

Proposed Standard Channel Nomenclature for the Public Safety Interoperability Channels (Also referred to as “Standard Channel Naming”) Frequently Asked Questions

**By John Powell, Chair, National Public Safety Telecommunications Council
(NPSTC) Interoperability Committee**

Background

As early as the mid-1980s, the problem of communications interoperability was being so routinely highlighted in incident After Action Reports (AARs) that some recommended it “just be printed as a problem on the blank AAR form.” The first official compendium of interoperability-related problems at the national level occurred with publication of the *Final Report* of the Public Safety Wireless Advisory Committee (PSWAC) on September 11, 1996. PSWAC was a Federal Advisory Committee jointly sponsored by the Federal Communications Commission (FCC) and National Telecommunications and Information Administration (NTIA). That *Report* noted a critical need for more public safety spectrum, 24 MHz of new spectrum, with 10 percent or 2.4 MHz for interoperability, eventually resulting in Congressional and FCC action that created the 700 MHz public safety band. That report for the first time documented cases where radios all had the same interoperable channels programmed into them, but the channel name display was not the same and field responders did not know that they could interoperate with each other on those channels. That lack of interoperability contributed to significant property loss in one major fire highlighted in the *Report*.

This same issue was highlighted again 5 years later on September 11, 2001, with the attacks on the World Trade Center and, to a lesser extent, at the Pentagon. Subsequent to the 9/11 attacks, a second Federal Advisory Committee, the 700 MHz National Coordination Committee (NCC), chartered by the FCC to give it advice on implementing the new 700 MHz public safety band, made the following recommendation in its *Final Report*:

Standard Channel Nomenclature

The NCC respectfully renews its earlier recommendation that the Commission’s Rules contain mandatory channel nomenclature for all interoperability channels on all public safety bands. The NCC views such standard nomenclature as essential to the interoperability process, such that all responders to an incident will know the appropriate channel to which to tune their radios and will know – from the channel designator – the band and primary use of the channel specified. Absent such standard nomenclature, a Babel-like confusion could result if, for example, a given jurisdiction were to designate 458.2125 MHz as a calling channel and associate it with “Channel 5” on its radios; and another jurisdiction were to designate the same frequency as a tactical channel and assign it to “Channel 9” on its radios. With adoption of a standard channel nomenclature in the Rules, such confusion – and the attendant potential for delayed response to an incident – would be avoided...

While the FCC declined at that time to mandate such a standard channel nomenclature, the interoperability naming protocol developed by the NCC received wide acceptance within the public safety communications community, as communications interoperability for public safety’s first responders continued to be a major issue.

In August of 2005, Hurricane Katrina spread its wrath across the Gulf States resulting in a nationwide public safety response to support the impacted states and those that later became collection points for residents displaced by the hurricane or its aftermath. This same problem of non-standard channel naming again was documented as a major impediment to effective public safety communications. This issue was subsequently highlighted at the highest levels of government with release of the 9/11 Commission Report and the Katrina Report by Congress.

Subsequently, in 2006, the National Public Safety Telecommunications Council (NPSTC) was approached by a number of public safety user organizations with a request that NPSTC review and update the *Standard Channel Nomenclature* recommended in the NCC's *Final Report* to reflect 'real world' user operational requirements. A Task Group was convened and a public forum to address the issue was held on February 5, 2007 in Orlando, Florida. Six proponent organizations submitted recommendations for modification of the NCC's *Standard Channel Nomenclature*. These were heard and discussed at the forum and a consensus format was adopted. The proposed revision (as a *Report of Committee*) was placed on public notice, and after a 90-day comment period, adopted by the NPSTC Governing Board as the revised NCC / NPSTC *Standard Channel Nomenclature* protocol.

This new protocol has been widely adopted across the country in the intervening period, and requests to the federal government resulted in the finalization of standard names for similar channels in federal agency spectrum at the June 2009 NPSTC meeting.

The Association of Public-Safety Communications Officials (APCO) International is a NPSTC member and is the recognized and accredited American National Standards Institute (ANSI)-Standards Developer (ASD) for public safety communications standards. APCO was selected by NPSTC and its member organizations to facilitate the most recent version of the *Standard Channel Nomenclature* document through the ANSI standardization process. This Frequently Asked Questions (FAQ) document is designed to address questions that may arise from the public review and comment process associated with this ANSI standardization effort.

About NPSTC

The National Public Safety Telecommunications Council (NPSTC) is a federation of public safety organizations whose mission is to improve public safety communications and interoperability through collaborative leadership. NPSTC pursues the role of resource and advocate for public safety organizations in the United States on matters relating to public safety telecommunications. NPSTC has promoted implementation of the Public Safety Wireless Advisory Committee (PSWAC) and the 700 MHz Public Safety National Coordination Committee (NCC) recommendations. NPSTC explores technologies and public policy involving public safety telecommunications, analyzes the ramifications of particular issues and submits comments to governmental bodies with the objective of furthering public safety telecommunications worldwide. NPSTC serves as a standing forum for the exchange of ideas and information for effective public safety telecommunications.

The following 15 organizations participate in NPSTC:

American Association of State Highway and Transportation Officials
American Radio Relay League
Association of Fish and Wildlife Agencies

Association of Public-Safety Communications Officials (APCO)-International
Forestry Conservation Communications Association
International Association of Chiefs of Police
International Association of Emergency Managers
International Association of Fire Chiefs
International Municipal Signal Association
National Association of State Chief Information Officers
National Association of State Emergency Medical Services Officials
National Association of State Foresters
National Association of State Technology Directors
National Emergency Number Association
National Sheriffs' Association

Several federal agencies are liaison members of NPSTC. These include the Department of Homeland Security (the Federal Emergency Management Agency, the Office of Emergency Communications, the Office of Interoperability and Compatibility, and the SAFECOM Program); Department of Commerce (National Telecommunications and Information Administration); Department of the Interior; and the Department of Justice (National Institute of Justice, CommTech Program). NPSTC has liaison relationships with associate members including the Telecommunications Industry Association and the Canadian Interoperability Technology Interest Group.

FREQUENTLY ASKED QUESTIONS (FAQs)

1. Where should these new names be installed and how should they be used?

These names should be “installed” as the names for all associated interoperability channels in both fixed infrastructure (base stations and consoles) as well as subscriber radios (mobiles and portables).

The names should be used as the standard name for all associated interoperability channels in Memorandums of Agreement/Understanding (MOA/MOUs), Standard Operating Procedures (SOPs), Tactical Interoperable Communications Plans (TICPs), and all associated training materials. Likewise, they should be used when referencing these channels in the field during briefings or over the air.

2. Will the use of these new names become mandatory once the ANSI standard is published?

Not necessarily. Further action would be required by the FCC and/or other regulatory bodies to impose such a requirement at the national level. However, depending upon the structure of interoperability requirements within states or regions (such as through a state’s Statewide Interoperability Executive Committee (SIEC) or inter-local agreements), use of these names could be required at those levels. It is also possible that grant guidelines issued by states or federal agencies could require use of these names at some time in the future as a condition for use of grant funds to purchase radio equipment.

3. Will these names change frequently so that I have to reprogram again?

Once adopted as an ANSI standard, these names should not change, though additional names might be added should the FCC allocate more, or repurpose existing, interoperability channels.

4. Is there a cost to program these new names into my radios?

Depending upon the time that this programming is completed, there may be an added cost. However, the recommended times to complete this reprogramming (below) are such that this cost, if any, can be minimized by doing the reprogramming in parallel with other changes that are being required for your radio systems:

- a. For radios operating in the VHF High and UHF Bands (136-512 MHz), it is recommended that reprogramming occur as these radios are “narrowbanded” as required by the FCC prior to January 1, 2013.
- b. For radios operating in the new 700 MHz band, program the new names as the radios are initially placed into operation.
- c. For the 800 MHz band, it is recommended that reprogramming occur as these radios are “rebanded” pursuant to FCC rebanding requirements. The cost of rebanding is covered by Sprint/NEXTEL as part of their agreement with the FCC.

As a side benefit, use of the old names will indicate that the radio has not yet been reprogrammed and use of the new names would indicate the radio has been reprogrammed.

5. Is there a national urgency to having these standards adopted as an ANSI standard?

Yes. The National Emergency Communications Plan (NECP) was submitted to Congress in 2008 by the Department of Homeland Security (DHS) Office of Emergency Communications pursuant to a deadline established in earlier legislation. To promote the NECP's goals of providing response-level communications at the scene of an incident within 1-3 hours (depending upon the incident and jurisdictions involved), the NECP established the following milestone:

Initiative 3.1: Standardize and implement common operational protocols and procedures.

A national adoption of plain-language radio practices and uniform common channel naming, along with the programming and use of existing national interoperability channels, will allow agencies across all disciplines to effectively share information on demand and in real time. Using common operational protocols and procedures avoids the confusion that using disparate coded language systems and various tactical interoperability frequencies can create. Use of the existing nationwide interoperability channels with common naming will immediately address interoperability requirements for agencies operating in the same frequency band.

Recommended National Milestones:

- o Within 6 months, OEC develops plain-language guidance in concert with State and local governments to address the unique needs of agencies/regions and disciplines across the Nation.
- o Within 6 months, American National Standards Institute (ANSI) certifies, and emergency response accreditation organizations accept, the NPSTC Channel Naming Guide as the national standard for FCC-designated nationwide interoperability channels.

For a complete copy of the NECP, see

http://www.dhs.gov/xlibrary/assets/national_emergency_communications_plan.pdf

6. Can I use grant funds to reprogram my radios?

Check with your grant administrator of State Administrative Agency (SAA). Some local and state agencies have used DHS grant funds from the Interoperable Emergency Communications Grant Program (IECGP) and State Homeland Security Grant Program (SHSGP) for radio reprogramming.

7. What is the purpose of the band designator since my radios only operate in a single band?

At least three manufacturers have now released multi-band radios (Harris, Motorola, and Thales). In multi-band radios, the band designator makes it easier to determine which interoperability band/channel is selected to use. Likewise, the band designator also serves to alert technical staff and ICS Communication Unit personnel at the scene of an incident to the

band a particular radio uses, since this is not always easy to tell from the characteristics of the radio itself.

8. What is the reason for the 2 character unique number at the end of each name?

In 2001-02 as the NCC Interoperability Subcommittee was building this naming system, it was advised by a number of agencies, particularly several federal agencies, that they had tens of thousands of radios in the field with only a two-character display. By appropriately programming these radios, and with some education for their users, these last two digits can still serve to get the user onto the right interoperability channel (10-39 for VHF high band radios and 40-49 for UHF radios).

9. What is the reason for the shortened six-character version of some of the channel names?

In 2001-02 as the NCC Interoperability Subcommittee was building this naming system, it polled the manufacturers as to the number of characters that then-in-production radios supported on their channel name display. The lowest number commonly supported was eight, so the NCC built its naming formula to use no more than eight characters. Following the February 2008 NPSTC meeting when the revised naming structure was adopted, agencies across the nation (initially from Colorado and Hawaii) advised NPSTC that at least two manufacturers had a limit of six characters on their displays when the “zone display” function was selected. Many subscriber (mobile and portable) radios have their channels and talkgroups broken into zones to make them easier to manage. Those two manufacturers had a radio-wide option (either on or off for all channels) that displayed a two-character zone designator in front of the channel name, using the first two characters of the eight-character display. Those agencies requested that NPSTC develop a shorter six-character version of each name that could also be standardized for use in these radios.

10. The term “TRVL” as part of the channel name has just recently been added; what is the purpose of that designation?

A number of agencies, particularly fire agencies in the Western States that annually respond to a large number of wildland fires often hundreds of miles away, have requested a channel to use for coordination between responding units such as a task force enroute from/to a different part of a state, as well as to coordinate arrival at an incident such as getting to the appropriate staging area. When the FCC consolidated the two segments of the 700 MHz bands, it left two “Calling” channels in this one band which many users felt would lead to confusion. NPSTC, in a Petition for Rulemaking currently pending before the FCC, recommended that one of these channels be redesignated as a national travel channel to be “primarily used for interagency communications by any public safety eligible to coordinate travel when responding to/from an incident outside of an agency’s own jurisdiction.” Action by the FCC on this issue is pending but it was decided to reserve this name in the initial ANSI standard when it was published.

11. I have local names for these same channels and this could result in confusion as some radios will have the old names and some the new names. How should I handle this situation?

Operational confusion needs to be avoided. A solution being used by many agencies is to program both the old local names and the ANSI standard names into their radios, assuming there is capacity in the radios to take both sets of frequencies and their associated names. That allows continued use of the local name during the conversion process. However, once the conversion is completed, only the new names should be used as “use breeds familiarity” and continued use of the old names on a day-to-day basis will leave the users unfamiliar with accessing the standard names should they have to leave the local area to support an incident at another location.

12. As a follow-on to the previous question, there are FCC-designated interoperability channels in my region that are linked/patched together 24/7 through a gateway for calling and tactical purposes. How should these be named since this system will be operational for the foreseeable future?

An excellent question! Many areas of the country are installing multi-band “gateways” or patches between interoperability channels to allow agencies using radios in different bands to interoperate. NPSTC’s recommendation is to use the Channel Use Designator (CALL, FIRE, LAW, MED or TAC) from the ANSI naming standard to show the designated channels’ use, but prefix it with an abbreviation that makes sense for your region. For example, in the Kansas City Urban Area (composed of counties in Kansas and Missouri), they are completing buildout of the multi-site simulcast Regional Area Multi-Band Integrated System (RAMBIS) that interconnects interoperability channels in each of the VHF, UHF and 800 MHz bands on a 24/7 basis. VHF radios will have VCALL10 programmed in one interoperability bank, UHF radios will have UCALL40 programmed in one interoperability bank and 800 MHz radios will have 8CALL90 programmed into one interoperability bank, but all three of these radios will have these same channels programmed in a different location, all called by the same name “RAM CALL” so that, from an operational perspective, they appear to be the same working channel. Likewise, two each VHF, UHF and 800 MHz TAC channels will be programmed with their standard ANSI interoperability channel names for the operational band of each radio, but again be programmed in all of those radios as “RAM TAC1” and “RAM TAC2” so that operationally they appear to be the same channel though they are actually interconnected through the RAMBIS gateway. There will be immense operational value to be able to instruct field personnel on a particular incident to “use RAM TAC1” without regard to what band their radios actually use. It will, however, be necessary for the ICS Communications Unit Leader (COML) at an incident to realize that RAM TAC1 is interconnected to interoperability channels in all three bands, especially if the incident is large enough to involve resources from outside the region.

13. Can a local, county or state agency use the federal channels in the table?

Such use generally requires a sponsoring federal agency and use is restricted to those incidents where one or more federal agencies are also involved. To avoid misuse of these channels, it is recommended that they be separately located in field radios in a bank or zone titled “FED” or “NTIA” to alert users that there are special requirements to using these channels.