



**Regional Wireless Cooperative**  
 Board of Directors  
 Agenda  
 January 24, 2013

	ITEM	PRESENTER
1)	<b>Call to Order, Roll Call and Opening Comments</b>	Chair Thorpe – Peoria
2)	<b>Approval of RWC Board Meeting Minutes from November 15, 2012</b>  <b>This item is for information, discussion and action.</b>	Chair Thorpe – Peoria  Est. 2 min
3)	<b>RWC Annual Audit for Fiscal Year 2011/2012</b> The purpose of this item is to present the findings of the RWC Annual Audit for Fiscal Year 2011/2012.  <b>This item is for information and discussion.</b>	Mr. David Felix – RWC Executive Director & Mr. Ronald Stearns– Clifton Larsen Allen Est. 10 min.
4)	<b>RWC 700 MHz Narrow-Banding, TDMA Conversion and Lifecycle Upgrades &amp; Special Assessment</b> The purpose of this item is to update the Board on the current status of the project. <b>This item is for information and discussion.</b>	Mr. Bill Phillips – Phoenix ITS  Est. 15 min.
5)	<b>RWC/TRWC Joint City Manager’s Meeting</b> The purpose of this item is to update the Board on the meeting held on December 17 <sup>th</sup> between the RWC & TRWC City Managers and Executives and progress of the Governance and Technical Working Groups <b>This item is for information, discussion and possible action.</b>	Chair Thorpe – Peoria Mr. David Felix Mr. Brad Hartig  Est. 15 min.
6)	<b>RWC Inventory of Programs Status Overview for Fiscal Year 2013/2014</b> The purpose of this item is to present the Board with the information submitted to the Budget & Research Department on RWC enhancements and priorities for this fiscal year. <b>This item is for information and discussion.</b>	Mr. David Felix – RWC Executive Director  Est. 5 min.



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7)	<p><b>Executive Director's Report</b></p> <ul style="list-style-type: none"> <li>a. Federal Communications Commission Petition</li> <li>b. Project Update           <ul style="list-style-type: none"> <li>• Paradise Valley</li> <li>• Indian Community Outreach</li> </ul> </li> <li>c. Superbowl 2015</li> <li>d. Meeting with Motorola VP Brenda Herold</li> <li>e. Interoperability and Associates Update (attachment)</li> </ul> <p><b>This item is for information and discussion.</b></p>	<p>Mr. David Felix – RWC Executive Director</p> <p>Est. 15 min.</p>
8)	<p><b>Call to the Public</b> <b>This item is for information only.</b></p>	<p>Chair Thorpe – Peoria</p>
9)	<p><b>Announcements &amp; Future Agenda Items</b>          The purpose of this item is to communicate any Board announcements or future agenda items.          The date of the next Board Meeting: March 28, 2013 from 10:00 – 11:30 a.m.  <b>This item is for information only.</b></p>	<p>Chair Thorpe – Peoria</p>
10)	<p><b>Adjourn</b></p>	<p>Chair Thorpe – Peoria</p>



Regional Wireless Cooperative

Board of Directors

Agenda

January 24, 2013

**Board of Directors  
2013 Meeting Schedule**

<u>Date</u>	<u>Location</u>
Thursday, January 24 10:00-12:00	Maricopa Association of Governments (MAG) 302 North 1st Avenue, 2nd Floor Phoenix, AZ 85003
Thursday, March 28 10:00-11:30	Maricopa Association of Governments (MAG) 302 North 1st Avenue, 2nd Floor Phoenix, AZ 85003
Thursday, May 23 10:00-11:30	Maricopa Association of Governments (MAG) 302 North 1st Avenue, 2nd Floor Phoenix, AZ 85003
Thursday, July 25 10:00-11:30	Maricopa Association of Governments (MAG) 302 North 1st Avenue, 2nd Floor Phoenix, AZ 85003
Thursday, September 26 10:00-11:30	Maricopa Association of Governments (MAG) 302 North 1st Avenue, 2nd Floor Phoenix, AZ 85003
Thursday, November 21 10:00-11:30	Maricopa Association of Governments (MAG) 302 North 1st Avenue, 2nd Floor Phoenix, AZ 85003



**Board of Directors  
MINUTES  
November 15, 2012**

Phoenix City Council Chambers  
200 West Jefferson Street  
Phoenix, Arizona 85003

**Board Members Present**

**Board Members Absent**

John Bennett	Chris DeChant	Danny Johnson	David Fitzhugh
Wade Brannon (10:14am)	Mike Frazier	Rob Sweeney*	Bob Hansen
Brenda Buren*	Mark Gaillard	Susan Thorpe	Charlie Meyer
Steve Campbell	Jim Haner	Marc Walker	Tim Van Scoter
Wayne Clement	Brad Hartig	Paul Wilson	Ed Zuercher
Bob Costello			
*Board Alternate			

**Staff and Public Present**

Karen Allen	Jennifer Hagen	Cy Otsuka	Nick Spino
Leif Anderson	Dave Heck	Ron Parks	Mike Sterling
Adam Baker	John Imig	David Perdichizzi	Mike Sumnicht
Dave Collett	Rick Kolker	Bill Phillips	Randy Thompson
John Gardner	Domela McHenry	John Rush	Shannon Tolle
April Garrett	Chris Nadeau	Vicky Scott	Tim Ulery

**1. Call to Order, Roll Call and Opening Comments**

Chair Thorpe called the meeting to order at 10:04 a.m. Roll call was taken and a quorum reached.

Chair Thorpe thanks Vice Chair Campbell for his help with the previous Board meeting.

**2. Approval of RWC Board Meeting Minutes from September 27, 2012**

A **MOTION** was made by Mr. Wilson and **SECONDED** by Mr. Hartig to approve the minutes as presented. **MOTION CARRIED UNANIMOUSLY (15-0).**

**3. RWC Policy for Approval**

Mr. David Felix introduced Ms. Jennifer Hagen, Encryption Services Supervisor, to give some background on the Encryption Policy and why it is so important to maintaining security on the radio system.

Ms. Hagen presented the Encryption Policy to the Board, and explained that the purpose of the Policy is to ensure security of the RWC Key Encryption materials. The Policy explains how encryption keys are distributed and how security management is handled. The City of Phoenix is responsible for the management of encryption keys, as the single point for encryption services for the RWC. Also in the policy are all the rules and responsibilities that all of the RWC members must follow.

The City of Phoenix also handles the KVLs for the RWC as well, making sure that only the appropriate people have access. The Policy also covers Key Owners, who is the one person who makes decisions on who gets access to talkgroups. Another important point that the Policy covers is the procedure for lost or stolen radios, which needs to be handle swiftly.

The Policy was originally developed when PRWN & TOPAZ was in affect, so this revision was warranted to bring it up to day with RWC standards.

Mr. Felix thanked the Policy Working Group (PWG) for their hard work on the development of the Encryption Policy. The Policy had previously been reviewed by the Operations Working Group (OWG) and the Executive Committee and they both recommend the policy for approval by the Board.

Vice Chair Steve Campbell had a question about the annual audit of the KVL holders, and suggested that there be provisions in place if an agency is found to violate the policy. Ms. Hagen explained that the key encryption material is changed every year (April) which ensures that only certified people have the information.

Mr. Felix stated that the PWG should, in the future, keep in mind if some kind of penalty, sanction, or corrective measure is needed in each of the RWC policies if the procedures are not followed.

Mr. Sweeney suggested that the IGA may be able to cover who is in “good standing” with the RWC by taking a look at if members are following all of the policies and procedures.

A **MOTION** was made by Mr. Campbell and **SECONDED** by Mr. Frazier to approve the Encryption Management Policy. **MOTION CARRIED UNANIMOUSLY (16-0).**

#### 4. **RWC Customer Cost Model**

Mr. Felix addressed the Board and gave some background on the topic of creating a Customer Cost Model for the RWC. At the previous Board meeting, this action item was continued, and after review from the Executive Committee, it is suggested to withdraw this item.

A **MOTION** was made by Mr. Hartig and **SECONDED** by Mr. Costello to withdraw the Customer Cost Model. **MOTION CARRIED UNANIMOUSLY (16-0)**.

#### 5. **RWC Financial Update for Fiscal Year 2011/2012**

Ms. Kelli Butz addressed the Board and gave a presentation on the finances from the 2011/2012 fiscal year as required by the governance.

Ms. Butz showed comparison of customer billings to expenses by the RWC. The total revenues billed to members was \$8.6M, and expenses coming to \$8.1M. This creates a settlement amount of \$584,203.00 to give back to the members, which is smaller than the previous year to do a tighter budget with revisions done to minimize over budgeting. These findings are currently being audited by Clifton Larson Allen.

The main savings came from shared site cost savings, emergency network coverage consultants, and also the delay in the White Tanks relocation (which will be carried over to the next fiscal year).

The Executive Committee is recommending approval to apply each member's credit towards their next quarterly billing.

A **MOTION** was made by Mr. DeChant and **SECONDED** by Mr. Sweeney to approve the settlement amounts being credited to each member for the 2011/2012 fiscal year. **MOTION CARRIED UNANIMOUSLY (16-0)**.

#### 6. **RWC Budget Overview for Fiscal Year 2013/2014**

Ms. Kelli Butz briefed the Board on the proposed RWC budget for the 2013/2014 and the 5-year plan. Ms. Butz explained that the staffing levels have remained the same from the previous fiscal year, and the Executive Committee has recommended there not be a special assessment for this period (included in regular staffing & maintenance charges).

The budget is split into four main charge categories: Motorola (70%), then City of Phoenix ITS (21%), RWC Staffing Costs (4%), and Other (5%). The budget summary shows a proposed subscriber rate of \$36.54 (but could change depending on radio count). The total budget is \$19,328,410.

Ms. Butz then showed the Board the estimated five year budget summary, broken down by fiscal year (the FY16/17 amounts could change depending on the 700MHz and TDMA Lifecycle upgrades). The Board was also shown a breakdown of what each member would owe for each upcoming fiscal year.

Mr. Felix explained to the Board that there could be members that decrease or increase the number of subscriber units on the system, and those numbers could

change the subscriber rate. The Executive Committee proposed that a notice be sent out to all members asking for a projected radio count for FY 2013/2014 so that the rate can be as accurate as possible.

Mr. Hartig asked if the lower rate could be attributed to the new Motorola SUA II Agreement, but Ms. Butz stated that the lower rate was due to about 2,000 fewer radios on the network.

A **MOTION** was made by Mr. Hartig and **SECONDED** by Mr. Campbell to approve the RWC Budget for Fiscal Year 2013/2014. **MOTION CARRIED UNANIMOUSLY (16-0)**.

## 7. **RWC Annual Audit**

Mr. Felix addressed the Board and explained that the RWC Annual Audit is still being reviewed, and the Audit Committee will be meeting with the Auditors by the end of the year.

Ms. Butz briefed the Board that Clifton Larson Allen conducted a site visit October 15<sup>th</sup> – October 19<sup>th</sup> and several areas were tested (revenue, member equity, and accounts payable registers) as well as staff being interviewed. A draft copy of the Comprehensive Annual Financial Report sent to the Auditors for review.

There have been two areas of concern cited by the Auditors; Capital Improvement Projects classification in a timely matter, and ITS Central Services cost allocation. The Auditors need more details of the ITS charges, and Ms. Butz has been able to get some information from the SAP system. The draft findings should be available this month, and further information to the Board at the January meeting.

## 8. **Executive Director's Report**

### a. **Strategic Communications Plan**

Mr. Felix told the Board that the second session was held on October 4, 2012; and two working groups were created from that meeting. The first group is a Technical Working Group, created to look at the technical roadmaps for the RWC and Topaz Regional Wireless Cooperative (TRWC) to gauge compatibility of the systems. The TRWC is further ahead with their software upgrades, but this could be matched up fairly easily. This group will also look at ISSI options to connect the two systems (briefing to be held with Motorola today, 11/15). The group will also look at full integration of the two systems, and will have Motorola provide a proposal for the costs of the ISSI and full integration.

Mr. Hartig shared with the Board that the second group that was formed from

the Strategic Communications meeting was the Governance Working Group. This group has established Guiding Principles for the group to follow while looking at the governance documents for both the RWC and TRWC. The group will come up with different governance options and identify opportunities and recommendations to propose to the Board.

Vice Chair Campbell wanted to re-stress to the Board that trying to blend the two entities together isn't an easy task that that the end user is the main focus of the discussion.

**b. Federal Communications Commission Petition**

There has not been an update from the Federal Communications Commission (FCC). The Louisianan petition has been granted giving them an extension until 2024, but we are all waiting to see what will happen for everyone else.

**c. 700MHz Narrow-Banding, TDMA Conversion & Lifecycle Upgrades**

Mr. Felix briefed the Board on the current status of this project, and that a special assessment will be put before the Board for approval in January. The City of Phoenix will not be able to carry long-term funding on behalf of the entire RWC, and is still working on how they will fund the City's portion of the upgrade.

**d. Gila River Grant Award**

The RWC was notified by the Gila River Indian Community that the RWC was awarded a grant in the amount of \$176,460 (paid over two years) to use for replacing base stations. The hope is that this will be able to purchase 4-5 base stations for the RWC.

**9. Call to the Public**

None

**10. Announcements**

Chair Thorpe briefed the Board that there will be a meeting between herself, Mr. Meyer, Mr. Zuercher; and Mr. Brady and Mr. Cross, the Mesa and Queen Creek City Managers, to discuss the possibilities of the RWC & TRWC re-integrating their systems.

Chair Thorpe announced the next Board of Directors Meeting will be held January 24, 2013.

Mr. Felix explained to the Board that the 2013 Board of Directors Meetings will be held at the Maricopa Association of Governments (MAG) offices. This will help add additional room at the Board table and will accommodate the public as well.

Mr. Felix & Chair Thorpe thanked the Board and the staff for all their hard work over the last year.

**11. Adjournment**

Chair Thorpe adjourned the meeting at 10:59 a.m.

Respectfully submitted,  
Kacie Howard, Management Assistant I



## BOARD OF DIRECTORS REPORT

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TO: Regional Wireless Cooperative      Agenda Date: January 24, 2012  
(RWC) Board Members

FROM: David Felix, RWC Executive Director      Item 3

SUBJECT: **RWC ANNUAL AUDIT FOR FISCAL YEAR 2011/2012**

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### BACKGROUND

The RWC financial audit has been completed by the audit firm of CliftonLarsonAllen, LLP. At the September 27, 2012 RWC Board of Directors meeting, the Board appointed a 3-person Audit Committee to meet with the auditor and RWC staff to review the audit findings.

### THE ISSUE

On January 10, 2013 the Audit Committee met with representatives from CliftonLarsonAllen, LLP. Below are some of the highlights from that meeting and the Fiscal Year 2011/2012 RWC Financial Statement Audit.

- On January 10, 2013, CliftonLarsonAllen, LLP issued an “unqualified” or “clean” opinion.
- The appointed RWC Audit Committee, acting on behalf of the Board of Directors, reviewed the audited financial statements and agreed with the audit opinion.
- The RWC audited financial statements include \$96 million in net assets and approximately \$8 million in annual operating revenues and expenses.
- The significance of the “clean” audit is that all financial responsibilities were properly managed and accounted by RWC staff.

### RECOMMENDATION

CliftonLarsonAllen, LLP will formally brief the RWC Board of Directors on the audit process and its findings at the January 24, 2013 RWC Board meeting.



**CliftonLarsonAllen**

CliftonLarsonAllen LLP  
www.cliftonlarsonallen.com

## **Independent Auditor's Report**

Board of Directors  
Regional Wireless Cooperative

We have audited the accompanying statements of net assets of Regional Wireless Cooperative (RWC) as of June 30, 2012 and 2011, and the related statements of revenues, expenses and changes in net assets, and cash flows for the years then ended. These financial statements are the responsibility of RWC's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Regional Wireless Cooperative as of June 30, 2012 and 2011, and the changes in its financial position and its cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 11 be presented to supplement the basic financial statements, such information although not a part of the basic financial statements is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. However, we did not audit the information and express no opinion on it.

Our audit was made for the purpose of forming an opinion on the basic financial statements of Regional Wireless Cooperative taken as a whole. The accompanying introductory section, supplementary information, and statistical section are presented for purposes of additional analysis and are not a required part of the basic financial statements. The supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated, in all material respects, in relation to the basic financial statements taken as a whole.

The introductory section and statistical section have not been subjected to the auditing procedures applied in the audits of the basic financial statements and, accordingly, we express no opinion on them.

*CliftonLarsonAllen LLP*

Phoenix, Arizona  
January 10, 2013



## BOARD OF DIRECTORS REPORT

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TO: Regional Wireless Cooperative (RWC) Board Members      Agenda Date: January 24, 2013

FROM: RWC Executive Committee      Item 4

SUBJECT: **RWC 700 MHZ NARROW-BANDING, TDMA CONVERSION AND LIFECYCLE UPGRADES**

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### PURPOSE

The purpose of this report is to review the 700 MHz Narrow-Banding, TDMA Conversion and Lifecycle Upgrade project with the RWC Board.

### BACKGROUND

This project is necessary to meet the federal mandate to narrow-band all 700 MHz frequencies by January 1, 2017, and perform key lifecycle upgrades to replace components that are no longer supported. The issue of RWC 700 MHz narrow-banding, TDMA Conversion and Lifecycle Upgrades has been discussed at several, previous RWC Board of Directors' meetings. The project description and details will not be discussed in this report, but are again included in Attachment A.

### DISCUSSION

At the September Board meeting, the Board was advised of the main project drivers, which are listed below, as a reminder, but will not be discussed again:

- a) Federal mandate to narrow-band all 700 MHz frequencies by January 1, 2017.
- b) Federal mandate to re-band the 800 MHz frequencies.
- c) Lifecycle upgrades required due to equipment no longer being supported by the manufacturer.
- d) The continuing poor economic situation.

In order to work within the constraints of the project drivers, it was recommended the project be divided into two parts. The first, to be called the "hardware upgrade", must be accomplished within three years, and will make the necessary infrastructure changes and conversion from 800 MHz to 700 MHz. This will enable the RWC to comply with the 800 MHz Re-Banding requirements and use the revenue from the "Cash-Out" to offset the cost of this portion of the project. As shown in Attachment A (Pg 9), the cost of this part of the project is \$25.4 M including credit from the "Cash Out" but not including any finance charges.

The second part of the project, to be called the "TDMA conversion", is the actual narrow-banding of the system which is estimated to cost \$17.7 M. Although shown, on the project timeline (Attachment A (Pg 10)) as being completed in late 2016, this part of

the project may be deferred depending on the outcome of the FCC petitions. Although it is highly likely the FCC will move the deadline, it is unknown if they actually will move it, and if so, by how much. Thus, there is a risk in adopting this approach. If the deadline is not moved, the RWC could be forced to complete the project by 2017 at a very high and immediate cost, or face penalties for not complying.

If the TDMA conversion is not immediate, the RWC faces additional costs to provide enough capacity for safe operation on the network during the period the conversion is deferred. This cost is estimated at \$6.9 M (with taxes) and is included in the \$25.4 M cost of the infrastructure upgrade portion of the project Attachment A (Pg 9). This is the worst case cost, and staff is looking into possible alternatives to reduce this expense.

Some changes that affect the above have occurred regarding the FCC mandates for 800 MHz Re-Banding and 700 MHz Narrow-Banding. First, the FCC Transition administrator's representative has contacted Phoenix to introduce himself. This is very likely an indication that the Re-Banding process and negotiations are soon to begin, emphasizing the need to complete the hardware phase of the project within the next three years. Secondly, the State of Louisiana was granted a delay to 2024 to accomplish their 700 MHz Narrow-Banding. This may be a positive indicator that the FCC will extend the Narrow-Banding deadline giving the Members more time to complete their radio replacements, and delay the TDMA conversion portion of the project.

The project costs cited above are only for the infrastructure changes necessary to the project. There are other items, which are the responsibility of the end users that significantly add to the overall cost of the project. These other items are:

- a) Replacement of all non-TDMA capable subscribers.
- b) Upgrade all dispatch consoles to the MCC 7500 series.
- c) Upgrade all in-building treatment systems to be 700/800 MHz capable

All of these items have been discussed in the past; this is just a reminder to ensure that all Members are considering all aspects of the project. The radio replacements must be accomplished by the time the infrastructure is converted to TDMA. As pointed out above, this date is currently January 1, 2017, but is very likely to be delayed. Consoles need to be upgraded within the next three years to coincide with the hardware upgrade, so that consoles remain compatible with the infrastructure and software version. Note that there may actually be a short period of time to extend the console replacements beyond three years, but this is not recommended.

Finally, if any in-building treatment systems have been used to enhance in-building radio coverage, those systems must all be converted to handle both 700 and 800 MHz frequencies. Note there are two aspects of in-building treatments to consider; a) treatment systems owned by the Member, which are the responsibility of the Member to upgrade, and b) commercial/private buildings that have been treated, for which the Member may need to advise the owner of the need to upgrade their systems. Since

databases for the latter do not necessarily exist, this may be an issue that will not become known until after the fact. The timeframe to upgrade these systems must coincide with the hardware upgrade portion of the project since the system will be converted to all 700 MHz within that period.

The Board is again reminded that although a conceptual plan to fund the project over a six year period has been approved, this plan may no longer be applicable given the two phase approach being proposed. A combination of direct payment and financing may be applicable for either phase or both.

### RECOMMENDATION

This report is for information only to the RWC Board of Directors. It is intended to reiterate the project status, the potential to divide the project into two parts, and the resulting cost so the Board may review the information and have time to consider the impacts and funding concerns. No decision is required at this time, but the recent activity on the 800 MHz Re-Banding project will very likely begin driving this project forward.

#### Attachments:

- A) RWC 700 MHz Narrow-Banding, TDMA Conversion, and Lifecycle Updates, and 800 MHz Re-Banding Project Details; Revised September 4, 2012

## **RWC 700 MHz Narrow-Banding, TDMA Conversion and Lifecycle Updates, and 800 MHz Re-Banding Project Details**

### Outline

- 1) [Executive Summary](#)
- 2) [Description of Project Elements](#)
  - a) 700 MHz Narrow-Banding
  - b) TDMA Conversion
  - c) Lifecycle Updates
  - d) 800 MHz Re-Banding
- 3) [Project Drivers](#)
- 4) [Overall Project Description](#)
  - a) [Infrastructure Changes](#)
    - i) Description
    - ii) Cost Distribution
  - b) [Other Changes](#)
    - i) Subscriber Replacement & Cost Distribution
    - ii) Console Upgrades & Cost Distribution
- 5) [References](#)

### **1) Executive Summary**

The purpose of this project is to comply with Federal mandates to narrow-band the 700 MHz spectrum used by the Regional Wireless Cooperative (RWC) by converting the RWC system to the Time Division Multiple Access (TDMA) protocol and implementing several key lifecycle changes required due to equipment obsolescence. The project also considers the Federal mandate for 800 MHz re-banding and integrates it with the overall project by converting the entire RWC network to use only 700 MHz frequencies, eliminating the need to re-band the 800 MHz frequencies.

The new status of the federal 800 MHz Re-Banding mandate, and the current financial issues pressing on all RWC Members requires dividing the project into two main phases for the infrastructure upgrade. The first phase must be completed within the next three years in order to use the Re-Banding cash-out option to offset some of the cost of this project. This phase requires the upgrade of all infrastructure and a move off the RWC's 800 MHz frequencies to all 700 MHz frequencies. The cost of this phase is \$25.4 M (not including financing).

The second phase, for infrastructure upgrade, is the final conversion to 700 MHz Narrow-Banding. This phase is included in the current project funding in FY 16/17, but may be deferred until an unspecified time to permit Members a longer time frame to fund large end user costs for subscribers. The cost of this phase is estimated at \$17.8 M (not including financing).

The overall project cost is \$43.1 M, after applying credits. Attachment A shows the Summary of Costs for the project and compares the last project estimate with the current estimated cost. If the final Narrow-Banding and TDMA conversion is deferred, additional capacity will be required to maintain the system at reliable operational levels during the period of the deferral. These costs are currently included in the project to show the worst case scenario. Attachment B shows the Summary Costs along with an estimated timeline. Although the Board approved a six (6) year financing term, this has not been included in the current estimates due to the change in schedule with the possible deferral of final project completion until an unspecified date.

It should be noted that the FCC has NOT deferred the deadline for the Narrow-Banding mandate, therefore there is considerable risk in planning to proceed assuming there will be a deferral of the deadline. Many agencies have filed requests for deferral with the FCC, including the RWC, and while there has been no official word yet, it appears that a deferral is likely. If the FCC does not defer the mandated deadline, the RWC could face significant fines.

The final part of the project is for all of the end user changes required, such as replacing radio subscribers and Gold Elite consoles, and/or upgrading the existing MCC 7500 consoles. This portion of the project may be deferred to an unspecified date, but must coincide with completion of the second phase above. The cost for this portion of the project is borne individually by each RWC Member for their respective equipment.

## 2) Description of Project Elements

- a) 700 MHz Narrow-Banding: In order to expand the availability of radio frequencies for public safety use, the FCC has mandated that all 700 MHz frequencies be narrow-banded by 2017. Current frequency channels have a bandwidth of 12.5 KHz, and narrow banding reduces this bandwidth to 6.25 KHz. This effectively doubles the availability of frequencies. The FCC is currently requiring that all 700 MHz channels be narrow-banded by January 1, 2017. There is some movement towards extending this deadline, or putting the date for conversion in the hands of the local Regional Planning Committees (RPC's). If the FCC acts as it typically has in the past, even though an extension is likely, the FCC will NOT make any early pronouncements of an extension to keep pressure on agencies to move forward with their plans to narrow-band. Thus, unfortunately, it is imperative that until official notification is issued by the FCC, all planning must rely on meeting the existing January 1, 2017 deadline.
- b) TDMA Conversion: Frequency Division Multiple Access (FDMA), and Time Division Multiple Access (TDMA) are communications protocols which control how radios communicate with each other on a Project 25 radio network. The RWC currently uses the FDMA protocol which is part of the Phase I Project 25 Standard. TDMA is part of the Phase II standard. Instead of literally cutting the bandwidth of a channel in half, the TDMA protocol allows two radio conversations to occur on one channel. This method of narrow-banding is called six and a quarter equivalency, or 6.25e.

The RWC has been planning for the 700 MHz narrow-banding, and all 700 MHz equipment added to the RWC network is 6.25e capable. Meeting the FCC deadline with this equipment would only require a software upgrade, with some minor hardware changes to the infrastructure. Although both the TDMA and FDMA protocols may be used on the same system, they cannot be used on the same talkgroup at the same time. This limits the seamless roaming ability. Thus, in order to comply with the Federal mandate, the RWC must not only convert the 700 MHz parts of the system to TDMA, the entire network, including 800 MHz sub-systems, must also be converted to TDMA, in order to maintain seamless roaming.

- c) Lifecycle Updates: As with any system, as the system ages and/or is updated, equipment and software changes and older versions, particularly hardware versions, must be replaced. Software updates are covered by ongoing contracts, but hardware upgrades are handled separately. A new System Upgrade Assurance II (SUA II) plan has been put in place which combines most hardware and all software updates in one package. This package provides updates every two years as follows: v7.11 in 2013; v7.14 in 2015; v7.xx (version number TBD) in 2017. Neither the STR Base Stations nor the Gold Elite consoles will work under software version 7.xx and therefore both would normally need to be replaced by the end of 2016. Also, the STR Base Stations and the Gold elite consoles do not support the TDMA protocol and therefore must be changed out by the end of 2016 to coincide with the FCC mandate for narrow-banding.

The SUA II agreement is not all inclusive in that platform changes are not part of the agreement and must still be handled separately. The STR to GTR base station and Gold Elite to MCC 7500 console upgrades are the two critical platform changes that must be handled. The STR and GTR base stations are the transmitters and receivers of the system. The STR product is no longer being manufactured, will be ten years old by the time it is replaced, and, as of 2014, will no longer be supported. The STR also will not support the TDMA protocol. Other required upgrades involve consoles and subscribers which are described below.

- d) 800 MHz Re-Banding: This is another FCC mandated project. Many of the existing public safety 800 MHz frequencies are interleaved with and in close proximity to 800 MHz frequencies used by the cellular carriers, and almost exclusively by Sprint/Nextel. Due to the proliferation of cellular sites, public safety users often experience debilitating interference to their communications from the cellular carriers, usually in areas in proximity to the cellular towers. Even though the carriers respond positively and try to change power levels, adjust antenna gain and orientation, the interference cannot be totally eliminated due to the proximity, and overall power of the cellular frequencies. Therefore the FCC mandated that all 800 MHz public safety frequencies be re-banded (“moved”) to eliminate the proximity to cellular carrier frequencies. The new 800 MHz band is essentially moved about 15 MHz downwards, making it nearly contiguous with the 700 MHz public safety frequencies. Relocation of the 800 MHz frequencies is being funded by Sprint/Nextel in exchange for other frequencies to enhance their cellular service.

The Phoenix metropolitan area is designated part of Wave 4 (or Phase 4), which is contingent upon establishing treaties governing frequency use with bordering nations, Canada and Mexico. The treaty with Mexico was signed in June 2011 and the process will soon begin to perform the re-banding. At this time, it is most likely that the re-banding project will have to be completed within three years.

An alternative to actually re-banding the 800 MHz frequencies is the “cash-out” option. In this alternative, an agency may elect to receive a cash buy-out which may be used to get off the affected 800 MHz frequencies verses actually performing the re-banding. In the case of the RWC, the 800 MHz frequencies could be replaced with 700 MHz frequencies. Sprint/Nextel would pay, or cash-out, the RWC to make this move in lieu of re-banding. There are several requirements for using this option such as; 1) Sprint/Nextel will not pay more to move an agency than they would have paid to re-band that agency; 2) the agency must vacate the 800 MHz frequencies within the same time frame as it would accomplish the re-banding; and 3) the agency must show that it has committed any additional funding required to accomplish the move before Sprint/Nextel will pay their share.

At this time, it is estimated that about \$4.3 M may be obtained from the Cash-Out option. This is a conservative estimate, and hopefully negotiations with Sprint/NEXTEL will provide more funding to offset the Members’ costs.

### **3) Project Drivers**

There are two main drivers which are forcing this project and its timeline.

The first one is what is mandating the project and that is the Federal requirement to narrow-band the 700 MHz frequencies by December 31, 2016 as explained in 2)a) and 2)b) above. This mandate drives the need to convert our infrastructure and subscribers by the December 31, 2016 deadline.

However, the second driver is forcing the project to be accomplished even more quickly than the narrow-banding mandate above, and that is the use of the 800 MHz Re-Banding “cash-out” funds to offset the costs of this project. Using these funds to offset RWC Member costs is the most fiscally prudent approach to the overall project. If these funds are used, the RWC must be off its 800 MHz frequencies within the same time frame as it would have taken to re-band those frequencies. Since the treaties have been signed, it is estimated that re-banding must occur within about three years, by late-2015 (1 year earlier than the narrow-banding deadline). Thus the project is driven by the re-banding deadline, and the infrastructure change-out and frequency change must be completed in the next three years, maximum. The RWC will have greater leverage to negotiate a favorable cash-out, the earlier we can move off the 800 MHz frequencies.

An additional driving factor is lifecycle change described in 2)c) above. While the infrastructure, base stations in particular, could be supported beyond the narrow-banding

deadline, it is difficult to determine how far beyond that date the equipment could be supported. The RWC has an extended quantity of spare base stations, but as the equipment ages and it begins to fail, those spares could be consumed quickly, or they may last for a long time; it is very difficult to predict. However, even though the equipment could be maintained longer, it will not be able to operate once the system is updated to version 7.xx in 2017. Therefore, in order to keep the system up to date and meet the federal mandates, the infrastructure must be updated to match the software update schedule. Fortunately, the software upgrade cycle and the narrow-banding mandate coincide. It must also be noted that even if the federal mandate is extended, the base stations will still need to be upgraded by early 2017.

In summary, the infrastructure change-out must be completed by early 2015 in order to make use of the 800 MHz re-banding cash out. The console and subscriber replacements, and the TDMA conversion needs to be completed by January 2017.

#### **4) Overall Project Description**

The overall project takes into consideration the requirements of all of the above factors to allow the RWC and Phoenix to comply with all federal mandates and update the system to keep it current and supportable. Motorola has provided a revised proposal, see References (a & b), which outline the cost to accomplish this project. The cost, based on this proposal, is \$43.1 M to move all frequencies from 800 MHz to 700 MHz, convert the system to TDMA, and upgrade all hardware to current, supported versions of equipment. This cost includes the capacity increase and credits for the 800 MHz Re-Banding Cash-Out, but does not include financing charges

##### **a) Infrastructure Changes**

###### **i) Description**

Infrastructure changes involve two basic components. First are the changes necessary to accomplish the TDMA conversion and second are the changes required to accomplish the lifecycle updates, both described above. For the RWC, these components overlap significantly with the main component to be replaced being the STR base stations, which must be upgraded to GTR base stations. This particular change enables the RWC to meet FCC mandates as well as replace aging infrastructure that is no longer being supported.

This is a significant project which must be approached carefully since major hardware components are being changed on a critical, operational system. To facilitate keeping the system operational, with minimal impact to the users, Motorola proposed accomplishing the project in five phases. First Simulcast C would be upgraded to make its equipment ready for the TDMA conversion. Then Simulcast A & B would go through the same conversion. The third phase would upgrade the ISR sites in a like manner.

A new fourth phase has been added to provide additional capacity to the network. Original plans included converting to TDMA and accomplishing the Narrow-Banding quickly. This would have allowed for an increase in capacity on the system since channels converted to TDMA provide twice the capacity as the current channels. This also minimized the number of base stations to be converted. However, with the final Narrow-Banding and TDMA conversion being deferred to an unspecified date, the RWC network will have less capacity than is currently used due to the cost saving measure of only converting the minimal number of channels. If the final conversion date is deferred as described in the preceding sections, the network would have to operate for an extended period at reduced capacity. Therefore an additional proposal, Reference (b), was obtained providing the cost to add capacity to critical sub-systems to maintain good system performance during the deferral period. This added \$6.3 M to the cost of the project. This cost may be avoided if the TDMA conversion occurs by the FCC deadline, but that would also mean all RWC Members would have to upgrade their subscribers by this time as well, and that is even more costly than this infrastructure project.

The 700 MHz subsystems (Simulcast F, H, J) are already nearly TDMA capable, but some network and server changes are required, and thus these upgrades are reserved for the fifth and final phase. The fifth phase accomplishes the final conversion to TDMA.

This proposal is based on completing the project in time to meet the current federal 800 MHz, Re-Banding timeframe of late-2015. However, although the full cost of the project are shown based on completion by January 2017, we are planning on deferring the fifth phase based on the FCC delaying the actual 700 MHz Narrow-Banding deadline. This will allow the Members more time to change out their subscribers to be TDMA capable. Attachment B shows the proposed project timeline and total funding, without financing charges. The \$17.7 M shown in FY 16/17 may be deferred if the FCC deadline is extended.

#### ii) Cost Distribution

The cost of the infrastructure changes is to be shared among the RWC members based on the radio counts used by each Member. Attachment C shows how the cost is distributed among the Members. The radio counts are based upon the current radio counts used for the FY 2012/13 First Quarter Billing. The radio counts are assumed to remain relatively constant over the life of the project, so there will likely be some minor changes as the project progresses. These counts also do not yet include changes that will result from Maricopa and Paradise Valley Police joining the network.

#### b) Other Changes

In addition to the infrastructure changes, which are shared among the RWC Members,

each RWC Member will incur end user costs which are born solely by that Member. End User costs include radio and console replacements, and radio reprogramming. Initially, the costs associated with certain console upgrades were also in this category, but the recent addition of the System Upgrade Assurance II (SUA II) plan has included those upgrades, so they do not need to be listed as part of the end user costs. Motorola has scheduled time with each RWC Member to develop an accurate cost estimate for these other costs. This estimate is scheduled to be developed in 2012. The estimates provided below for the console replacements are only rough estimates which will be updated once better figures are available.

i) Subscriber Replacement and Cost Distribution

The subscribers (mobile and portable radios) that are currently used on the system are not capable of supporting the new TDMA protocol required to meet the FCC Narrow-Banding mandate. Thus the entire radio fleet must be replaced in time to meet the narrow-banding deadline. These radios should have been part of regular replacement program which would replace all radios on a 7 to 10 year schedule. Even after this capital project is completed, a regular replacement program must be instituted to keep the subscriber fleet up to date. Subscriber cost estimates, based on the current inventory of Member radios, as listed in the system, are provided only to give a more complete view of the total cost of the project. The costs have been spread out over several years, but we only have until January 2017 to complete the change-out. Attachment C shows the total radio counts and costs required to accomplish this change starting in FY 2012/13 through FY 2016/17.

The total estimated cost for subscriber replacement is \$79.4 M. The detailed cost estimate is contained in Attachment D, however it must be noted that this is an estimated schedule, estimated cost and estimated distribution by RWC member. Costs may likely be slightly less as better pricing is negotiated and competition between vendors increases.

ii) Console Replacement and Cost Distribution

The RWC's Gold Elite consoles are all very old and will no longer be supported by Motorola past 2018. However, these consoles will not support the TDMA protocol required for FCC Narrow-Banding by January 2017, and therefore must be replaced in time to meet that deadline.

Attachment E displays the estimated costs to replace these consoles based the most recent Budgetary Proposal from Motorola for Phoenix Police. Accurate costs must be developed by each individual RWC Member based on their own specific requirements. Until those costs are available, project costs for console replacements are estimated to be \$8.6 M as shown in Attachment E.

**5) References**

- a) Motorola - RWC Lifecycle Upgrades & Conversion to 700 MHz TDMA, dated February 29, 2012
- b) Motorola - RWC LIFECYCLE AZ-10P134B - Add-On Budgetary Proposal V3
- c) Motorola – City of Phoenix Radio Dispatch Console Replacement, Budgetary Proposal, dated September 18, 2008

**6) Attachments**

- A) Summary of Costs for Narrow-Banding, TDMA and Lifecycle Upgrade
- B) Timeline and Summary of Costs for 700 MHz Narrow-Banding, TDMA Conversion and Lifecycle Upgrades
- C) 700 MHz Narrow Banding, TDMA and Lifecycle Upgrade Budget Distributed by RWC Member
- D) RWC Radio Replacement Estimated Cost and Distribution
- E) RWC Estimated Cost and Distribution of Gold Elite Console Replacements

**Attachment A:**

<b>Summary of 700 MHz Narrow-Banding, TDMA, and Lifecycle Update Costs</b>			
	Original Proposal January 2011	Revised Proposal February 2012	Revised Proposal with Additional Capacity
Phase I: Simulcast C	\$6,875,632	\$3,888,500	\$3,888,500
Phase II: Simulcast A&B	\$21,427,006	\$15,848,100	\$15,848,100
Phase III: ISR's	\$1,011,833	\$1,042,500	\$1,042,500
New Phase IV Capacity Increase	\$10,000,000		\$6,885,900
RWC Staff, PM, Contingency, RWC Consoles	\$963,429	\$963,429	\$2,000,000
Credit for 800 MHz Rebanding Cash-out			(\$4,300,000)
Total Costs to Accomplish 700 MHz Conversion and Lifecycle Upgrade Without Narrow-Banding	\$40,277,900	\$21,742,529	\$25,365,000
Phase V: TDMA Conversion (To be deferred along with Subscriber Upgrades)	\$10,722,100	\$17,737,600	\$17,737,600
Grand Total Project Cost	\$51,000,000	\$39,480,129	\$47,402,600
RWC Costs (with Re-Banding Credit)	\$51,000,000	\$39,480,129	\$43,102,600

Notes:

Costs highlighted in yellow are new costs to provide, additional capacity due to the deferral of converting to TDMA, increased contingency, credit for Re-Banding cash-out.

**Attachment B:**

<b>Timeline and Summary of Costs for 700 MHz Narrow-Banding, TDMA Conversion and Lifecycle Upgrades</b>																	
	Current FY FY 12/13				FY 13/14				FY 14/15				FY 15/16				FY 16/17
Timelines																	
700 MHz Narrow-Banding Mandate																	
800 MHz Re-Banding																	
700 MHz Narrow-Banding, TDMA, and Lifecycle Upgrade Project																	
700 MHz Conversion and Infrastructure Upgrade																	
700 MHz final Narrow-Banding and TDMA																	
<b>Cost Estimates</b>																	
800 MHz Re-Banding																	
700 MHz Narrow-Banding, TDMA, and Lifecycle Upgrade Project																	
700 MHz Conversion and Infrastructure Upgrade																	
700 MHz Final Narrow-Banding and TDMA																	
Total Cost to the RWC																	\$43,102,600
Grand Total Project Costs																	\$47,402,600

**Notes:**

The above costs are without financing charges.

The costs in FY 16/17 may be deferred to an unspecified date if the FCC deadline is extended or removed.

**Attachment C:**

700 MHz Narrow Banding, TDMA and Lifecycle Upgrade Budget Distributed by RWC Member								
			FY 12/13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Project Total
Funding Required by Year			\$4,300,000.00	\$8,455,000.00	\$8,455,000	\$8,455,000	\$17,737,600	\$47,402,600
Member Shares	Radio Count	%	Distribution N/A					Total by Member
Avondale	265	1.44%		\$121,401	\$121,401	\$121,401	\$254,685	\$618,888
Buckeye	193	1.05%		\$88,417	\$88,417	\$88,417	\$185,487	\$450,737
Chandler	967	5.24%		\$442,999	\$442,999	\$442,999	\$929,360	\$2,258,356
Daisy Mountain	5	0.03%		\$2,291	\$2,291	\$2,291	\$4,805	\$11,677
El Mirage	82	0.44%		\$37,566	\$37,566	\$37,566	\$78,808	\$191,505
Glendale	1,558	8.44%		\$713,746	\$713,746	\$713,746	\$1,497,355	\$3,638,592
Goodyear	100	0.54%		\$45,812	\$45,812	\$45,812	\$96,107	\$233,542
Guadalupe	11	0.06%		\$5,039	\$5,039	\$5,039	\$10,572	\$25,690
Maricopa	16	0.09%		\$7,330	\$7,330	\$7,330	\$15,377	\$37,367
Peoria	898	4.87%		\$411,389	\$411,389	\$411,389	\$863,045	\$2,097,211
Phoenix	10,848	58.78%		\$4,969,649	\$4,969,649	\$4,969,649	\$10,425,741	\$25,334,688
Scottsdale	1,393	7.55%		\$638,156	\$638,156	\$638,156	\$1,338,777	\$3,253,247
Sun City	42	0.23%		\$19,241	\$19,241	\$19,241	\$40,365	\$98,088
Sun City West	38	0.21%		\$17,408	\$17,408	\$17,408	\$36,521	\$88,746
Sun Lakes	30	0.16%		\$13,743	\$13,743	\$13,743	\$28,832	\$70,063
Surprise	401	2.17%		\$183,705	\$183,705	\$183,705	\$385,391	\$936,505
Tempe	1,580	8.56%		\$723,824	\$723,824	\$723,824	\$1,518,498	\$3,689,971
Tolleson	29	0.16%		\$13,285	\$13,285	\$13,285	\$27,871	\$67,727
Total Distributed Costs	18,456	100.00%		\$8,455,000	\$8,455,000	\$8,455,000	\$17,737,600	\$43,102,600

Note: Costs in FY 16/17 may be deferred if the FCC mandated deadline is extended or removed.

**Attachment D:**

Estimated Subscriber Replacement Costs for RWC Members			
RWC Member	Radio Count to Replace	Estimated Cost	Comments
Avondale	251	\$1,500,315	PD and Fire
Buckeye	178	\$1,082,027	Fire already converted
Chandler	810	\$4,195,746	PD, Fire and Muni
Daisy Mt Fire District	3	\$15,081	Fire Only
El Mirage	74	\$461,081	PD Only, Fire already converted
Glendale	1,871	\$10,329,246	PD, Fire, Muni, and Cache
Goodyear	262	\$1,223,895	PD, Fire
Guadalupe	4	\$27,576	Fire already converted
Maricopa	6	\$41,364	Fire Only; PD not yet on
Peoria	760	\$3,275,507	PD, Fire and Muni
Phoenix	9,500	\$45,337,930	PD and Muni Only; Fire already converted
Scottsdale	468	\$2,454,183	PD, Fire and Muni
Sun City	8	\$47,200	Fire Only
Sun City West	28	\$96,303	Fire Only
Sun Lakes	21	\$141,792	Fire Only
Surprise	280	\$1,680,374	PD Only, Fire already converted
Tempe	1,384	\$7,255,634	PD, Fire and Muni
Tolleson	38	\$225,150	Fire already converted, PD not yet on
<b>Grand Total</b>	<b>15,946</b>	<b>\$79,390,404</b>	

**Notes:**

1. Radio counts may differ from the billing counts since some radios have already been converted and are thus not included in the replacement calculations, and the inventory numbers used for these calculations were obtained after the counts used for billing.
2. Costs vary from jurisdiction to jurisdiction based on the types of radios in use by each jurisdiction, and the number of radios that have already been upgraded. For example, the radio count for Sun City is 42, but only 8 radios remain to be converted.
3. These costs are only estimates and provided for illustration and to show the overall magnitude of the cost. Each jurisdiction is responsible for its subscriber replacement and the costs associated with same.

**Attachment E**

RWC Console Replacement and Upgrade Cost Estimate					
City	Location	Gold Elite	MCC 750	Gold Elite Replacement Cost	MCC GPIOM to VPM Upgrade Cost
Avondale	Police	4		\$228,000	
Avondale	Contingency			\$22,800	
Chandler	Police		6		
Chandler	EOC		2		
Glendale	Police	12		\$684,000	
Glendale	Contingency			\$68,400	
Peoria			10		\$210,000
Peoria	Contingency				\$21,000
Phoenix	Police (PCOM)	30		\$1,710,000	
Phoenix	Police (PPSB)	22		\$1,254,000	
Phoenix	Fire (FS41)	12		\$684,000	
Phoenix	Fire (FOPS)	21	1	\$1,197,000	\$21,000
Phoenix	Fire (EOC)	2		\$114,000	
Phoenix	Fire (CTC)	1		\$57,000	
Phoenix	Sky Harbor	9		\$513,000	
Phoenix	Calvin Goode (City Operators)	2		\$114,000	
Phoenix	Contingency			\$564,300	\$2,100
Scottsdale		11		\$627,000	
Scottsdale	Contingency			\$62,700	
Surprise	Police		7		\$147,000
Surprise	Contingency				\$14,700
Tempe	Apache		15		
Tempe	South Substation		3		
Tempe	EOC		1		
<b>Sub Totals</b>		<b>126</b>	<b>45</b>	<b>\$7,900,200</b>	<b>\$415,800</b>
<b>Totals</b>		<b>171</b>		<b>\$8,316,000</b>	
RWC	ROC		1		\$21,000
RWC	ROC	2		\$114,000	
RWC	Wireless Svcs	2		\$114,000	
RWC	Contingency			\$22,800	\$2,100
<b>Sub Totals</b>		<b>4</b>	<b>1</b>	<b>\$250,800</b>	<b>\$23,100</b>
<b>Totals</b>		<b>5</b>		<b>\$273,900</b>	
<b>Grand Total</b>		<b>176</b>		<b>\$8,589,900</b>	

**Notes:**

1. Gold Elite replacement costs based on a per unit value of \$57,000. This cost is based on dividing the total cost of the most recent proposal by the number of consoles replaced.
2. The contingency is necessary to account for differences in engineering, network equipment, connectivity, at each dispatch location, that is not included in the per unit cost in (1) above.
3. Chandler and Tempe have MCC 7500 consoles with VPM modules, hence no upgrades are required.

FINAL NOTES FROM  
TRWC-RWC Governance Discussion  
December 17, 2012



City Managers' Meeting  
Mesa City Hall  
2:00-3:30pm

**Attending:** Susan Thorpe, Charlie Meyer, Ed Zuercher, John Kross, Chris Brady

1. Introductions, purpose of the meeting

Susan Thorpe, RWC Chair, gave introductory comments, along with John Kross, TRWC Chair.

2. Overview of TRWC-RWC Strategic Communications Plan discussion

Discussion included the two day strategic plan meetings that led to the current discussion about governance and a single seamless radio communication system that meets the needs of the public safety users.

3. Joint TRWC-RWC Efforts to Date:

See Attachment I:

- A. Joint Governance Working Group
- B. Joint Technical Working Group

It was noted that the issues that were concerns when Mesa/TRWC left the PRWN/RWC system have been fixed and are no longer problems. Of particular note were the ability to have members continue to own their assets and to allow member managing partners.

4. Governance Discussion

Mesa City Manager Chris Brady observations/comments:

- What is it the person on the street needs that we are trying to solve for? If it's a simple problem, deal with it simply. What about an "automatic aid" agreement for police, like we do with fire? Is that a possible solution, rather than the only solution being one radio system?
- When Mesa was pushed out (their perspective), they left behind a \$500,000 investment in the Phoenix system. They had to spend more money creating their own separate system. Mesa has since that time made a big investment in ramping up their capability to operate their own. Not ready to say they want to be back to the way things were. Based on this history, in order for Mesa to feel comfortable, any single radio system must be governed by a separate regional authority to be successful, rather than one member being in charge.

**FINAL NOTES FROM  
TRWC-RWC Governance Discussion  
December 17, 2012**

- Would like to find an option that allows our two systems to be separate but as close as possible.
- TRWC has an interest in having some autonomy no matter what solution is found. This might mean two different cost models for the TRWC and RWC members, but uniformity of infrastructure and platforms.
- The TRWC cities have expanded their partnership beyond communication. They have a joint ambulance service contract, and are looking at expanding to other services.

5. Next Steps

**Both TRWC and RWC will continue the path agreed upon in the Joint Resolution adopted earlier in 2012.**

**Everyone agreed that the TRWC and RWC should continue to meet on a regular basis. This would include joint board meetings, joint Chair and Vice Chair meetings, Operating Working Group and Governance Working Group meetings.**

**There was consensus to start at the larger infrastructure level to make sure we're not redundant (duplicating efforts), and to continue to explore ways that we can work together and to provide seamless service to the end user.**

6. Adjourn

**Attachments:**

- Joint Resolution signed by RWC and TRWC Chairs
- Summary of Actions to date by Joint Governance Working Group and Joint Technical Working Group

Prepared by:

Susan K. Thorpe

RWC Board Chair

Deputy City Manager, Peoria AZ



**RWC - TRWC  
Joint Board Resolution  
January 26, 2012**

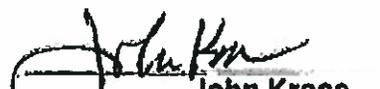


The Board of Directors of the Regional Wireless Cooperative (RWC) and Topaz Regional Wireless Cooperative (TRWC), in support of continued partnering between regional radio systems, our member agencies, and the fostering of consistent interoperable communications in the larger region, while continuing to meet the critical needs of our public safety and municipal users, have agreed and resolved to the following objectives:

- **Connect participating regional systems in a way that supports operational roaming to a mutually agreed upon performance standard.**
- **Seek funding as a collective body to grow capacity and improve connectivity for shared use.**
- **Conduct multi-regional system strategic planning that aligns with State and Federal plans.**
- **Ensure the proper management of limited public resources by adopting a consistent network partner cost recovery model that discourages the build out of overlapping infrastructure.**
- **Proactively work together on national issues to ensure the broader region is represented in regulatory, homeland security, funding, and other areas of mutual concern, benefit, or interest.**
- **Ensure continued compatibility and capacity of the participating regional systems through a commitment to closely coordinate technology roadmaps and operational plans.**
- **Reinforce the commitment of these objectives through a multi-party Intergovernmental Agreement (IGA) to be executed by each participating regional network managing body.**

Having obtained approval by majority vote by each Board, and in compliance with the respective governance requirements of the Cooperatives, signed by:

  
Charlie Meyer  
RWC Chairman

  
John Kross  
TRWC Chairman

## ITEM 6

### **Inventory of Programs Status Overview Regional Wireless Cooperative**

#### Enhancements:

- Completion of 7 “Overlay” backup radio communications sites
- Completion of COPS System Capacity Increase. Cited by COPS office as an example of best practices for project execution
- Completion of Simulcast J (4 sites) supporting cities of Buckeye and Goodyear

#### Priorities:

- Phase I, 700 MHz infrastructure funding and infrastructure conversion
- Negotiate a cash-out option for the 800 MHz Re-Banding project
- Completion of Joint RWC/TRWC Strategic Planning process

#### Challenges:

- Maintaining adequate 700 MHz transition funding through strong membership support and negotiations with Motorola
- Maintaining RWC/TRWC relationships and system compatibility
- Indian Community Outreach and Participation

#### Strategic Overview:

- Adequate and sustainable funding for the 700 MHz transition project requires continuous outreach and education of RWC members for long-term budgetary planning. Firm negotiations with Motorola will ensure project costs are kept to a minimum.
- Coordination and support for Phoenix ITS to ensure successful negotiations with Sprint/Nextel to maximize funding cash-out which will reduce the costs of the 700 MHz transition project.
- Working with Government Relations Department personnel to establish an outreach plan for future Indian Community.



## BOARD OF DIRECTORS REPORT

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TO: Regional Wireless Cooperative (RWC) Board Members      Agenda Date: January 24, 2013

FROM: David Felix, RWC Executive Director      Item 7

SUBJECT: **EXECUTIVE DIRECTOR'S REPORT**

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The purpose of this report is to provide an update on the following items:

A. FEDERAL COMMUNICATIONS COMMISSION PETITION

BACKGROUND

The Executive Director will provide an update related to the Federal Communications Commission (FCC) mandate that all 700 MHz frequencies must be narrow-banded by 2017.

B. PROJECT UPDATE

- a. Paradise Valley
- b. Indian Community Outreach

C. SUPER BOWL 2015

BACKGROUND

The purpose of this item is to provide the Board with an overview of Super Bowl planning activities, the roll of the RWC as the centerpiece of the communications plan and potential impacts to Members during the 700 MHz infrastructure transition.

D. MEETING WITH MOTOROLA VP BRENDA HEROLD

BACKGROUND

Ms. Herold is the VP with oversight of all Motorola Astro 25 system world-wide. The Executive Director and members of Phoenix ITS met with Ms. Herold to discuss the RWC network, relationship with the local Motorola team and request for assistance with two unresolved technical issues affecting RWC Member agencies.

## E. INTEROPERABILITY AND ASSOCIATES UPDATE

### BACKGROUND

The Executive Director will update the Board of Directors on the status of documenting Interoperability Participant and Associates utilizing the RWC network for multi-agency operations. (a current list has been provided)

<b>Interoperability Participant</b>		<b>Number of Approved Subscribers</b>
1	Arizona Department of Corrections	10
2	Arizona Attorney General, Office of	80
3	Arizona Department of Health Services	50
4	Arizona Department of Juvenile Corrections	6
5	Arizona Department of Liquor Licenses and Control	10
6	Arizona Department of Public Safety	1,213
7	Arizona Department of Transportation	75
8	Arizona National Guard	26
9	Arizona Radiation Regulatory Agency	10
10	Arizona State University Police Department	200
11	Buckeye Valley Fire District	30
12	Carefree Fire Department - Rural Metro	12
13	Casa Grande Fire Department	15
14	Cave Creek Marshal's Office	5
15	Community Bridges, Inc.	10
16	Federal Reserve Police Department	5
17	Gila River Indian Community Police Department	150
18	Luke Air Force Base	10
19	Maricopa County Adult Probation	1,000
20	Maricopa County Department of Emergency Management	35
21	Maricopa County Juvenile Probation Department	300
22	Maricopa County Office of Enterprise Technology	20
23	Maricopa County Regional Emergency Action Coordination Team (REACT)	4
24	Maricopa County Sheriff's Office	unspecified
25	Pinal County	5
26	Public Safety Interoperable Communication Office	30
27	Salt River Fire Department	30
28	US DOJ Bureau of Alcohol, Tobacco, Firearms and Explosives	50
29	US DOJ Drug Enforcement Agency	35
30	US DOJ Federal Bureau of Investigation	135
31	US DOJ United States Marshals Service	165
32	Wittmann Fire District	10
<b>Associate Network User</b>		<b>Number of Approved Subscribers</b>
1	Professional Medical Transport	unspecified
2	Southwest Ambulance	unspecified

Total:  
3,736