

ALERTEX 2018-A PRE-EXERCISE TRAINING

22-23 February 2018

THE SCENARIO HAZARD

ALERTEX 2018-A is a warm-up for tornado season. Tornadoes potentially impact any state in the United States with the exception of Alaska and Hawaii. Although we think of tornadoes as predominantly occurring in the Mid-West, historically California, Florida, Massachusetts, and all points in between have seen tornadoes. They impact southern Canada. Trinidad and Tobago appears to historically be tornado free, but tornadoes have been reported along the north coast of South America. So almost all of our Teams are in areas that have a vulnerability to tornadoes.

Individual tornadoes are very powerful storms that can literally flatten a town. That was the case with Parrish, Illinois in 1925, a town that was so extensively devastated that it was abandoned and never rebuilt. In that example, termed the Great Tri-State Tornado of 1925, 4 towns were completely destroyed, 6 severely damaged, 15,000 homes destroyed, 2000 people injured, and 695 people killed.

In other cases towns are so badly damaged that rebuilding is a literal replacement of most of the town; recent examples include Greensburg, Kansas (2007), Hackleburg, Alabama (2011), Joplin, Missouri (2011), Moore, Oklahoma (2013), Pilger, Nebraska (2014), and McGregor, Iowa (2017).

Tornado intensity was measured by estimated wind speed using the Fujita scale; today intensity is measured based on the resulting damage, and the wind speeds that typically cause that damage, using the Enhanced Fujita Scale from EF-0 to EF-5. Damage is assessed using 28 categories that are observable in the impact area. Approximate wind speeds and the general extent of damage for each level of the scale are:

EF	Wind speed range	Typical Damage Categories and Examples
0	65-85 mph	Light - some damage to siding and surface of some roofs, branches broken off trees
1	86-110 mph	Moderate - roofs, exterior doors damaged, mobile homes overturned or badly damaged
2	111-135 mph	Considerable - large trees snapped or uprooted, mobile homes completely destroyed

3	136-165 mph	Severe - severe damage to large buildings, trains overturned
4	166-200 mph	Devastating - well constructed houses leveled, automobiles are thrown over
5	over 200 mph	Incredible - strong frame houses swept away, automobile sized missiles fly in excess of 100 meters

Tornadoes may stay on the ground for short distances or travel on the ground for as much as a record 219 miles. The width of the damage may be comparatively narrow or extend to as much as two miles.

The most powerful tornadoes, EF-5s, appeared to be most frequent in April and May and have hit every state, except Arkansas and West Virginia, in a region from North Dakota south to Texas and then east to the Appalachian Mountains

It is important to understand that in data from 1991 to 2010 every state in the continental United States experienced multiple tornadoes, and tornadoes touched down during all four seasons, winter, spring, summer, and fall. Generally spring and summer are tornado season, but there are seasonal variants depending on the region of the country. Literally no place and no time is safe.

These events are obviously a local disaster, and would in most cases result in significant mobilization of resources in neighboring communities and counties, and in a gubernatorial declaration of a state of emergency for the impact area at the state level. Operations would include immediate rescue efforts, followed by initial recovery to restore lifeline services (power, telephone, transportation, water), sheltering, mass feeding, and debris clearance. This combination of activity typically extends from hours to 3-4 days although long term recovery may extend for years.

And this is the period in which emergency communications may be important. Damage to telephone lines and cellular towers along the tornado's track can be expected, as can congestion on surviving communications circuits in all services. This will put a premium on being able to quickly deploy resources on request, the ability to shift messages from one service to another using interoperable communications formats, and competence in voice transmission of standard message formats, the radiogram and the ICS 213 Message.

What is worse is a tornado outbreak scenario. Now the damage is no longer local; instead it is a combination of damage tracks spread across many states and involving many tornadoes. Examples of historical outbreaks include:

- 1965 Palm Sunday Outbreak - 46 tornadoes - Oklahoma (1), Georgia (1), West Virginia (1), Wisconsin (6), Iowa (2), Illinois (4), Michigan (11), Indiana (9), Ohio (11) - maximum intensity 17 F4
- 1974 Super Tornado Outbreak - 147 tornadoes - Michigan (5), New York (1), Illinois (12), Indiana (18), Ohio (11), Kentucky (25), West Virginia (6), Virginia (6), Tennessee (34), North Carolina (8), Mississippi (1), Alabama (9), Georgia (9), South Carolina (1) - 30 tornadoes F4 or F5

These are not just historical events. During 2017, the 10 largest tornado outbreaks included (this data is taken from event maps with overlapping symbols, and state figures are only approximate):

- 2 January - 36 tornadoes in Georgia (9), Alabama (3), Mississippi (10), Louisiana (12), Texas (2).
- 21-23 January - 81 tornadoes in Florida (4), Georgia (41), Alabama (17), Mississippi (2), Louisiana (7), Texas (3), Arkansas (3), South Carolina (2).
- 28 February-March 1 - 70 tornadoes in Georgia (1), Arkansas (8), Tennessee (7), Kentucky (4), Missouri (4), Kansas (2), Iowa (1), Illinois (16), Indiana (11), Ohio (7), Michigan (4).
- 6-7 March - 60 tornadoes in Oklahoma (1), Arkansas (3), Kansas (8), Missouri (19), Illinois (7), Iowa (18), Wisconsin (1), Minnesota (3).
- 2-3 April - 59 tornadoes in Texas (3), Louisiana (19), Alabama (1), Georgia (33).
- 5-6 April - 35 tornadoes in Florida (2), Alabama (3), Georgia (7), South Carolina (4), Tennessee (2), Virginia (7), Kentucky (2), Illinois (1), Indiana (1), Ohio (2).
- 29-30 April - 58 tornadoes in Texas (8), Louisiana (5), Mississippi (28), Alabama (1), Oklahoma (2), Arkansas (7), Tennessee (1), Missouri (4)
- 4-5 May - 26 tornadoes in Virginia (8), North Carolina (4), South Carolina (7), Georgia (6).
- 18-20 May - 77 tornadoes in Texas (3), Arkansas (3), Oklahoma (19), Colorado (1), Kansas (13), Missouri (17)
- 24 May - 23 tornadoes in Florida (1), Georgia (7), South Carolina (3), Tennessee (1), North Carolina (3), Ohio (7).
- 28 June - 24 tornadoes in southern Minnesota (4), southern Wisconsin (3), northern Illinois (2), Iowa (14).

When you look at maps of tornado touchdowns in outbreaks, there are often tracks across the map of a sequence of tornadoes moving on the same path

over a considerable distance. When we look at the dates of major outbreaks 3 were single day events, 6 were 2 day events, and 2 extended into a third day. The 3 smallest of the top ten involved 4 states, the average was 7.4 states, and the largest number involved 11 states. Of course, many tornadoes touchdown in relatively unpopulated areas or farmland, remain on the ground for short periods of time, and do not cause significant damage.

However, because each state potentially has multiple tornado tracks, there are possibly multiple disaster sites occurring within 24-72 hours, creating significant communications and coordination problems, and demanding extensive resource commitments. In these cases, extensive demands are made on available resources, the availability of mutual aid from neighboring states may be limited, and the disruption of electric power and communications may be widespread.

RESOURCE TYPING

As one of the outcomes of the reorganization of emergency management in the United States after the attacks on the World Trade Center and the Pentagon, significant efforts have been made to better manage resources, train and equip to national standards, and establish ways to mobilize them in disasters. Part of that effort has been the establishment of standard kinds of resources, and their division into types from IV to I representing increasing capability. In 2012 the REACT Board of Directors established a typing system for Communications Teams. In 2018 the Training Committee is focusing on training and credentialing Type IV Communications Teams. The Type IV team is a single resource composed of a team leader (correctly termed a Boss of a single resource) and one communications operator.

There are specific training requirements for Type IV team members. These include IS-100, 200, 700, and 800 and specific REACT courses tailored to the mission of the Communication Teams. The Federal Emergency Management Agency series from IS-100 through IS-800 is the standard for volunteer communicators in any auxiliary communications program.

For planning purposes we recognize two capabilities in Communications Teams - those that can deploy in their local area, defined as approximately a 25 mile radius from the Team's home location, and those that can deploy anywhere from across the state to across the country.

In addition to Communications Teams, which are capable of deploying, even if for only limited distances, we are typing Type IV Base Station Teams (a primary station as Boss and a secondary station capable of proving monitoring

coverage for all or part of their home jurisdiction) and Type IV Message Teams (to operate the Traffic System).

In a major tornado disaster the way our resources could be used include:

- Activation of one or more Type IV Communications Teams outside the disaster area to respond to a request for help from a REACT Team in the impact area or request for support from a agency with which we have a local or national memorandum of agreement.
- Activation of a Type IV Base Radio Station Team in or near the impact area to gather information from the general public, to provide information to the public in accordance with agreements with local emergency management, to answer calls for help, to support CERT teams, etc.
- Activation of a Type IV Message Team to manage interface with long haul amateur radio communications and to assist in communications with other REACT Teams, Regional Directors, and REACT International headquarters.

MAKING DECISIONS

When a major event happens your Team has a decision to make. Do you want to help? If you want to help, there is a second decision: can you help? Finally, what are you willing to do? None of these decisions is simple.

The first question - do you want to help? First, REACT is an emergency communications organization. Obviously, to do emergency communications we must have someone to do them for. There are four possible groups for which we can communicate: (1) other REACT Teams that call for mutual aid in meeting their communications taskings in major emergencies and disasters, (2) organizations with which REACT International or your Team have established memorandums of agreement or understanding, (3) agencies charged with managing the event which request help that we offer, and (4) the general public in support of gathering data for emergency management disaster control efforts or providing approved information to the public or in response for requests for emergency assistance.

If you have operators, equipment, and a training program, you have invested substantial effort as a Team to be able to help, so it is a good bet that you want to help. But are there limits to how you want to help? Do you only want

to help in your community? Do you only want to help certain types of organizations or in certain types of emergencies? Do you only want to do public service events, but when the community is devastated there are no bike races or festivals or parades, so you do not feel it is your mission to help under those circumstances? When people and communities are devastated what is the filter that makes you choose whether or not you will respond? Organizations with a mission to do emergency communications respond to a disaster to serve the organizations and people that they serve to the limit of their capability to help. That is what we do and why we do it.

The second question - can you help? This is more complicated. There are a number of factors to consider:

- (1) Do you have enough members to reliably be able to respond?
- (2) Does the work or family situation, the physical condition, and financial status of your members allow them to respond? Is the disaster site within a travel range that is consistent with what the members can do?
- (3) If so, do they have the standard training required of disaster responders?
- (4) If so, does the REACT Team have the equipment and procedures needed to do the emergency task requested?
- (5) And finally, do you have agreements in place with voluntary organizations or government agencies that will request your assistance? And do those organizations ask for your help?

If the answer to all these questions is "yes," then you are able to help. If the answer is "no," then the challenge is to fix each "no" answer, and convert it into a "yes." The REACT Training Committee is working to help your Team with the training and procedures requirements.

The third question - what are you willing to do? The first answer to this is:

... REACT is an emergency communications organization. We do emergency communications.

... The second answer is that we can do things related to emergency communications for which we are trained and equipped and that are within our physical capabilities. For example, if the need is for a log keeper at the Incident Command Post or in the Emergency Operations Center, we know how to do that from keeping radio logs.

... The third answer is that we can do things that maintain the integrity and accountability of our Type IV teams and that are safe in the judgment of the team boss. Type IV teams have two members and should never be split – doing so potentially poses a significant hazard for the operators.

There is a school of thought that if you respond to a major emergency or disaster you should do whatever needs to be done. There is some validity to that. And in an absolute crisis (the EOC is flooding, the wind just blew the roof off the command post, etc.) it may be an equally absolute need.

But if it is not a crisis, you have worked hard to become a qualified emergency communicator – training, testing, participating in exercises, etc. You have invested money, sometimes thousands of dollars, to acquire the equipment needed to do the emergency communications job. In some cases you have travelled significant distances to get to where you are needed, and borne the cost of that yourself. Now you are being asked to hand out cases of bottled water or clean porta-potties or load debris in dump trucks? You are not unskilled labor, and it is a waste of capabilities to assign communications specialists to do unskilled work. If communications assets are not needed they should be demobilized and sent home, or have not been requested in the first place.

What we do not do:

We do not do things we are not trained and credentialed to do. First, we do not know how to do things we haven't been trained to do, and the chances are that the result will not be good. Second, we cannot afford the liability if you are injured doing a task that is not our mission or if you injure someone else or damage their property. Third, we really don't want you to be injured or killed by a piece of equipment you do not know how to operate.

We do not do tasks that are legally the job of law enforcement – and that includes traffic control. Our members are not trained and credentialed by REACT to direct drivers and are not covered by REACT's insurance. Directing traffic is a dangerous job – even trained, veteran police officers are killed by drivers on roadsides.

We do not operate ambulances or provide pre-hospital pre-medical facility emergency care. Doing so requires state certification as a provider, medical direction, and licensing to transport patients.

We do not carry weapons. Our job is not to engage in gunfights, and we do not train you in combat shooting or in knife fighting or in the use of batons. If you are assigned to work in an area that causes you concern for your safety

due to criminal activity or rioting, ask for law enforcement support, or indicate that you cannot safely accomplish the assignment.

We do not self-dispatch or freelance. We respond when requested by a supported organization, we go where we are asked to go, and we do the job we are asked to do.

Bottom line – our emergency communications teams have no legal authority or status beyond that of any private citizen. Although you may be a state trooper who also volunteers with a fire department and an emergency medical services agency and who is a military trained bomb technician, you are none of those things when you are responding for REACT. We are emergency communicators. We are not a red lights and sirens governmentally licensed response agency.

HOW TO MAKE IT HAPPEN

Being ready to help requires that you go through a series of steps. For the purposes of this exercise, we will use only a few of the steps that you would take in an actual event.

(1) Have an emergency operations plan. The plan is your determination in advance as to (a) what type of disasters you will respond to, (b) how far you will be willing to travel, and (c) what resources you will be willing to supply.

PREPARING FOR THE EXERCISE: If you have a Team emergency operations plan, review that plan to make sure it addresses these questions. If you do not have a plan, sit down before the exercise, agree as a Team on what you will do, and put down on paper (a) the types of disasters your team will respond to, (b) what type of resources (communications teams and/or base radio station teams) and how many the Team can supply, and (c) will you be willing to deploy within or out of the local area and any criteria for making that decision.

(2) Have typed resources that could be deployed. In 2018 our priority is to develop Type IV teams that can be deployed (a) in their immediate area (defined as within 25 miles of the Team's location), (b) within the state, or (c) nationally. A Type IV team has a Team Boss and one radio operator.

PREPARING FOR THE EXERCISE: For the purpose of this exercise we will assume your team members have the required training, equipment, and credentials. If possible ask your members how many might be available to deploy either locally or at a distance. In the exercise we will ask for availability

of your Type IV Communications and Base Station teams, and a good count would be valuable to our overall planning.

(3) Be able to alert your Team members. This means that a Team should practice alerting and have alerting process and current contact information for each member. This also means that the Team needs to be able to increase readiness based on the threat posed by the event.

PREPARING FOR THE EXERCISE: For the purposes of this exercise we will use alert levels commonly used by other communications groups:

- Activation Level 4 - Standby - an awareness level during which the team should contact their members, review plans, and check equipment and supplies.
- Activation Level 3 - Teams start to determine availability and schedules - a Standby Net is initiated - Traffic System is activated for daytime coverage.
- Activation Level 2 - Base Station Teams are activated and a schedule established to maintain coverage as needed - deployable Communications Teams should be ready to deploy - Traffic System is on 18 hour coverage.
- Activation Level 1- Emergency communications are fully operational - Communications Teams are deployed as needed.

The exercise will include setting a REACT activation level, and may involve a change in activation level. This does not mean that you have to alert all of your members. But the Team leadership and the people who you are counting on to be on Type IV teams should be alerted and participate in any decision making the Team does.

(4) Be able to receive a tasking to deploy based on a request for mutual aid by another REACT Team, from a supported organization, or from an emergency management agency.

PREPARING FOR THE EXERCISE: Make sure that someone is monitoring the Team e-mail address during the exercise period. Don't just check your regular in-box, check the junk mail folder. Most Internet Service Providers have automated filters that assign e-mails with a large number of addressees randomly to the junk folder on the assumption that they are spam.

Walter G. Green III
Chair, REACT Training Committee
Training@REACTIntl.org