EXERCISE ALERTEX 2017
17-18 November 2017
HOT WASH

A number of well thought out comments were submitted on the recently conducted ALERTEX 2017. The following is a synopsis of the comments, background information, and the actions the Training Committee will take to address them.

1. Whether or not it was even appropriate to run this exercise:

a. Comment that it is inappropriate to conduct an exercise that is not part of a planning-training-exercising cycle. Conducting an exercise without these steps not using a formal plan in which all members have been trained will result in a failure.

The comment is based on the approach to exercise design taught by the Federal Emergency Management Agency, using a multiyear cyclical training and exercising program. However, this is not the only valid approach, nor is it the only approach that has been used successfully for specific objectives. As reflected in the exercise instructions e-mailed to each Team, this exercise was conducted specifically to collect a baseline to identify training needs and test the ability to generate and disseminate an alerting message. Prior to this exercise we had no baseline data on what percentage of our Teams we could contact and collect availability information from with 3 months warning, much less in an emerging crisis. In addition we lacked baseline data on member's familiarity with standard communications formats. We now have that data.

b. Notification of the exercise 10 days prior to it was insufficient. Training was not conducted. The Exercise was a "thunderbolt."

REACT has had an Emergency Communications Course available to the membership for at least seven years. That course is available online with online testing (as has been announced in The REACTer). Since 2012 completion of IS-100, 200, 700, and 800 has been a standard for REACT resources. Completion of these courses has been voluntary, with apparently a low use rate. Since August 4 new courses tailored to specific subjects have been released at a rate of approximately 1 a month. In addition, the Training Committee has been actively promoting completion of related Federal Emergency Management Agency courses through the monthly column in The REACTer. All REACT courses are available on REACT International's website, testing is online, continuing education units are awarded for completion, and certificates are provided within 72 hours of completion.

The comment suggests the standard problem that training in a volunteer organization is up to the initiative and motivation of individual Teams and members. This is complicated in REACT by the lack of training records of REACT training completed by the members, making it very difficult to assess who has been trained and to what level.

NOTE: The Training Committee has established a list of individual members completing training, what REACT courses they have taken, and how many continuing education hours they have completed, based on a 1 August 2017 start date. REACT International Headquarters is working to establish a system to allow members to upload other agency training certificates in their individual records. This will permit us to make a much better assessment of expected proficiency in the future.

ACTION 2017-1 – The Training Committee will publish and distribute a list of suggested emergency communications related training for use by Teams and Members.

ACTION 2017-2 FOR REGIONAL DIRECTORS AND TEAMS – Leadership should promote REACT and other source training as a benefit of REACT membership and encourage training completion for all members.

ACTION 2017-3 – The Training Committee should develop a recognition framework for completion of major training milestones.

Exercise instructions called for Teams to report their resources using the Resource Typing adopted by the Board of Directors in 2012. From other comments it is obvious that many members are unaware of Typing, or REACT's standards for it.

ACTION 2017-4 – The Training Committee will develop additional training on REACT's resource typing system and on deployment awareness for online delivery. The Training Committee will recommend to the Board of Directors that REACT establish a roster of typed resources.

Information on the exercise was first provided in the training article in the September issue of the REACTer (page 12), and then in the October (page 4) and November (page 10) issues. The "thunderbolt" and lack of training instructions comments suggest that 3 months warning is insufficient.

It is worth noting that the exercise instructions called for Teams to, first, receive one e-mail message and take no action on it, and second, to receive a second e-mail message, go to a webpage, and enter their availability data on a form. The final instructions were for a slightly more complicated exercise than reflected in the training articles (2 messages versus 1), and that may have confused some members. However, we did provide a complete flow of which messages would be sent, their intent, logical actions by the Teams, and underlined instructions as to which should be replied to, and how that reply should be made.

ACTION 2017-5 – The Training Committee will publish an annual exercise calendar, disseminated to Regional Directors and Teams by e-mail. We will continue to provide 3 month warnings of any exercise in The REACTer (and have done so in the December REACTer for a February exercise), and will expand the period prior to the exercise for dissemination of instructions from 10 days to 2 weeks.

NOTE: <u>One comment was made to the effect that notifications in The REACTer do not work because many members do not read it for a variety of reasons</u>. Our magazine is our primary way of communicating with our members. If information is not being shared within Teams, it is our only way of communicating with the membership. Failure of this communications medium is a significant leadership problem for REACT, but one the Training Committee cannot address.

c. <u>Messages were not actionable</u>. <u>FEMA IS-247 on the Integrated Public Alert and Warning System was suggested as providing a standard</u>.

The two messages sent as part pf the exercise were (minus the EXERCISE at the start and end):

Friday night message text:

MAGNITUDE 9.1 EARTHQUAKE YELLOWSTONE WYOMING 44.5N 110.6W X MERCALLI VI SHAKING FELT IN LARAMIE

Saturday morning message:

YELLOWSTONE SUPERVOLCANIC ERUPTION X EXPECT HEAVY ASHFALL US AND CANADA X REPORT TEAM AVAILABILITY HTTP://REACTWARNING.ORG/ICS213C

IS-247 provides excellent information on the generation of warnings for the general public using a largely automated system. However, REACT Teams should have already have in place the training and operational plans and standard operating procedures to make decisions about their operations when provided information that clearly communicates a significant event.

The term actionable is defined as something that is able to be acted upon. The first message is an alerting message to advise all Teams that a potentially national record earthquake has occurred. Even Teams in areas that do not routinely experience earthquakes should have been able to recognize that a high magnitude earthquake is a major event. Based on this message, Teams should have been able to use the guidance in their Team emergency operations plans to determine whether they would not alert their members at all, alert their members to be prepared to operate in place, or alert their typed resources to the possibility of a deployment.

The second message sent was a clearly actionable warning message. It identified what was happening (volcanic super eruption) as a significant increase in the threat (ashfall across the United States and Canada), and requested teams take specific action to increase readiness (that Teams report their availability).

ACTION 2017-6 - The Training Committee will work to identify and provide training to address shortfalls in Teams' ability to develop and execute an emergency plan for major disasters.

2. The scenario:

a. Comment that teams far away would not take any actions for an earthquake in an area in which the population was relatively sparse.

ACTION 2017-7 FOR TEAMS - If your team will not respond under any conditions to a potential request for help from other localities or REACT Teams, the team should report 0s for deployable teams.

The scenario was chosen specifically because a major earthquake causes wide area damage that would generate needs for resources far exceeding local capabilities. For example, Civil Air Patrol drew aircraft and aircrews from across the US to fly damage survey sorties in Houston and Puerto Rico. The American Radio Relay League sent 50 amateur operators to Puerto Rico from all across the country. Increasingly national level non-sectarian volunteer organizations (which is what we are) are drawing resources from areas that are not impacted to provide services in those that were, something that the American Red Cross and the faith based voluntary agencies have been doing for decades.

In the case of the specific Yellowstone scenario, the 1959 Hebgen Lake earthquake (magnitude 7.3 to 7.5) caused fatalities, damage, and communications and transportation outages in Utah,

Wyoming, and Montana, and effects were detected from Hawaii to Puerto Rico. The scenario event for the exercise was significantly stronger.

The second stage of the scenario progressed to an event that would have impacted every REACT Team in the United States and Canada – Trinidad and Tobago would have had only minor impacts as ash made its way across the predominant circulation patterns from the northern hemisphere into equatorial winds. The rest of us would have had from 1-3 millimeters to 3 feet of ashfall. The foot or more range includes Boise, Missoula, Denver, Salt Lake City, Cheyenne, and Rapid City.

3. Understanding what was requested:

a. Teams had difficulty understanding what was requested of them in terms of exercise participation.

The following instructions were provided for Teams regarding how to participate in the exercise:

EXERCISE PLAY:

Friday 17 November evening Central US time zone – an initial event occurs as a start of the sequence that will end up with a global disaster event. All Teams receive an alerting message. No reply is needed. Messages will be sent to the e-mail of record for the Team. Regional Directors and other REACT members who receive a message are asked to confirm that their Team received a message.

Saturday 18 November morning Central US time zone – the major disaster event occurs. All Teams receive a warning message. Teams reply with their status using a preformatted ICS Form 213C message available online at http://reactwarning.org/ics213c. Team play ends with this message.

Saturday 18 November afternoon – all Teams receive additional scenario information as an ICS Form 213 message that can be used for discussions and planning by Teams. This signals the end of the exercise, and no reply is needed.

TEAM PARTICIPATION:

On receipt of the 17 November alerting message we suggest that Teams review their alerting procedures and emergency operations plans.

On receipt of the 18 November warning message we ask that each Team respond by going to http://reactwarning.org/ics213c and completing the ICS Form 213C message template in the right-hand column on the page. This asks for:

- the Team's current status
- the total number of Team members realistically available for duty in the Team's local area
- the number of Type IV Communications Teams the Team could generate for deployment locally for 12 hours
- the number of Type IV Communications Teams the Team could generate to operate outside its local area for 72 hours

The form is forwarded by clicking on the SUBMIT button on the bottom of the form.

REACT has a standard typing system for ordering and deploying resources adopted a number of years ago by the Board of Directors, and designed to meet the standards of the US National Incident Management System. A Type IV Communications Team consists of 1 Team Leader and 1 Radio Operator (2 members total).

On receipt of the additional scenario information at the end of the exercise, we suggest that Teams schedule some time at their next meeting to conduct a discussion or tabletop exercise to examine the impacts of the scenario and how to plan for their role in large scale disasters."

We are not sure how we could make this any more detailed or any clearer. Although not stated by those commenting, it seems that the comment this may reflect a lack of prior experience in REACT communications drills and exercises and a lack of engagement in community exercises. The Training Committee has promoted exercise participation in the Great Shake Out and Formidable Footprint exercises, but participation so far has been limited to three Teams.

ACTION 2017-8 – The Training Committee will develop training in the basics of drills and exercises to provide members an understanding of how drills and exercises work and appropriate actions during them.

ACTION 2017-9 –The Committee will continue to search for and make available on-line and field exercise opportunities in which REACT Teams can participate.

A more basic problem may be non-delivery of exercise instructions and exercise messages. This failure can result from: (1) bad e-mail addresses, (2) transient blocking of e-mail or its redirection to junk mail by Internet Service Provider algorithms, (3) the e-mail being received by someone who chooses not to be involved in the exercise, (4) partial distribution of the messages within a team, or (5) the e-mail sitting unopened in the Team in-box. These problems are essentially beyond the ability of the Training Committee to resolve. The Training Committee has aggressively pursued development of an accurate e-mail list, and during the actual exercise we received no notification of bounced messages – all messages sent arrived in the in-box or junk mail of the addressee.

ACTION 2017-10 – Future exercise information should include instructions to check junk mail folders during the period of the exercise or an actual response.

ACTION 2017-11 – Every Team should check the REACT Team list online to ensure that the Team's e-mail address is correct.

However, we need better visibility as to whether the message to a particular team was opened, when it was opened, and whether the reader clicked through to linked instructions. Our test provider, Mail Chimp does not provide those capabilities in a free service. Developing this capability would allow Regional Directors and the Training Committee to better focus actions to correct the problem.

ACTION 2017-12 – The Training Committee should obtain funding for upgraded e-mail distribution capability.

4. Whether or not the radiogram format is appropriate:

a. Comment that the radiogram format is not user friendly and is difficult to understand.

Its use requires training. We have had instructions on how to write and read radiogram messages included in our REACT Emergency Communications Course (pages 1-2-14 through 1-2-19) for a number of years. For our amateur licensees, it is also covered in educational materials for amateurs (the ARRL HAM Radio License Manual for Technician class licenses and the ARRL Public Service Handbook). This format should be at least familiar to a significant number of our members.

The design of the message format is tied to the difficulty of voice transmission of messages, their transcription into written format for delivery, and maintaining accountability for the message in the message system. It is a proven format that has been used to process literally millions of messages. It is also a format that allows trained personnel to rapidly compose critical messages for transmission.

Experience suggests that a person of average intelligence and no prior communications exposure can be taught to read and understand a radiogram format message, including the preamble, in 10 minutes or less, and to write a message correctly in 2-3 tries with corrections in under 30 minutes in a classroom setting.

ACTION 2017-13 - The Training Committee has a training course on messages under development. The Committee will accelerate development of this course so that it will be available prior to the tentatively scheduled February exercise. As we do with all our courses, we will announce the new course in The REACTer and recognize members who complete the training.

ACTION 2017-14 - In composing messages going out directly to Teams by e-mail REACT Warning Team 6247 can include a brief explanation of the meaning of each section of the message as a temporary measure. That is consistent with our objective of increasing familiarity with emergency messaging among REACT Teams.

b. Question of why we should use an amateur radio message format and suggestions to use a more e-mail friendly narrative format.

A standard requirement for voice messages is brevity. Current training in message handling by the National Traffic System, the Amateur Radio Emergency Service, Radio Relay International, and the Canadian Amateur Radio Emergency Service all highlight that short, concise, and focused messages have a better chance of being correctly transmitted and received in a disaster environment and a better chance of being acted on.

Two message formats are commonly used in emergency communications. The first is the radiogram, a standard used by both major message handling organizations in the United States (the National Traffic System operated by the ARRL and the Radio Relay International traffic system). The radiogram is an international standard which allows origination in the United States and delivery in any International Amateur Radio Union country.

The 25 word format of the radiogram is consistent with other emergency communications formats. The Wireless Emergency Alert message used in the Integrated Public Alert and Warning System is a 90 character message. Vendors of emergency messaging typically range from 140 to 160 character formats. Twitter tweets on the old standard of 140 characters have been routinely used for emergency messaging by governmental agencies. The use of telegraphic language in radiograms is also consistent with standard emergency messaging for the general public.

Our traffic system is designed to handle messages within REACT. However, it depends on two Internet based forms of communications – e-mail and a voice network we will be developing over the next six months. In a major disaster, we can expect to lose Internet access to some teams in the impact area. This drives a requirement to be able to transfer our message traffic to an amateur traffic handling system. The radiogram gives us that capability.

The second message format in general use in the United States and Canada is the Incident Command System (Incident Management System in Canada) Form 213 Message. This format was designed for use in the controlled environment of an incident command post and emergency operations center. It is friendlier to longer text messages, but it is not easy to transmit and lacks the routing and accountability information of the radiogram. We do use ICS 213 Messages in a format specifically designed for REACT use (in keeping with Federal Emergency Management Agency instructions on message format modification). The form used to collect information on availability in the exercise is an example.

ACTION 2017-15 - As we get a better understanding of the needs for specific types of messages, REACT Warning Team 6247 will design, and the Training Committee will provide training for, preformatted ICS 213 series messages that fit specific internal REACT requirements.

5. Concern as to the level of participation.

The success metric for the exercise was to have at least 5 Teams respond to the scenario with availability reports that suggested they could provide deployable resources to respond to a national level disaster. Eleven teams reported deployable resources, and 7 other Teams provided a response to at least one of the two messages. While this is a less than optimal level of response for a national emergency communications organization with approximately 100 Teams, it provides a baseline on which training can assist in building our organizational capacity.

ACTION 2017-16 FOR THE BOARD OF DIRECTORS – The Board of Directors should formally task the Training Committee to regularly design and evaluate exercises to develop our ability as an organization to alert, warn, and coordinate REACT resources in the event of a major emergency. The Board should task REACT Warning Team 6247 to design, staff, and operate a website and communications systems to conduct the exercises. Members of the Board are requested to encourage participation by Teams in their regions.

Walter G. Green III, Chair, REACT Training Committee

1 Attachment – Table of Action Items

TABLE OF ACTION ITEMS

Number	For	Action	Status
2017-1	Training Committee	Publish and distribute list of recommended training	In draft
2017-2	Regional Directors Teams	Promote REACT and other agency training	
2017-3	Training Committee	Develop recognition for completion of training milestones	In work
2017-4	Training Committee	Develop training on typed resources and establish list of credentialed resources	
2017-5	Training Committee	Publish annual exercise calendar	
2017-6	Training Committee	Develop training on execution of emergency plans	
2017-7	Teams	Report 0s under Typed Resources if unable or unwilling to respond to future disasters	
2017-8	Training Committee	Develop training in the basics of drills and exercises	Published and available on the REACT website
2017-9	Training Committee	Search for and make information available on-line and field exercise opportunities in which REACT Teams can participate.	Previous efforts continue – 3 current choices: Operation Tsunami 2018, Great Shake Out 2018, and the 2018 series of Formidable Footprint exercises starting in January.
2017-10	Training Committee	Include instructions on checking junk mail folders in exercise information	
2017-11	Teams	Check the REACT Team list online to ensure that the Team's e-mail address is correct	
2017-12	Training Committee	Obtain funding for an upgraded e-mail mass messaging system	In work
2017-13	Training Committee	Publish REACT course on messages	In draft
2017-14	REACT Warning Team 6247	Temporarily include brief explanation of elements of radiograms in messages sent	

2017-15	REACT Warning Team 6247 Training Committee	Design and train on use of preformatted ICS 213 messages	
2017-16	Board	Formal tasking to the Training Committee for quarterly online exercises. Task REACT Warning Team 6247 to provide the facilities to conduct exercise. Promote participation among Teams.	