

# Talk Group

**ADCOMM Engineering Company**  
Bridging the Gap Between Operations and Technology®

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Specialists in Public Safety Communications Since 1979

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## FCC Update — Narrowbanding Rule Changes

—Joe P. Blaschka, Jr., P.E.

On June 30, 2010, the Federal Communications Commission (FCC) announced changes to the existing schedule to implement narrowbanding in the VHF and UHF bands. You can get a copy of the order on our web site at [www.adcommeng.com](http://www.adcommeng.com). As a reminder, in 2004 the FCC released the Third Memorandum Opinion and Order for mandatory narrowband operation. The dates are as follows:

- All radio systems operating below 512 MHz must be narrowband by January 1, 2013.
- No new wideband system license applications will be accepted after January 1, 2011.
- No new wideband-capable equipment may be manufactured or imported after January 1, 2011.
- Paging-only channels are exempt from the narrowband requirements.

The June 30th ruling was in response to a petition by the National Public Safety Telecommunications Council (NPSTC) to delay the January 1, 2011, implementation dates. This was primarily because many agencies would have difficulty being able to continue to operate their systems if they could only purchase narrowband equipment. As a result, the FCC granted a waiver to the rules to delay only the restriction on the manufacture and importation of wideband equipment. **They did not delay the final narrowband conversion date, any of the licensing requirements, or the restriction on any new equipment type acceptance.**

Here is a summary of the rules as they stand now.

- All radio systems operating below 512 MHz must be narrowband by January 1, 2013.
- No new wideband system license applications will be accepted after January 1, 2011.
- No new wideband-capable equipment may be accepted after January 1, 2011.
- No new wideband-capable equipment may be manufactured or imported after January 1, 2013.
- Paging-only channels are exempt from the narrowband requirements.

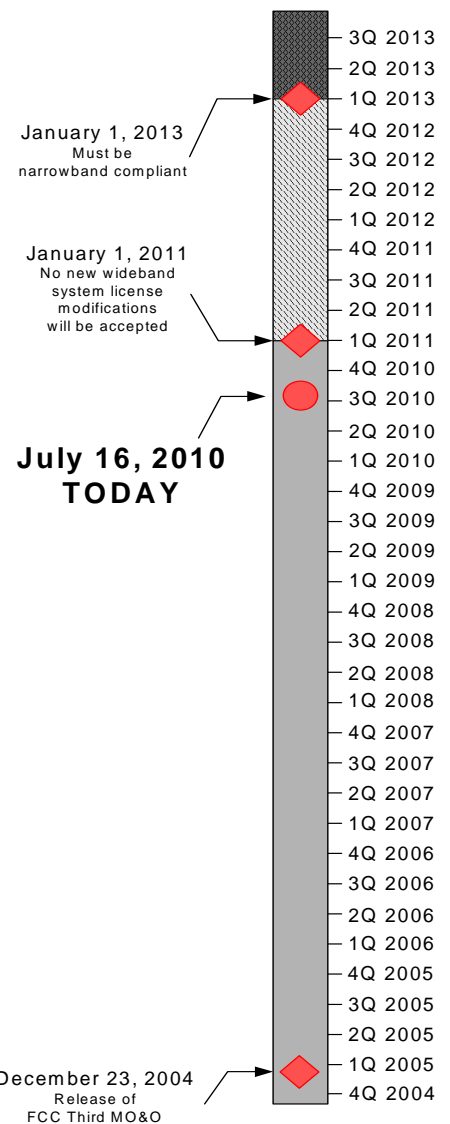
Here are answers to some common questions about narrowbanding.

*Will I be able to buy new wideband equipment to operate with my existing wideband system until January 1, 2013?*

Yes, wideband equipment will be able to be manufactured until 2013. Since all wideband equipment must now contain both narrowband and wideband capability, this will ease the transition.

*Can I expand my existing wideband system or add wideband channels?*

After January 1, 2011, no new wideband licenses will be granted for new sites that expand either the number of channels or the coverage of an exist-



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# Thinking About ...

## **Narrowband**

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ing wideband system. You should plan on any changes made to your system being narrowband only.

### *When do I have to have my entire system converted to narrowband operation?*

The date for final system conversion has not changed. The last day for wideband operation is still December 31, 2012.

### *Does converting to narrowband mean I have to implement a digital P25 system?*

No, there is nothing in the rules about converting to a digital system. Some non-public safety entities such as commercial enterprises, utilities, and public works departments are considering non-P25 digital systems such as Mototurbo® and NXDN® to achieve 6.25 kHz channel efficiency. However, for public safety agencies that want to continue to use analog, there is no prohibition on continuing to use analog for 12.5 kHz channel bandwidth.

### *Will my fire paging system have to be converted to narrowband operation?*

Unless your fire paging system uses one of the paging-only channels of 152.0075 MHz or 157.450 MHz, it will be required to change to narrowband by January 1, 2013. Note that the frequency of 163.250 MHz will also need to be converted to narrowband by 2013.

Additional information can be found at the ADCOMM web site at [www.adcommeng.com](http://www.adcommeng.com).



## **How to Buy a Used Shelter**

—Tom Manley

Okay, your budget is tight, your timeline is too short for a 24-week lead time, and you need a house for all your fine radios NOW! The thought of writing a spec, getting the client to sign off, the lawyers adding their weight, the board approving the expenditure, and putting the RFP out on the street is just ... well, depressing. So, what to do?

While you have been going through that exercise, other folks have had their own problems. It is not unusual for a wireless provider to have a large site development project take a hard left turn, or the sign on their door changes and they suddenly have a stock of cookie-cutter shelters that aren't quite right anymore. Where they may not be able to handle the change, you may benefit with a little ingenuity.

It is possible to find used or surplus shelters laying about with nowhere to go. Some companies are actively involved in marketing used shelters and never-deployed shelters and there are good deals to be had. As with anything "used," let the buyer beware, however.

Things can get a bit complicated with the permitting side of things. There can be distinctions between "used" and "never-deployed (new)." For example, the State of Washington has rather strict requirements for new and used communications shelters before they will grant the coveted "gold seal." In Washington State law, though, there is an option for a local jurisdiction to issue a building permit without the concurrence of the State. However, a local jurisdiction may still have requirements of its own. Smaller jurisdictions may not have the expertise to evaluate a shelter against the IBC, NEC, the State Energy Code and the like and, so, may contract with the State for those inspection needs in order to facilitate their normal permitting process. The local jurisdiction may also not have much experience with communications (i.e., non-residential) shelters and may have some difficulty making the distinction, having an effect on the permitting process.

Local jurisdictions may impose their own requirements. It is imperative to review with the Authority Having Jurisdiction (AHJ) in your area just what it is you plan to move onto their turf. In all likelihood, proving that the shelter meets current NEC, building, and energy codes will be the starting point. Having the drawings for a shelter is ideal. If the seller doesn't have them, often the shelter manufacturer will; it is certainly worth a try. Evolutionary changes in codes can sometimes be accounted for with a simple change to equipment and coordination with the AHJ. For example, Washington State L&I requires an electrical disconnect at wall-mount HVAC units that allows for a lock-out/tag-out procedure. Older HVAC units without that provision may still be useable. A simple locking mechanism to the unit's circuit breaker cover may suffice. Check with the AHJ.

In the case of older used shelters, equipment may actually need to be replaced such as HVAC units that do not meet current energy code. Depending on their overall condition, that may not be a bad thing. Roof and ceiling ventilation is another common issue with used shelters in Washington State. Check with the AHJ on what they require. Companies specializing in the marketing of used/surplus shelters will often work with a customer to incorporate desired changes in the shelter. Even with such changes, the shelter may still be a bargain.

Nothing replaces examining the shelter first-hand. There will typically be HVAC equipment and a generator and transfer switch that have been dormant for a time. Requiring that these systems be run is important. Ask for maintenance documentation.

If a generator is included, some additional care would be wise. Generally, generators age quite well. Along with maintenance records (the lack of which should be a bright red flag), perhaps a compression test or oil analysis, if pos-

sible, is in order. If the generator has been standing for awhile, was it properly decommissioned? Consider whether a load test may be advisable (age, signs of abuse).

Depending on the state of the documentation and the physical shelter, having a structural engineer examine the building may be advisable. Snow and wind load capability should be determined. If you expect to have a large battery plant inside the shelter, make sure the floor can handle it outright, has a designated area for batteries, or can be modified if needed.

Caulking, paint, other finishes, and roofing material can age. In most cases, degradation can be corrected by the seller. Certain structures are more susceptible to damage and aging than others. Be sure that a fiberglass shell structure has never cracked. Look for evidence of water damage everywhere inside the shelter. Also look for signs of critter infestation. Although appearing clean in the room itself, you may find that mice took up residence inside the panelboard, transfer switch, or other convenient enclosure.

Be careful when contracting to have a shelter moved. Try to determine from the shelter manufacturer the proper methods for lifting and transporting the shelter. If lift brackets are required and are not with the shelter, try to obtain them from the manufacturer. Make sure that lifting is done properly so that cables are not bending around the edge of the roof.

Be sure that any internal equipment is ready for transport. Watch out for things like a loosely hung muffler on the generator that could move. Of course, make sure that external appurtenances like louver hoods, light fixtures, door overhangs, and the like are removed for transport and stored properly.

Without recommendation, but to start your Internet surfing (with thanks to Google), some vendors of used equipment are:

Lattice Communications  
[www.latticebiz.com](http://www.latticebiz.com)

First Tech Communications  
[www.firsttechcommunications.com](http://www.firsttechcommunications.com)

TDW  
[www.telecomdiscountwarehouse.com](http://www.telecomdiscountwarehouse.com)

Good hunting!

## Who's the New Guy at ADCOMM?

If you ever ask Rick Olsen how he came to be on staff at ADCOMM, he'll laugh and tell you that it was totally by accident and will start quoting some line from the Godfather about being out and getting pulled back in, or some such thing. Rick was retired from the industry and had called ADCOMM to ask a question on behalf of the fire department he volunteers for and wound up on the payroll 8 days later.

All kidding aside, Rick has over 40 years of experience in systems and component level design all the way down to the semiconductor level. Rick pursued his undergraduate studies in electrical engineering at Arizona State University under the GI Bill as a Vietnam veteran, finally receiving an M.B.A. in project management, which led to a Ph.D. in Behavioral Science.

## Can You Find the Problem Here?

The first person to email me ([j.blaschka@adcomm911.com](mailto:j.blaschka@adcomm911.com)) with the correct answer gets a \$10 Starbucks card.



Congratulations to **Peggy Fouts** of Grays Harbor E9-1-1 for being the first person to respond in our "Can You Find the Problem Here?" from the previous TalkGroup newsletter (the bracket was being installed over the top of the cable).

**THE LAST BYTE**

Thinking about converting to digital? If you are implementing a new public safety trunked system that is your only choice. However, if you have an analog system, consider the change carefully as there are several "hidden" traps in the conversion process. The biggest one is that currently, and for a while yet, you will be "hitching your wagon" to one vendor if you are using receiver voting or simulcast

or want to add those capabilities. In the analog world you can mix and match infrastructure equipment. In the digital world it is more difficult. Making the wrong decision could be costly.

—*Joe Blaschka, Jr., P.E.*

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[www.adcommeng.com](http://www.adcommeng.com)**

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