hospital to better understand their surge and MCI capabilities and have RuralMed liaison at the hospital during a disaster if possible.
5. Revisit Mutual Aid contracts to augment our current list of providers.
6. Working with Effingham County and MABAS partners to hold MCI/Surge drills to ensure quality improvement and identification of weak points in our systems. We have not had any type of a drill or tabletop since being contracted in Effingham County. We have had little to no contact from Effingham County EMA since our arrival here. We need to drill until we find failures, correct those failures and drill again until failure. Identification of these failures is key and desired by our organization.
7. Improve communication and training for DECON operations. This was confusing and no clear-cut plan was in place for DECON of patients at scene and some patients were decontaminated at the hospital which is not ideal as it could affect the ability of the ER to function. Again, this can be achieved through drills and training.



Section 3: Conclusion

In conclusion, we want to thank all our partners both inside the county and outside assets that took ambulances, fire and LEO's out of their community to assist us in our time of need. Although there is room for improvement, we witnessed unmatched bravery and improvisation to bring people to safety in a rapidly changing rescue environment, and once again, we were able to see our community come together in a time of disaster. RuralMed would like to give our condolences to the families of the victims as we mourn those lost and wish peace for them in this difficult time. We brought home our responders without major injury or death, and we can celebrate that in a time where celebrations are rare or unheard of. We will continue to improve our action plans and work through our failures and build on our successes from this incident. We are proud of our EMT's and Paramedics who showed who they really were and stepped up in a difficult situation to treat the injured. We heard the calls of our teams who were treating patients far from help, running low on supplies and oxygen who we could not get to quickly, those who had multiple patients who without treatment, would have perished. We saved lives that night in the roads and in ditches, and we honor the bravery of all those involved. These situations are difficult for first responders and the psychological trauma can at times be overwhelming, but we look to each other and our partners in fire, law enforcement, and public safety for a lifeline that we can each offer and receive. Some RuralMed personnel have been involved in CISM debriefings with others that were involved and found it to be a valuable tool in times like these. In closing, we will continue to move forward from this incident and others like it to improve our care and maintain the safety of our crews and patients and will work with all our partners for improved outcomes in the future.

