

DRAFT 12/12/18

MARIN EMERGENCY RADIO AUTHORITY

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GOVERNING BOARD

Minutes of November 28, 2018 Regular Meeting

Call to Order and Introductions

The meeting was called to order by President Pearce on November 28, 2018 at 3:33 p.m. at the Novato Fire Protection District Administration Office; Heritage Conference Room, 95 Rowland Way, Novato, CA 94945. Self-introductions followed.

Governing Board Members & Alternates Present:

City of Belvedere	Craig Middleton
Town of Corte Madera	Todd Cusimano
Town of Fairfax	David Cron (Alternate)
Town of Ross	Tom Gaffney
City of San Rafael	Robert Sinnott (Alternate)
County of Marin	Dan Eilerman (Alternate)
City of Sausalito	Bill Fraass (Alternate)
Bolinas Fire Protection District	Anita Tyrell-Brown
Inverness Fire Protection District	Jim Fox
Kentfield Fire Protection District	Mark Pomi, Ron Naso (Alternate)
Marin Transit	Amy Van Doren
Marin Municipal Water District	Don Wick (Alternate)
Novato Fire Protection District	Steve Metcho, L. J. Silverman (Alternate)
Ross Valley Fire Department	Tim Grasser
Southern Marin Fire Protection District	Cathryn Hilliard
Stinson Beach Fire Protection District	Kenny Stevens
Tiburon Fire Protection District	Richard Pearce
Central Marin Police Authority	Michael Norton

Governing Board Member Agencies Absent:

City of Larkspur
City of Mill Valley
City of Novato
Town of San Anselmo
Town of Tiburon
Marin Community College
Marinwood Community Services District

Staff Present:

MERA Executive Officer	Maureen Cassingham
MERA General Counsel	Trisha Ortiz
MERA Deputy Executive Officer – Next Gen Project (by phone)	Dave Jeffries
MERA Operations Officer	Ernest Klock
Marin County DPW Communications Interim Representative	Ethan Simpson
Recording Secretary	Lauren Pallas

Guests Present:

Federal Engineering	David Mortimer
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A. Consent Calendar

All matters on the Consent Calendar are to be approved with one motion unless a Member of the Governing Board or the public requests that separate action be taken on a specific item:

- 1) Minutes from October 24, 2018 Governing Board Regular Meeting
- 2) Proposed Revision to MERA Records Retention Schedule Re: Meeting Recordings
- 3) Report on Proposed Six-Months' Notice: Non-Member System User Fees

M/S/P Metcho/Cusimano to approve Consent Calendar Items 1 through 3 as presented.

AYES: All
NAYS: None
ABSTENTIONS: None
Motion carried.

B. Executive Officer's Report – (Cassingham)

- 1) Report No. 48 on Next Gen System Project – (Jeffries)

Jeffries presented his report, noting the focus has been on the Motorola Change Orders (C.O.s). Meeting frequency with Motorola has picked up again. Staff met with the MCOE Board on November 13 regarding MERA's use of the Coyote Peak Site. The Finance Committee has requested a second review of Contract C.O.s #7, #8, #10 and #11 in light of available Measure A Funds prior to the December 12 Governing Board meeting. As a result, no decisions are requested today on the C.O.s.

2) Other Information Items

Cassingham reported MERA is in the process of reinvesting the Guaranteed Investment Contract (GIC) for the 2016 Bond Proceeds. The current GIC expires on November 30 and there will be a competitive bid process to reinvest the proceeds. Sperry Capital and Gaffney are once again assisting. The award of bid will be reported to the Governing Board on December 12.

C. Operations Reports – (Klock)

1) Motorola Contract Change Order #7 – AES/DES Encryption, Radio Management, WiFi, OTAP – (Jeffries)

Jeffries said there are no changes to this report given ongoing Finance and Next Gen Committees and Governing Board support for it to date. Pearce confirmed this will be presented again to the Finance Committee before Governing Board action on December 12.

2) Motorola Contract Change Order #8 – Multi-Protocol Label Switching (MPLS) for the Microwave Network – Review and Discuss

Klock reported there have been numerous developments on this C.O. and stated it is not in MERA's best interest to proceed at this time. There have been pricing complications and options are still in development. MERA needs to determine if it wishes to continue certain microwave services.

Klock said research has been done with other agencies including the City of Glendale. Glendale had a Layer 2 system designed by Motorola with additional services on it, like our FBI line and CHP circuit. Motorola could not get their system to configure, so a change to MPLS was necessary. Layer 2 technology is older and adequate to carry voice only. MPLS allows non-voice as well and it provides greater reliability. If MERA wants to continue non-voice services, MPLS is needed. He said this could be added later at a cost less than Motorola's. There is time to make this decision but we will need to inform Motorola as it affects System Design.

Klock said if Motorola pricing is reduced, we can consider designing for MPLS with its additional services. In addition to the FBI and CHP services, MPLS has an impact on system maintenance. Cusimano asked if Glendale could not get Layer 2 to work, how did this get resolved with Motorola. Klock said Motorola designed the Layer 2 system with the understanding it could carry additional services. Once installed, the system got up to 55 UEM alarms per day signifying the system was compromised. UEM alarms are included in MERA's Change Order #9, which has been approved. To resolve the failure of Layer 2, Motorola offered MPLS for free to Glendale.

Klock noted the difference in MERA's contract from Glendale's is that ours does not identify the added services. Layer 2 is old technology and is not as relatable to newer equipment. MPLS is the safer way to go. Even with free MPLS, Glendale wound up paying \$35K extra for each of its 7 sites to upgrade routers. Glendale highly recommended MPLS as a result of their experience.

Cusimano inquired about F.E.'s report attached to C.O. #8. It states Layer 2 is adequate for our current System. He said he is very conflicted. The Motorola C.O. is \$1.9M. MERA has paid FE as our expert to know what systems are working or not across the nation. It is their analyses Layer 2 will work. Now there is discussion of getting MPLS for free and a third-party vendor willing to provide MPLS at a 30-40% discount from Motorola. He feels this decision is not ready for prime time, given all these scenarios presented at this point. He asked for consideration of a set-aside to implement this technology when it is needed. He added if non-Motorola equipment could potentially cause a conflict, that is another conversation.

Van Doren asked Klock about how the system is being laid out by Motorola. Klock said there have been extensive discussions with Motorola about the microwave network and they are awaiting our decision on MPLS for the design. One option is to contact CHP and FBI about removing them from the system and giving them adequate notice to find other service providers. Jeffries added that Chief Brown has advised that County Fire intends to pull the fire cameras from the MERA backbone, which would also help.

Jeffries reported that Motorola, in the past, has been emphatic that these other services could be carried by Layer 2. They are now stepping away from that assurance. Had the MPLS review not been so extensive, the Glendale situation might not have come to light. Cusimano said he had requested Motorola or FE to identify a Layer 2 system that had a catastrophic failure. None has been presented. He expressed concern about how this matter has evolved so much since it was first presented 45 days ago. It has affected trust. The Board must decide on having Motorola make this work per the Contract and if that doesn't happen, we will need further conversation.

Pearce said his biggest problem was that C.O. #8 was presented as an action item last month. We were ready to spend \$2M on this, which is a big issue. Now we have huge swings on what C.O. #8 can and can't do, along with huge price variances. More homework is needed. Van Doren said this sounds like we should wait before any vote. Jeffries responded that the representation of the C.O.s was to update the Governing Board on them and not to vote. Pearce said we also don't know what the technology will be in 5-10 years.

Van Doren asked for clarification of what the impact will be on the Technicians with MPLS. Simpson responded that MPLS adds greater troubleshooting capability.

Layer 2 would be like firefighting with a bucket. He noted recent interference from a repeater system on a building which provides radio coverage for public safety within this structure. These repeater systems have become problematic for the operation of public safety communication systems elsewhere in the region due to interference if they are not set up correctly. Cusimano asked if this was due to user error. Simpson said these systems are not part of MERA but are in-building amplifier systems required by the Fire Code.

Simpson described the screeching effect that happens when an amplifier and speaker conflict. This particular DAS system was creating interference as a result. Preventative maintenance was able to detect desense at Big Rock due to this interference. Moving forward, he would like to see receivers on the mountaintops so interference can be detected from multiple mountaintops. A directional antenna was used at Big Rock to identify the interference source.

Klock said with Layer 2, this type of site visit troubleshooting by a Technician would be required. With MPLS, devices on the microwave network could detect interference sources remotely from the office versus the field. Simpson added that mountaintop troubleshooting site visits can take days. MPLS could reduce detection checks to minutes. Use of cameras could also detect unauthorized entries, saving significant site visit response time. In response to Norton, Simpson said the in-building system interference was identified by a Technician familiar with the new building and it was resolved by working with the Building Operator to eliminate impacts to our system.

In response to Gaffney, Simpson said if MERA wants to add services to Layer 2, he would recommend MPLS. In Glendale's case, they experienced outages with Layer 2, which is not very scalable. Jeffries asked if interference detection equipment can be installed on Layer 2. Simpson said yes but wouldn't recommend it. Jeffries noted the \$1.9M in MPLS costs in comparison to staff costs for troubleshooting. Simpson responded the Radio Shop staff time costs needed to physically troubleshoot are significantly less costly than MPLS; however, service delays could affect public safety services.

Van Doren asked about less costly options for MPLS. Klock said they have reached out to I.P. Keys for a quote as they do conversions of Layer 2 systems to MPLS networks. They provide 18 routers which would manage traffic versus the Layer 2 switch. Their quote was \$380K to turn our Layer 2 into MPLS after it is turned on. This quote includes 5 years of SUA II related services. This, however, is not an apples-to-apples comparison with Motorola's pricing. I.P. Keys' quote was shared with Motorola, which they noted had gaps.

In addition to I.P. Keys, Klock said more quotes can be obtained on MPLS networks to identify the best price. Also, Motorola could proceed to design the Layer 2 system and MERA could decide later to add MPLS. Van Doren said

another provider would have to confirm Layer 2 as installed would be configurable to MPLS. Klock said there is concern about using a third party under the Motorola Contract. Middleton asked if Motorola might present another offer given MERA's concerns about costs. Klock said yes and, if they could meet the other quote, he would recommend Governing Board approval.

Jeffries said I.P. Keys has worked with Motorola before, which confirms their system will work with Motorola's. He added this C.O. has no acceptance date-related discounts. This C.O. affects design and, if added later, there would be engineering and other costs. Middleton asked if any other C.O.s have price changes related to going with MPLS or not. Jeffries said no. Gaffney asked about any MPLS effects on overall SUA costs and services further out. Klock confirmed there will be SUA costs associated with MPLS. MPLS SUA services with I.P. Keys only includes software, not router replacement or equipment upgrades.

Pearce, with consensus from the members, said C.O. #8 should be tabled for action in the future pending more research and that we focus on Layer 2 implementation. Hopefully, there are lessons learned on the vetting side of C.O. #8.

3) Motorola Change Order #10 – Radio Accessories and Mobile Portable Chargers

Jeffries noted C.O.s #10 and #11 impact each other. In refining these, some costs previously in #11 should have been in #10, which resulted in increased cost for #10 and decreased cost for #11. He added #10 is still being refined, especially with additional radio costs. He is working with Simpson to assure accuracy of the County's radio spreadsheet. Early Orders #1 and #2 were still in the count and all new radios approved by MERA since November 4, 2014, should be removed from the count. Jeffries said non-member radios also need to be backed out of the count. He reported that an updated radio count survey will be undertaken in early 2019 to confirm for the order.

Jeffries reviewed the radio accessories to be ordered including higher capability batteries instead of the lower one specified in the Motorola Contract and portable radio chargers which were listed as a Contract option versus a cost. Chargers are a necessity for field personnel. This was an oversight in the Contract.

Pearce indicated that Motorola was willing to revisit charger pricing at a prior meeting. Jeffries confirmed there will be no additional discounts from the base Contract. Brown asked about 3rd-party vendors for the chargers we might want to consider. Simpson said we could consider Endura chargers; however, with 3rd-party vendors, we could lose some of the impress functions. Also, some agencies are currently using APX chargers. In response to warranty impacts, he confirmed this could be a possibility.

Jeffries said third-party vendor consideration could be looked at but the amount of

savings might not be worth warranty or other issues. However, he will follow through on this.

4) Motorola Contract Change Order #11 – Early Order Mobile Radios

Jeffries cited the revised pricing of #11 has been reduced to \$424K. This C.O. will save 8 months on the Project Schedule. If the mobiles are acquired 9 to 10 months early to allow early installation of the mobiles, this would shorten the time required after cutover to the new system to move all MERA Users to Next Gen.

Pearce confirmed that consultant and staff costs are estimated at \$100K per month so a reduction of Project Schedule would generate a cost savings. Jeffries said C.O. #11 is ready to go to the December Governing Board meeting while #10 needs some refinement ahead of action. Jeffries confirmed that the discounts between #10 and #11 totaled around \$1M. Motorola is seeking a commitment by mid-December. MERA will not be invoiced until shipment, which is down the road.

Jeffries noted other contract payment milestone dates including completion of system design and shipping of fixed equipment. Any equipment is invoiced at time of shipment. Early Order Mobile Radios will follow CEQA, completion of final design, and development of a firm Project Schedule, which will inform the cutover date. Mobile radios will be received 10 months prior to cutover. Jeffries confirmed that dual bands will work on the current System and thereafter be reprogrammed to work on Next Gen. Unlike the Motorola no-cost offer of early order radio upgrades to dual-band, there is no free upgrade to dual bands with the remaining order.

Jeffries confirmed for Grasser that his UHF-T-band dual-band radios can be reprogrammed remotely for Next Gen with C.O. #7. Grasser said his equipment will then be sitting for 18 months before delivery of new equipment. Jeffries said C.O. #7 will shorten the schedule along with other actions that may be possible once the Project Schedule is confirmed. Pearce asked Klock if there were any opportunities for grant funding for chargers or other overlooked costs. Jeffries said Chief Brown was reviewing a fire radio grant that would cover dual or tri-band. He said this is a hopeful opportunity, the success of which might depend on a higher match. For example, MERA radio base cost could be considered as that match pushing the application up higher on the queue. However, such grants cannot be counted on. Pearce confirmed Governing Board action on #10 and #11 must be by mid-December to receive the discounts.

5) Update on Next Gen System Project Budget

Jeffries said the Finance Committee is continuing with its line item costs and C.O. review for availability of funding and cash flow projections. He reviewed the approved C.O.s to date and basic contract milestones, which are tied to a final Project Schedule. Approved C.O.s will be added to the next iteration of the

Revised 9/26/18 Project Budget.

6) CEQA Process and Schedule Update – Next Gen Project

Klock reported CEQA was going well and the meeting with the County Office of Education was well received. All of the Special Studies are complete and draft SEIR Sections on Site Alternatives and Report Opening are being submitted for review. The Muir Beach Community meeting is scheduled for December 12. The SEIR schedule is slipping beyond the end of the year by 1 to 2 months. The draft SEIR document should be ready for public comment in February.

Klock said he has authorized a Change Order to the WRA Consulting Contract of \$80,000 due to significant out-of-scope work performed. This is due to the lack of documentation around the Motorola Coverage Workshop, which helped model the ultimate site selection process. Also extra effort was required associated with the Coyote Peak site due to the \$1M driveway, retaining walls and grading at the steeper elevations to permit equipment access to construct the site. Due to some value engineering, access costs have been reduced to \$100K. Grading has been reduced and wetlands impacts are being addressed. Finally, WRA had bid 4 Project calls and there have been 27. No further C.O.s are anticipated to produce the draft SEIR.

Gaffney confirmed with Klock the increased cost was part of the Budget Site Acquisition/Construction line item. Klock estimated \$600K for environmental with \$517K expended to date. With the \$80K C.O., we are still within budget. Pearce inquired about the Site Safe RF report and whether Muir Beach will be happy with it. Klock said Site Safe was selected when the first vendor they reached out to was nonresponsive. Site Safe is a cell consultant. Their RF report has had at least 5-6 iterations with many unacceptable errors, like with receive and transmit antennas and spelling. All this is fully resolved and he is happy with the Report's content.

Pearce said this report must be bulletproof due to its great importance to the SEIR. Klock said exposure explanations were greatly enhanced along with an improved Executive Summary. Pearce asked if the Report had been shared with anyone before the draft SEIR was completed. Klock said RF emissions were extremely concerning to the Muir Beach community at our proposed site. He is working with Counsel on the draft Muir Beach presentation, which will include the Muir Beach portion of the RF study. He felt it was important to communicate the findings and how safe the area will be given minimal emissions.

Pearce expressed concern over releasing this information ahead of the SEIR. Klock said the RF report is an SEIR appendix and taken on its own could be misconstrued. He nonetheless felt there was significant value in sharing it with the community to get support for the site by showing them they will not be impacted

by what we are doing. Cassingham asked if we could wait on sharing this information until the draft SEIR is released. Klock said he could get the CEQA Consultant's input on this, noting other community presentations have already been made.

Gaffney asked at what stage of the SEIR we could encounter public concerns. Ortiz said there may be sensitive areas including RF that may generate public comment when the SEIR is released. In response to Gaffney, general areas for public comment on the SEIR includes RF. Klock asked regarding the Bolinas community's reaction to a Gen I tower site and whether an advance public presentation would have produced a better outcome. Brown said it was the community's perception of RF in terms of health and the FCC's allowable limit being seen as too high that created opposition even though RF emissions were well below the thresholds. She supported the idea of a conversation now with Muir Beach because of the same concerns.

Jeffries said the RF study shows emissions today, with both systems operating and Next Gen operations alone. In the case of Muir Beach, emissions slides will show there is nearly no change. The challenge is how much of the study can be shared before the whole document becomes public. Pearce asked if the community could wait until the whole SEIR is released, including the entire RF study. Jeffries said prior community presentations did not include RF information. Ortiz said she understood an RF summary was to be included in the presentation and not pages from the Report.

Klock said the Muir RF information was to include a screenshot from the Muir Beach Exhibit that shows RF emissions for the tower with references to FCC studies on emission levels. The area below the tower would be less than 5% of the standard allowable. Jeffries added that this is a brand new site so there are no other site emissions to compare to. Jeffries said more presentation vetting will occur prior to its release.

7) MERA System Operations Update – October – (Simpson)

Simpson said Items 1-3 in the report were standard Radio Shop activities. Item 4 regarding DAS system interference was previously discussed and resolved. Pearce asked if these systems had to be signed off by the respective Fire Departments so that these conflicts can be prevented on the front end. Simpson said DAS system operations were supposed to be enforced by the Fire Marshal.

Sinnott said Item 4 referred to the new Kaiser EE facility. After it was completed, it was discovered paramedics inside it could not transmit using MERA portables so amplifier equipment was installed. He has been working with County Radio to identify who issued approval and did inspections for which there are no records.

Sinnott believes possibly the State Fire Marshal or another agency might have been involved with inspections given this is a hospital. He said similar systems are around. Simpson said he is still working on finding information on DAS system requirements. His Shop needs to be aware of these projects due to possible MERA interference. Pearce noted hospitals are MERA partner agencies and MERA equipment is in all the hospitals. Simpson said it seems to be a Fire Marshal responsibility to do the checks on these systems and a third party would have to confirm DAS system operations.

Simpson said putting a MERA system in place to monitor DAS system installations should be considered as this interference will become more of a problem on the 700 MHz system noting cellular systems operate in the 700 band. Issues can be managed with awareness when these systems are going in. Simpson, in response to Grasser, confirmed the 700 System may require additional equipment to deal with these interference issues. Pearce said the Marshal's sign-off is one-time and thereafter an operator database would be needed to deal with post sign-off system problems.

Simpson concluded his report noting a Quanta P.A. was replaced at Pt. Reyes.

8) Other Information

Cusimano requested a report on the FE Contract at the next meeting. Pearce agreed with the request, noting FE was hired to avoid contract issues and huge Change Orders. Van Doren asked about information from the Finance Committee on Change Order funds availability and cash flow for the December meeting.

D. Open Time for Items Not on Agenda

None.

E. Adjournment

The meeting was adjourned at 4:39 p.m.

Respectfully submitted by:

Maureen Cassingham
MERA Executive Officer
and Secretary