

G.B. 10/24/18 Agenda Item A-2

MARIN EMERGENCY RADIO AUTHORITY

c/o Novato Fire Protection District

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DRAFT: 10/17/18

GOVERNING BOARD

Minutes of September 26, 2018 Regular Meeting

Call to Order and Introductions

The meeting was called to order by President Pearce on September 26, 2018 at 3:30 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:

Town of Corte Madera	Dan Reese (Alternate)
City of Larkspur	Scott Shurtz
City of Novato	Pam Drew
Town of Ross	Tom Gaffney
Town of San Anselmo	Doug Kelly
City of San Rafael	Robert Sinnott (Alternate)
County of Marin	Matthew Hymel
Bolinas Fire Protection District	Anita Tyrell-Brown
Inverness Fire Protection District	Jim Fox
Kentfield Fire Protection District	Mark Pomi, Ron Naso (Alternate)
Marin Community College District	Martin Langeveld
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 Belvedere
Town of Fairfax
City of Mill Valley
City of Sausalito
Town of Tiburon
Marin Transit
Marin Municipal Water District
Marinwood Community Services District

Staff Present:

MERA Executive Officer	Maureen Cassingham
MERA General Counsel	Trisha Ortiz
MERA Deputy Executive Officer – Next Gen Project	Dave Jeffries
MERA Administrative Assistant Next Gen Project	Alex Anderson
MERA Operations Officer	Ernest Klock
Marin County DPW Communications Interim Representative	Ethan Simpson
MERA Recording Secretary	Jeanne Villa

Guests Present:

Federal Engineering	Rajit Jhaver
Motorola	Mike DeBenedetti
Motorola	Rodney Hughes
Motorola	Kourosh Mostashari

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 August 22, 2018 Governing Board Regular Meeting
- 2) Report No. 73 on Strategic Plan Implementation.
- 3) Report on Martinelli Ground Lease Payments – MERA Bolinas Tower Site

M/S/P Kelly/Hilliard to approve Consent Calendar Items 1-3 as presented.

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

B. Executive Officer's Report – (Cassingham)

- 1) Report No. 46 on Next Gen System Project – (Jeffries)

Jeffries provided an overview of his report noting the number of meetings has been reduced due to CEQA but biweekly meetings with Motorola are resuming. Early Radio Order #2 has arrived, programming is underway and delivery is expected soon. Memos will be going out to dispatch centers and fire stations designated for Fire Station Alerting (FSA) with connectivity details. This will

allow participants to reach out to their internet providers for windows of time to complete their work. The Next Gen System connects differently than the one in place today.

2) Next Gen Budget Update and Approval – (Jeffries)

Jeffries reported on the Finance Committee's Chair and Vice Chair meeting with staff on Next Gen budget projections. He referenced the September 26 meeting PowerPoint and handout noting the far-right column as the proposed revised Project Budget. He said some line items are completed, like public outreach, which occurred prior to Measure A being placed on the ballot. The vendor contract has been separated from vendor radios since contract milestones do not apply to the bulk of the radio order. Site acquisition and construction line items have been combined. Early projections were based on the possibility of additional new sites.

Klock said the construction line was still very preliminary given Motorola's just-received report on tower structural modification for current and new equipment. All new and existing site construction is estimated at \$2.7M plus a 10% contingency and construction management time, for an estimated total of \$3.6M. Pearce confirmed this included the other 2 sites in C.O. #5. Klock said this includes all civil improvements for all Next Gen sites.

Jeffries emphasized that construction is via separate RFPs from the Motorola Contract that will be issued after CEQA. Once bids are received, costs will be fine-tuned accordingly. Klock said Coyote Peak construction is estimated at \$552,000 in comparison to \$3,500 at the Prime Site for supports. Value engineering will occur over the next 2 months; however, he expects not to exceed the \$5.3M line item. Pearce confirmed the 10% construction contingency with Klock. Jeffries added that the Project itself has its own contingency. Gaffney confirmed no site acquisition is required. Hymel said the reduction in the construction line item potentially increases the Project contingency.

Jeffries said the RGS staffing line item reflects the extended Project Schedule. The FE project management line item likewise reflects this extension. The line item for DPW licenses and permits remains the same and Dollar Hill capital costs are completed. Project legal is an estimate which is affected by CEQA and any site contract issues. Administrative costs have been increased to reflect same over the life of the Bonds. Bond financing costs are now included.

Jeffries said the SUA costs have been separated from the Motorola Contract as they do not commence until Year 4 of the Project and are incurred annually. He referred to the Governing Board approved Project contingency of \$2.2M and the unappropriated Project reserve, which may be affected by future Project costs. The purpose of the updated Budget is to inform the Governing Board as it

considers proposed Change Orders #5-#9.

Pearce asked about increased Project costs due to the extension of the Project Schedule on which MERA was reliant on its vendors for oversight. Jeffries said several decision-making opportunities remain to shorten the Schedule that will reduce FE and RGS costs. He added that more will be known about the Schedule in the next 2-3 months and CEQA continues to be a big question mark.

Klock commented on the FE portion of the extended Schedule costs, noting the \$1.79M line item includes those additional months. He said FE's President assured him as long as there is no change in Project scope, he will not seek a change order for the additional time. There was additional discussion about getting more creative about the use of FE's, time especially during future phases that will reduce the \$33K per month charge for Project Management Services. Pearce asked for a concerted effort to squeeze any potential savings in any Budget line item as critically important.

Klock said current DPW Project implementation expenditures to date, since the Implementation Agreement was in place, are \$300,000. He does not expect DPW staff time to exceed \$2M. Echols' last estimate of DPW time in June 2017 was \$1.23M. Once more is known about construction, he will provide an updated estimate of DPW staff time. Jeffries said the budgeted amount of \$2M reflected the amount cited in the Implementation Agreement.

Pearce confirmed that the Administrative fees reflect the life of the Bonds. Hymel said this was not a change in that the approved budget only included costs through June 2019. In response to questions regarding new sites, Jeffries said the new Mill Valley site is different than our site at City Hall. We will not have to acquire property but it would be a new lease agreement and the existing Tiburon site has been added back in. Hymel added the revised Budget is relevant to the Change Orders discussion, which, if approved, would exceed the current vendor contingency.

M/S/P Gaffney/Langeveld to approve the proposed Revised Next Gen Project Budget dated 9-26-18 as presented.

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

3) Other Information Items

None.

C. Operations Reports – (Klock)

1) Next Gen Project Motorola Contract Change Orders Summary

Jeffries introduced the PowerPoint presentation of the proposed Change Orders, noting prior review by the Ops Group, Finance and Project Oversight Committees and Executive and Governing Boards. Staff recommendations of required or recommended indicate as either “essential” to the Project or beneficial requiring value judgments. Hymel said today’s discussion is to provide feedback on Change Orders #5-#9 leading to Governing Board discussions in October.

Klock said approvals of Change Orders will reduce the Project contingency, keeping in mind potential future Change Orders may require an increase in the contingency. Gaffney said he thought Change Orders were to purchase equipment. Jeffries clarified that radios were a separate line item, the cost of which could be affected by applicable discounts when orders are placed. He added this will be covered in Change Order #7. He hoped discounts from Motorola would be clarified prior to the October meeting.

Klock said this report summarized all the Change Orders and individual Change Order reports will follow.

2) Motorola Contract Change Order #5 – Mill Valley/Tiburon Equipment

Klock said this Change Order reflects Motorola’s commitment to providing the equipment for these 2 sites not included in their design, at no cost to MERA. Estimated equipment value is \$4.6M. While this Change Order is presented as a zero cost, MERA will have to fund the civil improvements and construction management for these sites, which is estimated at \$400,000 to \$700,000. Kelly said the slide notes the cost as \$0. Klock said equipment costs are zero, but site construction is a MERA cost. The Mill Valley site costs are estimated at \$477,000. Pearce said MERA is paying construction because the Motorola coverage did not meet RPC requirements.

In response to Gaffney, Jeffries said the updated Project Budget line items do not reflect any Change Order costs. Hymel said Change Order approvals will be reflected in a subsequent Project Budget. Klock said the \$400 to \$700K estimate fits within the \$5.3M Site Construction line item estimate. Hymel clarified that this amount would not decrease the Project contingency. Jeffries confirmed with Gaffney that this is a required Change Order essential to System coverage. In response to Pearce, Klock said had these sites been included in Motorola’s bid, the base contract would have been \$4.6M higher. Pearce said MERA spent a lot of money on the front end of the RFP development to assure we didn’t have a lot of Change Orders. He added this is probably just the beginning. Moving forward, MERA needs a “not-to-exceed” number.

Klock said he would prepare a detailed report on site construction to identify unknowns to the extent possible. More investigation upfront is a balancing act of how much is spent on exploring these technical factors. He will convey this in a risk/reward scenario. Pearce expressed concern over finding appropriate contractors to perform the work in this bid climate. Jeffries confirmed with Klock the initial RFPs will go out in February/March 2019 for the easy sites. Klock said this must follow CEQA approval and include permitting time.

3) Motorola Contract Change Order #6 – Sonoma Mountain/Site Ready

Klock said this includes the addition of equipment, design, and SUA II services for the Sonoma Mountain Site for system microwave connectivity and site-ready services and equipment.

Sonoma Mountain came up when Motorola conducted its path surveys. The path from Tomales to Over-The-Air (OTA) was blocked by terrain. This blockage puts the burden on MERA to figure out how to achieve this path. In response to Hymel, Jeffries said the second site, which is 1 mile away from Mt. Burdell, is known as OTA. He added that it had been a broadcast site from which the broadcaster is leaving.

Klock said it had been thought Tomales was a solution. Now Sonoma Mountain appears to be the best and most cost effective option to achieve the microwave path. Cost is \$149K. Regarding site readiness, he said there is some ambiguity in the Motorola Contract for these services and equipment to prepare for Next Gen System components in existing facilities, which may be space challenged. Contract responsibility is placed on MERA for site readiness. In other Contract provisions, it calls for “we” to move equipment, which conflicts with the responsibility provision. In discussion with Counsel, the ambiguity leaves MERA responsible for site readiness.

Klock said C.O. #6 engages Motorola to perform site-ready work and rests the responsibility with them for moving equipment and relieves MERA of the risk for performing this work. Cost is \$352K. He added that both C.O. #6 items are deemed required. Pearce asked about Motorola feedback on this, given MERA’s added costs for 2 extra sites. Klock said these costs have been negotiated with Motorola since last November, noting initial costs were very high but they have been reduced as far as they can be.

In response to Pearce, if this was correct, Di Benedetti confirmed Motorola has more cost leeway with equipment than services. He said their costs have been driven down as low as they can do it.

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

Jeffries noted Change Order #7 costs as \$631K, including taxes and after discounts. He reviewed the encryption module, stating Gen 1 uses AES encryption technology, while Next Gen will use the newer DES technology. These technologies are not compatible. Either before or during cutover, both encryption schemes will need to be in the radios. Enough modules will need to be available to facilitate this. This scheme has already been included in the early order radios.

Jeffries reviewed the radio management database that supports the ability to manage and remotely reprogram field user radios. This database also can push updates to all the radios using WiFi and/or OTAP through the software. Currently, manual reprogramming can cost \$100,000 each round. Over The Air Programming (OTAP) uses the data channels in the MERA system and can push programming out to the radios but is slower than WiFi. Fleet updates could take up to 2 weeks but WiFi hotspots at MERA member buildings can provide faster program changes wirelessly, resulting in 1-2 days to update the whole fleet. OTAP would likely be used for desktop control stations since there are not as many. The combination of these two technologies can be very valuable in terms of costs and staff time.

Jeffries reflected on past discussions of bringing mobiles in 10 months early for programming before cutover. This could save 8-9 months in Project time after cutover. Bringing 1,000 mobiles in early would result in a \$2M expenditure. Updated pricing from Motorola has been requested for another presentation of this option in October. Norton noted the early expenditure of \$2M as potentially problematic. Jeffries added that there will be more coordination as well for existing and new radio users.

Hymel said regardless of bringing in the dual bands, there is considerable ongoing benefit to bringing in the functionality of Radio Management, WiFi and OTAP. In response to Grasser, there was discussion of returning mutual aid equipment from out of area support that will receive automatic program change updates. He added that would be a huge long-term benefit. Jeffries said all the portables are capable of WiFi and the dual-bands mobiles are but single-band mobiles are not. Possibly OTAP would resolve this. There is value in the C.O. regardless of what is done with the mobiles.

Gaffney asked if all the recommended Change Orders are at the same level. Jeffries said system essentials are required but recommended reflect staff support. He referenced C.O. #9 as an example which weighs the value of spare components. Anderson mentioned his experiences with the desktop control survey

and the current insufficiency of WiFi signal strength at some locations. This might be a future consideration. Jeffries said we have 2 to 2-1/2 years to address this.

In response to questions regarding the cost between the encryption technologies, Jeffries said the radio management portion of the C.O. including WiFi and OTAP is discounted by \$809K and AES/DES is discounted by \$60K but the bulk of the C.O. is \$631K for radio management, WiFi and OTAP equipment.

5) Motorola Contract Change Order #8 – MPLS

Klock presented C.O. #8 as a change from Layer 2 to Multi-Protocol Label Switching (MPLS). This is definitely recommended by staff. MPLS architecture provides more redundancy and security for Next Gen. Layer 2 was likely proposed as a cost-saving measure and because the presence of non-LMR traffic was not well understood at the time of proposal. He said you can put Layer 2 and nonvoice services on the microwave system but it is a very bad idea. This would increase system vulnerability to a broadcast storm. Layer 2 works well to carry MERA voice traffic but if we want to use and continue to supply nonvoice services on the microwave, we should go with MPLS.

Klock said the use of non-LMR traffic is listed in Appendix A. More relevant is the presence of the FBI and CHP circuits and fire cameras and MERA's inquiry about site security video cameras in the future for all sites. Should MERA wish to add more nonvoice services on the microwave network, MPLS would be required to handle bigger data packets. For example, the FBI technicians with their circuit could be given their own "lane" without compromising other uses. MPLS cost is \$400-\$500K with the remainder of the expense being for related SUA II costs, for a total of \$1.97M.

Pearce noted this is another area where MERA has not been well supported by its contractors. He noted the 2010 AECOM report recommended MPLS. This report provided support for everything since. Jeffries said if MPLS had been in the original RFP, proposed Motorola costs would likely have been \$2M higher. He said C.O. #8 is recommended and required depending on where the Board wants to go with the system. He noted outside microwave users are accessing the system at no fee but they are other public safety agencies. Likewise, MPLS makes the system more secure and provides non-LMR future benefits to MERA. Simpson said these issues have not been worrisome with Gen I.

Jeffries said the recently approved Microwave Policy was generated by the confirmation of other users of our microwave system and the need to document same as we move to Next Gen. Hymel said if we are building the system for the next 20 years, it is better to go with this MPLS technology. Given the uses beyond voice into the future, he said the longer view is to plan for those uses.

Jeffries said from a risk management perspective this improves our resiliency and confirms the related cost benefit. Hymel added the use of the unappropriated Project reserve for this feature is a way of extending system useful life and avoidance of risk like the SUA itself. Jeffries said decisions on the Change Orders will affect Motorola design so the more timely decisions, the greater lead time for this.

Gaffney asked what else might result in a Change Order. Jeffries said some savings will be achieved for the non-safety radio purchase due to the reduced number of desktop control station radios. The other is radio chargers for 2,000 portables listed as optional in the RFP were not required in the Motorola Contract. Simpson said chargers are \$100 per unit. Jeffries added there are single and six-pack chargers. Pearce asked Motorola if chargers were standard installation pieces and they acknowledged they were. He is asking why chargers were not included as required versus optional.

Gaffney said \$1.5M of the C.O. costs are for the added SUA expense, which starts in Year 4, which is addressed in cash flow. In response to Langeveld, Jeffries confirmed non-MERA microwave users included the FBI, CHP and Marin County's fire cameras, all of which are for public safety and beneficial to the MERA members. Jeffries said the nonvoice users, with the exception of FBI and fire cameras, which are already approved, will likely move to Next Gen if they are approved by the Governing Board. Pearce asked Motorola if they had any experience with microwave user cost recovery. DeBenedetti will research this for presentation to the Board in October.

Klock added that installing MPLS architecture at a later time would be much more expensive should the Board wish to consider this. In response to Hymel about the cost of adding MPLS later, Motorola will provide an estimate for the October meeting. It was noted that adding later could impact voice service. Jhaver said the upfront SUA costs would go down, but capital costs would go up.

6) Motorola Change Order #9 – Equipment Spares

Klock said this C.O. was a roll up of all the other recommended items that provide additional redundancy and backup for first and second systems failures. The additional Zone Watch licenses allow for more than one technician to do maintenance at a time. The addition of redundant voice logging to the one included in the Contract will provide backup during system updates or maintenance. Jeffries said, on the law side, it is common to go to the backup to evaluate events in the field and related investigations. In response to Gaffney, Jeffries said logging records channels like dispatch.

Klock reviewed the Jail Repeater battery backup power item which provides functionality of the BDA system in the event of a power loss or generator failure.

Item 4 are dispatch console speakers beyond the 2 individual in the Contract. This permits adding to the dispatch positions wanting them. Cost is \$17K and Ops recommended as nice to have. Item 5 is a TDMA upgrade for the pagers, which was not available for the specified pagers at the time of proposal. The cost for the upgrade is \$23K. This will address channel use concerns during high traffic. Jeffries said without this upgrade, we must use channels that eat up twice as much bandwidth. Jeffries clarified the additional cost beyond FDMA coverage in the pagers is a MERA cost. If there is a desire to expand this to other users, it would likely be an agency cost.

Klock reviewed Item 6, which is a NAS backup server at \$970. This would quickly restore radio settings. Item 7 is a spare VMS server. This would be a backup to the primary and secondary servers. It would be preconfigured and put in service while another server is being serviced. Cost is \$17K. C.O. #9 total cost is \$214K.

Hymel said the \$3.3M in C.O. costs, if approved, would deplete the \$2.2M Budget contingency with the balance covered by the unappropriated reserve. Pearce asked if there was any room in the DPW Staffing Implementation line item given all the changes in staffing. Klock said he doesn't think staff costs will reach \$2M but prefers to leave that amount in place. Echols' estimate was \$1.3M but once we receive a better schedule from Motorola and CEQA is approved, we can realistically look for savings there.

Pearce asked if DPW has the staff resources to deal with the current and Next Gen Systems. He said Jeffries and Cassingham are doing extra work. Klock said it has been challenging. He may need more resources but doesn't know what they are yet. He is staying hands on and working weekends to capture everything. More will be known after CEQA. For example, considerable effort is going into the 1.5-mile Coyote Peak access road. Motorola has estimated \$1M for this driveway to make it accessible for site construction. DPW value engineering has reduced the cost to \$200K-\$300K. Jeffries said the Budget will be revisited post-CEQA to further refine the line items.

Pearce asked for confirmation from FE and Motorola that the system with these Change Orders will be fully functional without further Change Orders. Jeffries said there will be a C.O. for the radio chargers. Pearce said he never bought a radio without a charger. DeBenedetti further Change Orders are a tough question and it depends. He added that with the Change Orders today, we are much closer to total Project costs. Jhaver said based on experience with other projects, we are much closer to wrapping up detailed design review. The caveat is with site construction. The Motorola Contract is much closer to the finish line; however, other items could arise.

Jhaver added that the Motorola equipment design is nearly there, but a site change

could result from the CEQA process. He is hopeful this will not happen. Future Motorola Change Orders should be kept to a minimum. Klock said approval of site readiness holds Motorola accountable for existing equipment movement and Next Gen equipment installation within the site enclosures. He said site leasing is going forward and that tower structural reports have been received and, if reinforcements are needed, these are \$5K-\$20K items. Pearce asked about China tariffs and equipment availability impacts on Motorola Next Gen equipment. DeBenedetti said there are no impacts at this point. Jeffries said further feedback or questions were welcome on the Change Orders, which staff will finalize for Governing Board action in October.

7) CEQA Process and Schedule Update – Next Gen Project

Klock said CEQA is going well, noting outreach and special studies are going forward. The Muir Beach outreach meeting has been rescheduled to October 26 to provide better data to address community concerns regarding the tower site. We are still looking at Coyote Peak, which is one of the last of the CEQA reviews, in particular the driveway and related constraints. When this is done, the draft SEIR can be completed and released in November/December. He confirmed for Gaffney the public comment period for scoping was 30 days. Gaffney asked what happens after the draft EIR is released. Klock said the public comment period after release is 45 days. Within that period, we will hold a public meeting and take verbal comments as well as accept written comments. All this input will be folded into the final EIR for presentation to the Governing Board for adoption.

Norton asked about the Muir Beach concerns. Klock said they are very concerned about RF, especially for neighbors within 100 feet. Jeffries said the draft EIR will include the final RF study. It was decided no draft information, which might be subject to change, would be shared at their public meeting. Findings and coverage maps should allay concerns and document Project benefits.

8) MERA System Operations Update – August

Simpson recapped System Maintenance activity for August, which was a quiet month. Staff conducted required weekly and quarterly tasks. Next Gen discussions participation and FE support were provided. Tam had a faulty channel bank card which caused outages on the West. A faulty antenna was changed at Bolinas. Staff escorted RF study consultants to sites.

August usage data shows SMP at the bottom. This is chalked up to how the System reports usage and how channel patches are set up. 3 minutes of call time were reported for 4 departments which raised some concerns. Simpson is looking into this. Norton said Southern Marin starts simulcasting for Central Marin from 6:00 p.m. to midnight. And, from midnight to 8:00 a.m., there is simulcasting on the Sheriff. CHP is probably receiving the bulk of the calls. Simpson said it might

not be patching during the day. The pie chart may not reflect field data. Jeffries added the key reporting numbers are the busies of which there were 4 seconds in August for 750 hours of talk time, which is consistent with annual reporting for 8 months.

9) Other Information

Pearce distributed Anderson's August Next Gen Update for members to take back to their Agency Boards. Klock said DPW is still deeply engaged with Motorola on advancing Legacy System support, including flashing and firmware boards. An update will be provided.

D. Open Time for Items Not on Agenda

Naso inquired about the installation of 5G and if we should be concerned. Jeffries said this has not come to our attention for the EIR. 5G is looking at microcells in front of homes whereas MERA is on mountaintops. Ours is a public safety system, not a commercial, for-profit service. Hymel said it would be good to differentiate our service from 5G for public information.

E. Adjournment

The meeting was adjourned at 5:00 p.m.

Respectfully submitted by:

Maureen Cassingham
MERA Executive Officer
and Secretary