

**MARIN EMERGENCY RADIO AUTHORITY**

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**DRAFT 7/30/2019**

**NEXT GEN PROJECT OVERSIGHT COMMITTEE**

**MINUTES OF JUNE 26, 2019**

Call to Order

The meeting was called to order by Cuismano at 2:00 p.m. on June 26, 2019 at the Novato Fire Protection District Heritage Room, Novato, CA.

Committee Members Present:

Town of Corte Madera  
County of Marin Fire  
Tiburon Fire Protection District  
Marin County Sheriff  
Novato Fire Protection District  
County of Marin

Todd Cuismano  
Mark Brown  
Richard Pearce  
Jamie Scardina (Alternate)  
Gerald McCarthy  
Dan Eilerman (Alternate)

Committee Members Absent:

City of Novato  
Finance Committee

Staff Present:

MERA Executive Officer  
MERA Deputy Exec. Officer – Next Gen Project  
MERA Admin Assistant – Next Gen Project  
MERA Operations Officer

Maureen Cassingham  
Dave Jeffries  
Maura Griffin  
Ernest Klock

Guests Present:

David Mortimer  
Ethan Simpson

DPW  
DPW Communications

- A. Approval of Minutes from September 12, 2018 Joint Meeting of the Next Generation Project Oversight and Finance Committees

*M/S/P Pearce/Brown to approve minutes from September 12, 2018 Next Gen Project Oversight Committee Meeting and Finance Committee Meeting as presented.'*

AYES: All  
NAYS: None  
ABSTENATIONS: None  
Motion Carried

B. Acronyms

Jeffries presented a master list of acronyms that are commonly used in communicating about the Next Gen Project. Per a newer MERA Board Member's request, this master list has been created to help board members and others involved with this Project have clear and consistent communication. Members are encouraged to suggest additional acronyms that are relevant.

C. Project Budget Summary

Jeffries explained that every 3 months MERA updates the Project Budget Summary for the Next Gen Project. Jeffries presented the latest version. Jeffries pointed out a few changes to the document, including a Percentage Expended column which was discussed with the Citizens Oversight Committee. Another addition has been requested for the future to create a column of where the estimated Project Budget should be. This addition will be outlined after a concrete project schedule has been set, following the Customer Design Review.

Another notable addition to the Project Budget Summary document is that 3 additional sources of interest income have become available to the Project, as well as the current Parcel Tax and Additional Non-Safety Radios Reserve Allocation from other sources.

No other changes have been made to the Budget since 12/12/2018. Pearce asked about potential problems with the Interest Income being added to the MERA budget. Cassingham informed the Committee that a report will be presented to the Finance Committee on July 10<sup>th</sup> and they have engaged Willdan to do arbitrage reporting and the calculation. Cassingham predicts it will not be an issue for at least a couple of years, but it is important to monitor as the Project moves forward.

D. Radio Aliases and Knobology

Jeffries told the Committee that MERA has been working with the Operations Work Group on issues with developing the Next Gen system. Evaluating the individual features of the radio, the Operations Work Group has recommended that the Next Gen radios be a replicate of the current Gen 1 System as much as possible for maximum efficiency. There will be minor technical changes, but overall the radio operation will be relatively the same.

Jeffries discussed Radio Aliases as identifiers for each Agency to use on the Next Gen System. As interoperability is expanding, there is a need to update Radio Aliases in response to name conflicts across the various Bay Area systems. For internal MERA radio codes, alias overlap is not as much of an issue because is dedicated solely to Marin County. But MERA is working with BAYRICS to update the Radio Aliases as a region, including a prefix indicating which county the agency belongs to avoid alias conflicts in the future as interoperability expands. Pearce mentioned that in his research of knobology he has found repeated mentions of the fragility of the radio equipment, and the cost of repair is approximately \$700 per radio to fix the knobs. Pearce suggested possibly including this issue in the contract with Motorola. Jeffries responded with an update that some of the Next Gen Radios have been pre-issued in dual and tri-band so they expect to get user feedback in the near future.

E. Field Survey

Griffin explained the Field Survey process for gathering the data required for the Next Gen System installation process. Griffin is looking for three categories of information from each agency: vehicle identification, WiFi and Internet accessibility, and MERA Radio type including mount type. Jeffries reiterated the importance of this process and completing it in a timely manner. Griffin offered scheduling times and contact information.

F. CEQA Status

Klock updated the Committee that they are waiting for final comments from MERA Counsel on a few chapters. Then they can edit and release the final document. Klock presented a table outlining the expected schedule of this process.

G. Project Management

Klock referenced the County of Marin's Implementation Agreement and explained that as part of this Agreement the County works with a variety of consultants to complete different aspects of the project. Klock mentioned that the County of Marin is currently hiring to help with the increased workload with the Implementation Agreement monies. Cusimano asked Klock for an expected timeline for the hiring process and when they will see the benefits of that additional workforce on the Project. Klock predicted within 1-2 months, mentioning there were many strong applicants so far.

H. Contract Change Order #8 – MPLS

Klock explained after the feedback from the Governing Board last September, they have been trying to generate options that stick to the Motorola proposal but are having great difficulty. The vendors are being very reticent about making any long-term commitments

to the original Motorola proposal with the Quality of Service (QoS) option. There have been additional proposals to replace the Layer 2 design with MPLS microwave system. Klock reviewed supporting documents outlining these options. Klock provided a presentation explaining the Layer 2 design system vs MPLS design, and the pros, cons and costs of these options.

Simpson outlined the current Gen 1 System and how the data flows in isolated time slots through the microwave network. Moving forward to the Next Gen System, the current proposal includes a Layer 2 direct ethernet connection that increases data transfer speeds. But there are some drawbacks to the Layer 2 system including bandwidth congestion potential problems with priority voice traffic. Because of this variable, Motorola will not cover any additional services

Simpson outlines the MPLS network as like the Layer 2 System in that it uses a direct data stream for speed and large data transfers, but it also can isolate and prioritize certain data over another on the microwave. So essentially it would eliminate the issue of bandwidth congestion and it would allow high priority voice data to override lower priority data transference. This also eliminates any issues with the QoS markings and will allow for upgrading and expanding services in the future if desired. Simpson recommends doing a cost analysis of how many additional services could be utilized including other possible expansion benefits vs the 2-million-dollar price point of Motorola's MPLS System.

Jeffries asked how additional services such as FBI and CHP cameras would work on the Layer 2 System. Simpson replies that it could "technically" work, however it is not recommended because of the interference with the QoS markings. Klock brought up that this was an issue in Glendale, where there were multiple services on the Layer 2 System, and they received approx. 55 alerts an hour because of data interference. Simpson explained that flooding the broadcast network, by adding too many services or a technical difficulty can bring the network down. Although the Layer 2 System is a good reliable network, it can not be overextended.

Cusimano suggested that the Committee reevaluate these new directions by reviewing the core responsibilities of M.E.R.A. and the mission of the Next Gen Project. He questioned what the original agreement consisted of, what they agreed to provide, and what issues are secondary. When this was first presented in 2018, it was a 1.9-million-dollar Change Order. Cusimano thanked Klock for the MPLS Comparison Matrix and wanted to review the different options that have been presented and compare them to the core mission of MERA and the Next Gen Project. After taking time to review, the Committee can then make a recommendation on how best to proceed to the Board. Cusimano voiced that he is struggling with the MPLS System suggestion, and although he saw the benefits to the System, he is concerned that it may be straying from MERA's core mission by adding this additional expense and capability. Pearce agreed with Cusimano and wanted to review the options and cost presented in the MPLS Comparison Matrix.

Pearce asked Brown if he is using MERA cameras at his station. Brown said he is no longer using the MERA microwave. Jeffries agreed that the use of the microwave for Fire cameras has changed. Brown replied that he is using a different service, but it is through a free provider for fire protection cameras and that it causes concerns because of potential resiliency issues. Brown agreed that they should focus on staying within the parameters of the mission but, with that in mind, this system is going to last for quite sometime and data requirements have been on the rise. He suggested taking this into account when considering the MPLS option.

McCarthy asked what agreement does MERA have with outside agencies such as FBI and CHP having access to the MERA network. Jeffries replied that there is letter of agreement with the FBI and MERA made approx. 3 years ago but there are no charges to the FBI for services. Cassingham interjected that there is a payment however nominal. Jeffries explained that CHP has always shared the network since MERA started and they were rolled over from the County microwave system, but there is no official agreement in place. Jeffries elaborated that MERA's mission is mission critical voice, not all types of data transference. Cusimano brought up with the current SUA agreement and hypothetically sticking to the mission critical voice would the Layer 2 System be efficient through the next 15 years of usage and if the Committee is comfortable with that. Jeffries asked Klock to confirm that Motorola is offering the Layer 2 System as being enough for the mission critical voice requirements for the next 15 years. Klock replied yes, that Motorola is assuring that in their current agreement, however it only includes voice and no additional services like cameras and troubleshooting. Simpson added that there are other additional services that are valuable such as BDA interference remote sensors at specific sites. Cassingham asked Simpson if Next Gen used the Layer 2 System it would not allow troubleshooting at all. Simpson replied that the Layer 2 System would allow it, but it would slow the connection down considerably. Cusimano asked Simpson his opinion of a cost benefit analysis of the time lost annually from the slowing of the Layer 2 System during troubleshooting efforts. Simpson replied that he doubts the 2-million-dollar cost of the MPLS System would be covered by troubleshooting manhours alone, but the additional services would ensure that the most effective System would be in place for dire emergency situations such as an active shooter. Cusimano asked Simpson to clarify if there are interference issues with the current Layer 2 design. Simpson replied that there have been some interference issues at the Big Rock site, that caused degraded service and loss of coverage in that area. Cusimano asked Simpson if MPLS would allow them to pinpoint and trouble the issues quickly, or does it also add redundancies to the system. Simpson explained that MPLS allows additional services to be on the microwave and one of those services could assist in expedited troubleshooting of potential network problems. He elaborated that Glendale had issues with the Layer 2 System and upgraded to MPLS and it alleviated all issues.

Jeffries interjected that there are 2 steps to take, the first is understanding the technology, the second being understanding the pricing options. Klock explained and compared

pricing options to the Committee (see Comparison Matrix). Klock reviewed the points Simpson made in his presentation regarding the difference in the System's technology and capabilities and the pros and cons of each System. Klock reviewed the Comparison Matrix, mentioning that they have been experiencing lots of frustration with Motorola. They met approx. 3 weeks prior and Motorola mentioned conflicting price points, and delays in completing the Change Order. Klock explained that this has made it hard to get accurate numbers on the Comparison Matrix. Klock said that he is going to have to come back with a staff report that details one of the cost scenarios, so he wanted to present the options to the Committee before moving forward.

When considering the third-party option to providing the MPLS, Klock pointed out the significant hardware price difference of close to 50%, however they will not match the 15 year SUA and are only offering 5 years because in year 6 technology most likely will have advanced by then. Another option will involve forfeiting one of the microwave resets included in the current contract and using that as a credit to help manage costs. Klock continued that they can negotiate pricing however it will involve cutting services and support. Klock's opinion is the contract is very much in favor of Motorola and believed a detailed staff report should be created and reviewed to move forward. He elaborated that the current contract includes 2 resets but the only real reason for a reset would be Motorola adding additional equipment to the system. Klock summarized that today they should be focused on deciding whether to move forward with MPLS or the current Layer 2 design.

Cusimano asked Klock about the hardware costs and the price differences between options. Klock replied by explaining that the difference between Layer 2 and MPLS is one working as a switch vs a router. A switch works as one "pipe" and MPLS works as many "lanes", MPLS offers a router to manage many lanes of data traffic. Motorola is saying that the router they are selling MERA today is being turned on in 2-3 years with a warranty for 5 years. However, in that time span of 8 years there will most likely be significant advances in technology and the router will most likely be obsolete. Because of this, Motorola will not commit to a number for maintenance. Cusimano responded by suggesting that, because of this, not to consider adding SUA for MPLS if they move forward. Klock pointed out that there is an issue with the 3<sup>rd</sup> party vendor option to consider, if down the line there were to be issues with the system and MERA moved forward with a 3<sup>rd</sup> party install. Most likely Motorola would point fingers in response. It is possible that Motorola could cause a data storm bringing down the system, and they want to take that into consideration when exploring these options.

Cusimano asked the Committee if there were any more questions on this item. He also asked if they were asking for the Committee's recommendation on the MPLS vs Layer 2 options at this time or was there a consideration period. Klock responded by requesting the Committee to decide on moving forward with the Layer 2 System or the MPLS System. If they proceed to use the MPLS System, Klock will negotiate multiple options with Motorola considering costs and coverage and present them to the Committee for

further discussion. Klock said if they are willing to give up elements of SUA2, there would be room for lots of savings. Pearce responded by airing caution with modifying SUA2 too much. McCarthy voiced that he felt option 4 makes a good compromise on this issue by reducing the number of system refreshes but keeping one for good measure. Klock voiced frustration about this portion of the contract because there is no credit for unused system refreshes, and Motorola makes the call of when and how many times to refresh. Pearce said he is not comfortable making a recommendation currently.

Jeffries asked the Committee if there are options they can eliminate to narrow down the scope. Cusimano responded by saying that he would like more information on the hardware and the refresh and those costs before making a decision. Jeffries mentioned that MERA was referred by Motorola to Glendale to inquire about the MPLS System and upon doing so they found that the MPLS System was not working and had to be upgraded by Motorola at no cost. So hypothetically if MERA keep the same Layer 2 System and there were similar issues, Motorola would upgrade to MPLS anyhow. Jeffries suspected Motorola is betting on the MPLS upgrade, or they are confident of the Layer 2 System with only Motorola traffic. Simpson replied that there is another scenario if the Layer 2 System was having flaws, but nothing significant enough to be violating the contract. In that case they would be stuck with a brand-new system with issues. Jeffries said that Option 0 should be kept in the equation because that is what is agreed to in the contract. When they present options to the Governing Board, they will have that to reference. A Fifth Option could also be explored. Cusimano said he would like the Committee to give Klock some direction before moving forward. Klock replied that this decision is important to Customer Design Review that will be after CEQA. Brown reiterated Klock's point that if they use the 3<sup>rd</sup> Party installation Option, they are likely to run into problems with Motorola. Cusimano asked about the price change listed in Option 1 and which service that is coming from. Klock responded from the SUA. Simpson said that the majority of the costs are from support services for the System. Jeffries added that is a benefit of Option 4 and managing the equipment locally will have savings. Simpson elaborated that Marin County can maintain the System mostly however there are services they cannot cover, such as firmware and hardware issues. Jeffries asked if those hardware and service costs were purchased as needed, would the support services most likely be under the 1.1 million dollar price point. Simpson replied that he is not sure, but he does not feel comfortable purchasing and maintaining this type of equipment without a service agreement from the manufacturer in place.

Cusimano interjected that he is struggling with the numbers listed in the Comparison Matrix and he will not recommend spending taxpayer dollars by voting no. What he can recommend is possibly putting a 1.2-million-dollar line item in the MERA Budget for the next 15 years that earns interest and is outlined for these types of specific issues in the future. Cusimano suggested the possibility of proposing this to the Finance Committee as another option. Pearce added that the SUA should be added to the conversation as well. Jeffries asked Klock if they chose Option 1 with no SUA would the cost be \$640,000. Simpson interjected that not having SUA can be problematic and pose significant risk.

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There are differences in SUA so it should be considered to have some level of SUA support. Cusimano asked if they want to take any Options off the Matrix and a few of the options were discussed. Eilerman suggested that this conversation should be revisited before sharing in detail with the Governing Board. Cusimano asked if anyone had any questions and moved on.

I. New Business -

None.

J. Open Time -

None.

K. Adjournment –

The meeting was adjourned at 3:24 p.m.

Minutes prepared by:

Maura Griffin

MERA Administrative Assistant – MERA Next Gen Project