Big South Fork Amateur Radio Club(BSFARC) Amateur Radio Emergency Services (ARES) Simulated Emergency Training (SET) 2020

Date: Saturday, 03 October 2020

Time: 1200 to 1400 EDT

Where: Five-county area – McCreary (KY), Cumberland (TN), Fentress (TN), Morgan (TN) and Scott (TN). Due to COVID-19 the training was conducted virtually from each operator's home rather than at a deployed location.

Who: Amateur radio operators from the five countries noted above each having a different role/function. Not all participants were from BSFARC yet all were ARES members from their respective counties. Participants had various forms of experience in both radio operation and emergency functions.

Plan: See attached.

Overall Results:

The team worked well together and was able to adapt to the ever-changing scenario and conditions. There is always room for improvement the team needs to focus on speed and accuracy in how they handle emergency communications. As this was the first active SET in the club's history no one knew what to expect other than it would be a challenge. Based on the survey results there is commitment to work to improve our team's performance and to prepare for SET-2022 as well.

Initial Comments (paraphrased):

1. More difficult for Windrock repeater users. Many could not access that repeater. Some difficulty with formal parts. Blocking state highways requires order of governor.
2. Slow start. Went pretty well. Good job and overall scenario
3. Very well. Some rough areas such as time stamps on messages
4. Congratulations. Excellent job and learn from the weaknesses
5. Overall, very good exercise. Short time. Smooth. time tracking issues. Military message while the same format the civilian use is much quicker.
6. Appropriate amount of time. Practice sending and receiving ICS-213 messages. Appreciate the amount of work that went into this.
7. Need to prepare better. Interference on Brimstone repeater made it difficult. Great job.
8. The need to jump into a role was unexpected but this could likely have happened during an actual emergency as well.
9. All participants, well done. Lot of effort went into this.
10. Overall fantastic. Served purpose. One thing people got better over time. Need to identify what went right and wrong. Need to improve as an evaluator.
11. Confusing and got lost a bit
12. Slow at first but improved over time in delivery of ICS-213 messages. Some had to be re-transmitted due to errors.

Lessons Learned

1. Even though emails with complete informational packages were sent out 48-72 hours in advance some participants did not acknowledge the ` information. This resulted in additional follow-up by the facilitator via text and phone to confirm.
2. The initial command channel for Morgan County was the 147.255 repeater which went offline the morning of the exercise. A simplex backup frequency was provided as part of the frequency plan. It was determined that a change was necessary which would transition the team to the 147.150 repeater in (Windrock) Oliver Springs. A quick email was sent to ask permission for use of the repeater which was granted. Not all participants for the Morgan County team were notified.

3. Some of the ICS-213 messages were not able to be printed by the role players. The participants ended up having to print a blank form and handwrite the message onto them. This will have to be evaluated more to determine what the issue was.
4. The EEG (Exercise Evaluation Guide) was sent out in a MS Word format. Some of the participants use an Apple computer where the format could not be easily converted. The EEG was exported to a PDF format and resent as needed.
5. During the post review it was noted that some of the handwritten notes included abbreviations not provided in the initial ICS messages. While the intent of the message was clear to the reviewer the document if delivered as-is would be left up to interpretation of others.
6. The EEG (Exercise Evaluation Guide) should have been more streamlined and a better set of instructions provided. The document was converted into a MS Excel format and had better feedback from the volunteers.
7. Having a chronological timeline provided by an evaluator was very helpful in re-creating the exercise. This also provided insight as to the time that certain messages were being sent and the current situation on the NET.
8. Need to make everyone aware of the different uses of the ICS-213 & do some Presentations for Formal & Informal uses prior to the next drill.
9. Provide additional training for 'abnormal' NET situations like changing frequencies.
10. Consider adding a Winlink component to the next exercise as additional training element.
11. Review the use of tactual call signs to streamline communications.

Objective 1: Establish Emergency Communications NET (12:00 to 12:15)

This objective and the following responses are from the evaluators perspective as they were provided objectives based on various time intervals.

Objective Description

In response to an incident alert, notify and provide emergency communication operators until the Incident Command (IC), Emergency Operations Center (EOC), and Emergency Management Agency (EMA) a normal means of communications is restored or established.

Ratings

The following were taken from the evaluation form:

1. Coordinate incident site communications to be consistent with the NIMS framework.

- A Communications NET Control is designated and identified

- An Incident Radio Communications Plan (ICS Form 205) is reviewed as a component of the Incident Action Plan (IAP)

Fully	Partially	Not	N/A
2			1

2. Implement response communications interoperability plans and protocols.

- Communication NET setup and check-in procedures established

- Interoperable communications equipment, channels and protocols are activated

Fully	Partially	Not	N/A
2	1		

3. Communicate initial incident information (informal).

- Timely, accurate and clear incident information passed to NET Control

- Orderly responses by communication operators

- Proper NET etiquette is understood and followed by all parties

Fully	Partially	Not	N/A
3			

4. Provide sufficient scenario information to initial responders in an accurate and timely manner to allow for operators to understand the scope of the exercise

YES	NO
3	

5. Participants are to conform to all FCC rules and regulations including the use of the term drill or exercise for all communications

YES	NO
3	

6. Use established common response communication language (i.e., plain English) to ensure information dissemination is timely, clear, acknowledged, and understood by all receivers

Fully	Partially	Not	N/A
3			

7. First responders acknowledge receipt and understanding of radio communications information

Fully	Partially	Not	N/A
1	1		1

Results Summary:

The morning of the exercise it was determined that the Morgan County repeater (147.255) was not working properly. The team decided to switch to the Windrock repeater which some could not access properly. Some of the evaluators were directed not to check in with their net control station. Not knowing if they were on the air or not was not an issue but we could not tell if we had sufficient evaluators monitoring and it made for less traffic then was planned for. The Scott Repeater team had an initial issue as their net control station did not activate at all. This required the facilitator to assume that role which put them off to a rough start. Both teams were able to conduct an orderly startup of their respective NETs. The 'windshield reports' were very good and helped the scenario to be further developed past the information provided by the preamble. Some of the backstories presented did not match the ones provided which may have detracted from the realism of the scenario.

Objective 2: Provide Emergency Operations Center Communications Support (12:15 to 12:45)

This objective and the following responses are from the evaluators perspective as they were provided objectives based on various time intervals.

Objective Description

In response to notification of an incident, provide and receive interoperable voice communications.

Ratings

The following were taken from the evaluation form:

1. Implement response communications interoperability plans and protocols.

- Interoperable communications equipment, channels and protocols are activated

Fully	Partially	Not	N/A
2		1	

2. Communicate initial incident information (informal).

- Timely, accurate and clear incident information passed to NET Control

- Orderly responses by communication operators

- Proper NET etiquette is understood and followed by all parties

Fully	Partially	Not	N/A
1	2		

3. Use established common response communication language (i.e., plain English) to ensure information dissemination is timely, clear, acknowledged, and understood by all receivers

Fully	Partially	Not	N/A
2	1		

4. Participants are to conform to all FCC rules and regulations including the use of the term drill or exercise for all communications

YES	NO
3	

Results Summary

As the amount of traffic increased the formal NET process was impacted. Role players were not sure how to get their messages across in a timely format. There was also some 'dead air' or extended pauses as operators tried to copy the messages down. Messages being sent followed the ICS-213 format but were taking too long for the amount of traffic on the NET. While some role players noted errors in the copying of messages others did not read them back at all. As messages were being delivered comments were made by other operators (some operator not identifiable) as to the validity of the messages and suggesting other options instead of following the message as transmitted. Not knowing what was scripted and what was an unofficial comment made it more difficult to control the situation. On the Scott County NET only 1 message that was intended to be sent during this time interval as sent at 12:51. All other Scott messages were sent in a timely manner. No traffic log was submitted by any Morgan County volunteer.

Objective 3: Integration of Mutual Aid Teams (Between 12:30 and 13:15)

This objective and the following responses are from the evaluators perspective as they were provided objectives based on various time intervals.

Objective Description

Initiate incident-specific procedures for the integration of additional first responders.

Ratings

The following were taken from the evaluation form:

1. Provide clear and concise direction to all communicators on when and how to move from Channel 2 to Channel 1

- Timely delivery of information

- Message acknowledgements are consistent

Fully	Partially	Not	N/A
1	2		

2. Initiate integration of new team members on Channel 1 communications.

- Orderly responses by communication operators

- Proper NET etiquette is understood and followed by all parties

- Communication operator and equipment are successfully integrated-

Fully	Partially	Not	N/A
	2	1	

3. Use established common response communication language (i.e., plain English) to ensure information dissemination is timely, clear, acknowledged, and understood by all receivers

Fully	Partially	Not	N/A
2	1		

4. Participants are to conform to all FCC rules and regulations including the use of the term drill or exercise for all communications

YES	NO
3	

Results Summary

The teams were supposed to integrate onto the 145.350 repeater after 12:30. Scott County sent the message to Fentress for the relay to Morgan at 12:32 after a minor pause in the traffic as it was marked urgent. The first Morgan county check in or message did not occur until 12:48. It is not clear what happened to the messages that were supposed to have been sent from the Morgan team between 12:47 and 13:00 as they are noted below as being missing or unrecorded. The merging of the two teams was not seamless as a formal check-on process was. A check-in process was not initiated upon an initial message from the Morgan team by either . While the mixing of the two teams was intended to verify how well they can quickly integrate into one NET it was more of a crashing the NET. Proper NET etiquette was not followed resulting in doubled transmissions which further added to the confusion. Some of the intended messages were not sent during this time slot as the traffic and interference (some stations heard another repeater from Alabama or Georgia) had increased. Responses such as "the question has

been answered will send units" was not per the script or the intention of the ICS-213 messages.

Objective 4: Demobilization (Between 13:15 and 14:00)

This objective and the following responses are from the evaluators perspective as they were provided objectives based on various time intervals.

Objective Description

Initiate incident-specific demobilization procedures for all first responders.

Ratings

The following were taken from the evaluation form:

1. Activate demobilization plan based on exercise specific requirements

- Demobilization messages distributed

- Account for all communication operators

-Orderly responses by communication operators

Fully	Partially	Not	N/A
1	1		1

2. Report and document the incident by completing and submitting required forms, reports, documentation, and follow-up notations.

- Create logs of actions and messages sent and received

- Forms, logs and reports are archived in accordance the SET plan

Fully	Partially	Not	N/A
1			2

3. Use established common response communications language (i.e. plain English) to ensure information dissemination is timely, clear, acknowledged, and understood by all receivers.

- Dissemination is timely, clear, acknowledged, and understood by all operators

Fully	Partially	Not	N/A

2			1

4. Participants are to conform to all FCC rules and regulations including the use of the term drill or exercise for all communications

YES	NO
1	

Results Summary

It does not appear that all parties were on the same repeater for the start of demobilization. The teams seemed to struggle with inter-county communications due primarily to the interference from distant stations. As the drill was to have a marked increase in traffic prior to this many of the earlier time stamped messages were finally delivered. The triggering event question to close the drill out occurred at 13:26 was about 10 minutes late due to traffic.

Overall Objective: Establish Emergency Communications NET

This objective and the following responses are from the role players perspective as they were directly participating in the exercise.

1. Provide a sufficient and plausible scenario information to initial responders in an accurate and timely manner to allow for operators to understand the scope of the exercise

YES	NO
7	

2. Implement response communications interoperability plans and protocols.

- Communication NET setup and check-in procedures established

- Interoperable communications equipment, channels and protocols are activated

Fully	Partially	Not	N/A
4	3		

3. Communicate initial incident information (informal).

- Timely, accurate and clear incident information passed to NET Control

- Orderly responses by communication operators

- Proper NET etiquette is understood and followed by all parties

Fully	Partially	Not	N/A
3	4		

4. Participants are to conform to all FCC rules and regulations including the use of the term drill or exercise for all communications

YES	NO
7	

5. Use established common response communication language (i.e., plain English) to ensure information dissemination is timely, clear, acknowledged, and understood by all receivers.

Fully	Partially	Not	N/A
6	1		

6. First responders acknowledge receipt and understanding of radio communications information

Fully	Partially	Not	N/A
5	2		

Role Player Personal Ratings

1. Prior to the exercise I was kept informed

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
			1	1	6

2. My background, training or using an amateur radio prepared me for this exercise adequately

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
			2	4	2

3. The exercise scenario and my role were integrated sufficiently

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
			2	3	3

4. For the next SET I would be willing to participate in it

YES	NO
8	

5. The duration of the exercise allowed for the validation for the team's overall skills

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
	1			4	3

6. The overall complexity of the exercise was suitable for our first SET

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
				4	4

7. During the exercise I felt a part of the overall team

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

		1	1	3	3

8. Overall do YOU believe the team could provide a proper response to an emergency like the one presented?

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
			4	3	1

Scott NET Timeline

An evaluator provided the following timeline which while unexpected was very much appreciated and useful as a learning aid. Having such a recorded history allowed the facilitators to further review the SET in a more chronological order and to time stamp when messages were sent.

12:00 Scott NET Preamble

12:06 First call for Scott Command (No response)

12:07 Second call for Scott Command (No response)

12:07 Final call for Scott Command (No response)

12:08 Scott Fire check in and initial report

12:10 Scott Hospital check in an initial report

12:11 Scott Red Cross check in an initial report

12:12 Scott Sheriff check in an initial report

12:12 Fentress Command check in an initial report

12:15 Scott Nursing Home check in an initial report

12:17 Scott Fire to Scott Command Message 1

12:26 Scott Fire to Scott Command Message 2

12:32 Scott Command to Morgan Command (via Fentress Command) Message 1

12:37 Scott Command to Scott Fire and Morgan Fire Message 2

12:39 Scott Fire Message 3 continuation

12:42 Scott Sheriff to Scott Fire Message 1

12:45 Midway announcements and reminders

12:48 Morgan Sheriff to Scott Command (asked to hold as message was previous message was being checked)

12:49 Scott Sheriff to Scott Fire Message 1 continuation

12:51 Scott Hospital to Scott Fire Message 1

12:55 Scott Command prioritization of traffic

12:57 Morgan Sheriff to Scott Command informal traffic not recorded here as not following ICS-213 format

12:58 Scott Sheriff acknowledged Morgan Sheriff informal traffic

12:59 Morgan Command to Scott Command notification of interference making it hard to communicate and listen

12:59 Fentress Command to Scott Command Message 1

13:00 Scott Sheriff to Scott Command Message 2

13:03 Fentress Command to Morgan & Scott Commands Message 1

13:07 Scott Fire acknowledges (possible error as this was supposed to be for Morgan Fire or possible response to unrecorded Scott Command Message 2)

13:07 Scott Sheriff acknowledges

13:09 Scott Fire to Morgan & Scott Commands Message 4. Then informal stating no date/time stamp on prior message

13:12 Morgan Sheriff to Morgan Command informal traffic

13:13 Morgan Fire to Morgan and Scott Commands Message 3

13:15 Scott Command to Scott Fire (Urgent) Message 3

13:17 Scott Fire acknowledges

13:17 Scott Sheriff to Scott Command Message 3

13:20 Scott Hospital to Scott Command Message 2

13:22 Scott Hospital to Fentress Command Message 3

13:25 Fentress Command acknowledges

13:26 Scott Command to Fentress Command: informal traffic "Are there any more messages?"

13:26 Fentress Command to Morgan and Scott Commands Message 2

13:29 Scott Command to Scott Fire and Scott Hospital Message 4

13:30 Morgan Sheriff responded to message 3 from Morgan Command that was omitted from this log due to confusion.

- Knox HazMat Message 3 to Fentress Command was evidently sent on the Morgan repeater system rather than as expected on the Scott Repeater.

Potential Missed Messages

During the analysis of the exercise the facilitators attempted to cross-reference the ICS-213 messages to ensure that all had been sent and received correctly. Some of the messages were apparently never sent or possibly received. Many of the role players did not turn in their messages for evaluation making this analysis more difficult.

- Morgan Command Message 2 to Morgan Fire and Morgan Sheriff are not shown on the timeline.
- Morgan Command Message 3 to Morgan Fire, Knox HazMat and Morgan Sheriff was not shown on timeline yet Morgan Sheriff responded. No record of others responding.
- Morgan Sheriff Message 2 to Morgan Command is not shown on the timeline.
- Scott Command Message 2 to Scott and Morgan Fire was not shown on timeline.

Evaluator Evaluations

As part of the exercise the facilitators recruited volunteers to listen in an evaluate the exercise. Of the seven (7) evaluators four (4) were initially assigned to the

Morgan County team and the balance to the Scott County team. It was assumed that not having an active role involving sending or receiving of messages would allow the evaluators sufficient time to track the exercise and record their comments. It appears that some of the evaluators took a more active role than anticipated leading to some additional traffic and confusion during the drill.

As noted, the evaluators survey form was less than intuitive and additional refinement should have been completed prior to it being finalized. The form as published identified the various objectives as defined in the SET planning guide. These were then linked to the various time intervals for easier tracking and better measuring of the objective. The evaluators were asked to identify their observation while providing a reference to that followed up by a recommendation. This proved to be too cumbersome for most.

Not all the evaluators provided feedback for this exercise which has possibly skewed some of the statistics that were being tracked to gauge the overall effectiveness. The reviewers that did respond invested time and effort in their responses. Additional interviews were conducted to gain a better understanding of their comments and reactions.

Strengths

The following represents the 3 columns of the evaluators forms and they are noted as be associated from section to section.

Observation

Slow start but improved during event: Struggles on speed and method for conveying ICS-213 information that improved as time went on.
Corrections made for ICS-213: Noticed on at least 3 communications that corrections were made to ensure message was as given. Example 1. a change from: to the shelter there to: shelter in place there Example 2. from: TN52 to: TN62 Example 3. Correction made on Morgan Sheriff: Stop all traffic in Sunbright except for evacuees.
Difficulty in change in protocol when Morgan joined quickly overcome: Since Morgan had been operating on their own, when they joined Scott there was an adjustment period for them to adapt to how the net control on Scott was running. Initially some doubling up occurred, but within 15 minutes of joining transmissions seemed more fluid and controlled even with double the traffic on the repeater.

I think everyone did a great job without having any previous experience.
I got lost and confused (even though I had a script) because I was intently listening to what was happening and not paying attention to what I was supposed to be doing.
NCS took control
Preamble was good

References

ICS-213 Forms
Objective 3: Integration of Mutual Aid Teams & Objective 4: Demobilization, probably the earlier objectives also.
Objective 3: Integration of Mutual Aid Teams
N/A
N/A
N/A
N/A

Recommendation

Direct communicators to skip date and just state time in military English (if there is such a thing), like 13 32 for 13:32/01:32 Remind them to keep flow as quick as possible
Maybe a standard procedure for relaying and acknowledging the ICS-213.
Not even sure it would be possible to the extent that messaging was fast and furious at this time, but maybe a quick refresh of how traffic is being handled when many people join. But that probably wouldn't be realistic anyway.
N/A
N/A
N/A
N/A

Areas for Improvement

Observation

Intimidating Forms: Did not fully understand the Count of Traffic form, what counts in each category? Logged only routine and ICS-213. But got hung up on whether to count responses/affirmation of receipt of 213, what if message was split up in segments, does it count as 1 message? Also, the Objectives part of the form I realized I did not fully understand everything that was noted for evaluation.
Backup Plan for missing participants: A key player did not show up causing a controller to fill the role. While making do with the situation and improvising is quite realistic, it prevented the controller from being able to fully experience and control the exercise.
Stress: I enjoyed listening and participating in this exercise and know the extensive work that went into setting it up. I think it is good training, but it takes a certain type of person to fill this role. I know that this is not me. The event and even evaluating it caused me anxiety and stress, but I believe that is because I do not do well in panic situations. I'm glad that there are people who thrive on handling emergencies. Here's to first responders. Personally, I would not want to fill any of the more active roles and even evaluating was stressful.
"This is a drill" was mostly used, but missed a few times
Slow and out of order (times are off)
Not able to work with Morgan very well. Repeater down.
The evaluation forms were confusing
As an evaluator I did not receive the forms initially
People talked too fast and gave their call signs too fast

References

Objective 1: Establish Emergency Communications NET
Conformance to FCC Rules and Drill Guidelines
Order of drill
N/A
N/A

N/A
N/A

Role Player Evaluations

Role players took an active role in the exercise by sending and receiving ICS-213 messages and providing additional comments. There was a total of eleven (11) role players with only one (1) from Fentress County who played an active role on both the Morgan and Scott County teams. Both Morgan and Scott Counties had five (5) role players assigned. One of the role players on the Scott team did not participate which required one of the facilitators to take over that role unexpectedly.

Feedback from the role players was mainly from the Scott County team which may have skewed some of the statistics. The packages that were returned contained primarily the score card sections as many did not provide any strengths or weaknesses in their review. The packages also lacked the ICS-213 forms that were sent and received. No handwritten notes were provided. Additional interviews were conducted along with email question and answer sessions.

Strengths

Understanding and demonstrating the bonafide need for emergency communications. The scenario presented for the training was a clear indication that the SET purpose was valid.
Everyone used proper and professional radio communication. All operators knew how to use their equipment and able to communicate properly. Practice makes perfect.
The moco *(Morgan County)* team communicated efficiently while on the 150 *(Windrock)* repeater.
I noticed that as time went by the message handling got better and better.
Good scenario
Good interagency cooperation
Excellent ICS-213 practice
Net controls maintained net discipline
Change of initial net frequency was implemented seamlessly

As a Role Player I have an extensive background in Emergency Services and have participated in numerous training exercises & ICS 213 Utilization.

Weaknesses

The ability to pass (send/receive) ICS 213 formatted messages accurately, timely and efficiently
Proper over the air communication of ICS 213: I personally do not know the proper procedure for the communication of the 213. That being said, the procedure used may have been perfect or there could be some improvements and or clarifications that can be made.
The lack of reach of the 350 repeater
N/A
Additional incident location details could improve realism for those unfamiliar with area
Some exercise frequencies beyond the range capabilities of participants
Excessive quantity of ICS-213 messages used for traffic capable of receiving direct transmission
N/A
N/A
I was slow out of the gate on this exercise and need more practice in bridging the gap between Military ICS 213 Voice Format & Civilian Agency ARES Voice Format and speeding up moving the TFC forward.
I'm thinking the QRN played a significant role in the failure of stations to change channels. Secondly, there was no acknowledgement the message was received by Morgan stations before changing channels.

Recommendations

N/A
Simply train on and practice proper massage forwarding procedure.
Running traffic individually on separate repeaters with a simplex relay. when moco (Morgan County) moved our communication was stopped by the volume of Scott traffic.

N/A
Prior to exercise would allow map familiarization time
Have potential participants test access to planned repeaters to be used prior to exercise
Promote realism by using ICS-213 only when direct messages that cannot be orally transmitted to the intended recipients or by the Incident Command Post and other incident personnel to transmit messages (e.g., resource order, incident name change, other ICS coordination issues, etc.)
N/A
N/A
N/A