



Regional Wireless Cooperative

Board of Directors

Agenda

August 4, 2011

	<b>ITEM</b>	<b>PRESENTER</b>
1)	<b>Call to Order and Roll Call</b>	Chair Meyer – Tempe
2)	<b>Approval of Meeting Minutes from May 26, 2011</b>  <b>This item is for information, discussion and action.</b>	Chair Meyer – Tempe  Est. 2 min.
3)	<b>Tolleson Membership Request</b> The purpose of this item is to review and request Board approval of Tolleson’s request to become an RWC Member. <b>This item is for information, discussion and action.</b>	Mr. David Felix – RWC / Chief Bob Hansen – Tolleson  Est. 10 min.
4)	<b>Executive Committee Member Recommendation</b> The purpose of this item is review the process and to make recommendation for the selection of a new member to the Executive Committee. <b>This item is for information, discussion and action.</b>	Mr. Bill Phillips – Phoenix  Est. 10 min.
5)	<b>Customer Model Update</b> The purpose of this item is to provide the status of the TRWC’s development of an alternative cost model to the RWC’s Customer model. <b>This item is for information, discussion and possible action.</b>	Mr. David Felix – RWC Executive Director / Mr. Bill Phillips – Phoenix  Est. 15 min.
6)	<b>RWC Lifecycle Planning and TDMA Conversion</b> The purpose of this item is to present a general timeline with regards to RWC Lifecycle planning and a potential TDMA conversion. <b>This item is for information and discussion.</b>	Mr. David Felix – RWC Executive Director / Mr. Bill Phillips – Phoenix  Est. 20 min.
7)	<b>Annual Report Update</b> The purpose of this item is to provide an update on the development of the RWC’s first Annual Report. <b>This item is for information and discussion.</b>	Mr. David Felix – RWC Executive Director  Est. 5 min.
8)	<b>RWC Financial Audit Update</b> The purpose of this item is to provide an update on the status of the RWC’s Financial Audit. <b>This item is for information only.</b>	Mr. David Felix – RWC Executive Director  Est. 5 min.
9)	<b>Project Updates</b> The purpose of this item is to provide an update on RWC projects. <b>This item is for information only.</b>	Mr. David Felix – RWC Executive Director  Est. 10 min.

10)	<b>Call to the Public</b>  <b>This item is for information only.</b>	Chair Meyer – Tempe  Est. 1-5 min.
11)	<b>Announcements</b> The purpose of this item is to communicate any Board announcements and the date of the next Board Meeting: September 22, 2011 from 10:00 – 11:30 a.m. <b>This item is for information only.</b>	Chair Meyer – Tempe  Est. 1 min.
12)	<b>Adjourn</b>	Chair Meyer - Tempe



**Board of Directors  
MINUTES  
May 26, 2011**

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

**Board Members Present**

Steve Campbell	Mark Gaillard	Susan Thorpe
Dan Cassels*	Jim Haner	Marc Walker
Wayne Clement	Brad Hartig	Paul Wilson
Steve Conrad	Jim Heger	Ed Zuercher
Bob Costello	Kevin Kotsur*	
Mike Frazier	Charlie Meyer	

**Board Members Absent**

Chad Dragos  
David Fitzhugh  
Patrick Melvin

\*Board Alternate

**Staff and Public Present**

Tahir Alhassan	Theresa Faulk	Rick Kolker	Mike Rall
Karen Allen	David Felix	Wilfredo Miranda	Dave Scott
Jim Case	Bill Fleming	Tracy Montgomery	Dale Shaw
Dave Clarke	John Gardner	Doug Mummert	Audrey Skidmore
Dave Collett	Jen Hagen	Chris Nadeau	Shannon Tolle
Chris Dechant	Dave Heck	Bill Phillips	Tim Ulery

**1. Call to Order**

Chair Meyer called the meeting to order at 10:00 a.m. and announced the following new member and alternate representative:

- Board Member Mr. Gaillard replacing Mr. Brown – City of Goodyear
- Board Alternate Mr. Kotsur for Mr. Fitzhugh – City of Avondale

**2. Approval of the Meeting Minutes from March 24, 2011**

Chair Meyer asked if the Board had any changes to the minutes; none were received. The minutes were approved as presented.

**3. Associate Policy**

Mr. Felix explained the purpose of the Associate Policy. He stated that the policy outlines how an entity could become an Associate and it defines the limitations for an Associate's use of the system in response to a Member's request.

Mr. Zuercher joined the meeting at this time.

As a follow-up from the March 24, 2011 RWC Board Meeting, Mr. Felix presented two sample letter agreements that will be provided to Associates and Interoperability Participants. He explained that the content of the letters further defines the authorizations and limitations for use of the system, such as no dispatch services. He added that the letters would be adjusted based upon the specific needs of the approved user.

A **MOTION** was made by Vice-Chair Thorpe and **SECONDED** by Mr. Frazier to approve the Associate Policy. **MOTION CARRIED UNANIMOUSLY (15-0)**.

#### 4. **Subscriber Unit (Radio) Rate**

Mr. Alhassan explained that the approved Fiscal Year (FY) 2011/2012 budget figure was reduced due to changes in the Operations and Maintenance (O&M) portion of the budget. He informed that the reason for the decrease was due to several factors which included:

- Two vacant technician positions that will not be hired
- A six-month delay in filling a network operations technician position
- Reduced costs on two contracts with Motorola due to transition delays of Chandler, Scottsdale and Glendale
- An increase in the number of subscriber units on the network

Mr. Alhassan expressed that the revised \$8,076,023 O&M budget figure was a \$456,429 reduction from the originally approved figure of \$8,532,452. He explained that based upon 17126 subscriber units on the system, the O&M Subscriber Unit Rate for FY 2011/2012 would be \$39.30, which was approximately a 14% decrease from the current rate of \$46.15.

Vice-Chair Thorpe commented that for city budgetary purposes it would be beneficial to receive the subscriber rate earlier in the year. Mr. Alhassan responded that next year's rate could be presented in either February or March.

Chair Meyer commented that because all cities were on the same statutory schedule for their adoption of tentative and final budgets, bringing the rate forth earlier in the year would benefit all.

Mr. Conrad expressed that the unknown status of when Glendale was going to transition to the RWC may have caused some delay in determining the rate. Chair Meyer commented that there were many areas in flux this year; and hopefully, if the budget becomes more stable a year from now the information may be presented a little earlier in advance.

Mr. Zuercher commented that although he agreed with having the rate earlier in the year, it would likely contribute to a more conservative number on the high side which may then need to be adjusted. He also expressed his appreciation to RWC staff, Bill Phillips and Information Technology staff for reducing staffing costs.

Mr. Felix expressed that the uncertainty of Glendale's transition did contribute to a delay in knowing the subscriber rate. He also expressed that by next year some history would be established that would enable a rate to be brought forth sooner.

In response to a question by Chair Meyer, Mr. Alhassan clarified that the network operations technician would not be hired until January 2012, and the other two technician positions were vacant and would not be filled.

Chair Meyer expressed his appreciation to staff for reducing staffing costs and working with a number of fluctuating factors to establish the subscriber rate.

A **MOTION** was made by Mr. Conrad and **SECONDED** by Mr. Heger to approve the Subscriber Unit Rate of \$39.30 for the FY 2011/2012 budget. **MOTION CARRIED UNANIMOUSLY (15-0)**.

## **5. Transition Status of Chandler and Scottsdale**

Mr. Felix introduced this item, stating that two Members, Chandler and Scottsdale, recently cutover to the network successfully.

Mr. Walker reported that Chandler Police Department (PD) performed final coverage testing and had 100% acceptability scores in every grid in the city. He stated that Chandler PD cutover on May 18, 2011, and that there had been no coverage issues or other major issues. He relayed from the Police Chief that the officers and dispatchers were very satisfied and excited to be onboard.

Mr. Hartig reported that Scottsdale dispatch successfully cutover on May 4, 2011. He explained that there was an area in the northern boundary that had some coverage issues but working with the RWC they were tentatively addressed within one week. He stated that Scottsdale's topography made the overall project challenging and that it was Scottsdale's largest IT project, covering 4 years and 25 million dollars.

Mr. Hartig expressed his appreciation to Scottsdale's Communication Director Shannon Tolle who worked for 4 years on the project in addition to regular job assignments. He also expressed thanks to Phoenix IT staff Bill Phillips, John Gardner, and Phil Lense who were all extremely responsive to Scottsdale's needs. He especially thanked Dave Scott of Phoenix IT for his work on the team. Additionally, he thanked Doug Mummert of Phoenix Fire. Further, he recognized Jesse Cooper of Phoenix PD who patiently worked to set up the PD talkgroups

with encryption. Mr. Hartig stated that RWC agencies were leaned upon and helped with the overall success. He acknowledged Mr. Felix's leadership and responsiveness and stated that he was an excellent addition to the RWC. Mr. Hartig expressed that it was a team effort that led to the success of the project. He stated that this was not Scottsdale's network, but rather the northeast valley network as part of the RWC.

Chair Meyer expressed his thanks to Mr. Walker and Mr. Hartig for their comments and stated that the progress was positive.

## **6. Federal Communications Commission (FCC) Mandates**

Mr. Felix recapped the status of the FCC mandates and stated that the RWC was moving forward with requesting a delay or indefinite waiver of the 700 MHz narrow-banding requirement. He explained that the topic was discussed at a recent Regional Planning Commission (RPC) meeting which was attended by multiple entities including the Department of Public Safety (DPS), Mesa, Phoenix and Maricopa County. He stated that all in attendance understood the issue and were in support of and willing to co-sign a waiver with the RWC. He explained the specific areas of justification that would be contained in the waiver which included the fiscal impact to the region, the delay in the digital TV conversion, and the low density of 700 MHz usage in the region, therefore the need to narrowband should occur when density is impacted. He added that the letter would also request that because the RPC understands the needs of the region, that it be allowed the autonomy to recommend change as needed.

Mr. Felix stated that he expects the letter to the FCC to be ready in about 30-60 days once technical feedback was obtained. He explained that he was pursuing the issue as a regional approach and would include DPS, TRWC, Maricopa County, RPC and RWC as signatories on the letter. He stated that he has also engaged the City of Phoenix Government Relations staff, as that group works with congressional delegates in Washington DC. He added that once the letter was more fully developed he would present it to the Board.

Chair Meyer inquired whether the Board would be asked to endorse the letter at a future Board meeting. Mr. Felix replied in the affirmative.

## **7. TRWC Talkgroup Usage and Joint Executive Committee Meeting Update**

Chair Meyer informed the Board that Dale Shaw, Executive Director of the TRWC, was present to answer any questions at the conclusion of staff's presentation. He expressed that this issue was much larger and important than simply a talkgroup usage issue. He stated that it involved how, as a cooperative, the RWC was going to interact with other agencies and cooperatives in the Valley; therefore, his expectation was that time would be spent discussing this issue so that everyone would have a solid understanding of the matter.

Mr. Felix explained that discussions with the TRWC began in May 2010 and since that time numerous joint meetings have been held with individuals from all areas of both cooperatives. He recapped a letter signed by the two cooperatives' Board Chairs and Vice-Chairs and explained the progress made in specific areas outlined in the letter. He explained that a technical solution for a non-Member's use of the network was developed by a joint technical subcommittee and that a subsequent cost model was created to address how a non-Member entity would pay for its use.

Mr. Phillips emphasized that the main objective of the joint meetings was to address operable use on another's network; however, the group also discussed and clarified interoperability. He explained that initially the TRWC was provided interim use of two interoperability talkgroups and then later transitioned to two new talkgroups that were created specifically for Mesa Investigations 1 and 2. He expressed that although the Executive Committees were the main groups addressing this issue, there was input from all RWC Members through the Operations Working Group (OWG) and a technical committee. He explained that the first joint Executive Committee meeting was professionally facilitated. He reviewed the joint committee's work progression over a series of meetings which included defining operability versus interoperability, defining intermittent, discussing the operation of taskforces as they relate to interoperability, identifying the business requirements for this issue, and developing a matrix to evidence which technical solutions met the business requirements. He noted that Fire operates differently due to the way dispatching occurs; therefore, Fire would not fall under this issue.

Mr. Phillips reviewed the matrix and explained that the joint committee identified the technical solution to be assigning operational talkgroups on the RWC network and Mesa dispatch having a control station with an antenna pointed at the RWC system, thus enabling Mesa detectives to communicate with dispatch. He explained that it would be airwave connectivity rather than a physical link.

Mr. Phillips explained that once the technical solution was realized, consideration was given to the impact on the system and developing a fair and equitable method for charging that could be used for any agency requesting operational use on the RWC network. He detailed the process and methodology used to develop the cost model, which included researching other regional systems. He explained that the San Diego model most closely mirrored the RWC system and therefore used as a basis for the "Customer" model.

Mr. Phillips reviewed the Customer Model Capital Recovery chart presented in the meeting materials. He explained that the proposed model was designed to recover capital to accommodate more users. He stated that a Customer would pay an initial fee of \$2500 per radio and twice the O&M rate with one-half of the O&M rate going into a capital fund. He expressed that it would be up to the RWC to determine if an entity falls within the category of Customer or Member and that

a determining factor would be whether there was a capital investment. He also reviewed the proposed Customer model rules.

Mr. Phillips expressed that the proposed Customer model was not a solution for a system of systems approach which was a much larger picture. He explained how that approach had two different levels: one with systems not geographically collocated and used primarily for interoperability so the impact on cross-loading would be low, such as the RWC joining with the Yuma Regional Communications System (YRCS) or the Pima County Wireless Integrated Network (PCWIN); and the second with systems side by side within the same geographic region or metropolitan area, thus cross-loading would be higher. He expressed that in the second scenario the Customer model may be appropriate at that level. He stated that there was a current system of systems project underway to establish a conventional channel gateway between the following systems: YRCS, PCWIN, Department of Public Safety, Maricopa County, TRWC and RWC. He added that that the Government Information Technology Agency was developing a governance document for this initial system of systems approach.

Mr. Phillips reported that the TRWC indicated that the Customer model was not acceptable as it was too expensive and thus the TRWC had requested a six-month extension to address the model and to develop a system of systems approach to handle the operational use across systems. He explained that the RWC Executive Committee would recommend granting an extension but only until the September 22, 2011 RWC Board Meeting with the understanding that the TRWC would propose an alternative model early enough for the two Executive Committees to jointly review and mutually agree on the model prior to the meeting. He stated that if agreement on the model could not be reached, then the TRWC would have to decide to either accept the RWC's Customer model or terminate use of the interim talkgroups. He added that this would also allow time to verify that the RWC Customer model can be implemented as a policy rather than a change to the Intergovernmental Agreement (IGA).

Mr. Phillips recapped that the RWC Executive Committee's recommendation was to establish the Customer billing model as proposed, recognizing that there could be an alternate model presented in September and to extend the TRWC's interim use of the talkgroups up to the September 22, 2011 RWC Board Meeting.

Vice-Chair Thorpe, referencing slide 7, commented that the proposed solutions depicted that Integrated Systems met all of the business needs, thus she inquired whether it was looked at as a real alternative. Mr. Phillips replied that it was not off the table entirely, as both parties agreed that we need to have a network connection in the future; however, it would be a longer term solution and we needed a solution that worked right now.

Vice-Chair Thorpe inquired whether the two options identified as solutions were fairly seamless other than requiring fingertip roaming. Mr. Phillips replied in the affirmative.



In response to a question by Vice-Chair Thorpe, Mr. Phillips responded that he had not received feedback from any potential customers, other than the TRWC. Vice-Chair Thorpe stated that she would like to hear from other agencies.

Chair Meyer inquired as to the type of other potential customers. Mr. Phillips responded that it could include US Marshals, Federal Bureau of Investigation (FBI), Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), US Immigration and Customs Enforcement (ICE), and the State Liquor Board.

Vice-Chair Thorpe questioned whether Gilbert would be included. Mr. Phillips replied that Gilbert submitted an email request but it had not yet been discussed.

Mr. Felix explained that he provided the US Marshals with the concept of the Customer model; however, they plan to refresh their VHF system which should address most of their needs. He added that he spoke to a larger group of Federal agencies and made known that the RWC would be an available resource, but no one has come forward as of yet.

Vice-Chair Thorpe expressed her appreciation for the efforts of the Executive Committee, OWG and technical support group to bring a solution forward. She inquired as to why the Executive Committee was recommending an extension of the TRWC's use until September. Mr. Phillips replied that it was to allow time for the TRWC to review the proposal, as it was presented fairly recently. He stated that the TRWC would like to propose an alternative. He added that from the Executive Committee's perspective, it was ready to go forth with the Customer model as of July 1<sup>st</sup>, but would be willing to extend the discussion once more.

Vice-Chair Thorpe inquired whether the TRWC had come forward with any alternative solution as of yet. Mr. Phillips responded that it had not, although Mr. Shaw and his team were currently working on something.

Mr. Costello stated that there were two issues: the Customer model and whether the TRWC would accept fitting into that model. He expressed appreciation for the work performed to develop the Customer model and recommended keeping the issues separate.

Mr. Felix expressed that staff was looking for an endorsement of the concept of the Customer model with the understanding that some of the numbers or concept may be adjusted depending on what the TRWC proposes as an alternative. He explained that clarification still needed to be obtained from Law whether or not the Customer model could become a policy instead of requiring a change to the IGA. He stated that an endorsement would indicate support of the Customer model for continued development.

Chair Meyer expressed that Mr. Felix's explanation may lessen the distinction between the two parts of the issue. He stated that if the Board was simply being

requested to endorse the concept of the Customer model and separately to continue discussions with the TRWC regarding alternates to the model, then a dual course would be taken.

In response to a question from Chair Meyer, Mr. Costello requested that if action was to be taken, that the items be separated so one issue does not blend into the other.

In response to a question by Mr. Conrad regarding the Customer model buy-in fee, Mr. Phillips replied that the initial buy-in keeps the ongoing O&M costs at a reasonable rate and puts capital into the bank.

Mr. Conrad inquired how the system of systems, level 2 approach worked. Mr. Phillips responded that it minimized the expenditure of two parties to buy infrastructure that overlay each other. He stated that the idea was to connect networks together for seamless roaming to obtain extended coverage. He explained that level 1 consisted of large systems with not a great deal of cross-loading since the system was used primarily for interoperability thus would not necessitate the need for charging; however, because level 2 involves systems within the same geographic location, there would be significant cross-loading and capacity would be affected. He added that the difference between the two levels involved what would be fair and equitable.

Mr. Wilson expressed that he supported the concept; however, he requested that consideration be given to a two-phased Customer model. He explained that Phase I would be for an entity who was a Member of either the RWC or TRWC and the entity would pay only O&M for use on the other system; Phase II was for an entity who was not a Member of either system and the entity would pay the buy-in fee and double O&M. He expressed that his concern was that Fire would be required to pay, per the Customer model.

Mr. Hartig, directing his attention to Mr. Shaw, stated that since the two cooperatives were in the same geographical area, he inquired what the need was to have two separate entities, RWC and TRWC, or what were the current concerns or objectives to potentially joining them as one cohesive group.

Mr. Shaw stated that the two cooperatives had differences with regards to the approach of how services were provided to users and he questioned the need for there to be one cooperative. He expressed that in the long run that may be the direction to go; however, there were ways of working together toward better coverage in the immediate area in which overlapping infrastructure could be avoided.

Mr. Shaw stated that the TRWC agreed that the situation was not a technology issue. He explained that the reason the RWC cost model was not acceptable was purely an issue of economics, as it would cost \$692,000 to bring 200 units on the RWC system, for the first year. He stated that the TRWC could spend the

same amount of money building high sites to obtain the needed coverage. He expressed that there needed to be a model to share infrastructure, as there were other systems being built today which would not be part of a single cooperative.

In response to a question by Mr. Hartig regarding the types of services the TRWC offers that were different than the RWC, Mr. Shaw clarified that the services were not fundamentally different; although, the TRWC approached things differently. He provided an example of charges for software upgrades that were a component of the O&M rather than being a separate charge. He explained that TRWC Members liked to have latitude in this and other areas.

Mr. Hartig stated that it was important to explore areas where there were differences. He expressed that because the two cooperatives were geographically located in close proximity it made the most sense to get on the same governance agreement and structure. He explained that before Scottsdale became a Member there were significant issues such as frequency ownership, asset ownership, and network managing member which were all addressed. He stated that he would like to see the groups document what the differences were to see if there was common ground that would enable both cooperatives to be under one umbrella. He expressed that operating a regional system as a true cohesive regional system made the most sense.

Mr. Shaw replied that was something that needed continued dialogue; however, there were other things that could be done, as not every system that gets built in the Valley or State would be under one governance or umbrella. He explained that the TRWC had a larger vision of working together to bridge the gap to provide services to the end users. He expressed that the concern was that public safety just wanted to “push to talk” and have the system work. He stated that there were options to do that. He requested that the TRWC be given an adequate extension to work on these complex issues. He added that there was a current arrangement in place that was supporting for the needs of the users and the extension would allow time to work toward the larger vision.

Chair Meyer inquired if the September 22, 2011 date would be considered an adequate extension date and whether the proposal to not assess an initial capital fee for the TRWC would make any difference in the TRWC’s view of the Customer model. Mr. Shaw responded that in terms of an interim solution it would be acceptable to Mesa PD and possibly Gilbert.

In response to a question by Chair Meyer, Mr. Shaw responded that the current interim solution was that the TRWC paid the going O&M rate.

In response to questions by Vice-Chair Thorpe, Mr. Shaw responded that the TRWC had approximately 4,300 radios on its system and potentially 200 of those would need to be programmed for operating on the Westside but only 30 to 40 would be utilized at any given point in time. He explained that when he did the math it was based on 200 units and he did not have the figure for 30 to 40 units.

Vice-Chair Thorpe inquired why not program only 30 to 40 units. Mr. Shaw responded that it was a matter of having the capability for other units that may need to operate on the Westside. He explained that the current arrangement today required fees to be paid on all the units, but it does not account for the actual usage. He added that the TRWC had only two minutes of usage (last month). He explained that if the RWC model was used, the TRWC would end up paying \$28,833 per minute which was not economical. He expressed that there were other options that would work for both cooperatives.

In response to a question by Chair Meyer regarding the \$600,000+ figure, Mr. Shaw responded that \$500,000 was the upfront cost and \$192,000 was ongoing O&M. He clarified that the figures represented the first year's costs.

In response to a question by Mr. Wilson regarding the acceptability of a September 22, 2011 extension date, Mr. Shaw responded that it had taken a long time to get to this point and he was concerned that 80 to 90 days may not be adequate. He expressed that it would make sense to make the 80- to 90-day timeframe a check-in point. He added that he was preparing a comprehensive document for a viable solution. He stated that the TRWC was presented with the RWC's model only weeks ago.

In response to a question by Chair Meyer, Mr. Shaw responded that within 1 to 1.5 months a proposed model would be ready for discussion.

Chair Meyer inquired that if the Board supported a September extension, would an interim report be ready for the July 28, 2011 RWC Board Meeting. Mr. Felix expressed that a proposal could be vetted by the Executive Committee and a report given at the July meeting that progress was being made.

In response to a question by Chair Meyer, Mr. Shaw responded that he was comfortable that he and Mr. Felix could provide an update in July and that he would have an alternate proposal that could be reviewed at that point.

Mr. Hartig requested that as part of the update that Mr. Shaw discuss what the philosophical differences were between the two groups and see whether there was an opportunity to bring this under one governance model.

Chair Meyer inquired whether Mr. Hartig's request was sufficiently clear, as he believed it to be an important question.

Mr. Hartig clarified his request by asking what would be the opposition of Mesa potentially joining into the governance model that was currently being accepted by 17 Members.

Mr. Shaw stated that it was not just a Mesa issue. He expressed that many believe the systems would reconnect, although governance as a separate

component was an unknown and needed to be worked through. He acknowledged that something different needed to be done as the current situation was not an acceptable arrangement. He expressed that there were philosophical differences on how to support users although the goal of seamless roaming across the Valley was the same. He stated that he would be glad to discuss the TRWC's beliefs on how that could be accomplished.

Chair Meyer expressed that the differences have been a subject of the joint Chair meetings. He explained that discussions have included technology, economic issues and governance issues. He stated that sharing the differences with the whole Board would be welcomed.

Mr. Felix explained that upon viewing the matrix, the solution of Integrated Systems was the only method that received a "yes" across the board. He expressed that even with this solution some type of governance would be required. He stated that there was a need to identify the differences that were standing in the way of a single governance.

Mr. Shaw explained that the TRWC was currently entertaining the idea of significantly changing its governance and cost model and moving to a usage-based model, in conjunction with the concept of system of systems. He stated that even within the TRWC, there could be a more equitable approach; therefore, the TRWC and RWC governance models may not mirror in the future.

Chair Meyer inquired whether the new approach extenuated differences or brought the two models closer together. Mr. Shaw responded that the proposal would call for consideration of both cooperatives to make changes to be compatible with the system of systems model.

Mr. Walker inquired that if one of the systems had a software update would the radios work on the other system. Mr. Phillips replied that over-the-air interface was what mattered and unless a radical change occurred, such as moving to TDMA, radios could still perform in both modes but there may be interoperability concerns. He added that, generally, systems do not need to be on the same infrastructure software version for the subscribers to work on either system.

Mr. Campbell expressed his appreciation for RWC's efforts to try to develop a remedy; however, he had concern about trying to meet someone else's needs. He reminded that this situation was not created by the RWC and he would like to hear more willingness by those who want the request to come back with a doable solution. He added that he had not heard a strong commitment for a proposed solution with a viable date. He expressed concern of continually granting extensions and being at this same place six months from now.

Mr. Frazier expressed that in the past there were long discussions between the TRWC and RWC about trying to merge together. He stated that while it may be beneficial to hear and understand the philosophical differences, they were

discussed for 1.5 years in the past and not overcome. He added that if a new effort was put forth, he would be hopeful that the differences would be overcome this time; however, there was a breaking point when a decision needed to be made. He reminded that the goal of having a communications system was to serve interoperability and build membership.

Chair Meyer expressed that if the Board made a decision to implement the presented cost model his expectations would be that discussions continue regarding better integration of the systems from either a technical governance or economic basis. He explained that regardless of the Board's decision, the issue of how to best maximize the two systems would still exist. He expressed that the integration of the RWC and TRWC may be a final solution but would not solve all problems; only the problem between these two entities.

Vice-Chair Thorpe expressed concern that what the TRWC was proposing was not representative of the entire TRWC Board. She explained that this issue started back in July of last year and that the RWC had extended itself in trying to bring forward a reasonable solution. She added that recognition needed to be given that this issue was not the RWC's making and she expressed dissatisfaction in the TRWC's efforts. She stated that it was not acceptable for the TRWC to only pay O&M and be given the benefit of RWC services.

Mr. Shaw stated that the TRWC was not attempting to avoid costs and its proposal would show that the TRWC was more than ready to participate in sharing costs toward capital, O&M and a reserve for capacity increase, if necessary. He expressed that the TRWC's usage had decreased and that steps were being taken to address coverage issues. He explained that the larger concern was with multiple systems in the Valley and not to overbuild each other. He added that, for the TRWC, this was not just a TRWC-RWC issue.

Chair Meyer explained that the two issues before the Board should be addressed separately. He stated that the extension should be taken first and then direction to staff regarding the Customer model, second. He recapped that the recommendation was to extend the existing agreement through September 22, 2011. He explained that Mr. Shaw stated that an alternate or new model would not be in place by that date but would be developed enough to allow a decision to be made if another extension would be needed, if it was for a good purpose.

Mr. Phillips explained that since the cost model was not intended to be immediately used, he suggested putting the cost model on hold until the September 22, 2011 RWC Board Meeting. He expressed that if significant progress was made by that date then another extension could be entertained at that time; and if not, the cost model would be ready to go forward for approval.

Chair Meyer inquired whether the extension and cost model were tied together and therefore should not be addressed separately. Mr. Phillips replied that they should be addressed together.

Chair Meyer commented that he was willing to go either way. He added that there was a suggestion to consider a cost model that did not include an initial capital investment and that piece would need to be discussed.

Mr. Heger responded that it would be very difficult for him to explain to his elected officials a cost proposal that did not include some type of buy-in. He expressed that as growth occurs so would infrastructure, and the ones creating the growth needed to pay for it, thus there needed to be some type of buy-in with the O&M.

Mr. Zuercher agreed and stated that the Board could consider the conceptual approval of a model. He added that it would be important to declare intent which would be that a cost model needed to include capital buy-in.

Vice-Chair Thorpe expressed that staff performed a lot of work to bring this model forward and she would support staff's recommendation.

Chair Meyer expressed that her comments sounded like a motion. Vice-Chair Thorpe agreed. Mr. Zuercher seconded the motion.

Chair Meyer clarified the motion and second. He stated that the cost model would not be implemented prior to September 22, 2011 but that the Board was continuing to move ahead with the cost model as presented by staff and that the issues were combined into one and not to be considered separate.

Chair Meyer requested any additional discussion or if anyone wished to amend the motion. Mr. Wilson stated he understood and supported the concept but could not support the motion in its present form. He believed that there was value to both Members to roam both ways. He stated the reason the system was created was to have the ability to operate together.

Vice-Chair Thorpe inquired if the September 22, 2011 date provided enough time for staff to vet all the issues related to the Customer model in regards to it being a policy verses changes to the IGA. Mr. Felix replied in the affirmative

Mr. Walker requested clarification of the cost model's O&M and \$2,500 per radio buy-in fee. Mr. Phillips responded that the cost was not an arbitrary number. He explained that to establish a reasonable recovery rate, he considered how much capital was needed to replace a channel on Simulcast A. He stated that roughly 200 radios would start affecting capacity; therefore, (with the buy-in fee) there would be enough money to start adding channels. He added that the double O&M rate would allow for one-half of the fee to go into capital.

Mr. Heger observed that the buy-in rate was the same regardless of an entity's size; therefore, he inquired what the difference would be from a consumer standpoint of being a Customer or a Member. Mr. Phillips replied that the costs, without any capital investment, would be significantly less to become a Member.

He stated that consideration may need to be given to evaluating how entities become Members. He explained that an entity with only 20 radios would not be a problem but questioned whether that would be fair to Members who have invested into the system and built it to this point. He expressed that it could start to erode future growth capabilities of the RWC. He commented that perhaps a capital investment may need to be imposed to small entities.

Chair Meyer expressed that the capital investment could be in the form of bringing capital or value into the organization or in the form of a capital assessment.

Mr. Zuercher stated that at the next meeting he would like to have discussion on Chief Wilson's alternate proposal. He expressed that he would like hear some staff work done on that proposal.

Chair Meyer stated that perhaps the issue that Mr. Phillips was just addressing may be getting to that. He expressed that it may be that the TRWC would have a substantial investment that could be brought to a pool that would not come in the form of a capital assessment but in the form of another investment already made that would be to the benefit of the RWC.

Mr. Wilson expressed concern that in six months if a RWC Member wants to use the TRWC system he does not want to see, as a result of this Board's action, the TRWC create a cost model that would be more expensive than this proposal. He stated that there could be bigger implications. He explained that he understood and supported the cost model for non-Members of either agency but not for a Member of either agency. He added that the system was already built and paid for and now it should be used.

Mr. Hartig expressed that a potential argument could be what would keep an RWC Member from joining the TRWC if the TRWC cost model was less expensive due to fewer infrastructures that needed to be supported.

Mr. Wilson acknowledged that years ago a concern was that agencies would jump back and forth across the lines, shopping for the best value. He expressed that it was important to go back to the core issue of having the ability to roam throughout the whole region and operate on the system.

Chair Meyer stated that there was a motion and a second on the table and he requested a vote.

A **MOTION** was made by Vice-Chair Thorpe and **SECONDED** by Mr. Zuercher to approve the cost model concept without implementation and the TRWC's use of interim talkgroups until the September 22, 2011 RWC Board Meeting. **MOTION CARRIED (14-1, with Mr. Wilson voting in opposition).**



Chair Meyer expressed his appreciation for everyone's engagement in the discussion and Mr. Shaw for being in attendance.

Mr. Shaw expressed his appreciation to the RWC Board for continuing to work on this item and to Mr. Felix and staff.

**8. RWC Lifecycle Planning and TDMA Conversion**

This item was not presented.

**9. Call to the Public**

None.

**10. Next Meeting: July 28, 2011; 10:00 – 11:30 a.m.**

Chair Meyer announced the date of the next meeting.

**11. Adjournment**

Chair Meyer adjourned the meeting at 12:05 p.m.

Respectfully submitted,

Theresa Faull  
Management Assistant I



## BOARD OF DIRECTORS REPORT

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TO: Regional Wireless Cooperative      Agenda Date: August 4, 2011  
(RWC) Board Members

FROM: David Felix, RWC Executive Director      Item 3  
Bob Hansen, Tolleson Fire Chief

SUBJECT: **TOLLESON MEMBERSHIP**

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### BACKGROUND

The City of Tolleson submitted correspondence on May 12, 2011 requesting confirmation of projected costs and necessary documentation for membership to the RWC. At this time, only the Tolleson Fire Department will be participating in the RWC.

### THE ISSUE

On June 14, 2011, the Tolleson City Council approved the City of Tolleson entering into an Amended and Restated Intergovernmental Agreement (IGA) relating to Tolleson's participation in the RWC. Subsequently, RWC staff has received the City of Tolleson's signed IGA.

### RECOMMENDATION

The RWC Executive Committee recommends approval of the City of Tolleson's request to become an RWC Member.

Attachments: Tolleson City Council Resolution  
City of Tolleson's signed IGA

**RESOLUTION NO. 2034**

A RESOLUTION OF THE COUNCIL OF THE CITY OF TOLLESON, ARIZONA, APPROVING AN AMENDED AND RESTATED INTERGOVERNMENTAL AGREEMENT RELATING TO THE CITY'S PARTICIPATION IN THE REGIONAL WIRELESS COOPERATIVE NETWORK.

**BE IT RESOLVED** BY THE COUNCIL OF THE CITY OF TOLLESON, ARIZONA, as follows:

**Section 1.** The Amended and Restated Intergovernmental Agreement relating to the City of Tolleson's participation in the Regional Wireless Cooperative Network relating to planning, designing, constructing, operating, maintaining and financing a regional radio communications network (the "Agreement") is hereby approved substantially in the form attached hereto as Exhibit A and incorporated herein by reference.

**Section 2.** The Mayor, the City Manager, the City Clerk and the City Attorney are hereby authorized and directed to take all steps necessary to cause the execution of the Agreement and to take all steps necessary to carry out the purpose and intent of this Resolution.

**PASSED AND ADOPTED** by the Council of the City of Tolleson, Arizona, on this 14th day of June, 2011.

  
\_\_\_\_\_  
Adolfo F. Gomez, Mayor

ATTEST:

  
\_\_\_\_\_  
Chris Hagen, City Clerk

APPROVED AS TO FORM:

  
\_\_\_\_\_  
Scott W. Ruby, City Attorney

AMENDED AND RESTATED INTERGOVERNMENTAL AGREEMENT TO  
PLAN, DESIGN, CONSTRUCT, OPERATE, MAINTAIN AND FINANCE  
THE REGIONAL WIRELESS COOPERATIVE NETWORK

**26. Counterparts.** This Agreement, which includes Exhibit A, "Regional Wireless Cooperative Governance Document," may be signed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed in multiple counterparts by their duly authorized officers.

For CITY OF TOLLUSON  
City/Town/Agency Name

Date JUNE 14, 2011

By [Signature]  
(Signature)

ADOLFO F. GARIBAY  
Printed Name and Title

ATTEST:

[Signature]  
(Signature)

CHRIS HAGEN CITY CLERK  
Printed Name and Title

APPROVED AS TO FORM and within the powers and authority granted under the laws of Arizona.

[Signature]  
(Signature)

SCOTT W. RUBY  
Printed Name and Title



## BOARD OF DIRECTORS REPORT

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TO: Regional Wireless Cooperative (RWC) Board Members      Agenda Date: August 4, 2011

FROM: RWC Executive Committee      Item 6

**SUBJECT: RWC LIFECYCLE PLANNING AND TDMA CONVERSION**

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### BACKGROUND

The issue of RWC Lifecycle Planning and Time Division Multiple Access (TDMA) conversion was previously reported on at the last RWC Board of Directors' Meeting. The purpose of this report is to provide general timeline options with regards to Lifecycle planning and a potential TDMA conversion.

### THE ISSUE

There are many upgrades and product changes that occur as part of the life of the system. Additionally, a Federal mandate for 700 MHz Narrow-Banding also affects how the system will change over the next several years.

700 MHz Narrow-Banding is a requirement to change the current 12.5 KHz bandwidth of the 700 MHz channels to 6.25 KHz, effectively doubling the number of channels available. The deadline for this mandate is currently set at January 2017. In order to meet the narrow-banding requirement, the RWC's 700 MHz equipment must use a different communication protocol called TDMA, which allows the equipment to broadcast two voice conversations on a single 700 MHz channel. Currently, the RWC is using the Frequency Division Multiple Access (FDMA) protocol. Although both 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 convert the 700 MHz parts of the system to TDMA, and in order to maintain seamless roaming, the entire network must be converted to TDMA.

The RWC is currently planning for system upgrades to version 7.11, in January of 2013, and to version 7.15 in January of 2015. These upgrades have been included in the five year plan and budget recently submitted to the Board. In addition to these upgrades, Motorola has briefed the RWC on the product roadmap for the next five years. The roadmap includes several key product changes where support for certain products will be ending necessitating upgrades and/or changes in these products. The critical product changes that must be considered are those affecting base stations, consoles, and subscribers.

The following chart shows the timeline in relationship between the Federal mandate and the lifecycle items.

## RWC Lifecycle and FCC Mandates

	2011	2012	2013	2014	2015	2016	2017
<b>FCC Mandates</b>	Fixed →					<b>700 MHz Narrow-Banding</b>	
<b>Upgrades</b>	Movable →	7.11			7.15		7.19
<b>End Product Support</b>	Fixed →			<b>STR (2014)</b>		<b>Gold Elite (2018)</b>	
<b>Subscribers</b>	Dependent on mandate →		<b>Normal replacement cycle 7 – 10 years</b>			<b>Subscribers TDMA Capable</b>	

### DISCUSSION

It is apparent that the RWC will need to move forward to address the mandates as well as the lifecycle upgrades. The Operations Work Group and Executive Committee are in the process of reviewing options to accomplish the lifecycle upgrades and meet the FCC 700 MHz Narrow-Banding mandate. While normal Lifecycle upgrades must be accomplished with or without the Federal mandate for narrow-banding, if the Federal mandate is delayed, the RWC's costs may be extended over a longer period of time. The infrastructure upgrades cannot be delayed more than about a year, but the subscriber replacement costs may be delayed and spread out over a much longer period.

Three options are presented for discussion and information only at this time. The first option is the worst case scenario in which all lifecycle changes and TDMA conversion take place at the same time, in 2013/14. In this scenario, all subscribers would have to be replaced over the next three fiscal years. The second option is based on making the lifecycle upgrades from STR's to GTR's in 2014/15 and the TDMA conversion in 2016 to meet the January 2017 federal mandate for narrow-banding. This would allow a six year period in which to replace the subscribers, accomplish the Gold Elite console replacements and upgrade the MCC 7500's to VPM as well. In this case, it may be necessary to spend more on the STR to GTR conversion to ensure that we have

enough capacity on the system. This is due to the fact that the TDMA conversion doubles the capacity with less hardware, but since that conversion is delayed, more hardware may be necessary to provide the required capacity. The final option is basically the same as the second, except that the federal mandate has been moved to 2019 giving two more years over which to spread the costs of the subscriber and console changes. These options are shown in Attachments A - C.

The RWC is working with many of the surrounding agencies to petition the FCC to give the local Regional Planning Committee the authority to determine when to convert to narrow-banding, or at least to delay the narrow-banding deadline. However, until the request is submitted and the FCC responds it is necessary to plan as if the current deadline must be met.

The cost figures shown for the above options are divided into two parts. Those in yellow are costs that will be borne by the RWC; those in magenta are end users costs and must be independently borne by each Member. A current proposal from Motorola provides the cost for the infrastructure lifecycle changes and TDMA conversion. An average cost of \$5,000 per radio and about \$90,000 per Gold Elite position are used to estimate the end user costs for these items. The costs for the VPM upgrades are still under development and NOT included since we do not have an accurate count of the MCC 7500 positions affected by this upgrade. Note that Motorola is beginning an effort to visit each RWC Member to develop specific end user plans and costs that will mesh with the RWC's overall plan.

As the RWC Board has already been advised, the team is investigating the possibility of a "buy-out" of the 800 MHz re-banding project. In-lieu of re-banding the RWC's 800MHz frequencies, they would all be converted to 700 MHz in conjunction with our lifecycle and TDMA conversion. This funding may then be used to offset some of our costs towards accomplishing that effort.

### RECOMMENDATION

At this time, this report is for information purposes only. The Executive Director, OWG and Executive Committee are working to assess these options and costs and plan to present the recommended path forward, along with an estimated budget as part of the RWC's budget and five year plan in the fall of this year.

# Attachment A

Option 1: 700 MHz and TDMA Conversion Accomplished Together to Meet 2014 Deadline for STR Replacement									
FY			RWC Costs			End User Costs			
	800 MHz Re-Banding Milestones	700 MHz Narrow-Banding Milestones	Infrastructure Lifecycle		Infrastructure Estimates	End User Lifecycle	End User Costs (Gold Elite, VPM - TBD)	Subscriber Cost Estimates (Based Spread Over 3 Years)	Cumulative (Infrastructure + User + Subscribers)
11/12								\$30,678,333	\$30,678,333
12/13	Earliest Completion Date		7.11 Upgrade					\$30,678,333	\$30,678,333
13/14	Latest Completion Date			STR to GTR	\$40,000,000	Gold Elite to MCC7500	\$13,500,000	\$30,678,333	\$84,178,333
14/15			7.15 Upgrade						
15/16									
16/17		Current Deadline	7.19 Upgrade						
17/18									
18/19			7.? Or 8.? Upgrade						
19/20									
<b>Grand Totals</b>					\$40,000,000		\$13,500,000	\$92,035,000	\$145,535,000



**Attachment B**

Option 2: 700 MHz Conversion in 2014; TDMA Conversion & FCC Deadline of 2017								
FY			RWC Costs		End User Costs			
	800 MHz Re-Banding Milestones	700 MHz Narrow-Banding Milestones	Infrastructure Lifecycle	Infrastructure Estimates	End User Costs (Gold Elite, VPM - TBD)	Subscriber Cost Estimates (Based Spread Over 6 Years)	Cumulative (Infrastructure + User + Subscribers)	
11/12						\$15,339,167	\$15,339,167	
12/13	Earliest Completion Date		7.11 Upgrade			\$15,339,167	\$15,339,167	
13/14	Latest Completion Date					\$15,339,167	\$15,339,167	
14/15			7.15 Upgrade	STR and Gold Elite Update	\$40,000,000	\$13,500,000	\$15,339,167	\$68,839,167
15/16						\$15,339,167	\$15,339,167	
16/17		Current Deadline	7.19 Upgrade		\$10,000,000	\$15,339,167	\$15,339,167	\$25,339,167
17/18								
18/19			7.? Or 8.? Upgrade					
19/20								
<b>Grand Totals</b>					\$50,000,000	\$13,500,000	\$92,035,000	\$155,535,000

Attachment C

Option 3: 700 MHz Conversion in 2014; TDMA Conversion & FCC Deadline Delayed to 2019								
FY			RWC Costs		End User Costs			
	800 MHz Re-Banding Milestones	700 MHz Narrow-Banding Milestones	Infrastructure Lifecycle		Infrastructure Estimates	End User Costs (Gold Elite, VPM - TBD)	Subscriber Cost Estimates (Based Spread Over 8 Years)	Cumulative (Infrastructure + User + Subscribers)
11/12							\$11,504,375	\$11,504,375
12/13	Earliest Completion Date		7.11 Upgrade				\$11,504,375	\$11,504,375
13/14	Latest Completion Date						\$11,504,375	\$11,504,375
14/15			7.15 Upgrade	STR and Gold Elite Update	\$40,000,000	\$13,500,000	\$11,504,375	\$65,004,375
15/16							\$11,504,375	\$11,504,375
16/17		Current Deadline	7.19 Upgrade				\$11,504,375	\$11,504,375
17/18							\$11,504,375	\$11,504,375
18/19			7.? Or 8.? Upgrade		\$10,000,000		\$11,504,375	\$21,504,375
19/20								
<b>Grand Totals</b>					\$50,000,000	\$13,500,000	\$92,035,000	\$155,535,000