



A conversation with . . . *Doug* Veliko Stowe Mountain Rescue Team Chief

With a service area that includes some of the most rugged backcountry in Vermont, Stowe Mountain Rescue is very familiar with dealing with communication obstacles. The volunteer team of 16 responds to approximately 40 calls per year. They make use of digital mobile data applications, portable radios and extensive use of personal cell phones. Team Chief Doug Veliko says if the FirstNet system can give his team a signal boost, he can't wait to use it.

"We operate in several backcountry areas that have poor radio communications and no cell phone coverage," said Veliko. "This severely complicates mission logistics and creates safety concerns. Having a statewide broadband LTE network with comprehensive coverage would resolve several communication problems. It would improve our ability to communicate data from the field to the command post."

Stowe Mountain Rescue is used within the town of Stowe for any medical, stranded or lost person calls in the backcountry. They respond in mutual aid throughout Vermont, including responding to rope or swift water rescues. To assist them in their response, the team takes advantage of all the technology available to them.

"Our paging system is through Active911, an application that send alerts to our smart phones. This creates a quick picture of a team member's availability for a given mission. The mapping also allows us to see the location of a team member as they are responding to a call. We also use several smart phone apps to communicate coordinates. One Touch utilizes GPS coordinates to allow team members to track the exact location of individual rescue personnel—particularly important when they are in remote areas," explained Veliko.

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www.PSBC.Vermont.gov

VT Public Safety Broadband Commission
Department of Public Safety
45 State Drive
Waterbury, VT 05671-1300

FirstNet's mission is to deliver a nationwide broadband network dedicated to public safety to help strengthen their emergency communications abilities, making them safer and more effective on the job. A new, innovative public-private partnership will be established to deploy the Nationwide Public Safety Broadband Network.

VERMONT SUPPORT TEAM

For questions, or to arrange a presentation for your team:

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VERMONT UPDATE

FirstNet for First Responders

Department of Public Safety

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FirstNet & AT&T Partner to Build Public Safety Network

With the selection of AT&T as the national FirstNet partner, the Nationwide Public Safety Broadband Network (NPSBN) moves from the planning stage to the implementation stage. The March 30 partner announcement completed a 15-month process by the First Responder Network Authority (FirstNet) to select a commercial partner capable of providing all first responders with an interoperable, secure and reliable network required for our mission-critical work.

"We are now preparing to receive the draft state plan for the build-out of the Radio Access Network here in Vermont," said Terry LaValley, Chair of Vermont's Public Safety Broadband Network Commission (PSBC). "We are anticipating receipt of the draft plan in mid-June. The commission has formed three working groups that will rigorously examine the technical, operational, financial, and product services that FirstNet proposes to offer to Vermont first responders."



The Agreement

The PSBC was established by Executive Order in 2013 to help plan for and facilitate the building of a public safety network in Vermont. The PSBC is supported administratively by the Department of Public Safety. FirstNet is an independent authority within the U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA). The creation of FirstNet and its mission to build the nationwide network was encompassed in the final recommendation of the 911 Commission. Congress created FirstNet and allocated portions of the nationwide 700 Mhz spectrum and \$7 billion for construction of the network to leverage existing telecommunications infrastructure to create the NPSBN. The network must become financially self-sustaining—the commercial partner may profit from the spectrum by leasing unused or underutilized portions to nonpublic safety subscribers. Public safety subscribers who elect to use the network also may be charged a subscriber fee, but it must be competitively priced to attract first responder users. While all states are required to have the NPSBN, individual first responders have the choice of subscribing to the network. If AT&T does not sign up a legislatively mandated number of first responders, they will face hefty fines from FirstNet.

In exchange for the spectrum and financial resources brought by FirstNet, AT&T committed to spending \$40 billion over the life of the 25-year contract to build, deploy, operate and maintain the network. AT&T also pledged to connect FirstNet users with the company's telecommunications network assets, valued at more than \$180 billion. Once a state decides to opt-in to the network, AT&T will offer that state's first responders guaranteed priority service over its existing network. By the end of the year, AT&T plans to have in-place the ability to give FirstNet users preemption rights—enabling first responder calls and use to have preference over non-FirstNet users on the AT&T network on all spectrum bands.

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"Having a statewide broadband LTE network with comprehensive coverage would resolve several communication problems."

Doug Veliko, Team Chief
Stowe Mountain Rescue

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There's more information at www.PSBC.Vermont.gov



Swanton Needs Robust Network

The all-volunteer force of the Swanton Village Fire Department serve within a challengingly diverse 65-square-miles area. Swanton is located in the northwestern corner of the state bordering Lake Champlain on its west and the Canadian province of Quebec to its north. The Missisquoi River flows through Swanton and I-89 borders the town to the east. In addition to fire service calls, the department must be prepared for year-round water rescue, high-angle rescue, and hazardous materials calls. With such diverse terrain comes communication challenges.

“At this point, we don’t rely on mobile phones to communicate,” said Fire Chief Tim Girard. “The backbone of our communication is our two-way radio system and pagers. We have fairly reliable cell service, but there are signal gaps.”

Those signal gaps also extend to the LMR network. The department has worked to address these dead areas by installing additional mobile repeaters. Unfortunately, lack of funding has limited how much the department has been able to do. Calls are dispatched through the St. Albans Police



Swanton Village Fire Department Chief Tim Girard

Department. Crews rely on fire station personnel when more information is needed on the scene. For example, personnel on a hazardous materials call may need more information on a chemical compound. They will call the fire station and someone will look up the information needed and transmit that back to the scene. Girard foresees a time when there will be laptops or tablets in their response vehicles and personnel can access information via the

internet directly from the scene. However, to do that will take a robust broadband network and funds to buy the needed equipment.

Girard acknowledges that while everyone has a smart phone and Active911, the priority is to get the call out first through the LMR system and not the broadband network. Active911 is a digital messaging system that delivers alarms and maps instantly to first responders, including tracking who is responding to a call in real time. With the current paging system, Girard does not know which personnel are responding to a call until they show up at the station.

“Uncertainty right now is a big factor in determining what the department might do in the future regarding our communications. We work to stay informed about projects like FirstNet, but also do research on what is developing in two-way radio systems and how other departments are communicating,” said Girard.

This proactive approach to research and training has helped ensure a highly trained volunteer force is responding to calls. Most of the 37-member team hold several firefighter certifications. Two-thirds of the department have both Firefighter I and II certification. The diverse terrain the team covers means they could be mounting a high angle rescue of a farmer from a silo one day and the next day be responding to a hazardous materials incident on I-89. Team preparation includes maintaining training in hazardous materials operations, highway safety, and water rescue practices.

Staying prepared for the future, Girard likes that his department will have the option of accessing the Nationwide Public Safety Broadband Network when it is built-out by FirstNet and AT&T. Girard anticipates his department will take advantage of future developments in technology. Having an affordable, reliable and secure broadband network available will make that much easier to do.

Reliable Signal Key to Effective Response

From GPS units and body cameras to reliable LMR, the Manchester Police Department works to harness technology to improve service to their local community. Behind this dedication is Chief Michael Hall. With 34-years of law enforcement service under his belt, Hall wants to make sure that the Manchester PD keeps up with technological advances.

For the past five years Hall has served as Chief of a full-time force of nine officers and 5 part-time officers. They handle their own dispatching. The department responds to more than 3,000 calls for service each year and cover a 37-square-mile area. While the population averages 6,000, it’s not uncommon for as many as 20,000 people to be in the area during key times of the year. Having reliable radio and cellular signals are key to an effective response.

“Our cell phone coverage is spotty and is particularly difficult within the public safety building itself,” said Hall. “We also have radio dead spots in some areas due to our mountainous terrain and heavy foliage. We want to use technology to expand what we can currently do, but signal transmission is a big concern in our area.”

Hall believes providing first responders with reliable, priority broadband service is badly overdue. Having a strong cellular service will be an important back-up to their two-way radio system.

“There is a big need for this,” said Hall. “Reliable communication and interoperability is a long-term discussion in Vermont. If the FirstNet system can provide us with a good communication pipeline, we will all be happy to welcome it to the state.”

For the full story on the Manchester Police Department go to www.PSBC.Vermont.gov.



Manchester Police Department Chief Michael Hall

Opt-Out Plan Requirements State Alternative Plan Program

The NTIA plays a key role in determining whether a state’s opt-out plan meets federal requirements to build and maintain a radio access network comparable to the FirstNet plan. After a state secures approval from the Federal Communications Commission, the NTIA must approve a spectrum lease and grant funding to cover some of the costs of building the RAN. Below are eight standards the NTIA will consider.

Technical Capability. Does the state, or its partner have the management capabilities, technically proficient staff and necessary infrastructure to construct, operate, maintain and improve the RAN for the duration of the NPSBN operations?

Funding to Support. Does the state have sufficient financial resources to construct, operate, maintain and improve the RAN over the duration of the NPSBN operations?

Ongoing Interoperability. Can the state maintain ongoing interoperability with the NPSBN and comply with evolving interoperability-based network policy throughout the duration of the NPSBN operations?

Comparable Timeline. Can the state construct and begin operations within a similar timeframe to the FirstNet State Plan, including similar rural milestones?

Cost Effectiveness. Can the state demonstrate that the State RAN can be constructed and operated at a similar cost to the FirstNet State Plan?

Security. Will the state adhere to FirstNet security standards in operating its State RAN?

Coverage. Will the state’s alternative RAN provide similar coverage, including rural coverage milestones, to the FirstNet State Plans?

Quality of Service. Can the state demonstrate that users of its RAN will have a similar experience to users of the NPSBN across the nation?

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Vermont’s Review

“A key component in our review of the FirstNet draft plan will be coverage. Within a five year time frame, AT&T will propose the steps it will take in Vermont to provide the quality of service needed for our first responders to confidently use the network. If the plan does not fully meet our coverage and service needs, the PSBC will work with FirstNet to modify that plan. In our first meeting with AT&T, they conceded that work needs to be done in Vermont and they pledged to present us with a plan to address our coverage concerns,” said LaValley.

Draft state plans are tentatively scheduled for delivery to all states and territories in June. Upon receipt of the draft plan, states will have 45 days for plan review and negotiation with AT&T. After the 45 days, FirstNet will present a final state plan to the governor of each state. In Vermont, the PSBC will provide Governor Phil Scott with a recommendation on whether to opt-in, and let FirstNet build the network, or opt-out and begin work to develop a separate plan for Vermont. States that opt-in will have immediate access to AT&T and FirstNet resources with no additional financial cost to the state. Opt-out states embark on a 6-month process to develop an alternative proposal and receive appropriate federal approval for the plan. (See opt-out plan requirements story.)

“The commission decided last year to first evaluate the FirstNet plan before embarking on an alternative path,” said LaValley. “Should an opt-out decision be considered, the information gained from the AT&T plan can provide a valuable benchmark for Vermont in soliciting proposals from other companies to build the network in this state.”

States are not allowed to profit from an alternative plan. Resources must be invested back into the state network to enable it to keep up with upgrades to the NPSBN.

Public Safety Feedback

Draft state plans will be delivered via a secure web portal that only authorized reviewers within each state may access. To allow for a broader review, FirstNet and AT&T will create a public web portal that does not contain proprietary and security information included on the secure site. Vermont will post a link to the public web portal on the main PSBC web page. A means to comment electronically on the plan will be open at the PSBC web site for 30 days. At the end of 30 days, the comments will be gathered and included within Vermont’s feedback to FirstNet on the draft plan.

For a detailed description of the FirstNet project in Vermont, go to www.PSBC.Vermont.gov. Contact information for the Vermont support team is located on the back page of this newsletter.

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Another application the team uses is the UTM Grid Ref Compass. Using a smart phone, the user can view their current location using the Universal Transverse Mercator grid, along with a compass bearing, and latitude and longitude values. The team has several rugged laptops, but they don’t take them into the field due to space and weight constraints. On Veliko’s wish list, after a reliable signal, is having the state’s E911 maps accessible on his smart phone.

Veliko has been a team member for more than 25 years and team chief for the last three years. He works at GlobalFoundries as an electrical engineer. He likes that his volunteer work with Stowe Mountain Rescue allows him to combine his strong affinity for backcountry recreation and technology. His hope that as access to technology grows in Vermont, so will his team’s use of tools that will make their response faster and safer.



Terry LaValley, First Net SPOC & PSBC Chair