LESSONS NOT LEARNED
AREAS FOR AR IMPROVEMENT

A PRESENTATION TO

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I. INTRODUCTION

This is a revision of the presentation made to the Communications Academy 2004 in Shoreline, Washington on March 21, 2004. It was written in response to personal experience from the 2003 interior fires and Squamish/Pemberton floods in British Columbia but also incorporates material for other evacuations with which I have experience as well as debriefing reports from various Amateur Radio (AR) responses. Where examples are given, they are generally the best examples of the four or more similar or identical points found in reading a wide variety of debriefing reports.

This has been hard to write because Amateur Radio operators volunteer so much time, energy and personal resources towards helping the community. Amateur radio has put its money where its mouth is. But, AR sometimes mistakes good intentions and good will for good emergency communications. It is not. Emergency communications is an art and a skill, just like CW or net control or building a radio – some people are good at it and some people are poor. Regardless of the intent and resources thrown at any of those areas, you don't judge the quality of the work by the intent or the effort, but by the results.

AR failings (yes, failings) is not to point out one group or one segment of the emergency response over another. Many of the problems identified below relate to many volunteer organizations and even some professional organizations. Some of the specific problems relate to most individuals and the problem is not AR, but human nature. But, AR is the one saying "We do a great job of emergency communications" and so AR has to withstand the critical evaluation of the statement they have made.

LESSONS NOT LEARNED

"If we look closely at the after-action reports and critiques from almost every recent major emergency and many minor ones, we see a pattern, and for many of us "in the business", a disturbing pattern. After all of the planning, all of the public education, all of the professional development, communities and responders are still having the same problems over and over again." William Lokey, FEMA Region 10, Bothell, WA

"Therefore, though there is sufficient Canadian experience and research to show how individuals, groups and organizations deal with disaster – and to predict future behaviour – and though these lessons are well documented and clear, they are often not applied. Even though the future threatens to bring more serious incidents, the evidence is that we will not be better prepared." Joe Scanlon, Lessons Learned or Lessons Forgotten: The Canadian Disaster Experience

"When events do occur, the response is to restore rather than innovate. After the ice storm, power lines were again placed overhead, ready for the next such storm. There were no plans to take advantage of the storm by restoring lines underground." Joe Scanlon, Lessons Learned or Lessons Forgotten: The Canadian Disaster Experience

AR is not the only group to ignore the lessons of disasters. There is a recognition that people don't learn. Even when presented with the information, in the clearest possible terms, that things didn't work, people persist in doing the same thing next time. There are a number of reasons for this, but whatever the reason, it is a given.

Lokey says people don't go through disasters often enough to get good at it. There is a denial mechanism of "It won't happen here" that catches people on a fairly regular basis or "It won't be that bad if it happens here."

The very nature of a disaster says "Things Went Wrong!" If everything went right, it wouldn't have been a disaster! But, when things go wrong, there is a human tendency to not face up to the true problems. People have a tough time being self-critical, may not have the experience to analyze if they did a good job and may ignore the big problems to focus on the small ones they have the ability to solve. Again, this is not restricted to AR.

However, when you do have a disaster and things do go wrong, there are lessons to be learned. But the lessons aren't being learned because everyone is saying "We did a pretty good job under the circumstances …" rather than "We did a terrible job!" Some information is not passed onto public domain for fear of embarrassing someone. Some information is not passed on because people are afraid of criticism. And some information is not passed on because of fear of lawsuits or personal attacks.

The fact is amateur radio response in disasters is not a pretty picture. We walk into a disaster and set up our radios and sit in the EOC and the reception centres and pass messages and say "What a GREAT job we did!" We don't take a true step back and say "How did we REALLY do?"

When you go to a disaster and AR refuses to pass on priority messages to police, refuses to monitor other frequencies such as FRS, refuses to provide situation reports, misses critical locations that are missing communications, has served organizations unable to find which frequencies are being used, and see reception centre managers completely ignoring amateur radio, then you realize there are serious and deep problems in the way AR responds. Especially when the debriefing report says "We did a pretty good job…."

This conference shows there is an interest in doing a good job. Again, you are willing to spend time, money and personal resources to attend which shows your goodwill. The question is, "Will you learn the lessons?" and "Will the people who haven't take the time to attend the conference learn the lessons?"

II. AR IS NOT EMERGENCY COMMUNICATIONS

One of the reasons that AR does a poor job is that not only do we act like amateur radio operators during emergencies; we assess ourselves like amateur radio operators. We set up a rig in the EOC or reception centre, give a test, pass a few messages, and think we do a great job of emergency messaging.

WE AREN'T ALL GOOD AT IT

Amateur Radio operators may not realize it, but the word "amateur" is derived from the Latin word amator meaning "lover". It is defined as a devotee or someone who does something as a pastime rather than a profession. Every amateur radio operator needs to realize that amateur may not imply a lack of skill, but avoiding direct remuneration. We need to be aware that amateur also means "one practicing an art without mastery of its essentials or without attaining proficiency.

Amateur radio is blessed with a wide range of skills and interests, from the builders, to the experimenters, the contesters and DXers, those interested in expeditions and those teaching basic courses, and of course, those doing public service and emergency communications. There is an attitude within AR that being able to contest or teach a course makes you an excellent emergency communicator. This is no truer than saying that someone who is a good emergency communicator can build a rig or a good contester can teach a basic class. We aren't all good at everything. Which all means, in the end, that those who think they are excellent emergency communicators may not be, no matter how valuable or capable their other interests in AR may be.

WE DON'T SAVE THE DAY

"We saved them during the ice storm, we saved them at 9/11, and we saved them during the Columbia disaster…." gloated one eager ham. I'm sorry, we respond ONLY after a disaster has happened. If we are out saving lives, it is because we are also emergency responders or are acting on an individual basis at an isolated location. Yes, I've been in the situation where an amateur radio operator has saved multiple lives. But as a general and widespread rule, we don't save the day.

By saying "Amateur Radio saves the day" you are also saying "Amateur Radio is terribly insecure in doing valuable secondary work doing BACKUP communications" and "We can't take criticism." To my mind, that is unfortunate because Amateur Radio NEEDS a good dose of criticism to pull up its socks.

We are sticking our heads in the ground if we think we are doing a good job. We don't do a good job, which is too bad (but correctable), but we don't even REALIZE that we do a bad job, which means we can't even fix it because we think we are doing so good!

DON'T CRITICIZE VOLUNTEERS

We run into a problem by mistaking that criticism of the job we do is criticism of the individuals doing the job. This has been a real problem for me personally. As a long-time volunteer, I know the AR operators donate hundreds of hours and thousands of dollars to help their communities. They go through a tough spell with the disaster and put their hearts and souls into helping out. But, when you look at the debriefing reports, glaring omissions show that nobody wants to criticize the volunteers. As a result, huge gaps are completely ignored or missed.

One of the reception centre managers thought they had been affected by the disaster. As a result, they were not operating efficiently – at the start of one shift they went outside, sat in a chair, and watched the disaster for three hours while the response carried on inside. Funny thing, this never showed up in any of the debriefing reports, yet most of the emergency management team was well aware of it. "Don't criticize the volunteers!" is a powerful impediment to determining if we really did a good job.

THANK YOU LETTERS

We get complimentary letters after the disaster from mayors and chiefs saying "Thank you – your help was invaluable!" The problem is that amateur radio takes these complimentary letters as a knowledgeable and studied critique of our response. They aren't. They are simply a thank you letter.

A thank you letter is in NO WAY a critical assessment of our response. Yet these are the only things we hold up to show what a great job we did. Quite frankly, we never spend any time or effort actually studying how well we do in responses. If you have ANY studies that say from the experienced emergency responders that say "Here's all the areas that should be covered in a disaster by AR, and here's an evaluation from each of those areas after the disaster rating the AR performance", I would like to see it.

We only use anecdotal evidence from a self-serving point of view. Yes, we do a GREAT job of covering the EOC and the reception centre because those were the only two places we could THINK of covering. When do we ever go back and say "Who DIDN'T we provide communications for? What areas were completely missed?" Disasters, by their nature, have a breakdown of communications at a number of areas. But AR doesn't study the debriefing reports enough to say "These are ALL the areas that could be affected" and therefore, after the disaster, is completely unable to say "These are the locations we did a poor job of communications." Therefore, our debriefing reports are always "We set up at the EOC, we did a great job of communicating out of the EOC, and we have a great Thank You letter from whoever was in charge of the EOC, therefore we did a great job!"

A ham radio operator with Salvation Army said, "I was at the forward feeding area and tried finding out what frequencies were being used. In nearly a month, I was never able to get in touch with the EOC or find out what frequencies they were on…." That didn't show up in the debriefing!

USE OF PHONES

AR has a vested interest in saying "Phones don't work" during disasters. It makes us feel good and wanted. But AR operators, which are so quick to point out that the phones don't work, are the ones who completely ignore the phones when they DO work.

It would be much more accurate to say "Phones don't work all the time in disasters". Reading debriefing reports, you often find that phones work for the first hour or two, are intermittent during the height of the disaster, and are one of the first things restored after the disaster by repairs to the system or bringing in emergency phones.

Phones do work. But as emergency communicators, AR rarely says "Let's put a list of phone numbers down of all the key people". We don't do this because we are so averse to using phones ourselves, and we want people to be reliant on AR for communications.

But, human nature says for ALL EMERGENCY RESPONDERS AND VOLUNTEERS "I always use my cell phone on a daily basis and I never use AR to pass messages. I will keep trying the cell phone rather than trying to find something I've never used before.

AR operators might take great glee in saying "Phones don't work" and then watching the reception centre management team getting bags of cell phones with mismatched chargers and lack of phone numbers and overloaded phone lines. But AR operators might want to think about this – despite having AR in the Reception Centre, none of the RC managers saw AR as anything but a last resort for sending the message through. They were using land lines, cell phones, internet, FRS and even sending runners, but AR was not being used to send the messages.

It was amazing to see the RC managers all trying to use cell phones and land lines, even when AR was sitting quietly in the next room. It is almost impossible to break people of the habit of using phones, even when they don't work. They would rather keep trying to make a phone connection, rather than use AR. See also the next point on "Did the message get through?"

DID THE MESSAGE GET THROUGH?

Anyone who has done formal messaging in AR knows that the volume of traffic capable of being handled is EXTREMELY low. A one hour exercise can create a four hour backlog of messages that haven't been sent through.

Along with "We use it all the time", the reason people don't use AR for messaging is they rarely get confirmation that the message got through. Pick up a phone and talk to the person, you instantly know if your message got to them or not. Send an e-mail and you get a reply or a message saying the e-mail address was wrong. Send a runner and they come back to say they delivered the message. Use an FRS radio and you get instant confirmation. But send a message to AR and you have no idea when it was sent, who it was sent to, if it got to the right person, if they are able to respond immediately or if it got misplaced and what time

it was received. Even the absolute best AR operator would not be able to guarantee confirmation with the sender for every message getting sent through. You put the message in and it disappears. No wonder they go back to hitting redial on the cell phone.

NUMBER OF LOCATIONS

We over-sell ourselves to make ourselves feel good. If communications truly does fail, there is no way in a million years that we can cover every police car, ambulance, fire truck, public official, emergency response officer, Incident Command post, served organization, media centre, hospital, served agency, convergent volunteer organization and traffic barrier.

We keep on saying “We’ll be there in an emergency” but in a disaster, when they require hundreds of individuals (for one shift!), all of a sudden, we’ve written a cheque we can’t cash. We undersell ourselves as to what we can do to help them, then when the public officials finally see the light and the advantages of AR, we oversell them on everything we can do. They are not going to call us until EVERYTHING is breaking down, and then we surprise them by telling them we can only cover ten or twelve locations at best. We’ve set ourselves up for failure.

LOGGING

HF operators might be slightly better than the VHF/UHF gang at logging time / content / contact of all calls, but generally we don’t normally keep a log of what we are doing, how we are doing it and what’s going wrong. The need for information after a disaster is huge. The need for accurate information is even bigger. And the need for honest, “warts-and-all” logs is the only way we are going to improve what we do during a disaster. But amateur radio doesn’t even put our Field Day summary out, and event reports are rare. If we aren’t even putting summaries out, how are we going to get the detail that comes from having every individual complete and submit a personal log?

III. INCIDENT COMMAND SYSTEM

The incident command system has proven to be the best way of organizing for a disaster to this point. All the emergency services agree. That is not to say that ICS doesn't have some SEVERE problems. It's just that there is nothing out there that has proven to be any better. Two areas that often come up as shortcomings are in communications and treatment of volunteers. If ICS is so great, why is breakdown of communications always the first thing to go wrong? Haven't we fixed it by now? Obviously not, and that's why AR has such an important role to play in emergency communications.

AR is not alone in not soliciting feedback and using self-assessment as a guide. For example, the ICS will say "We had an Information Officer and we had a communications plan under the logistics section. We did a great job!" Yet the media and the evacuees are often scathing in their comments about the information coming out of ICS for emergencies, let alone disasters. You can't have evacuees saying "We were bailing out our basements and wondering if we should even be here, but didn't hear anything from the mayor, the media, the emergency responders or the Provincial Emergency Program for two days!" ICS is not always geared to getting information to the public or the volunteers, but doesn't know it.

Another area that ICS has problems with is the integration of volunteers and volunteer organizations. This was specifically noted at in the BC government review of the Interior Fires:

"The amateur radio operators who provided emergency communications systems when cell phone and wired systems crashed are another excellent example of the valuable contributions volunteers can and did make. The Review Team believes that, as much as possible, volunteers should be kept "in the loop" and fully informed of policies, event status and expectations in recognition of their value as team members, and as communicators to the evacuees and clients of the Emergency Services Centre. Volunteers should be treated with the same respect and kept as well informed as all members of the emergency management staff." Hon. Gary Filmon, Firestorm 2003 Provincial Review

TRAINING

AR doesn't have enough training in ICS – it costs a lot of money to get to the higher levels and it isn't always offered to volunteers. But, without the training, you can't expect to integrate into the system. Either you don't know the terms and the forms and the procedures, or you are looked down upon for "not having the credentials".

Yet, in order to be respected and be integrated into the response system, you have to "talk the talk and walk the walk". Even getting all the AR

operators to get ICS Level 100 is a problem – even when it is free and on-line. People have a tendency to get diverted to other things and other projects. As a result, ICS can be misunderstood or poorly applied. This is not helping our reputation!

One of the advantages of ICS is that you can plug entire organizations into the organization by accepting that they have training, equipment and procedures all ready to go – they just need to report to someone to become part of the entire response. This is especially great for groups like Salvation Army, Red Cross, Amateur Radio, Search & Rescue and Church groups, where the Incident Commander can say "I have no idea how you operate, but here's the task and I'll get one of you to report to this person. With that, the entire organization gets added to the chart.

EVERYONE HAS TO BE TRAINED

"The Pine Lake tornado touched down around 7 PM on Friday July 14, 2000, the first day of the Glacier - Waterton International Hamfest. Many of Alberta's amateur radio operators and Emergency Co-coordinators were attending the Amateur Radio Emergency Services (ARES) meeting at Alberta - Montana border when the tornado touched down.

Central Alberta Emergency Coordinator Garry Jacobs VE6CIA had to return to Red Deer from Glacier Waterton Hamfest. His story is common, as many key Search and Rescue, Red Cross, Hospital, Emergency Medical Services, Fire and Police personnel were on holidays or leaving for weekend activities. Red Cross staff flew in from Manitoba, Saskatchewan and British Columbia." Central Alberta Radio League report.

"Tuesday (January 13) was uneventful. Hydro made more progress and about 500,000 were without power Tuesday night. It was nice not to have the phone ring off the hook and people calling on the radio. Then Tuesday evening at about 2015 I got another call from Securite Civil. This time relief operators were needed for the efforts underway in Brownsburg. I put out the appeal on the radio and started phoning whomever I could find. It was like pulling teeth." Verglass 1998 (The 1998 North American Ice Storem), James R. Hay (VE2VE)

In most cases, 5% of your hams will respond in an emergency. **Your key people will be in about the same proportion.** People have lives, work, families, and other commitments or may simply be unable to reach your location. It may take a day or two to clear the work schedule to be available. As well, hams are equally affected as any other person in a disaster area. When staffing, you will have to consider this and reduce your expectations or get help in form outside the area.

If you think your group is well-prepared for emergency communications, try this during your next exercise: Just like happened with Pine Lake and

the Montreal Ice Storm experience, completely remove all but 5% of your key personnel from the response and THEN run the exercise. Now come and tell us how well you handle emergency communications.

PLANNING FUNCTION

If ICS is the best model we have, to date, for emergency response, why is it that we don't use it? Like the emergency services, AR operators are "Doers". We like to be on the operations side of the chart. But, the ICS chart gives a lot of weight to critical areas such as Planning, Logistics and Finance. So, where is our planning function?

Quite often, we leave it to the emergency coordinator for our club to do all the planning. ICS says that it is a separate function in larger emergencies. If you don't have a planning officer, how do you expect to think about:

- areas not covered by AR that need it?
- getting enough people to cover all the locations?
- getting enough people to cover all the shifts for the next few days or weeks?
- having spares in case things go wrong, get worse, or new needs develop?

All disasters either get worse or they get better. No disaster in history has stayed the same. The Incident Command System has made it mandatory that a planning function be carried out and there is never just one plan. There is a plan for it to get better and there is a plan or multiple plans for it to get worse, or much worse.

Without an experienced AR operator(s) doing some planning, we are "winging it" as far as emergency communications. This is one of the reasons we get blindsided during a disaster – new locations pop up or the wind changes or the evacuation area enlarges or the command post is threatened. We have not done any planning for things to get worse.

WE have to do the planning, because nobody else knows what amateur radio is all about. Even the Communications Leader in the Logistics Section might not realize that we typically need 4.5 operators to run one station for 24 hours. Nobody is going to realize that we need coax and power supplies and antennas and message forms or that handie-talkies may not work inside a building.

SPARES

"Things will get worse before they get better".

Amateur radio is constantly caught short of operators at the beginning of a disaster. As a result, not all areas are covered, resources are stretched, and every available person is put to work immediately.

Yet ICS, after decades of experience and fine tuning, is adamant in having spares. Things change in disasters. They get better or they get worse, and in the beginning they usually get worse. Yet, you never hear of amateur radio saying "We covered the hospital, the EOC, the reception centre, shadowed the Incident Commander and HAD TWO SPARES running errands until assigned."

In ICS, spares are usually held in the staging area. AR is unique because our staging area is the air around us. As long as our radio is on, we can be available anywhere we happen to be located. This means that AR operators can be assigned additional tasks or roles without taking away their availability, yet we don't have excess operators on scene or in the Incident Command Post or EOC. For example, you can have spares running errands in vehicles, spares in the reception centre, spares at their workplace and spares in their homes.

ICS says that if you commit your spares, you have to get more. So, when we commit our spares, you have to communicate to anyone not yet committed the change in situation. Funny thing, almost every ham who is tied up with work for a small situation will generally re-evaluate their availability when they realize the situation is getting really bad. The spares may be there. But we don't have spares from the very start. We learn ICS, but we don't apply it.

LOGISTICS / FINANCE

This is another area of ICS that amateur radio fails to specifically assign. Without the supply of equipment and food and forms, things can break down rapidly. AR operators are usually a self-sufficient bunch. But equipment breaks down, certain items are short in disasters, and surprises do arise. Why don't we have one or two people assigned to logistics during disasters? Even one person in a vehicle can do a lot of running around to get spare chargers, pick up a sandwich and water and be available as a spare if required. Finance may not be a huge area for volunteers, who are supplying their own equipment and getting fed at the reception centre, but keeping track of mileage and expenses might be augmented with the sign-in / sign-out and scheduling functions. The ICS model says we should cover logistics and finance, so why don't we?

BREAKS

ICS says that breaks and shift schedules are mandatory. When you are short of people and the alligators are biting, it is hard to fit routines and breaks in. Yet debriefing reports are adamant about this "Take breaks or make stupid decisions". Everyone hears this, but few people seem to follow the advice. Even professionals get caught up "I was out there so long that I started to make absolutely stupid decisions. As soon as it was

In one disaster, you could tell at least one ham had crossed the line for not taking breaks when he loudly demanded on the air "I don't care if the form only has twenty-five words. From now on, EVERY form has twenty-seven words!!!" I'm sure that ham regretted saying that in an instant and every other ham could figure out what he was trying to say, but that's what happens when hams get too tired.

out of my mouth, I knew it was a mistake, but was too tired to correct it or stop what I was doing."

"What you do in training is what you do in an emergency." This is where we train people not to take breaks. If you don't make them mandatory during exercises and special events, you don't do them during disasters.

Another way of saying this is "If you don't do it right at the beginning, it will never get corrected during the rest of the disaster." People have no capacity for change in a disaster.

The adrenaline rush of responding to a disaster may make us disaster junkies. It's not as exciting to take a break or go for a good sleep. When you have lots of hams, take breaks, run by ICS and SOP/Operational Guidelines, it's actually pretty boring. Having the excitement and having things go wrong makes you feel important, makes you feel wanted, makes you feel like you are really helping out. Take a break and sit back and watch everyone else run. After the event, you'll appreciate that you DIDN'T get all worked up and that you DID take the breaks

USING OUR EXPERTISE

If ICS, emergency responders, and volunteers don't understand AR and its capabilities, we can't sit back and wait for them to come to us. We have to be proactive. For example, if the reception centre manager isn't using AR, why do we sit in the next room and wait for them to come to us? Why aren't we putting a shadow on them?

The same thing applies with locations. Amateur radio has the ability to set up communications almost anywhere, anytime. If professional responders aren't used to working with volunteer organizations like Salvation Army or church groups, why aren't we the first to say "That church group is part of the communications – even if you haven't thought of it, we have. Even if you don't think you'll use it, it's there. Even if you try to ignore them, we're able to pass messages either way."

IV. DISASTERS, EMERGENCIES AND AR

Emergencies and disasters are two different things. If we are going to be proactive in recommending an emergency communications plan we need to understand the differences and some of the recurring themes in disasters and emergencies that we can assist with.

EMERGENCY VS. DISASTER

There are many definitions of emergencies and disasters so I'll use a general overview. Emergencies are events where throwing more of the same at it will generally work. Adding more fire trucks, more police, and more ambulances generally does the job. Communications doesn't break down, although it may be strained. Disasters are multi-jurisdictional events lasting for days or weeks. Resources are insufficient or are equally affected by the event as the areas they are trying to respond to. Non-professional organizations are required to assist, there may be a large volunteer effort, and roles shift. Police departments take on rescue work, construction companies become the fire service. Quite often, logistics problems are a key bottleneck. Resources may be available in the community, but managing them is a problem.

In Kobe, Japan, there were literally hundreds of people rescued by police officers who couldn't do anything else because the radios were out and the streets were blocked. The SAR teams rescued only dozens.

In Kobe, much of the firefighting was done with bulldozers borrowed from construction companies because the fire trucks were damaged, the streets were blocked, and/or there was no water pressure at the fire.

COMMUNICATIONS FAIL

"Communications failed" is almost a universal complaint. But amateur radio (and even professionals) fails to realize this is because there are numerous types of communications. As a result, one type of communication may fail, but others may be working perfectly fine. For example, communications may refer to:

- radio communications working, but being overloaded with traffic.
- Technical failure, such as repeater towers being down.
- Media communications – getting critical messages to the media.
- Volunteer communications – getting critical messages to the volunteers assisting.
- Public communications – getting critical messages to those affected.
- Specific types of information – such as damage assessments, while other traffic is getting through fine.

If professionals don't understand the various types of "Communications Failed", then it's not surprising that AR fails to recognize the gaps. During the debriefing meetings, we'll be saying "Nobody told us to go to the radio station, so we never set up communication there". The lack of communications, in whatever form, almost invariably leads to the next point on damage assessment.

What is almost humorous is that given that communications fails, we tell amateur radio operators not to respond unless called. "We don't want hams self responding" and "don't get on the air unless asked". How are public officials going to ask when the communications are down?

What we should be saying is "Due to the nature of communications failure, if you think there is a disaster, you should immediately begin operations until it is proven that communications is working – at which point they will communicate to us that we are not needed."

Volunteers converging where they are not wanted is a huge problem in disasters and always a concern with professional organizations. But the advantage with amateur radio is this: with the radio on, there is no requirement for any operator to get in the way aside from one designated individual who can simply say "We are ready if required. Are we needed?"

Public officials are reluctant to call in outside help, especially volunteers. Despite repeated phone calls to say "We're available" public officials often say that AR isn't needed until things are really getting bad. If amateur radio waits until we are called, we waste hugely valuable planning, logistics, and preparation time. As a result, rather than being ready when we are needed, we are ready AFTER we are needed.

INITIAL DAMAGE ASSESSMENT

Disasters are multi-jurisdictional. Therefore, damage assessment is difficult and the scope of the disaster may not be known for hours or even days. If communications has failed, public officials may be unable to ascertain the needs, hardest hit areas, or limitations of assistance to be expected.

This is an area where amateur radio has huge capability, but this capability is not planned for. We have multiple operators dispersed over a wide area with instant communications ability. It is equally important to know what areas are not affected as to know what areas are affected.

In earthquakes, the hardest hit areas generally are the last to receive aid. This is because, with all the squawking from areas hurt, the hardest hit areas may have no communications left. Therefore, they are quiet. If it takes officials hours or days to figure out what areas have been hit the hardest, it is not a surprise that the hardest hit areas are the last to be discovered.

Rather than focus in on the nearest emergency, fire departments are told to take a drive around their area after an earthquake to take an assessment of how many blocks are affected and what is the worst problem rather than the most obvious one. A systematic approach works best. As well, knowing that an area is NOT affected is equally important as knowing which areas are affected – you can cross them off the list.

So, if amateur radio operators are widely dispersed, is on the air instantly, and public officials have trouble identifying the scope of a disaster, I ask you "Why aren't amateur radio operators trained to immediately come on the air, be ready for deployment and give a eyeball

situation report even just to say absolutely nothing can be seen in their area"? We have this tremendous capability and to turn to the public officials and say "The following areas are affected or are unaffected" yet we don't set up our procedures or train the operators to do it.

PHONES WORK

While phone interruptions are a common feature of disasters, amateur radio must be equally aware that sometimes phones work. This means that we may only be used in a back-up role or may not be needed at all. As well, AR can provide a valuable service to emergency officials by maintaining phone lists. If phones are working, quite often nobody has the phone numbers for the various officials or organizations. If our role is to get the message through – using the best method possible, then assembling the phone list might not be a bad role for us.

People who have never used amateur radio are not going to suddenly switch to using AR in a disaster. They will persist in using their phones. Perhaps AR, in our role of emergency communicators, should realize that and work with human nature rather than simply walking away and saying "I told you so! Phones don't work!" Sometimes they do – and quite efficiently.

LONGER THAN EXPECTED

Disasters last much longer than expected. There are numerous examples – floods lasting weeks, the 2003 BC Interior fires lasting two months, Ice Storms lasting for days and weeks, the Pine Lake Tornado had operations going for 7 days, etc.

I am pleased to see the first day's topic "Beyond 24 hours". AR seems well geared to running for one day. Running for three or four day is more of a challenge and running for weeks seems to be beyond comprehension. Rather than preparing immediately for long-term operations, amateur radio consistently prepares for one or two days, and then gets caught up in the immediate situation rather than looking to the future and the possible weeks of requirements.

One of the most interesting exercises with your group is to go through the debriefing reports of various disasters and look at the DOZENS or HUNDREDS of amateurs used and the WEEKS of operations, rather than the ten or twenty hams likely to be available and the one or two days you expect to operate. It is a real eye-opener for everyone.

CONVERGENT VOLUNTEERS

The larger the disaster, the larger the number of convergent volunteers you can expect. People want to help and they want to feel good - in very large numbers. The emergency community and volunteer organizations are very aware of this and train to handle hundreds or thousands or even tens of thousands of volunteers. Volunteers, although well-meaning, are considered to be a drain on resources, too much of a good thing, and often are seen as getting in the way rather than helping.

Amateur radio needs to be aware of this in two ways. First, AR is likely to be seen as a burden or "another one of those damn volunteer groups" rather than immediately welcomed with open arms. As per usual, once AR demonstrates its capabilities, it becomes a welcome and critical part of the response. But not until then. Again, sending in one operator in rather than large numbers of operators arriving will alleviate a lot of the fears and establish the bridgehead.

Secondly, AR must be aware that there will be an equal number of volunteers, in proportion to the general volunteer response, that want to help with AR operations. Like any volunteers marching in off the street, you have no idea who they are, what their capabilities are, what their training is, or if they are competent or not.

Debriefing reports constantly mention amateurs arriving from outside the region and making extremely valuable contributions to the effort. Often, they pay all their own expenses including travel, accommodation, incidentals and even food. Like our tendency to set-up only after things get really bad and running only the minimum number of locations rather than doing a good job by looking for the critical locations and finding the staff, we do the same thing with out of town volunteers. "Better to shun a hundred of the best communicators to avoid getting one bad apple" rather than "Let's take advantage of all this extra help but be prepared to kick out the one or two bad apples when they appear."

INTEGRATING OUT OF TOWN HELP

For every volunteer who arrives unannounced, there are hundreds of volunteers sitting back waiting to help but not wanting to interfere. A common situation is a group of AR operators responding to an emergency saying "We didn't have enough people and had to cut shifts, locations, and service" while on the other hand there are literally hundreds of amateurs saying "I'll come on my own dime, stay as long as required, have tons of equipment and experience, but will not go until asked for." I have talked to dozens of amateurs who have said "We were ready to help, but never got the call."

For communicators, we do a lousy job of communicating our needs during a disaster to amateurs in the area and amateurs outside of the area. A terrible job. If anyone should know the importance of communications, it is AR, but we consistently fail to provide situation reports, staffing needs or whether the situation is getting worse or better.

Just like knowing that a block is not damaged in an earthquake is as important as knowing which blocks are damaged, knowing that extra out-of-town AR operators are not needed is just as important as knowing that they are needed. Good situation reports will say "We are fine right now, but might require spares for three days down the road" or "In two days,

we are going to need breaks and assistance and available hams should start clearing their schedules now."

MEDIA RELATIONS

The media is always a touchy subject. The IC and Information Officers don't want ANYTHING going to the media that hasn't been cleared and so they tend to say "Don't talk to the media in any way, shape or form". There is a huge potential for misinformation to be given to the media or for sensitive information to be given out.

Yet Information Officers and ICs are usually from the fire or police services. There is an adversarial relationship with the press who are always prying for more information and are often critical of the services. As a result, the media are seen as a bother or, at worst, an adversary, during an emergency.

The media generally are in an adversarial relationship for normal reporting and are well aware of it. But during a disaster, they adopt a much different view. They realize their role is not to criticize, but to get information out to the public (along with good pictures) and they drop almost all their "let's hold their feet to the fire" attitude. Unfortunately, the emergency responders don't buy this and continue with the attitude of "the less they know, the better".

Debriefing reports normally include some comment about difficulties with the press. The wrong information was getting out, the IC wasn't giving enough information, the press was restricted from certain areas, etc. Sometimes specific information has to get out that doesn't reach the press in a timely fashion. Sometimes the press has valuable information that isn't getting to the IC.

AR needs to be aware of the valuable role of the media, the fear officials have of them, the valuable information the media may be able to pass onto officials and the communications problems that can occur with the media. For example, if the officials are using the media to get information to the public, wouldn't it be valuable for the officials to know that the media have gone off the air?

To sidestep the minefield of AR in media locations, AR should only be passing on the official press releases. Even if the media are getting the exact same thing from their representatives in the field, having AR at the key media centres does five things:

- It ensures you have critical information getting to the media.
- You have a way of ensuring the media is getting the information out.
- If the media goes off the air, you can alert officials.
- Media becomes reliant on AR for providing "official" messages. Therefore, when an emergency message comes through, it has instant credibility.
- Any rumours can be reported back to IC.

Rumours and non-official news reports are only reported because the official information is either incomplete or not being given out. No media outlet wants to look stupid reporting something that is known to be wrong, but in the absence of official and complete information, they will report whatever they can find. Having someone specifically designated to the media can report back that "they aren't putting your status reports on the air" or "They are reporting that this is the next area to be affected but we haven't heard that yet – can you check on this…"

Another issue with the media is that may be equally affected. In the 1998 Ice Storm a number of radio stations went off the air when their transmission towers collapsed. Public officials and emergency responders rely on the media getting critical messages out to the public. They may not be aware that the station has gone off the air! Having an amateur at the key radio outlets (all media outlets is likely impossible) ensures that this critical part of the response is operating.

HOSPITALS

Hospitals have a special role to play in both disasters, but also in AR communications. Hospitals are just as likely as any building to be affected by a disaster. Secondly, if there are large scale injuries, they will have special communications needs for things like capacity. Thirdly, they are a gathering place for the public, creating an information / convergent volunteer / PR nightmare. Finally, because hospitals are caring for people who cannot care for themselves, they cannot leave evacuations until the last minute. If it takes a team of doctors, nurses, Respiration Therapists, and other specialized staff to evacuate one patient, then evacuating a whole wing or a whole hospital requires a massive effort and patients cannot be simply evacuated onto the street or to the nearest reception centre. Even the nearest hospital may not have the capacity. Hospitals will be the first to be evacuated if there is the slightest chance of problems.

Hospitals may be evacuated for a number of reasons. Smoke from a nearby fire may endanger all patients with breathing problems. Floods

may interrupt all supplies to the hospital necessitating its evacuation. In California, fully operational hospitals have been evacuated immediately after earthquakes – because the water supply was interrupted.

Even if the hospital is not evacuated, it may have surprise communications requirements. For example, in the Blackout of 2003, over half the hospitals in New York experienced failure of their backup generators. If that didn't require emergency communications, the lack of fuel for the backup generators sure did. With gas pumps down, fuel supplies were interrupted and anyone who has worked with generators will tell you they gulp down a lot of fuel fast.

Hospitals are often hit with huge public convergence as people come looking for friends and relatives and information. Hospitals in Edmonton and Calgary were slammed with hundreds of relatives for a Tornado 150 kms away.

Hospital operations may be affected in a variety of ways. For example, capacity is a critical piece of information that rarely gets from the hospitals to the site of the disaster. As a result, the nearest hospitals are swamped with hundreds of minor injuries delaying attention to the most critical injured, while just a few miles away, other hospitals site virtually unused. Most transport is done by private vehicles rather than ambulances. As a result, hospital ERs are overrun with unexpected patients. Hospitals are beginning to respond to this by stopping the patients from entering the hospital and setting up a triage in the parking lot. The triage, expected to be done in the field by the ambulance service, is under-used. Suddenly, the lack of communications to the hospital parking lot becomes a huge issue.

In Kobe Japan, erroneous information was being put out by the media. For example, the media announced that one hospital was able to take dialysis patients, when in fact, it could not. The hospital was overwhelmed with dialysis patients because it could not correct this information through either the IC or the media. Hospitals often need to communicate to the public "Please don't come here!" or "Please come, we need type B blood" or "Minor patients are being treated at this other hospital". Without communication at either the hospital or the media centres, this becomes a huge problem.

Knowing that hospital communications for pre-emptive evacuations, for walk-in injuries, for public convergence, for critical supplies and for triage operations, why isn't the hospital the first location staffed – perhaps even before the reception centres and some other locations?

MOVING THE EOC / RECEPTION CENTRE

"It will get worse before it gets better" means you have to have some spares and the ability to move quickly. AR always has the latter, but the former means it puts itself behind the eight-ball. Again, the emergency services are equally likely to run into these problems. 9/11 pointed out the dangers as both the IC Post and the Office of Emergency Management were too close to the actual site of the disaster. ICS always stresses that the ICP must be away from immediate danger but things change. While the extreme of having to evacuate both the IC Post instantly and having the OEM rendered useless in seconds is rare, it is not uncommon to have the IC Post threatened. The Mississauga Rail Fire resulted in both the IC Post and the reception centre having to be moved due to wind shifts and increasing information about the severity of the problem. As the post and RC were moved, several other Reception Centres had to be opened.

We talked about having spares when we talked about the importance of ICS. You can't simply shut down the IC Post and reopen it an hour or two later in another location. Either you have enough spares to transfer command instantly or you end up with the situation in New York where suddenly the IC Post was abandoned and no transfer of command was possible. From now on, IC Posts will likely be further away, but the problem is still the same; things change and AR is not prepared to instantly staff a second IC Post or set up emergency operations in a surprise location.

SOME DISASTERS ARE SLOW DEVELOPING

AR often thinks in terms of sudden, calamitous events such as earthquakes or tornados. Quite often, the events are slow developing or predictable. Either you will have time to put your communications plan together or you should have put your communications plan together months ago.

Some events are predictable. For example, the Squamish / Pemberton Floods caught everyone by surprise in 2003. Why? Looking at the database of Canadian disasters, there have been three similar floods in the last 50 years! Why does flooding catch people by surprise in a flood basin?

Other events take time to develop. How about the BC Interior Fires? People had 3 minutes to evacuate their houses. Hold it! That individual fire started one full month before. The fire season in the B.C. Interior started a full TWO months before. The drought conditions, pine-beetle damage and build-up of flammable materials were known for YEARS before. If you live in a Kansas, you don't prepare for tsunamis and earthquakes and if you live in Seattle, you don't worry about tornados.

If there is a rising risk of something occurring, your amateur radio clubs should be talking about it. Even over a cup of coffee, a discussion of "What if…?" among a group of hams can give some pretty good direction about what stations to cover and what are your staffing requirements.

Even when the disaster is fast developing, there is time to stop and think and prepare. In Kobe, Japan, it took ten hours for the officials to figure out how bad it was. It may take an hour or two to set up an EOC in most disasters. Taking ten minutes to sketch out a plan of action isn't going to make any difference in the overall time of getting organized, but will have huge benefit to running an efficient communications system.

BUSSES

Busses are often used for evacuations to move large numbers of people, especially for those who don't have other forms of transportation. If operators are available, they can be of huge benefit on the bus advising the reception centres when the bus will arrive and how many people will be on it. Special requirements can be radioed ahead and either medical staff or reception centre volunteers can be awaiting the arrival of the bus to assist with any special cases discovered en route.

LOGISTICS / SWEEP VEHICLES

I am always amazed by how much sweep vehicles / errand vehicles are used during events, yet we fail to incorporate them into our communications plan. The flexibility of having someone specifically designated for small errands or moving people around is a huge benefit. These can be designated as spares should new locations or needs suddenly arise, or the role can be given to those that don't do well in reception centres or haven't been trained in formal messaging. Out-of-towners are not as good for this, not being familiar with getting around.

DONATED GOODS

Like convergent volunteers, donated goods are given with the best of intentions and yet may be a drain or scarce resources. When people donate goods, they often think this is a great way to get rid of old clothing, damaged goods, and items that have no further use but people don't want to see go to waste. For the Kelowna fires alone, there were 37 semi-trailer loads of donated goods including things like old typewriters, old mattresses, old clothing. For some reason, evacuees don't like pawing through piles of old clothing to find something to wear.

The result is that all the goods must be sorted, cleaned, itemized, stored, dispersed and/or disposed of, all without letting people know that probably 80% of it is unusable, inappropriate or not wanted and will be

dumped or put to uses that the public may not be happy with. For example, rather than dump it, it might be put in a thrift store to raise funds for one of the organizations.

The 37 truckloads of goods required an old Safeway store, an army of volunteers, a store full of donated shelving and seven months later, 12 volunteers are still sorting through it on a daily basis trying to salvage as much as they can.

During the Kelowna Fire, amateur radio was NOT used as this location, even though trucking, staffing, logistics all required some sort of communications and there was problems trying to tell the evacuees what was available and what wasn't.

CONVERGENT VOLUNTEERS

If donated goods are a problem, convergent volunteers are invariably a problem as well. Where do they go, how can the help, are there expenses covered, are they even needed? If there is no communications where the volunteers are converging, there should be. If volunteers aren't needed, that should be communicated to the volunteers, to the IC Post and to the media.

Convergent volunteers are a given. Even in smaller emergencies, simply putting up a sign that says "Volunteer Here" is enough to control the problem. The convergent volunteer centre NEVER has established communications and it is USUALLY forgotten by the people organizing it. Amateur radio should be the first to suggest it because we know it happens every time.

SURPRISE SERVICES

This is where amateur radio can really shine. The nature of a disaster says "Your normal response doesn't work and unusual solutions are found – some that work extremely well."

Your normal communications for normal response is things like police radio and cell phones. Your unusual locations are where amateur radio will get through. Some examples:

- Northridge Quake – Anheuser-Busch brewer supplies water when the supply is cut for 1.5 million people.
- Kobe, Japan – Construction companies bulldoze firebreaks when fire service has no water, cannot get through streets or has damaged equipment from the quake itself.
- California earthquakes (various) – tire companies become critical when emergency vehicles experience more flat tires

driving over broken glass, nails and masonry than can be handled by the maintenance department.
- Canada – CN diesel-electric locomotives used to power city hall and reception centre during ice storm blackout. Special note: there were no rails by either location and the locomotives had to be driven down the streets with no tracks!

Amateur Radio should be the first to take note of these special locations and say "Let's put a station up there right now!" This is where the spares and the logistics errand vehicles can be put to valuable use. Other locations are anything that becomes a scarce resource supplier – generators during blackouts or fuel supply companies for hospitals during blackouts.

Fully operational hospitals were evacuated in California earthquakes because of the lack of water. The public will start dying after 72 hours without water. Water supplies are interrupted by floods, power failure (pumps), hazardous materials incidents and pipeline breaks. Breweries have millions of litres of water, ample cans, and ample trucks for getting it to the public. If your emergency plan doesn't consider staffing the local brewery and local train dispatch, then you don't have a complete plan.

SO, WHERE CAN WE IMPROVE?

OTHER HAMS – ARE THEY NEEDED?

We should be making a point of letting every ham within 150 kms know "You are needed" or "You are not needed" or "here's were to sign up" or "You are on standby for three days from now." Let's be communicators.

SITUATION REPORTS

Make regular announcement of situation reports. Just because you know it doesn't mean everyone else knows it. Media, hospital, volunteer and other locations may all be relying on them. Out of town hams might be monitoring. They don't have to be long, but they have to be often and accurate. Become the first source of information rather than the last source of information. Then people will use you for everything else. Situation reports should include the official press releases, frequencies being used, outlook for the situation and a request for available operators or tell operators how to sign up for shifts.

WHERE ARE THE DEBRIEFING REPORTS?

Put the debriefing reports on the web so that everyone can learn from them. Be critical of yourselves. Realize that your AR viewpoint clouds your judgement and that going to people and asking for honest and positive criticism will make everyone better emergency communicators. If you can go one better and include the best points brought up in the individual logs, even better.

MEDIA

Set up at the key media centres, even if it is only to ensure they receive the standard official situation report. Become the source of official information so that anything critical that comes from you has some authority. Pass back to the EOC all the rumours and unsubstantiated information so that the EOC sees AR as a source of reliable feedback. If public officials argue that you should NOT set up there, tell them you are only putting your best operators there, they are only passing the official press releases and ensuring the media are putting them on the air and are there in case the radio station goes off the air.

GETTING EMERGENCY OFFICIALS TO USE US

Use debriefing reports as an excuse to see public officials. Going in with a debriefing report and asking a few questions will introduce you to them, let you see what your operating location might be, let's them see that you are more than just a ham, and might tweak their interest when they see that you know more about a particular disaster than they know. It establishes the working relationship before the disaster.

SHADOWS

Realize that the most important public and emergency officials have no idea what amateur radio is and want nothing to do with them, especially if there are any sensitive discussions. You are going to have to put your absolute best people in these roles to tactfully handle the situation. They must remain within three feet of the official until that official suddenly clues into how valuable a shadow is. Then the amateur will not be let more than three feet away no matter how hard the ham tries.

WHERE IS OUR MARKETING?

Having said that Thank You letters are not a critical evaluation of our capabilities, they are an indication of our value in emergency response. The following quote should be sent to every public official and emergency official as a Christmas card:

FIRESTORM 2003 PROVINCIAL REVIEW, 04/02/27
- Report on the British Columbia Firestorm and Evacuation of 40,000 people –
The Honorable Gary Filmon

"In the consultation process, the Review Team also heard about the important role that amateur radio operators played during Firestorm

2003. When emergency radio systems failed and cellular coverage was lost in some areas, the amateur radio operators were an invaluable, but at times overlooked resource.

During the wildfires, the amateur radio operators proved to be very resourceful, and demonstrated their commitment and dedication by relaying vital information over the airwaves. However, some people did not consider them to be an integral part of the emergency response system. There appeared to be a lack of understanding and appreciation among some emergency agencies about the value of local amateur radio operators."

"The Review Team Recommends:
Include Amateur Radio Operators in Emergency Response - All Emergency Operation Centres should include a provision for amateur radio operators, including power and antenna space, in case they are needed.

The amateur radio operators who provided emergency communications systems when cell phone and wired systems crashed are another excellent example of the valuable contributions volunteers can and did make.

The Review Team believes that, as much as possible, volunteers should be kept "in the loop" and fully informed of policies, event status and expectations in recognition of their value as team members, and as communicators to the evacuees and clients of the Emergency Services Centre. Volunteers should be treated with the same respect and kept as well informed as all members of the emergency management staff."

WHAT FREQUENCIES?

AR operators are continually concerned that their frequency will be jammed or interfered with or will be monitored by someone who shouldn't hear some things. During a disaster, an emergency communicator will realize that it is the lack of communications that causes problems and that the more people who know and monitor the frequency, the more facts will get out. As far as jamming and interference, you should always have a plan B, but it happens so rarely, it should not be your primary operating assumption.

An information frequency with net control can be used to advise spare hams, out-of-towners, hospitals, media and other locations about the official situation report and take offers of assistance as well as advising needs for the next few days. This should be done on a regional basis. All other communications can then be done on an operations net and non-essential traffic can be told to stay off.

All frequencies should be publicized so hams of various other cities or organizations can monitor without interfering. We are communicators.

ORG CHART ON THE WALL

Any official walking into ANY location should be able to glance at the wall and get an instant idea of who we can communicate with. It should almost be labelled “This is who we can talk to”. If an official has no idea who we can reach, they will never use us.

For the amateurs, the org chart might include things like call signs and frequencies and any other information deemed valuable. Locations that don’t have communications or have communications only during certain hours should also be marked. It is just as important to know who you can’t talk to as who you can talk to.

FRS / CB / COMMERCIAL

The general public will never, ever use AR. But hundreds or thousands of them use FRS radios. FRS radios are used in malls, at special events, in reception centres, between officials, for security companies and for traffic barricades. Get used to it. Monitor it. Advise when it would be a good idea to take net control. The same thing with CB. If the even affects traffic on the highway, then CB will be used by the public and by the professional truckers. Get used to it. Monitor it. Use it like the information repeater to get critical information to as wide an audience as possible.

NEW TECHNOLOGIES

PSK 31, Winlink, AirMail, IRLP are all alternative modes that might have a huge benefit for emergency communications. If you aren’t used to them, it is time to start experimenting with them. If you can use them, set them up during exercises or as a precaution for disasters. There’s no use finding you don’t know how to use it when they are needed the most.

ATV

Consider using ATV to assist the ICP or the EOC with their operations. A picture is worth a thousand words. A mobile ham with ATV is worth their weight in gold.

HF

Even if everything is being handled on VHF / UHF perfectly well, you should set up an HF link immediately. If nothing else, it can be used to tell out of area hams that they aren't needed. When the need suddenly arises for an HF link, it is already established.

HOSPITALS

Hospitals are affected more often, more severely and more widely than generally suspected. A disaster 150 or 200 kms away from you may affect your hospital system. Are you ready, especially with the HF link, to the scene? AR won't be. Emergency communicators will be.

SPARES

"Things will get worse before they get better".
"Communications Fail"
"Unusual locations will become critical logistical suppliers"
"The IC Post or EOC or Reception Centre will have to move"

Amateur radio is the most versatile communications system going. If people aren't needed, they can be told to go home. People can be on alert that a flood is coming, a fire is coming, they might be needed in five days or things are changing. They can be at work, at home, travelling, operating in other locations. As long as they are a spare, they are free to be reassigned or can do all the personal stuff they want. Just as long as they monitor the radio. Use that ability!

OUT OF TOWN HAMS AND SCHEDULING

You have thousands of hams who are willing to come and help at their own expense, just for the experience and for the ability to do something good. Don't ignore them. Tell them exactly what is going on, if they are needed or if they are not needed. Communicate with them!

These are your backups. You can never say "We didn't have any spares" or "We didn't have enough operators for all locations" or "We couldn't go past three or four days at this level, let alone ten weeks" unless you can honestly say "We gave all our staffing requirements for the next three days for an area 100 or 400 kms around and there were none available." The main reason there weren't enough is because you didn't communicate.

While briefing, orienting, and accommodating outside hams may take up valuable manpower, remember that they are there to do the grunt work. Use your people to manage them and suddenly you will find you have all the hams you need, all the locations are covered, you have plenty of

spares and you have time to look at the over-all situation. Suddenly, you realize the extra hams aren't a drain on your system at all.

OPERATIONAL GUIDELINES VS. DEBRIEFING REPORTS

Your Operational Guidelines or Standard Operating Procedures should cover everything that has been discussed above. It is not good enough to say "We didn't think of putting someone on the busses". The proper response was "We realized busses were being used in the evacuation and realized that amateur radio should be on the busses, but we didn't have spare operators at that time/the busses had communications/there were more critical needs for our operators at the time.

USE THE DEBRIEFING REPORTS

Don't make up scenarios during exercises. It doesn't work and it isn't realistic. Take an actual disaster debriefing report and transfer it to your location. Then follow the scripting and timing and events. This makes it much more realistic, gives a greater sense of "This WILL happen" rather than "this might happen" and when an operator says "That's ridiculous! That would never happen", you can point out to them the incident and say "That's EXACTLY what happened, now deal with it."

Once you get good at using the debriefing reports, take on the challenges. For example, have a discussion over a scenario like this:

"In 1979, the City of Mississauga had to evacuate 218,000 people due to a railway derailment and explosion. Although the explosion occurred at midnight, the official callout for amateur radio didn't occur for another 16.5 hours. Either the emergency officials didn't want amateur radio, did not realize the need for amateur radio soon enough, or was not aware of amateur radio's capabilities. If this scenario were to occur here tonight, we have three questions we need answered:

1) What should we have been doing in the 16.5 hours to get prepared?
2) If the emergency officials didn't think they needed us, how should we deploy without getting in the way?
3) If the emergency officials felt that ham radio was a hinderence and deliberately excluded amateur radio, how should we deploy?"

Don't make it easy.

FLEXIBILITY

Things change. New locations open. Things get better or things get worse. Repeaters are up. Repeaters are down. Everyone in one Reception Centre uses FRS and the next one is using cell phones. AR only uses AR. Emergency communicators use whatever method makes the most sense to get the message through.

If there is one thing that amateur radio is capable, it is adapting to new situations. Let's use this to the best of our abilities. And let's be prepared to be flexible. When someone says "We don't need HF, don't put it up" you should be thinking "Oh, my gawd! They said they are sure it won't be needed! GET THE HF ON THE AIR, NOW!" When officials say, "We've got it under control", you should be on the air saying "Clear your days guys, it looks like we have a bad one!" It's always easier to under-prepare, but emergency communications says "Be prepared for the worst, until proven otherwise."

VII. CONCLUSSION

Amateur radio is seen as a stopgap measure for people who don't want us, who don't know what we do, and are looking for any other method of communications. We don't attend meetings, get involved with organizations, tout our capabilities, interact with the people we know will need communications and want to go back to our ham shack and talk rather than invest time in interacting with the public. We have good hearts and good intentions – we just need to do a little more work. Thank you for taking your time to attend this conference and listening to my presentation.

This information is available on the www.amateurradio.ca website under "EC00 LESSONS NOT LEARNED".

There will be a follow-up article called EC01 RECOMMENDATIONS FOR SOPS/OGS putting the ideas from this paper into Operational Guidelines and giving suggestions and considerations in developing your Standard Operating Procedures / Operational Guidelines.

If you have any comments on the materials in this presentation, please feel free to send them to mail@amateurradio.ca. I have a thick skin.