

Galaxy Blue 5-05 after action report

Author: Steve Pabin

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Exercise information

Date: Saturday, May 28, 2005

Time: 0900 - 1200

Location: EOC at Florence plus 11 cities within Pinal County

Positions filled: see table below

Position	Operator 1		Operator 2	
EOC	KC7HES	Ryan Oler	N7ZZS	Steve Pabin
Apache Junction	WA8TSG	Gene Wilson		
Arizona City				
Casa Grande	KE7CAL	Paul Thomas	WD8JAM	Guy Packer
Coolidge	KD7URB	June Lewis	KD7URC	Chester Lewis
Eloy	NQ7R	Tom Kramer		
Kearny	KE7BLY	Mark Mesalam		
Mammoth	KB9ANK	Robin Hanus		
Maricopa	KD7ZBC	Mary Simmonds	KD7VCF	Jon Simmonds
Oracle	K8HSF	Ron Niswander		
Pinal County fairgrounds				
Relay Station	W5TEJ	Taylor Jones	KC8IJW	Cynthia Pogue
Stanfield	KD7RQA	John Kainrath	N6IDU	Dennis Schneider
Superior	KD7KDI	Daryl Natter		

Report card for exercise

1. message accuracy 95%
2. message timeliness 91%
3. message clarity 80%
4. exercise protocol 85%
5. EOC operations 81%
6. exercise management 60%
7. innovation 100%
8. command and control 95%
9. handling emergencies 100%
10. personal initiative 100%
11. clear instructions 90%
12. after-action reports 90%

Average is 81%, a 'B'

Number of messages sent: 35

Message Accuracy

Message Accuracy: Overall, the message information was delivered accurately. There were several messages designed to test for accuracy. The team excelled in requesting 'fuel' in one message instead of substituting the word 'gasoline'. There was one message where a radio frequency was given and that was passed perfectly through 2 operators. Even after we switched to simplex mode, the messages that were relayed through multiple operators were delivered accurately. There were some exceptions but they will not be listed in this report. They were minor discrepancies. Accuracy also includes sending all of the important facts in a message. Based on the key facts that were to be sent in the messages and the facts actually transmitted I would consider the accuracy at 95%.

Message Timeliness

Message Timeliness: Of the 35 messages sent, 27 were on time, 4 were 1 minute late and 3 were 2 minutes early. The biggest difference was one message that was sent 5 minutes early. Given that this was the first exercise using the new timeline concept, this is a very good showing. Even when the EOC gives time checks, it's difficult to not have messages sent 1 minute early or late. If EOC says the time is 8:45 it could be 8:45:01 or 8:45:59 or some place in between so we can disregard any time discrepancies of a single minute. This means that 31 of the 35 messages were sent on time. $31/35 = 89\%$. Since there was probably at least once when the message from a RFO was late because of the traffic load, I will round this score up to $32/35 = 91\%$

Message Clarity

Message Clarity: This is a measurement of how the operators, both NCS and the RFOs, insured that the receiving end understood the message. Some positive indications were RFOs who spoke slowly when delivering a message so that the NCS has time to write it down. There were operators who spelled out words when necessary to insure the correct type of sump pumps were being requested. Some RFO's delivered their message one or two lines at a time then confirmed that the distant end had received that part of the message before continuing on. On the negative side, there were some operators who received a message and simply said 'I copy' without repeating back the main points of the message so the sending operator could confirm the message was received correctly and completely. Overall I give this category a grade of 80% and recommend some 'desk exercises' for future training.

Exercise Protocol

Exercise Protocol: This is a measure of how well we 'played by the rules'. In this exercise we were to add 'This is an exercise message' at the end of each message that was an exercise message. We did not do this very well. There were many messages that were sent without this phrase being used. It will just become more natural as we practice more. I could have included those words at the end of the canned messages and it would have taken care of this problem but I want people to know to say it even if it is not written in the message.

There was also some confusion in the use of priorities which is the result of the example messages on my handouts. I suggested that when delivering the message, after giving the tactical call sign of the distant end, that you give your own tactical call sign and then announce any priority that this message has (if it has any at all). I noticed that most people gave their messages as 'Priority' messages which is probably OK since the scenario did sometimes deal with situations that warranted that classification. But some were not Priority traffic and may have been announced as such. I did not keep notes on this aspect of the message traffic. There was one 'Emergency' message sent which was correctly categorized.

Not many people identified themselves at the end of an exchange by their FCC call sign and we are instructed to do.

In listening to the radio traffic I was unable to determine if any RFOs had read through any of the scenario other than the messages they were to send. So I cannot determine if people accurately 'received' messages based on what they actually heard or possibly from reading along in the script. No one gave any indication that they knew what was coming up next so I assume everyone played by the rules. I give the group an 85% on this.

EOC Operations

EOC Operations: EOC operations were overall a success and we learned much from the experience. First the bad stuff: the EOC building was not opened when we arrived at 8 am on Saturday. Some of the RFOs were already on the network and chatting as they were setting up or traveling to their designated sites. We waited until about 8:45 before we tried to find someone to open the building. We should have started that when we arrived at 8 because even after we were in the building it took several minutes to arrange the EOC radio room for the exercise, haul in our stuff, get the A/C working, etc. It was possible to be on the air about 8:55 but not much sooner than that. Another few minutes' delay would have thrown the timeline off for sending messages which would have started the exercise off on the wrong foot.

The EOC room needs to be reconfigured and the chairs replaced with ones that have wheels. We also have other things on our 'wish list' but they will be presented in a separate document.

The EOC needs to be staffed by 2 radio operators, possibly 3 operators if there is much traffic on the maintenance net. I was there more to observe the exercise and it would have been better to have a 2nd operator there on Saturday.

I played the part of the outside agencies, such as Pinal County EOC, during the exercise and that went well except that I had to go outside the EOC building to hit the repeater with my HT. I also forgot to identify myself by my FCC call sign during the exchange and forgot to append 'This is an exercise message' to my messages.

The EOC did not always repeat back the main points of messages received thus insuring the sender that the message was received completely and correctly.

During the exercise, we used the message forms (ICS ?) that were mandated by the state and we need to evaluate how well they worked. We did not use the new

message handing form that I came up with. We will need to spend sometime before the next exercise and figure what is going to work for us.

I brought in a pigeonhole box to the EOC to store the messages sent to and from the various RFOs but that quickly proved unworkable until we develop an overall plan for handing the paperwork.

The exercise would have started more smoothly if we had access to the room about 30 minutes early so Ryan and I could talk about the forms, etc.

Ryan, as NCS, did a great job taking and delivering messages. We found that most RFOs told their message faster then Ryan could write it down, so we are going to look at some solutions for that problem. Ryan handled the messages while I keep the status board up to date and took notes on the exercise.

I don't recall when we started if Ryan announced over the repeater that we would be using the repeater for the next 3 hours for an exercise. It seems to me that he would have done this automatically. Maybe he did while I getting stuff out of my car. I do know that at the end of the exercise he did release the repeater back to general use.

Time checks were given by the EOC at the beginning of the exercise, again when we switched to simplex mode and several other times throughout the exercise. To the credit of the RFO's, no one challenged the times given. After the switch to simplex mode, a roll call was taken by EOC and all RFOs checked in using a professional manner, very well done in just a few minutes time. This is very good, since some RFOs may have had to reposition their antennas from pointing to the repeater to now pointing at the EOC.

There was also a comment made after the exercise by a RFO that they wish EOC could send a steady message (like a tone or a number count "Testing 1, 2, 3..." so the RFO could align his beam antenna on the EOC for maximum signal strength. We will need to look into this practical request.

There was also some intermod / outside traffic on our maintenance net main frequency for a few minutes. We need to evaluate this further.

Overall I give the EOC operations a grade of 85% because some of the things we did, like getting started just barely in time, could have easily been a real disaster like if we could not find anyone at 8:45 to open the building.

OK, now that I've given you my opinion I will now add some comments from others. These are shown in **bold**. These comments may affect this grade and increase it or decrease it. But I want to give everyone their place in this report. These are not exact quotes but they give you the idea. I will not identify the source. My 'comments' on the comments are shown in parenthesis. Thanks for the feedback, that's how we grow.

The operator stationed at the EOC will only need his/her credentials to get in. (I did not have any credentials with me. I don't know if Ryan did. We should all carry our ID card in case we end up at the EOC. Minus 1 point on the grade)

We need a binder with the appropriate (message) forms available in the radio room as well as for personal carry. (I agree and this is on our TO DO list. We finally found the forms that were there.)

We will never be able to predict who will be available for EOC duty, so all will need to know how to operate the equipment and know the forms to use. (This is a training issue and goes on the TO DO list. Personally I've only used the ICOM-706 a few times so I was not prepared as an operator. Minus 2 points on the grade)

Lets work with Art or Pete to determine which message forms works best for us and meets any requirement they have from the State on compatibility such as the ICS 213 form. (Good idea, lets gets the form down first before we train so we don't need to retrain later. Goes on the TO DO list)

I believe that NCS should not be conducted from the EOC during a real action event. NCS needs to be somewhere offsite and quiet and removed from the area of disaster. Depending on where the action is located, AJ, Stanfield, and Casa Grande are very readable back and forth to the EOC, so these would make the better locations for NCS. (During the exercise there were some cities that could not reach the EOC on simplex so there is some merit to this suggestion. Goes on the back burner for now but may show up in a future exercise.)

EOC operations should have 3 personnel during any call up...we need an operator, a message logger, and a status board person. (This is true but we can get by with 2 if need be. The exercise would have run better if we had stationed a 3rd person there. Minus 1 point on the grade)

Divide the radio room into 2 operator stations physically separated as much as possible. If we end up running not only Ham radios, but also some of the county radios, two operators will be a necessity. (Also one for the TO DO list)

We need to get the HF vertical and a NVIS antenna installed. I believe that NVIS is the missing link to the rest of the state for our EOC. (I agree as future exercises will include HF links possibly with other EOC at the far ends of the state. Add to the TO DO list)

I think everyone should do Tuesday night net control. It will help ease them into being a NCS during a crisis (I agree)

Q: What more would you like the EOC to provide during communications with your station? A: I think it would have been good to have had more time to try different antennas and have a chance to try to establish contact with each other station on simplex. (I agree. Look for it in future exercises)

We failed to maximize the effort that was put forth by everyone, and I think we failed to make it realistic enough. The exercise had two main goals: 1) to see if we could better our simplex communications around the county and improve on last October's simplex exercise, and 2) to practice at passing traffic. We succeeded with the second goal, but I think we could have done better with the first goal. (Excellent points. Will remember this for next time)

Exercise Management

Exercise Management: Since Luis was not there as part of the exercise, I should have been more active to insuring all the loose ends were tied up. As it turns out, some of the sheriff and police units were surprised to see our RFOs show up. They did not have any particular problems but no one like surprises.

The there is the matter of site surveys. I recall a few RFOs who ended up in a different location in order to get a better signal or simply park their car in the shade. Moving a location is fine but should have been documented so we know for next time.

There was one operator who abandoned her original post and set up with another operator at another post but still passed the message given her for the original post. This was all last minute stuff on Saturday morning. It is not bad in the sense that all the messages were sent but it did not give us the propagation report from that abandoned post that we needed.

Since part of the exercise plan was to evaluate the use of log antennas, I should have determine before hand which RFOs had log antennas and asked how they were doing during the exercise. Also I gave the compass heading to the EOC in the instruction for the exercise but should have included another set of heading to the repeater, which is not the same as the EOC heading. In fact I should have also included the Sacaton repeater.

The backup frequencies for both the exercise net and admin net were selected, quickly, from among those which should be clear, that is they are not already designated for repeater pairs or packet or any other special use by gentlemen's agreement. At the very least I should have listened to the chosen backup frequencies during the exercise to insure they were not being used before we needed to switch frequencies. As it turned out there was some minor traffic but we did not run over anyone's toes.

As the exercise manager, I should have gotten on the air by 8:30 in the parking lot using my HT and checked on the network.

As the exercise manager I should have had the names and cell phone numbers for a person to open the building.

I give myself a grade of 80%.

OK, now that I've given you my opinion I will now add some comments from others. These are shown in **bold**. These comments may affect this grade and increase it or decrease it. But I want to give everyone their place in this report. These are not exact quotes but they give you the idea. I will not identify the source. My 'comments' on the comments are shown in parenthesis. Thanks for the feedback, that's how we grow.

Simplex propagation was not tested thoroughly. (Once we moved to simplex we listened in EOC and made notes about what stations could hit the EOC and which

could not but the notes were random and we did not systemically try to determine coverage. Since this was one of the stated objectives of the exercise, we blew it and need to deduct 10 points on this area.)

Having helped set up drill exercises I know it is hard to get in a lot of traffic for every station, but waiting 2.5 hours to send a 30 second message was a bit tedious. I did however turn the antenna a lot to see what stations I could hear direct as they passed their traffic. (Point well taken. I was also concerned about this. Looking back I would have done this differently. We won't see this situation again. I need to deduct 10 points for wasting people's time)

I know setting up an exercise such as this is a time consuming job, but I think we could have been busier. From where I sat it seemed that there were long times of no activity. I understand that may be how it is, but maybe we could try to have a couple of events going on at once to spice things up occasionally. (Will do)

I was 5 miles west of town. More time to scout the area would have been a good idea. (We need to plan for these possibilities and allow time. It seems lots of folks needed to reposition)

The EOC should have given a 1 minute constant transmit so that we could fine-tune the azimuth of the antenna. It's annoying to have to wait for real traffic from the EOC, generally lasting less than 10 seconds, to fine tune antenna azimuths. It should be written into the SOP that when we go to simplex operations, the EOC will initially transmit continuously for 2 minutes, and then for 1 minute at the top and bottom of each hour (assuming there is no emergency traffic). This will allow newcomers to do fine-tuning and existing operators to make any needed adjustments.
(Excellent suggestion)

We should make it so that every station uses the ICS 213 form, and writes down all of the traffic that they send and receive. During an exercise, these will be turned in afterward. ICS 213 forms should be given to all operators to be kept with their EMCOMM gear at home. (We will give his some thought)

We should never send out a single operator to a location; basic buddy team safety would dictate that we should always send out communicators in teams of at least two people. (Another excellent idea. This exercise had 6 single operator sites and the rest had 2 operators)

All exercises should expressly forbid the setting up of simplex operations (raising of antenna, etc.) until it is announced that the repeater has failed. (Very realistic view of the situation)

Innovation

Innovation: NCS helped a RFO hit the EOC antennas on simplex by suggesting he bounce his signal off a mountain behind him and it worked. Some RFOs needed to move to better locations to handle traffic. Messages were relayed very well during simplex exercises. Since the idea of being innovative is always 'above and beyond' the call of duty, the group get a 100% in this category.

Command and Control

Command and Control: Everyone checked in on time at the beginning of the exercise, after we moved to simplex and again at the end of the exercise. There was only one operator who missed the roll call at the end. Everyone moved to the backup frequency in a timely manner, no one needed to ask which frequency we were going to. No one argued about the 'time' once NCS started the exercise and established a baseline time for the message time stamps. Overall a 95% on this issue.

Handling emergencies

Handling emergencies: Only one real world emergency came up when the circuit breaker in a RV kept popping. The RFO was finally able to fix the problem and still maintained his post. There were several simulated emergencies and one, the propagation problems to Superior that were 'real world' and happened to coincide with the scenario of equipment problems for that post. I rate this at 100%.

Personal Initiative

Personal Initiative: All RFOs reported in at the beginning of the exercise, reported in again after switching to simplex and also at the end of the exercise. There was one RFO who missed the closing roll call and may have been stowing his gear. People took the initiative to help each other pass messages when in simplex mode. I rate the group at 100% since this is all 'above and beyond' the call of duty.

Clear instructions

Clear instructions: There was a briefing held one week prior to the exercise where the message streams and instructions were distributed. There was time for discussion and questions. All instructions at the briefing were also contained in printed handouts. Since that time I have found a few minor errors in the handouts and some areas that need to be rewritten. Everyone seemed to know where he or she was supposed to be and what he or she was supposed to do. There was probably not clear to everyone who was in charge since Luis was not going to be there for the exercise. We are still trying to keep Mary in the driver's seat for the group and show that we take direction from her. I rate this area at 90%, not perfect but much better than usually seen in radio clubs.

After action reports

After action reports: Since this is only the second exercise, we don't have much of a track record to go by. This after action report will be distributed to club officers and posted on the website. I have only heard from one RFO about the exercise and would like to hear from more to see what they thought of it. I will rate this after-action report at 90% because I did not spend any time after the exercise talking with Ryan to get his 'second thoughts' about how it went.

Lessons learned

1. arrange for the EOC to be opened, air turned on
2. need better layout in EOC radio room
3. slow down in relaying messages, you can speak faster then I can copy
4. we need a paper flow path thought through
5. the sheriff / police did not knew we were coming
6. the list of operators was handy, add boxes for check-in and check-out
7. operators do move from the initial assignments, deal with it
8. you can not talk on an HT inside the EOC bldg very well, need to go outside
9. I did feel bad about people being out there for 3 hours and only being in the action for a few minutes. Looking back on it, I should have gotten on the admin net and talked with each station who was not 'up to bat' to help zero in their antennas. But I did want everyone to listen to the exercise scenario.

The TO DO list

1. Set up a binder in the EOC radio room with the appropriate message forms. Make copies and distribute to RFOs for personal carry.
2. Insure all members of PCECG carry proper ID to enter the EOC.
3. Train all members to operate the ICOM-706 in the EOC radio room. See if the county radio is going to stay there and, if we are required to run it also, we will need training.
4. Train everyone on the message forms.
5. Work with Art or Pete to determine which message forms works best for us and meets any requirement they have from the State on compatibility such as the ICS 213 form.
6. Divide the radio room into 2 operator stations physically separated as much as possible. Get hanging bookshelves and a file cabinet.
7. Purchase and install the HF vertical and a NVIS antenna.
8. Help everyone buy or build a beam antenna and then train on how to use them.

Suggestions heard for future exercises

1. The next exercise should be for all the stations to try to simplex each other. The EOC does not need to be involved in this exercise. We get everyone on and checked in via simplex and we go around the map. All stations point to location Mammoth and check in with operator aa#aaa. Next location will be Oracle, and so on down the list.
2. Scout out some mountains and hilltops as relay sites and try them.
3. Perhaps a pre-planned book of messages given out to everyone, but don't tell them which messages they are going to pass until the day of the event.
4. I also think 440 may be a better band for us to work on.
5. Need to attempt from CGRMC next event.

6. Maybe more of a show and tell session at the next meeting to see what types of antennas etc were used at each site will be helpful
7. This my suggestion for a relay. Use a member such as Gene Snyder, who is wheel chair bound, and has a good set up to monitor this stuff. He is located near Eleven Mile Corner, and stated, before the exercise started he could hear everyone.
8. Add "surprises" to the messages or sudden priority/emergency messages that only the EOC knows or send messages to the EOC that only the field operator knows. Kind of like hidden in the scenario package and to be opened at a certain time. This would MAKE the operator write stuff down. Or, have someone from a served agency volunteer their time and think of scenarios/situations as we go along. Actually getting Cochese/Maricopa and Pima EOC's involved would be way cool
9. We should have had every station try to contact every other station to see where the blackout areas were for every station. This would have given us valuable information
10. We need to have a class on what a directed net is.
11. I think that anytime we activate, even if it's for an exercise, all member need to bring all of their equipment that they might need in a real operation.
12. We need to have a class that goes over how to prioritize traffic, and create a "quick card" that succinctly explains it for use in the field. A bulleted list of points would probably be the quickest method to use.

Congratulations to

- I think all of our operators did an excellent job
- John KD7RQA did an excellent job of relaying messages back and forth ... and Dennis N6IOU get Kudos from me for an excellent job
- I learned so much from Taylor W5TEJ on setting up an antenna and from listening to the other folks responding to EOC commands.
Taylor, thanks for all the instruction and guidance.
- Ryan, you did an exceptional job in controlling the net
- I thought it went awesome! Steve did a FANTASTIC job. It was concise, organized, and well written
- Ryan taking the horns and making the decision for Guy to come to CG was a good move too. No complaining. JUST GO. It was a command decision and that was that....
- The instructions and the planning were outstanding and I think the test was not just successful but highly professional and flawless