

**MARIN EMERGENCY RADIO AUTHORITY**

c/o Town of Corte Madera  
300 Tamalpais Drive – Corte Madera, CA 94925  
PHONE: (415) 927-5050  
[WWW.MERAONLINE.ORG](http://WWW.MERAONLINE.ORG)

**DATE:** October 28, 2020  
**TO:** MERA Governing Board  
**FROM:** Dave Jeffries, Deputy Executive Officer for the Next Gen Project  
**SUBJECT:** AGENDA ITEM B-4: Proposed Motorola Customer Design Documents

Recommended Action: Approve the Customer Design Review Package with the exceptions noted below and approve payment by MERA’s Executive Officer of the second payment milestone to Motorola, except for the Fire Station Alerting milestone. Authorize the MERA Executive Officer to execute the attached Completion of Customer Design Review Notice and authorize the start of the next phase of the Project.

Background:

As part of the contract with Motorola, we entered into a Customer Design Review phase that as stated in the proposal, “Motorola will work with MERA to review and confirm the final system design, schedule, coverage, and transition plan.” As part of this effort, MERA identified 65 distinct categories of information to be completed as part of this process.

Near the completion of this process, MERA contracted with AECOM to conduct a third-party review of this Customer Design Review (CDR) process. In that effort, AECOM’s report resulted in 135 items that required additional discussion and review.

At this point, with the exceptions discussed below, MERA staff believes that all items have been satisfactorily completed. In addition, for a few of the items that are completed, we have provided comments for your clarification.

Project Schedule:

While the overall project schedule includes over 1200 lines of information, a Schedule Summary has been developed for your review (Attachment B-4b).

Customer Design Review Documents:

While the Customer Design Review process included a review of 65 categories of project materials, we have included a few key and representative documents with this report for your review. These are as follows:

- 1) CDR 02-02: Project Schedule – (Summary Only) (Attachment B-4b)
- 2) CDR 02-03: Radio System Description (Attachment B-4c)
- 3) CDR 02-04: Microwave System Description (Attachment B-4d)
- 4) CDR 02-18: Site Layout Drawings (Attachment B-4e)
- 5) CDR 02-19: Shelter Floor Plans (Attachment B-4f)

A full listing of the Customer Design Review Categories and the current status can be found in attachment B-4a.

Customer Design Review Comments:

These Customer Design Review categories show each category as either:

- 1) **Complete** – No further comment.
- 2) **Waived** – Waived for completion at this time, see comments below.
- 3) **Hold** – Do not approve at this time, see comments below.
- 4) **Comment** – Clarifying information in comments below.

A) Waived:

CDR 02-32: NTIA Study regarding Receiver Front End Overload

In the Next Gen project's 2016 Request for Proposals, Federal Engineering included this study as a requirement for the selected vendor. During the Customer Design Review, Federal Engineering determined that this study is not relevant to the Motorola system, since Motorola is using a proven and fielded radio design and is not introducing new radio technology into this project.

CDR 02-59: Preliminary Dispatch Cutover Plan

Because the cutover of the dispatch locations is heavily intertwined with the cutover of the radio system, Motorola requested that the Preliminary Dispatch Cutover Plan (CDR 02-59) be integrated into the Preliminary Agency Migration/Cutover Plan (CDR 02-54) for the overall system, and this request was accepted. The preliminary overall plan has been approved as part of the CDR. Later, the final Dispatch Cutover Plan will also be part of the final Agency/Migration/Cutover Plan.

CDR 02-60: Preliminary Recording System Cutover Plan

Motorola contended that a cutover plan is not necessary for the Voice Logging Recorder system because of the nature of the cutover, and, after consideration, a waiver for this submittal was granted. The cutover of other elements of the Next Gen system will significantly affect MERA member agencies, and extensive planning and coordination will be needed, so a cutover plan is essential. In contrast, the cutover of the Voice Logging Recorder system will be a less complicated event. The new recorder will be installed and tested, and after coordination with and training of the small number of end users, the Voice Logging Recorder system will be placed into service on a prescribed day. If any problems appear, the voice logging can immediately be switched back to the current system while the issues are resolved.

B) Hold for Final Approval:

CDR-03, Item # 016: Mach Alert.

CDR completion will not trigger a payment milestone for Fire Station Alerting (FSA) and the FSA Customer Design Review will occur at a later date.

CDR-50, Items # 198 and # 199: Jail DAS.

Motorola has included language in the CDR Completion Certificate (attached) that lists the Jail BDA as a punchlist item that needs to be revisited. Motorola has already contacted Commdex and awaits their feedback regarding their availability to visit the Jail in November/December if possible.

C) Completed with comments:

CDR-09, Item # 032: Microwave Network Maps

The IP Plan provided will be verified prior to system staging to account for any local network changes. Corrections to this plan, if any, are a no cost item to MERA.

CDR-10, Items # 034, 039 and 040: Microwave Path Analysis

One unresolved issue with these items is the need for updates regarding our microwave licensing Prior Coordination Notice (PCN) process that Motorola has been handling for MERA on an interim basis. Transition of this responsibility to MERA has been a discussion item prior to this CDR review. Motorola to complete the next round of PCN updates to include all known changes to date, contingent upon reimbursement of costs. Motorola has paid the original PCN coordination fees but the PCNs required renewals every 6 months thereafter (starting June of 2018). MSI has spent a total amount of \$41,331.67 on PCN renewals since then and requests reimbursement for this amount plus the final renewal cost in December. After that is completed, MERA will assume this role.

If there are future changes to the microwave design that affect PCN updates, Motorola will be responsible for providing MERA with all needed technical information for PCN updates in a timely manner.

The second unresolved issue deals with the potential for path obstructions with the microwave system. Based on computer modeling, additional potential path issues were identified. After further review, the concerns have been addressed for the immediate future. As these obstructions deal with potential vegetation, rather than physical structures, MERA has recognized that monitoring future vegetation encroachment into our microwave paths will be an on-going Operating and Maintenance concern.

CDR-12, Item # 044: Backhaul Programming Templates

The issue for this item was the configuration files that were provided. What we currently have is based on the current design and any additional changes will be made during system staging. These changes are a no cost item to MERA.

#### CDR-13, Item # 048: Microwave Antenna Specifications

One unresolved issue with these items is the need for updates regarding our microwave licensing Prior Coordination Notice (PCN) process that Motorola has been handling for MERA on an interim basis. Transition of this responsibility to MERA has been a discussion item prior to this CDR review. Motorola to complete the next round of PCN updates to include all known changes to date. After that is completed, MERA will assume this role. (See CDR-10, above)

If there are future changes to the microwave design that affect PCN updates, Motorola will be responsible for providing MERA with all needed technical information for PCN updates in a timely manner.

#### CDR-14, Items # 053, 054, 055, 060: Detailed Lists of Equipment for each Site

Similar to CDR-13, one unresolved issue with these items is the need for updates regarding our microwave licensing Prior Coordination Notice (PCN) process that Motorola has been handling for MERA on an interim basis. Transition of this responsibility to MERA has been a discussion item prior to this CDR review. Motorola to complete the next round of PCN updates to include all known changes to date. After that is completed, MERA will assume this role.

If there are future changes to the microwave design that affect PCN updates, Motorola will be responsible for providing MERA with all needed technical information for PCN updates in a timely manner.

Motorola has also agreed to update the Construction Drawings in their final round of drawings, post-CDR, to reflect antenna changes that were identified.

#### CDR-20, Item # 113: Tower Elevation / Equipment Placement

Motorola has agreed to update the Construction Drawings in their final round of drawings, post-CDR, to reflect antenna changes that were identified.

#### CDR-24, Item # 143: Power Consumption Data

This item identified conflicts between the CDR documents and the Contract Change Order #3. Motorola is preparing a 'No-Cost' Contract Change Order to reconcile the differences.

CDR-34, Item # 168: System Programming Parameters

Concerns were raised about the firewall files. Motorola has submitted the initial firewall files, with the understanding that these will be used during staging and implementation phases and that any updates needed will be documented in the ‘as-built’ documentation package at no additional cost to MERA.

CDR-35, Items # 169 and 170: Radio System: IP Plan

Concerns were raised about the IP plan. Motorola has submitted the initial IP plan, with the understanding that these will be used during staging and implementation phases and that any updates needed will be documented in the ‘as-built’ documentation package at no additional cost to MERA.

CDR-37, Item # 172: Site Heat Output Date

Motorola has completed their heat assessment of the various sites. However, as many sites contain additional equipment that could impact HVAC needs, Marin DPW has undertaken a review to assess total HVAC issues at the existing sites as part of a maintenance review of HVAC at all existing sites. This is not an issue at the new sites.

CDR-47, Item # 192: Implementation – Mobile Subscribers

The original plan had called for MERA to provide 10 vehicles per day for mobile radio implementation in the months prior to cutover to the new Next Gen system. With some mobile radios having already been installed in the Early Orders and all fire vehicles scheduled for installation starting in February 2021, we raised the issue of modifying this requirement. Motorola’s response was that, “MSI will show flexibility in terms of MERA’s contractual obligation to provide 10 vehicles per day as long as a mutually agreed reasonable number of vehicles are provided to utilize installation crews effectively and meet the timeframes in the agreed IMS schedule.” Motorola recently added that the updated assumption is for 6 vehicles per day at a central location in Marin, to be determined. The schedule for installation of the AFG radios and the final set of installations are part of the CDR schedule. The AFG radio installation, as fire vehicles tend to be more complex installations will likely proceed at fewer than 6 vehicles per day.

Payment Milestone:

Approval of the Customer Design Review process concludes Payment Milestone #2. This is a payment of 10% of the non-subscriber equipment portion of the contract with Motorola and requires a payment to Motorola of \$1,715,362.21.

Agenda Item B-4 – Motorola Customer Design Documents

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Attachments: (attachments in one pdf as noted vs individually)

B-4a – Customer Design Review Categories Overview

B-4b – CDR 02-02: Project Schedule – (Summary Only) (To be distributed under separate cover)

B-4c – CDR 02-03: Radio System Description

B-4d – CDR 02-04: Microwave System Description

B-4e – CDR 02-18: Site Layout Drawings

B-4f – CDR 02-19: Shelter Floor Plans

B-4g – Completion of Customer Design Review (Motorola)