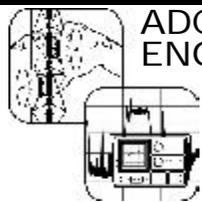


Talk Group



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City of Kirkland Police Dispatch Center Renovation

—Submitted by Joe Blaschka Jr., P.E., and Mark Nelson

ADCOMM Engineering provided the Kirkland, Washington, Police Department with a study of its communication center and made a number of recommendations to improve the efficiency of the telephone answering and radio dispatch service.

After the Kirkland Police management team reviewed the ADCOMM report and recommendations, funding was secured to implement many of the improvements. ADCOMM was selected to manage the improvements and project cost, lead the transition team, and was responsible for coordination of all the suppliers involved in the project.

Kirkland Police Communications consists of three telephone answering positions and two combined telephone answering and radio dispatch positions and a supervisor position. The facility is located in the lower level of the Kirkland City Hall and is in space occupied by the police department.

The key elements that drove the renovation project were:

- The desire to improve the layout of the room and make the two radio positions more accessible to the three telephone answering positions.
- Revise electric outlet layout to eliminate plug strips, extension cords and tangled electrical, radio, telephone and computer wiring.
- Improve use of space and access to documents, records, computers and other equipment and improve use of limited wall space.
- Improve lighting.
- Accommodate improved audio and video security monitoring system.
- Add a break room that supports food preparation and eating.
- Replace stained and worn carpeting.

In order to renovate the dispatch center, it was necessary to first relocate the entire operation to temporary space. This relocation required that the operation continue without interruption or degradation of service.



After the temporary facility was made operational, the communication center was renovated. Certain cables that could be reused and were in good condition were reused, other new cabling was added, various existing cables were rerouted and dressed, all electrical outlets in the facility were redistributed on existing circuit breakers, various alarm and equipment annunciator panels were relocated, a structural assembly was added to support video monitors, lighting was modified, and new floor covering and wall paint was added.

The entire project was completed on schedule and under budget in late 2002.

Client reference: Captain Eric Olsen
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THE LIGHTER

SIDE

- I read recipes the same way I read science fiction. I get to the end and I think, "Well, that's not going to happen."
- Health nuts are going to feel stupid someday ... lying in hospitals dying of nothing.
- The other night I ate at a real family restaurant. Every table had an argument going.
- Have you noticed since everyone has a camcorder these days, no one talks about seeing UFOs like they used to?
- According to a recent survey, men say the first thing they notice about a woman is their eyes, and women say the first thing they notice about men is they're a bunch of liars.
- Whenever I feel blue, I start breathing again.
- All of us could take a lesson from the weather. It pays no attention to criticism.
- Have you noticed that a slight tax increase costs you two hundred dollars, and a substantial tax cut saves you thirty cents?
- In the 60's people took acid to make the world weird. Now the world is weird and people take Prozac to make it normal.

Thinking About ...

Something to Think About ... *Faster Takes Longer*

Submitted by Joe Blaschka, Jr., P.E.

While it seems obvious to state that higher speeds mean longer stopping times, most people don't realize the distances increase geometrically. For example, a car travelling at 55 miles per hour that takes 273 feet to stop, will take 549 feet to stop at 85 miles per hour. The force of the impact also increases the same way. A 3,000 pound car traveling at 55 miles per hour stopping in one second because of a crash produces 9.8 million foot-pounds of energy. At 75 miles per hour the car produces 18.2 million foot-pounds of energy. The speed has only increased 36 percent but the impact is 84 percent greater. Share this with any teenagers you have.

Source: AAA Foundation for Traffic Safety.

WILEY WORDS OF WITTY WISDOM—

“The ability to make pie charts and bar graphs, which are the universal business method for making abstract concepts, such as “three” comprehensible to morons like your boss.”

—Dave Berry

We do not talk—we bludgeon one another with facts and theories gleaned from cursory readings of newspapers, magazines, and digests.

—Henry Miller

FCC Releases Mandatory Narrowband Ruling for Frequencies Below 512 MHz

Submitted by Joe Blaschka, Jr., P.E.

The Federal Communications Commission (FCC) made narrowband frequencies and equipment available 8 years ago as part of their original narrowband or “refarming” rulings. Their hope was users would move to these new frequencies and embrace narrowband technologies. However, users have been very slow to adopt the narrowband channels for a variety of reasons, some of which are:

- Reduced audio quality and coverage.
- Mixed bandwidth equipment is still being used on many channels and the conversion to narrowband can't occur until all the older wideband equipment has been replaced.
- Users have confused narrowband with Project 25 digital thinking they have to convert to digital to go to narrowband.
- Most of the “narrowband” channels either receive interference from or cause interference to wideband channels making them usable only in a few areas.
- There has been little incentive because there was little or no motivation to change.

As a result there are a few systems being installed that are narrowband but the vast majority of systems are still operating in the wideband mode with virtually no plans to change. All that is about to change based on the recent FCC ruling. It is not known at this time if there will be petitions for reconsideration and what the FCC might do with them.

The Second Report and Order and Second Further Notice of Proposed Rule Making under Docket 99-87, FCC document number 03-34 was adopted on February 12, 2003, and released on

February 25, 2003. Public Safety will have until January 1, 2018 (for existing systems) to migrate to 12.5 kHz technology.

At this point existing public systems may remain at 25 kHz (so called “wideband”) until 2018.

Business users of spectrum below 512 MHz has a migration deadline of January 1, 2013.

At this point existing business and industrial systems may remain at 25 kHz (so called “wideband”) until 2013.

The more urgent issue is that new applications for frequencies below 512 MHz for bandwidths above 12.5 kHz will not be accepted 6 months after publication in the Federal Register. Below is an excerpt from paragraph 12:

12. ... Specifically, our amended rules will:

1) beginning six months after publication of this 2nd R&O in the Federal Register, prohibit any applications for new operations using 25 kHz channels, for any system operating in the 150-174 MHz or 421-512 MHz bands;

This means six months after the publication of this rulemaking in the Federal Register, which will occur shortly, no applications for new channels using a 25 kHz bandwidth will be allowed. Any new system or frequency will have to be narrowband.

2) beginning six months after publication of this 2nd R&O in the Federal Register, allow incumbent 25 kHz Part 90 licensees in the 150-174 MHz and 421-512 MHz bands to make modifications to

their systems provided their respective authorized interference contours are not expanded as a result thereof;

This means six months after the publication of this rulemaking in the Federal Register, which will occur shortly, existing systems won't be able to expand their coverage areas or at least any coverage area where another co-channel user exists using wideband technology. Coverage could be improved inside the existing coverage contours. For example, a county-wide system might be able to add a lower elevation site in town to provide better coverage inside buildings.

3) beginning January 1, 2005, prohibit the certification of any equipment capable of operating at one voice path per 25 kHz of spectrum, i.e., multi-mode equipment that includes a 25 kHz mode;

This means after January 1, 2005, no new radio equipment designs will be allowed that are even capable of operating on wideband channels.

4) beginning January 1, 2008, prohibit the manufacture and importation of any 25 kHz equipment (including multi-mode equipment that can operate on a 25 kHz bandwidth);

This means after January 1, 2008, wideband equipment won't be able to be built or imported. Existing stocks of equipment could still be sold but effectively this means you won't be able to buy new equipment capable of operating in the wideband mode after this date.

5) beginning January 1, 2013, require non-public safety licensees using channels in these bands to deploy technology that achieves the equivalent of one voice path per 12.5 kHz of spectrum;

As discussed above, business and industrial licensees will need to convert their systems to narrowband operation by this date. All wideband operation should stop.

6) beginning January 1, 2018, require public safety licensees using channels in these bands to deploy technology that achieves the equivalent of one voice path per 12.5 kHz of spectrum.

As discussed above, public safety use of wideband operation will have to stop by this date. This is a long time in the future so changing out existing systems should not be too much of a problem as long as a plan is made to accomplish this. The bigger issue here is narrowband mobiles and portables won't be available after 2008 so this may really be the limiting factor.

The FCC believes that continuing to accept new wideband applications would result in continued and expanded proliferation of wideband technologies counter to their intent. Additions to existing systems, additional frequencies, or new sites will be limited to operation within the interference contour of the existing system. No expansion of coverage area will be allowed using an excess of 12.5 kHz bandwidth.

Note: APCO had proposed a 10-year migration period with a 5-year extension for designated rural areas that was dismissed by the FCC.

Equipment Comments

Much of the equipment sold over the last 5 or more years is capable of both wide and narrowband operation. In many cases, converting an existing system to narrowband operation will affect primarily the base stations, repeaters, and voting receivers and reprogramming your mobiles and portables. If your equipment is older than about 10 years, it will probably need to be replaced. There may also be some slight range reduction in the conversion to narrowband.

This ruling is not forcing anyone to digital or APCO25 compatible radios. While APCO25 is compatible with the narrowband channels, a conversion to digital is not necessary as part of the narrowband conversion process. Any conversion to digital should be done for its own reasons. In addition, having an APCO25 radio does not guarantee interoperability. An APCO25 VHF radio still won't talk to an APCO25 UHF radio or an APCO 25 800 MHz radio.

It is unknown at this time, exactly how the FCC and the coordinators will deal with wideband system expansions. In some rural areas, it may still be possible to expand systems if there aren't any co-channel users. Only time will tell to see how this all shakes out.

Men do not like to admit to even momentary imperfection. My husband forgot the code to turn off the alarm. When the police came, he wouldn't admit he'd forgotten the code ... he turned himself in.

—Rita Rudner, Comedian

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MAILING LIST

Is your address correct? Do you want to be added to our mailing list? If so, send us any additions or deletions.

THE LAST BYTE

Real-time video of camels, tents, sheep, and soldiers passing by from the front seat of a Humvee in Iraq. Geraldo on his satellite phone in Afghanistan. Calls home to loved ones from the front line "as seen on TV." Who'd a thunk it? We were all amazed by the targeting video from the last Gulf War. Again, we sit riveted to our screens watching the latest technology unfold in Afghanistan and Iraq. On television we also see video from police chases, bomb robots, Tazers as a nonlethal weapon, and a clamor for more and better technology for our public safety responders in the field. It is easy in our society, where technology is

seen as the extra margin, the edge that makes us better, a way to make our lives better, to rely on our advanced technology.

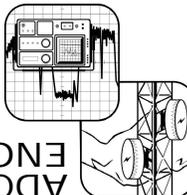
Car Bomb Kills Soldiers. Police Officer Stabbed with Sword. Fireman Killed in Building Collapse. Paramedic Killed in Ambulance Crash. These and many other sobering headlines jolt us into the reality that there is still a human element to our use of technology. Ultimately, it is the soldier, police officer, firefighter, and paramedic that puts their life on the line for all of us. We who are implementing and using technology need to remember that technology is only one of the tools we have. Human intelligence, instinct, experience, wisdom, understanding, and plain old guts are tools our technology should enhance not replace. The human

aspects remain long after the batteries in our technology die. Technology should compliment our human strengths and help with our weaknesses. Remember why we do what we do—to help public safety responders do their job better—even if it means with less technology.

—Joe Blaschka, Jr., P.E.

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