

# PUBLIC SERVICE / ARES

## VECTOR: Building Radio Skills for the Community



VECTOR Radio Skills class in Vancouver's E-Comm building on November 23, 2017.

### By Peter Conrad

In Vancouver, one Amateur Radio organization has found a way to take enthusiasts beyond certification and provide a variety of hands-on practical experience: the Vancouver Emergency Community Telecommunications Organization (VECTOR), offers a proficiency course to help members advance their skills.

When VECTOR member Patrick Jackman, VE7EPJ, got his Amateur Radio Operator Certificate in 2012 there was not much direct engagement with new Amateurs other than informal mentoring and a few events. "While studying for my licence test, I didn't acquire or integrate much in the way of practical experience," he says. "I was afraid to talk on the air and didn't know what kind of radio to buy. I had a hundred questions and few people to turn to for answers."

Jackman saw both a challenge and an opportunity. Without guidance, notes Jackman, people just drift away from the organization – a great loss of potential



for service to the community. With mentorship from a true Elmer named Bryan Farrar, VE7BFY, Jackman joined the VECTOR Board of Directors and proposed a course for new members. The goals were manifold: get more VHF radios into people's hands and train more people at once, while building a pool of mentors to model good technique. The course was designed to go beyond the nuts and bolts of communication, giving practical experience in the world of emergency communication and improving skill retention via assignments and repetition.

**The result:** the VECTOR Radio Skills Course, a 10-hour course conducted on four consecutive Tuesdays, plus four additional one-hour instructional on-air nets on Wednesdays. The course gives people the confidence to use their radios and lets them practise skills like passing traffic in a comfortable setting where they can ask questions.

Says Jackman: "Our course covers things you would not experience just by starting on the air as a hobbyist: message logging, radiograms, tactical net protocols including efficient station identification and operation across concurrent directed nets, and other skills." Every week, the participants take what they learned in the classroom and apply it on the air the next evening during the instructional net.

The VECTOR Radio Skills course builds competency in topics from the basics to more advanced skills, provides a look at the future, and helps build a network of people who can respond in an emergency as full-fledged VECTOR members.

### Basics:

- Phonetic alphabet practice
- Small group call sign introductions
- Repeater vs simplex operation
- Getting on the air
- Introduction to the VECTOR net
- Tips for new Amateurs

### Messaging:

- Net formats and styles
- How to participate in Directed Nets
- Procedural words
- Passing radiogram messages
- Station logs
- Checking in to other nets

### Next steps:

- What is APRS?
- What is digital radio?
- IRLP, Echolink, Allstar
- Sending email via radio
- How to choose your first radio

### VECTOR

- The VECTOR Activation Guide
- VECTOR Field Work
- The VECTOR Grab and Go Kit

Since the course was first delivered in 2013, it has doubled from one to two offerings annually, with over 30 people now finishing the course every year.

The City of Vancouver is keenly aware that an earthquake or other disaster can strike without warning and have set up a partnership with VECTOR to provide emergency communications if the telecommunications infrastructure is damaged. The Radio Skills course is instrumental in preparing VECTOR members to assist during emergencies. One clear reason for the planning and preparation is the looming threat of a major earthquake, which could happen in Vancouver any time.

During an incident, VECTOR members immediately go to one of six zone-based response centres or the City Emergency Operations Centre (EOC) to set up communications stations which form the primary communications link to Emergency Social Services who set up reception centres and group lodging sites.

Active VECTOR members form a nucleus of capabilities around which the broader community of hundreds of VECTOR alumni and thousands of other Amateur Radio operators can turn out and help when the need is greatest.

Amateur Radio can play a role whenever other communications systems are thrown into disarray, but not without knowledge and organization. To provide effective help to the community it is critical to know the protocols, who is in control, and what each person's role is. During a crisis, it is important to have a steady supply of skilled people who can work under pressure. This is one of the strongest benefits of the Radio Skills course.

VECTOR member Linda Peterson, VE7LMP, who obtained her operator's certificate four years ago, described her experience as others have: it is intimidating to



check in on the air, and without guidance it is hard to continue building skills. Peterson notes that the course is helping the organization retain members longer and deepening the relationship people have with radio.

"People who have taken the Radio Skills course are more engaged than people who were joining years ago," notes Peterson. "Course participants move into the VECTOR organization and take on roles they otherwise wouldn't."

Linda is now an Accredited Examiner, has been elected to a Director position and coordinates membership for VECTOR.

A few months ago, VECTOR performed an exercise to practise in case of an earthquake. Following directions in VECTOR's Emergency Activation Field Guide, participants tuned to the organization's primary repeater frequency and prepared to join a net.

VECTOR member Stuart Watson, VE7SWS, arrived on frequency, assumed control of the net, and began managing checkins. Thanks to the Radio Skills course, Watson knows he could be of real use during a real emergency. "It's intimidating getting on the air the first time, gaining the technical abilities and the confidence," says Watson. "The course gave me the confidence to approach and join the net control team."



For VECTOR as a whole, the course has had a number of positive effects. The instructional nets and exercises help the broader membership freshen their skills and overcome new challenges, and solidify VECTOR's reputation as a learning environment. The course also attracts women and younger people to radio, helping maintain a strong population of skilled operators. Even when people end up leaving the organization after training, they are competent enough to be of real service if they are ever called on.

The VECTOR Radio Skills course is an approach to community outreach and leadership that could be modeled by other organizations. Whether they partner with emergency services or not, radio groups should consider identifying people with the interest and skills to mentor others and helping them reach their full potential as Elmers.

Organization and education are tremendously important to nurture a population of skilled radio operators. Helping operators to teach and engage others will help build new talent within the organization.

For those organizations who also have a good relationship with emergency services, the benefit to the general population cannot be overstated.

As Linda Peterson points out: "We rely so heavily on the trust that the police and fire departments will know what to do – why would they need us? – but they do need us."

To contact VECTOR, please send an email to [outreach@vectorradio.ca](mailto:outreach@vectorradio.ca) or visit <https://vectorradio.ca/>.

**Patrick Jackman, VE7EPJ**

*Patrick earned his Basic Amateur Radio Operator Certificate with Honours and joined the VECTOR Net Control team in 2012. He joined the VECTOR Board as a Director for one term and launched the Radio Skills Course in 2013, started teaching sections of VECTOR's Basic licensing course in 2014, and continues to be actively involved with the organization as a member.*

**Linda Peterson, VE7LMP**

*Linda earned her Basic certificate with Honours in 2014, Morse code certification in 2015, and Advanced Certification in April 2017. She took the Radio Skills Course and started coordinating VECTOR membership in June 2017, became an Accredited Examiner in September 2017 and joined the VECTOR Board in 2018.*

**Stuart Watson, VE7SWS**

*Stuart got his Basic with Honours Certificate in 2016, attended the Radio Skills course in 2017, and in that same year joined the net control team and helped teach VECTOR's Basic Amateur Radio licensing course.*

**Peter Conrad**

*Peter Conrad is a writer in W6 (California) who does not yet have any Amateur Radio training but is very interested in learning what the rest of his call sign would end up being.*

**The Defence of Amateur Radio Fund**

The Defence of Amateur Radio Fund (DARF) is a Trust Fund that was established in the early 1990s by the Canadian Radio Relay League to provide financial support for research, and to defray travel expenses of a delegate to World Radio Conferences (WRC) to defend the Amateur Radio bands. It costs a lot to attend a World Radio Conference such as the upcoming WRC19 meeting in October 2019. Travel and meeting expenses for a three- to four-week conference can top \$10,000 or more in an international city like Geneva, Switzerland – even for the most frugal. Without new donations, DARF funds on hand won't last indefinitely.



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