

**PIMA COUNTY WIRELESS INTEGRATED NETWORK (PCWIN)  
TECHNICAL COMMITTEE MEETING**

Pima County Sheriff's Department  
Administration Building, 1<sup>st</sup> Floor Conference Room  
1750 E. Benson Highway, Tucson, Arizona  
Thursday, February 7, 2008  
9:00 a.m.

**SUMMARY OF MEETING**

Note: The following is a summary of what transpired at the November 15, 2007 meeting.

I. **Call to Order:** Mr. Larry Sayers, Technical Committee Chair, calls the meeting to order at 9:01 a.m.

**Roll Call:** Catherine Hanna, Pima County Sheriff's Department

Quorum is established for the Technical Committee with a total of 11 members present.

**Members Present Technical Committee**

Larry Sayers, Chair, Pima County Fleet Services  
John Armstrong, Tucson Police Department  
Steven Campbell, Drexel Heights Fire District  
Scott Ferguson, Pima Community College DPS  
Don Harrison, Tucson Airport Authority  
Pat Joy, Pima County Sheriff's Department  
Gregory McNeal, City of Tucson IT  
John Moffatt, Pima County Office of Strategic Planning  
Gary Schmitz, Oro Valley Police Department  
Isaiah Twombly, City of Tucson Communications  
Anita Velasco, City of Tucson Communications

**Members Not Present – Technical Committee**

Ken Boynton, University of Arizona  
Rick Brown, Town of Marana  
Gary Bynum, Drexel Heights Fire District  
Harry Findysz, Mount Lemmon Fire District  
Tim Hoban, Tucson Airport Authority  
Joe Jakoby, City of Tucson IT  
Greg Lugo, Tucson Police Department  
Ted Martin, Pima County Sheriff's Department IT  
Kerry Reeve, Pima County OEM  
Ben Standifer, Tohono O'odham Police Department  
Gregg White, Northwest Fire District

**Others Present**

Anthony Casella, Pima County Information Technology  
Glenn Hamblin, Tucson Airport Authority  
Brian Heffernan, City of Tucson  
Bob Morton, City of Tucson  
Alex Vavages, Tohono O'odham Nation  
Paul Wilson, Pima County Sheriff's Department

**NOTE:** Dr. Ken Ballard, Ms. Sylvia Newman, and Mr. Michael Saben, from CTA Communications have joined the meeting via teleconference call.

## **II. Approval of Minutes, Mr. Larry Sayers, Technical Committee Chair**

Mr. Sayers asks members if there are any suggested changes for the November 15, 2007, Technical Committee meeting minutes. Motion made and seconded to accept and approve the minutes. Motion unanimously carries.

*Materials provided: Technical Committee Meeting Summary for November 15, 2007.*

## **III. Voice Radio System in 700 MHz Captain Paul Wilson, Pima County Sheriff's Department Mr. Larry Sayers, Pima County Wireless Services**

On January 25, 2008, Captain Wilson called a meeting with CTA Communications and several Technical Committee members to discuss the viability of allowing the vendors to include 700 MHz channels in the planned voice radio system. Captain Wilson refers the Committee to the memorandum handout and introduces CTA Communications representatives (teleconference), who will answer any questions the Committee might have.

Approximately 18 months ago, the Executive Committee, based on recommendations from the User and Technical Committees, accepted a recommendation that PCWIN proceed with an 800 MHz voice radio system. This particular system was chosen because there were already a sufficient number of licenses available for participating agencies, which would meet their long-term needs. Additionally, there were uncertainties about the 700 MHz at the time of the recommendation. Since that time, several changes have taken place in the 700 MHz and 800 MHz spectrum, and Captain Wilson felt that the 700 MHz spectrum deserved another look.

During the Business Plan process, strict language was included, explaining that if participating agencies contribute their 800 MHz channels to the overall design and the agency opts to leave the project, their spectrum must be left behind to continue with the viability of the radio system. PCWIN heard some opposition to that and have since softened the language to state that there would be a negotiated use of those channels to be determined at a later date. Secondly, reuse of those 800 MHz channels also creates dependencies within the project, where you would have to keep legacy systems up and operational while you place users onto a new system. It is possible to do, but these dependencies come with some risk.

Topics discussed:

### **Spectrum Availability**

The 700 MHz Planning Committee for Arizona previously completed the Statewide plan, but the FCC recently remapped the spectrum, which dealt with wide band channels, causing the Planning Committee to revise their plan. The plan gained the support of the bordering states for Arizona and has been resubmitted to the State, awaiting approval from the FCC. Based on where PCWIN was 18 months ago, it was very uncertain as to when 700 MHz frequencies would be available for licensing in Arizona. It appears that the State plan will be approved and those frequencies will become available to us.

## **International Agreements**

International agreements impact Pima County by requiring how we use the spectrum and how we use it with Mexico. These agreements govern how the spectrum is used 110 kilometers north of the border, which includes most of Pima County. International agreements had been worked out by the State Department, but because of recent FCC changes to the plan, it will mean that the State Department will have to go back to Mexico and revise the existing agreement. The existing agreement still covers a large amount of the frequencies available to PCWIN, which may be licensed and used. PCWIN is anticipating a Procurement process which will take approximately one (1) year to complete.

## **P25 Phase II TDMA Standard**

The UHF and VHF spectrum will have narrow banding requirements by 2013. A similar requirement for the 700 MHz band must be achieved by 2017. At this point, there is no requirement for the 800 MHz spectrum; a large reason why PCWIN chose that band, assuring that PCWIN would not have to upgrade the entire system shortly after its implementation. If PCWIN is implemented using the 700 MHz band, it would have to be narrow banded by 2017.

The P25 Phase TDMA Standard has not been published, but the TIA has decided on a 2-slot TDMA solution, which allows the vendor community to do their research and product development before the standard is published. PCWIN is confident that the vendors will have a solution for migration to P25 Phase II that can be stated during the Procurement phase of the project. Additional concerns, in regards to the different frequency bands, deal with coverage, building penetration qualities, and cost.

Captain Wilson does not feel that the coverage and building penetration will significantly change if PCWIN chooses the 700 MHz band. Cost cannot be estimated because vendors are not shipping out Phase II compliant equipment.

Captain Wilson recommends that PCWIN permit the vendors to make use of 700 MHz, and request that the vendors include a migration strategy on future growth of the system and detail what the implications are before making a purchase. He adds that he is not proposing a Phase II system, but the Committees should acknowledge that as the system grows and additional users are brought on, adding 700 MHz channels may be added, and the implications must be understood.

Captain Wilson opens the meeting for questions and/or comments.

## **Dr. Ballard, CTA Communications**

Two (2) years ago, no one had foreseen the rapid progression of the Phase II standard. The Phase II standard increases the capacity of the system using fewer frequencies. The TIA may have felt the pressure of having higher capacity systems, sooner rather than later. The standards documentation is moving quickly so products can be readily available for shipment as early as 2009.

Propagation and coverage from 800 MHz to 700 MHz will remain identical as long as it stays within P25 Phase I. Some of the vendor community feels that coverage will be reduced in the Phase II standard. M/A Com is confident that the coverage footprint will remain the same, although Motorola feels the footprint will decrease. The vendor community will not know for certain until the Phase II standard is deployed.

P25 Phase I FDMA Standard takes one (1) channel and splits it into two (2) frequencies, where as the TDMA Standard has two (2) voice slots into one (1) channel.

Captain Wilson asks Dr. Ballard if PCWIN should specify to the vendor community that their intent is to purchase a system which has a migration path to Phase II with no reduction in coverage. Dr. Ballard described what he has seen the vendor community do on this issue. It is suggested that PCWIN ask vendors what their migration strategies are and what their expected costs would be.

Captain Wilson asks Dr. Ballard if it is possible to use 800 MHz in an area with fewer sites needing broader coverage and use the 700 MHz band in the Tucson Simulcast area. Dr. Ballard agrees.

The Telecommunications Industry Association's (TIA) intention is to provide a solution which is backwards compatible. PCWIN does not want to purchase equipment which operates on an FDMA Phase I Standard without it having the capability to upgrade when needed.

PCWIN needs to make sure that the spectrum is secured for the long-term and it helps to reduce those project dependencies.

Concerns raised regarding the international agreements with Mexico; one (1) includes edits to the 700 MHz band, and the other includes rebanding the 800 MHz. The 800 MHz rebanding has been delayed until June 2008, and CTA has not heard positive feedback. Since agreements are not signed, frequencies cannot be moved to other sites, although waivers can be obtained to move licenses. PCWIN can either move forward with the 800 MHz band, as planned, or delay indefinitely until rebanding is completed. Use of a combination of 700 & 800 MHz would simplify implementation.

A revision to the State 800 MHz National Public Safety Planning Advisor Committee (NPSPAC) Plan has been proposed to the FCC to revise how certain channels are reserved for certain entities. Some of those reservations have been saved for certain counties, and small cities that have no plans to use 800 MHz in the future. The reservations have since been removed, making those frequencies available to Pima County or other licensees.

## **Recommendation**

Captain Wilson proposes that the Committee make a recommendation to the EMC that language be added to the RFP allowing the vendor community to make use of the 700 MHz spectrum in the voice radio system and require that they specify their migration path and potential impacts to migrate to P25 Phase II in the future.

Mr. Sayers refers to the Committee for a motion. Ms. Joy makes a motion to recommend to the EMC additional language in the RFP document, allowing the vendor community to make use of the 700 MHz spectrum in the voice radio system and require that they specify their migration path and potential impacts to migrate to the P25 Phase II. Dr. Moffatt seconds the motion. Motion unanimously carries.

*Materials provided: PCWIN Memorandum reference Use of 700 MHz Spectrum in a Voice Radio System, dated February 1, 2008.*

**IV. New Business, Mr. Larry Sayers, Technical Committee Chair**

Mr. Sayers asks if Committee members request agenda items for presentation at the next meeting.

Once the RFP document and the Procurement phase moves forward, the User and Technical Committees will meet more often, although separately, to discuss and develop policy and procedures for PCWIN. Captain Wilson anticipates that the RFP document will be complete by March 2008.

A question was raised about giving hospitals radio equipment when PCWIN is implemented. Currently, there is no plan for that cost, although there may be an opportunity for PCWIN to substitute the existing communications with talkgroups on the new PCWIN trunked system. A suggestion was made for the Technical Committee to bring in hospital representatives and discuss future communications with the hospital community. This item will be included as an agenda item for a future meeting.

**V. Call to the Public, Mr. Larry Sayers, Technical Committee Chair**

Mr. Sayers asks if anyone from the public would like to address the Committees. He receives no response.

**VI. Date-Time-Location of Next Meeting(s)**

TBD

**VII. Adjournment**

Ms. Velasco makes a motion adjourn the meeting and Mr. McNeal seconds the motion. Motion unanimously carries.

Meeting adjourns at 9:56 a.m.

Minutes prepared by: Catherine Hanna