

After-Action Report: COARES Presentation on NTS

Central Ohio Traffic Net
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April 26, 2014

Introduction

The Central Ohio Amateur Radio Emergency Service (COARES) provides communication support for public service agencies in times of emergency, training by providing communications support for public events such as the Columbus Marathon and the Arnold Sports Festival. ARES is the sister organization of the National Traffic System, the amateur radio service that relays messages in the form of formal traffic (“radiograms”) and also serves the general public.

Emergency management plans include the use of amateur radio to support communications. A likely deployment scenario for response to an emergency that hinders communications in and out of central Ohio will use COARES for support of the public service agencies and COTN for support of the general public. To show COARES what COTN does and how ARES and NTS can work together, COTN gave a presentation and demonstration of the origination, relay, and delivery of a radiogram.

This After Action Report discusses the exercise portion of the presentation. This is a critical look at our performance with an eye toward improving performance as a public service group, as teams, and as individual operators. This document will be used by the COTN Net Manager and officers for guiding this year’s priorities and activities.

This document introduces the plan, the result of the exercise, recommendations for COTN, and the individual observations leading to the stated recommendations.

Thank you to all of our participants. We would not have been able to undertake this effort without your help. We hope that all readers will use this to see where there is opportunity to improve and to seize the opportunity for the good of all those we serve and with whom we serve them.

The Plan

Matthew Curtin, KD8TTE delivered the presentation in-person for COTN, supported by Jack McHugh, KD8TQI to coordinate between the presentation site and the COTN volunteers off-site participating in the exercise. KD8TTE drafted and circulated the day before the exercise a [planning document](#) describing the mission, objectives, participants, and procedure to be used for the demonstration.

The purpose was to demonstrate delivery of a message from a disaster victim to remote loved one while phone and Internet service was unavailable. One COARES member played the role of disaster victim and the other played the role of addressee. COTN had an originating station to take the message from the victim and to bring it to a local net, a liaison to take it from the local to a wide-area net, another liaison to take it from the wide-area net to another local net, and a delivery station to take it from the local net to the addressee. Each net was a formal net, a COTN session.

Results

We successfully took and delivered the traffic and we got good questions and expressions of interest from COARES members. Awareness of NTS and COTN specifically is greater among COARES than it was earlier, and the vision of COARES and COTN working side by side is now seen by a larger audience.

Recommendations

1. Increase training. COTN's daily meeting keeps us passing traffic, but to pass traffic well we need to train on other intervals, under varying conditions, and for people to learn duties associated with various roles. Include both classroom-style instruction and exercises.
2. Encourage participation in training exercises and in providing feedback regarding operations and opportunities for improvement. Training is not just about individual operators: it's about making teams of operators more effective in getting their jobs done, leading to improved capability of COTN and NTS.
3. Return to the practice of having volunteers train and qualify to be recognized as net control, liaison, and traffic handling stations. Issue certificates for those qualified and those who participate in exercises.
4. Develop plans for exercises ahead of time, ensuring that participants have an opportunity to see the plan, to critique it, and for the planner to release an updated final plan. Plans should include all information for individual participants to test their equipment and to understand their likely operating conditions ahead of time.
5. Use after-action analysis to see how the exercise went, how we performed, and how to adjust our training.

Findings

1. COTN has an appetite for training. We were able to secure a relatively large number of volunteers to play roles of traffic handlers, liaison stations, net control stations for a short period of time to perform a demonstration, and volunteers were enthusiastic.
2. If this exercise is demonstrative of COTN operating capability, COTN is not ready to serve the public as its members would like. COTN people put effort into the exercise and expressed frustration during and after the exercise. We want to do better.
3. Difficult operating conditions stressed performance capability. The exercise was more complicated than is typical for COTN, requiring use of one frequency to coordinate among three nets and a presentation taking place and another for each of three nets. Other stations discovered that they could not reliably reach repeaters that they needed once the exercise was underway. Sender and addressee did not play roles seriously and were not held in role by originating and delivering stations.
4. Lack of preparation led to foreseeable and preventable errors. Stations could have but did not test equipment ahead of time to execute. Not all volunteers were available when the time came. Traffic was not originated with the correct precedence and content addition established in instructions. The message did not include the required THIS IS A TEST MESSAGE to avoid having someone hearing the message mistaking it as evidence of a real disaster. The mechanism to keep presentation in sync with net control stations was devised by the presenter just a few minutes before the presentation started, when it became clear that coordinating through synchronized clocks would not work because of business before the presentation taking more time than expected.
5. Variable followup. Despite instructions for how traffic was to be counted, COTN received zero net reports out of three expected. Instructions specifically said that the traffic and sessions would count. Not all participants in the exercise participated in the gathering of observations for after-action analysis, while others provided detailed and specific information.
6. Improper voice procedure undermined a major point of the exercise. Prowords were not properly and consistently used, leading to extraneous chatter and wasted airtime.
7. Stations demonstrated adaptability. When the presenter asked for help to coordinate among the nets with the timing of the presentation, a willing volunteer took the role and was able to report when the net control stations were in place, along with changes made to the plan to ensure that all were ready. Missing roles were filled with volunteers, even if chaotically, and in such a way that still more volunteers were required to cover for their designated roles. In the end the message got through and the audience was impressed with the result.

Observations

1. KD8TTE: Team self-organized to address gaps. When I went to start the demo, KD8TQI not only reported that we had a full complement of operators on frequency but what

adjustments had been made so that we were able to run three nets as per Plan A. My Plan B was to fall back to two nets for the purpose of the demonstration, but we were able to stick to Plan A by making adjustments.

2. KD8TVB: People in roles of sender and addressee goofed around, distracting to originate traffic.
3. KD8TTE: The traffic that we solicited did not follow the stated procedure. We did not include TEST MESSAGE in the text of the radiogram, as defined per procedure. A COARES member asked the question how we put on the air that it's a test, and while precedence did include TEST, the text itself did not, which it should have.
4. KD8TTE: Precedence was reported as TEST EMERGENCY in discussion before put on the air, which was corrected to TEST WELFARE.
5. KD8TVB: Message was somewhat delivered, guy taking it from W8ARR was not taking it serious, he did not copy and roger the message
6. KD8TTE: Not all operators were present when calling for checkins on the repeater to monitor per the plan (147.09).
7. KD8TVB: People committed to be part of the presentation but were not available.
8. KD8TTE: Stations inside FCEMHS had difficulty holding the 147.06 and 147.09 repeaters.
9. KD8TVB: Stations that could not reach '09 repeater did not test from operating positions inside FCEMHS.
10. KD8TVB: Stations inside FCEMHS could better transmit to '97 than '09.
11. KD8TVB: I had a 50W mobile with external antenna in my truck, did not think about using it to address problems with reaching repeater from inside.
12. KD8TVB, W8ARR: Not all participating stations had the planned frequencies programmed into their repeaters.
13. W8ARR: Stations operating from usual QTH did not test before exercise so did not discover radios not ready or that repeaters were not easily in-range until execution time.
14. KD8TTE: I received 0 of 3 expected special session reports.
15. KD8TTE: A station volunteering to play a role as NTS did not check in when the net started, and another who was scheduled to play another role checked into that net as NTS to cover. The scheduled NTS station ended up checking in with no traffic. (The script didn't call for stations with no traffic; did we call for stations with no traffic?)
16. W8ARR: Document describing exercise was clear.
17. W8ARR: Traffic delivered on first net too quickly to copy.
18. KD8TTE: Handoff of traffic on local net used extraneous words, and devolved into a conversation right at the get-go. "I got x and z. I need y..." rather than using NTS procedure for getting fills, e.g., SAY AGAIN AFTER...
19. KD8TVB: Location information was not considered. [KD8TTE: by whom? How do you know? What did you observe that led you to that conclusion?]
20. KD8TTE: Operating conditions appeared to be stressing some stations.
21. W8ARR: Stressed operating conditions contributed to errors.
22. KD8TTE: Time allowed for presentation was 50%-75% of the time expected.

23. KD8TTE: We adjusted realtime by demonstrating in more detail the origination and delivery via local net to SNL, then moving on with the presentation.
24. KD8TTE: The message did arrive at the destination station before the conclusion of the meeting.
25. KD8TTE: I had no visibility into second or third nets because I was performing presentation.
26. KD8TTE: The traffic was delivered as from a ham to a ham, when they were meant to be roleplaying members of the public.
27. KD8TTE: The plan was silent with respect to how to identify the COARES members playing the roles of members of the public.
28. KD8TTE: We had some difficulty getting the number of volunteers needed for the demonstration.
29. KD8TTE: I got several compliments about the presentation afterward, with some COARES members specifically noting understanding of NTS, that US Army Corps of Engineers trusts NTS and relies upon it in plans for emergency communications, and interest in learning to act as relay stations.
30. W8ARR: Attendee reported later that he was "very impressed."
31. W8KWG: Everything here at my station went cattywampus.
32. W8KWG: I just was not sure when you would want me to start the net, as I did not know where you were in the presentation.
33. W8KWG: I kept having to go to and from different frequencies just to figure out what was going on.