

1 BACKGROUND

1.1 Exercise Objectives

- 1) Participate in the planning and implementation of a major multi agency exercise in Ottawa.
- 2) Deploy radio operators to actual locations (hospitals, Red Cross, Shelter) and establish radio communications from these locations.
- 3) Build relationships with various organizations and the people that operate their respective locations.

1.2 Areas Of Participation

- 1) Team member in exercise planning and direction
- 2) Shelter network for People Services & Red Cross, providing communications between the shelter, Red Cross House and the EOC.
- 3) Hospital radio system backup, providing a communications network in parallel to the hospitals Deskon system to link the Montfort, CHEO, Civic, QCH, CACC and EOC.

In all there were 9 EMRG stations activated plus an exercise director for a total of 20 people;

Blossom Park shelter (2 operators)

Red Cross House (2 operators)

Barrhaven Fire Station (EMRG Net Control - 2 operators)

EOC (2 operators + Team Leader)

4 Hospitals (Montfort, CHEO, Civic, QCH) (2 operators each, 3 at QCH)

Ambulance Dispatch (1 operator)

1.3 Team Leader Summary

I am very pleased with the exercise and look forward to applying what we learned. In the ten years that I have been involved in EMRG, this is the first time we have been involved in an exercise with other agencies. Internal EMRG exercises typically simulate or imply the participation of other groups, but nothing beats the real thing.

There were lots of challenges in the exercise that need to be addressed for the future, but these are all things that can be dealt with.

At a mini debrief after the exercise, EMRG members were pleased with how things went and brought up lots of areas for improvement. The EMRG operators that were at the hospitals, indicated that the hospitals were very pleased with how things went. There are some improvements required in the EOC with respect to the hospitals and possibly at CACC.

1.4 Glossary

CACC Central Ambulance Communications Centre

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CHEO Childrens Hospital for Eastern Ontario
EMRG Emergency Measures Radio Group
EOC Emergency Operations Centre
QCH Queensway Carleton Hospital

2 HOSPITAL DESKON BACKUP

There were technical and logistical challenges related to backing up the hospitals' deskon radio system. At times, the technical challenges tended to aggravate logistical challenges. Some of this was expected, based on conversations we had with various groups before the exercise.

The technical challenges are an ongoing development and will be addressed. The logistical challenges can be overcome through discussion between EMRG and hospital radio systems users.

2.1 Technical Challenges

The technical challenges came from trying to establish radio positions in buildings that are not pre-equipped for amateur radio. This is a realistic challenge that would be present for EMRG in any emergency situation where temporary communications is required from a building that is not wired for radio. The hospitals are an extra challenge because there is equipment that could be adversely affected by radio communications, which can impact patient well being.

The preferred solution for establishing emergency radio communications is to run a cable from the radio inside the communications room to a temporary antenna outside. This was done at the Montfort and Civic hospitals and at CACC (At CACC an existing antenna was used).

At CHEO and QCH hand held radios linked through cross-band repeaters was used because it was not possible to run a cable outside for an antenna. With cross-band repeaters, the radio operator has a low power hand held radio inside the hospital which communicates to a radio in their car. The radio in the car re-transmits the signal with higher power. This is the same method as in the vehicle repeaters used by the Fire Dept.

There were a couple of equipment failures, which took a few minutes to correct, and there were a couple instances where the cross-band repeaters did not operate as they should. The exercise has provided some real world experience that will help us enhance these deployment solutions.

2.2 Logistical Challenges

The logistical challenges relate to how the hospitals normally operate on their radio system and how EMRG normally operates. Bringing the two operating styles together in the exercise was not smooth. There needs to be a protocol established so in the future, there is a common understanding of what services EMRG needs to provide and how those services would be operated.

- 1) The original EMRG exercise plan was to only use one frequency for the emergency. It quickly became clear that the hospital communications must be on its own frequency, separate from the shelter communications.
 - Making this change was aggravated by the pre-staging for the exercise which set expectations on how things would work. The issue was not just one of explaining where to go, it was one of explaining the change from what was expected.
- 2) Amateur radio operates under federal law so EMRG must operate under that law. In a real emergency, there is some latitude to do whatever is required, but this was only an exercise. By law there must be an amateur radio operator present either operating the radio or supervising the operator.
- 3) Hospital Deskon radio system was still being used after it was declared non functional. In parallel, some hospitals started sending messages to the EOC via EMRG operators. This started the process of writing messages and delivering them to the hospital EOC rep. This process was hard to stop.
- 4) CACC had a rep in the EOC and the CACC dispatch was also on the hospital radio network. There was some confusion with where to deliver messages for CACC.
 - This was further complicated initially because the CACC rep in the EOC did not know that the hospital system was not being used and that was why EMRG operators were handing him messages. This was a great experience, because it is a real world possibility where not everyone knows about changes.

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- 5) Message speed was slowed in the EOC as EMRG operators wrote the message on paper, handed it to the hospital rep in the EOC and then sent the reply from the hospital rep. The hospitals normal operation is to have the EOC hospital rep on the radio, answering directly. Attempts to establish the hospital EOC rep with the ability to respond directly were not successful.
- The technical solution to allow the hospital rep to use the radio was there, a second radio, but there was difficulty establishing the understanding that there were two EOC stations, one controlling from a hospital perspective and one from an amateur radio net control perspective.
 - The technical radio challenges at the hospital aggravated the situation, since there were times that the handover was thwarted because communications with a hospital was temporarily lost.
 - The hospital deskon radio system was re-established near the end of the exercise and hospital messages returned to that system. There was still some confusion, when coincidentally on two occasions when CACC tried to make contact the EOC hospital rep was not at the radio. The EMRG operator at the CACC then made contact with the EMRG operator in the EOC asking if there were problems with the deskon system.

3 Red Cross

The Red Cross has the capability to operate as a station on the Hospital Deskon radio system and as a station on the shelter network. In the exercise, the Red Cross deskon station was not operational.

- 1) What triggers the Red Cross to activate their hospital radio?
- 2) Who operates the Red Cross hospital radio?

There were a couple messages sent to the Red Cross, from the hospitals, but this was done while the amateur radio network was operational. The Red Cross station that took the messages would normally have been on a different network supporting the shelters.

4 Shelter Network

The shelter support network was not operational until well into the exercise, but consisted of a station at the Blossom Park shelter, Red Cross house on Plymouth street, the EOC and a net control station (amateur radio dispatcher like function) at the Barrhaven Fire Station. The EOC, Red Cross House and Barrhaven fire station are all permanent radio installations.

The purpose of the shelter network, is to use radio communications to link the shelters with key support sites. Radio communications can provide a faster response than by telephone, can operate if phone systems are down and can distribute common messages to all stations at once.

5 WHAT WORKED WELL

- 1) EMRG participated in the exercise planning & implementation
- 2) EMRG operators were welcomed into all of their respective locations
- 3) Radio communications was established from all designated locations
- 4) EMRG operators overcame technical problems when they arose
- 5) There is a lot of good information coming back in from the radio operators and end users, so improvements can be identified and implemented
- 6) EMRG Net Control was established outside the EOC at one of the designated fire stations

6 WHAT COULD BE BETTER

- 1) Simple message forms. EMRG is typically a gateway for messages into the EOC, not an end user. This means that the message must be delivered to someone else in the room.
- 2) EMRG radio operators need to leave a brief pause after someone else completes a message, in case there is someone with emergency traffic.
- 3) EMRG operators need to wait after pushing the microphone talk button to allow enough time for the cross-band repeater to come on, then bring up the regular repeater. Without the pause, the identity of the station was usually missing at the beginning of their message.
- 4) Standard EMRG log form. Makes it easy to remember what to log and makes a consistent format, rather than each person generating their own version on site.
- 5) EMRG radio operators were using formal message handling procedures at times when the audio signal was quite clear. Phonetics and other formal techniques should be used only as required to ensure clarity. The name TOM probably does not need to be spelled phonetically.

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- 6) Pre-staging caused some confusion with stations being in place, but not being there yet in terms of the exercise. Need clear engagement strategy in advance.

7 Suggestions

- 1) Message Forms: Telephone message book would provide a consistent form with To, From, Time and the message. These are readily available so there is no special setup and printing costs.
 - Telephone message forms with duplicates would form a sequential record. If they were numbered would be even better.
- 2) When backing up the hospital radio system, place an EMRG operator beside the hospital rep in the EOC and have a radio where both can listen and transmit. The EMRG radio operator and the Hospital EOC rep can then establish an operating method that works for them. This allows the hospital rep to leave the radio if required and for the radio operator to hand messages directly to the hospital rep, rather than having a runner take them across the room.
 - One tactical call sign (EOC) would be used, but either operator can respond to that call sign.
- 3) Investigate options with the hospitals for pre-wiring some radio capabilities, such as antenna cables in the ceiling to avoid cables across the floor in an emergency.
- 4) Perform testing on cross-band repeaters to determine recommendations to optimize performance. This includes identification of the factor(s) that limit performance both in the hand held radio, the cross-band radio and the repeater.
 - Evaluate the performance of an amateur cross-band radio Vs. a commercial package with two radios.