



PANCOM NEWS #5 May 2010 Panhandle Regional Planning Commission 415 West Eighth Avenue Amarillo TX

PRPC Initiates Development of Communications Handbook

With consultant Bob Sanders' help, PRPC has launched a major effort to develop a new **Panhandle Communications Handbook** for dispatchers and responders from all emergency response agencies in the region. It includes a fairly detailed introduction to communication radios and modern repeater systems, a section on the "language of radio communications", and sections describing communications best-practices for dispatchers and responders.

A training curriculum is being developed to go along with the handbook, and discussions are underway to incorporate it into the new telecommunicator curriculum at Amarillo College. Additionally, PRPC is investigating TCLEOSE credits for a course based on the handbook.

Source material for the handbook is being collected from agencies around the region. Handbook content will be vetted by the PREMAC communication subcommittee augmented by subject matter experts from Amarillo PD/FD; Armstrong, Potter, and Randall Sheriff's offices; several fire departments, and Panhandle RAC.

The handbook is intended to be useful as a training manual for new agency employees, volunteer agency members, and dispatchers. This work is being funded by the Department of Homeland Security's Interoperable Emergency Communications Grant Program (IECGP).

PANCOM Scoreboard 5/15/2010

System Components	Complete	Of
• VHF Repeater Site Subsystems Installed	34	42
• VHF Coverage Tests Complete	30	42
• Touch-screen Consoles at PSAPs	14	60
• Microwave Links Installed	42	101
• Standby Power Generators Installed	18	25
• County Comm Meetings	4	26
• County Narrowband Migration Complete	9	26
• County P25 Digital Migration Complete	0	26

PANCOM Backhaul Network Approaches 50% Completion

The PANCOM system is arranged across 26 Panhandle counties at 42 remote repeater sites and 25 console sites (most located at PSAP dispatch centers). The "back haul" network consists of microwave Ethernet links between sites, with industrial-grade Cisco® routers and switches at each site to provide IP connection to the various individual pieces of equipment.

The backhaul network operates a lot like the Internet, but is totally separate from it for reliability and security reasons. All voice traffic to/from the system's repeaters, consoles, and recorders is converted to digital form, is delivered through the network to the other system equipments that need it, and is then re-constituted back to voice audio. This process is called Voice-over-IP, or VoIP.

Because PANCOM voice traffic is "mission critical" to the agencies using the system, the system is designed with redundancy to ensure continued operation in the event of a "single-point" failure such as loss of a microwave link or the router at a particular site. Every site in the system is provided with two separate microwave paths that connect the site to the overall network.

During the last six months, the PANCOM Microwave Ethernet Network has more than doubled its reach across the Texas Panhandle. The network now reaches from Amarillo, through Panhandle and Pampa to Canadian, Wheeler, Shamrock,

Lipscomb, Booker, Perryton, Spearman and Miami. Currently, link installations are underway in Briscoe, Dallam, Hartley, and Moore counties.

Microwave Repeater Sites

Building out the PANCOM backhaul system has led to a new type of remote site: the microwave-only repeater sites that are made necessary by distances between sites that are a little too long for a single microwave "hop". Similarly, an extra hop is often needed to get from a PSAP dispatch center to a high-enough point (water tower, for example) to make the long shot to the closest VHF repeater site.

At microwave-only repeater sites, most of the equipment is tower mounted, with only a couple of small power supplies required at ground level. At these sites, PRPC is installing a small outdoor power enclosure instead of a walk-in shelter.

The cabinets provide AC power for day-to-day operations and house battery back-up systems to cope with a loss of utility power. They also allow easy ground-level access by PANCOM network technicians for repair and maintenance.



PRPC Accomplishes Nine Site Leases

Nine new site-use agreements were negotiated and approved since the last newsletter in January. Included are three VHF repeater sites and six microwave-only sites. Of the nine sites, two are government-owned and the rest are private-sector owned. [Sites WILD, HRTW, N385, CAPP, WELH, CHAN, DUMW, CARN, and DALN]

PEMSS UHF Radio System Transferred to PRPC

Late in January, Northwest Texas Healthcare System and the PRPC Board of Directors approved transfer to PRPC of the assets, licenses, and maintenance obligations associated with the PEMSS UHF dispatch system, in order to provide for on-going operation and maintenance of the MED channel system until retirement and replacement by PANCOM.

The agreement provides for installation of PANCOM equipment at NWTX, and for long-term provision by PANCOM of UHF flight-following channels for the Lifestar medical helicopter system.

PANCOM and MED Channel Trouble Reports should be directed to:

Stephen Bernhardt at Omega Electronics, office 806-352-8251 or mobile 806-674-3291

Dave Cann at PRPC, office 806-372-3381 or mobile 806-433-1895

Schedule

Priority PANCOM installation work now scheduled for June-August includes:

- County Communications meetings at Moore County, Sherman County, Dallam/Hartley counties, Armstrong County
- Narrowbanding Migrations for Hansford, Hutchinson, Carson, and Armstrong counties
- VHF Repeater site installations at sites DALN, DEFW (collocated at OLDW), OCHL, and WHEN
- Console installations at Borger PD, Castro County SO, Tulia PD, Armstrong County SO, Shamrock PD, and Hall SO
- Microwave link installations at sites in Oldham, Potter, Randall, Roberts, Gray, and Hall counties
- Implement new VHF channels for EMS agencies

And, finally....

The work goes on.... Feel free to contact John Kiehl, Dave Cann or Reeves Easley-McPherson at 806-372-3381 for more information.