

MARIN EMERGENCY RADIO AUTHORITY

c/o Novato Fire Protection District

95 Rowland Way, Novato, CA 94945

PHONE: (415) 878-2690 FAX: (415) 878-2660

WWW.MERAONLINE.ORG

DATE: April 24, 2019
TO: MERA Governing Board
FROM: Ernest Klock, Operations Officer
SUBJECT: AGENDA ITEM C-3: Report on Motorola Legacy System Support

Recommended Action: Accept the Report

On April 16, 2018, Motorola provided an existing system support letter (attached) that detailed Motorola's commitment to ongoing support of the existing system during the Next Generation System extended deployment schedule - currently anticipating a year 2023 cutover to the Next Gen System. In that letter, Motorola offered to provide "an additional year of Technical Support with commercially reasonable efforts for the existing system" as well as a variety of resources for replacement equipment. Additional letters received from MERA Executive Officer and sent to Motorola are attached.

The referenced additional year of Technical Support for the SmartZone System has been extended until June 2020 per the attached April 8, 2019 letter. While the length of this support is not through the anticipated cutover period (2023), the scarcity of resources to provide the service will require further negotiations with Motorola at a future date as more information is gathered on the performance of the spares being tested. I will update your Board as needed on the status of the Legacy System support.

Equipment Spares

Work on securing a number of different controller boards and replacement equipment spares has been largely successful but will be an ongoing effort until the Next Gen System comes online. In order to confirm their compatibility with the existing system, the replacement boards need to be tested in place. This is scheduled to occur with Motorola Service Technicians over the next few months beginning on April 15, 2019. This service is being provided per the legacy system support letters referenced herein.

Attachments: A) Motorola April 16, 2018 Letter - Existing System Support
B) MERA Letter February 27, 2019
C) Operations Officer Letter March 1, 2019
D) Motorola April 8, 2019 Letter – Existing System Support Extended

April 16, 2018

Ernest Klock
Assistant Director
County of Marin
Department of Public Works
3501 Civic Center Drive, Suite 304
San Rafael, CA 94903

RE: MERA Next Generation Radio Communications Contract – Existing System Support

Motorola has offered to investigate methods to support the existing MERA system during an extended deployment schedule. This investigation includes identifying potential sources of discontinued equipment to augment the existing Marin County spare equipment pool as well as extending the existing Motorola maintenance agreement. Of course, the best method to avoid support concerns is to quickly migrate to the new ASTRO 25 system.

Currently, the Marin County Communications group maintains the existing system with a Technical Support service agreement over the phone from Motorola. During the extended deployment schedule, Motorola will provide an additional year of Technical Support with commercially reasonable efforts for the existing system. The existing SmartZone system is beyond its support period so this extension is an exception to our normal support policy.

The other concern is the availability of replacement parts to supplement the existing spares managed by Marin County. MERA staff compiled a list of equipment/items that are critical to ensure continued operation of MERA's current T-band system through cutover to the Next Generation system. Motorola has investigated the availability of these parts from various sources, internally and externally.

The list includes equipment formerly manufactured by Motorola and other equipment which was sourced from Motorola third party suppliers. All of this equipment has been cancelled and is no longer available for sale as new product.

Motorola Manufactured Equipment

Motorola has been able to locate very limited sources of the following categories of equipment. In the event of a catastrophic failure of the existing MERA system and exhaustion of the current MERA spares, Motorola could use these refurbished components to help to restore the system while repairs are made to the damaged components. Since

these parts are also used to support a global customer base with similar circumstances, we will monitor their availability and update you if they become depleted.

System Component	Potential System Impact	Current Depot Support
6809 Central Site Controller Boards & Firmware: CSC, ACB, TSC, TIB, DCB boards	The prime site controllers are redundant so a failure of a single board should not impact service on the system allowing time to repair and restore the system.	Commercially reasonable efforts to repair these components are available through Motorola.
6809 Site Controller Boards & Firmware: RESC, IRB, RIB, RTIB boards	Loss of a card could affect either one site in a simulcast impacting coverage or a channel in the simulcast cell impacting capacity.	Commercially reasonable efforts to repair these components are available through Motorola.
6809 Central Site Controller Power supplies Model # CL1756 Model # CL1696	Loss of a remote site controller power supply could affect the system coverage. These solid state power supplies are very reliable and are not affected by the aging capacitor issues of older models.	Commercially reasonable efforts to repair these components are available through Motorola.
ASTRO Tac Comparator Controller board & Wireline board	Failures of these components could result in loss of a channel impacting system capacity.	Repairs supported until 12/31/2020
Gold Elite Power supplies	These power supplies are load sharing and loss of a single power supply typically does not affect the dispatch console system.	Repairs supported until 12/31/2018. Commercially reasonable efforts will be available after this date.
Embassy Switch components including MEGEG Boards	The Embassy switch serves as the centralized audio switch for radio sites and dispatch consoles. Failure modes in this device are complex and may affect system capacity and functionality depending on specific devices and configurations.	Repairs supported until 12/31/2018. Commercially reasonable efforts will be available after this date.
Quantar boards	Single channels may be affecting impacting system capacity.	Repairs supported until 12/31/2020.
Smart-X protocol converters	An entire site or simulcast could be impacted by a failure of this device which would affect system coverage.	Repairs supported until 12/31/2020.

Motorola still has the capability to program codeplugs and provide firmware for the 6809 controller boards.

Third Party Equipment with Potential Alternatives

Motorola has been so far been unable to locate any sources of the following parts. In the event of a failure of one of these components, substitution of an alternative which performs the same or similar function may be the best course. These alternatives could be incorporated into the new system.

Component	System Impact	Potential Alternatives
Vega 225M tone remote adapter	This would affect a deskset at a single location.	Equivalent adapters are available from other vendors such as GAI-Tronics.
La Marche power systems	The DC power systems have redundancy so loss of one component would likely not have an impact. Channels may need to be reduced or a microwave link may be lost. In either case the system would continue to operate though its capacity or coverage may be impacted.	Equivalent DC power systems from other vendors such as Eltek are available and could be implemented and reused for the new system.
All FSA boards and controllers	This could result in the loss of automatic alerting of a fire station. Voice communications could be used as a backup in the interim.	Repair of FSA 4000 is offered on a commercially reasonable basis. Portions of the new Fire Station Alerting (FSA) system could be implemented early with alternate interfaces reusing the existing system to serve the impacted stations. Alternate procedures may need to be implemented while the replacement is installed.
Efratom GPS controllers	Failure of one of these time frequency standards will cause decay in system audio as the frequency drifts.	Alternate time frequency standards compatible with the new system could be implemented as an interim solution.
Constellation and Tru-Point microwave	Failure of these components would like only affect a single link. Alternate routing in the backhaul should protect the system while an alternate is implemented.	Components to replace modules in these particular microwave assemblies are not readily available, however, complete replacement of a link with new equipment could resolve a failure.

Unique Third Party Equipment Components with no Alternative

Some of the items on the list are not available and do not have a current alternative. Motorola has also contacted other customers undergoing similar migrations. In particular, San Bernardino County and Sacramento County are replacing systems with similar components as

the MERA system. Since these are customer assets, Motorola can only assist in connecting MERA with these administrators. However, the administrators of these systems have expressed willingness to transfer their decommissioned assets to MERA to help support another public safety system. Their inventory may include some of these unique elements as well as items from the previous categories.

Component	Support Options
T Bar boards	Commercially reasonable efforts to repair these components are available through Motorola.
TeNsr/Zhone DSM II Board	DSM IIs are still available from Zhone for compatible models of the channel bank. Repairs are typically available for five years after cancellation of a product.
Fujitsu Multiplex	Motorola needs more detail on the particular multiplexer used in the system to determine specific support options.
Larus loop switch cards	Motorola has been unable to find support for these units.
Universal Simulcast Controller Interface (USCI) boards TRN7349A	Commercially reasonable efforts to repair these components are available through Motorola.

Refurbished equipment also is available for purchase through other sources such as Sunny Communications (<https://used-radios.com>).

In the event of an extensive failure of the existing MERA system beyond the ability of Marin County Communications to support on their own with their existing spares, Motorola has identified options for repair and support. Motorola will be available to assist with those restoration efforts when requested by Marin County.

If you have any additional questions, please contact me at 619-203-3795, or you can email me at Kent.Martin@MotorolaSolutions.com.

Sincerely,



Kent Martin
Regional Services Manager - California
Motorola Solutions, Inc.

Marin Emergency Radio Authority
95 Rowland Way – Novato CA 94945
Phone: (415) 878-2690 Fax: (415) 878-2660

February 27, 2019

Hand Delivered: 2/27/19

Ernest Klock, Assistant Director, Department of Public Works
County of Marin
3501 Civic Center Drive, Suite 304
San Rafael, CA 94903

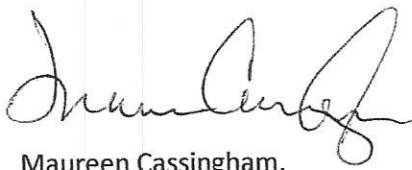
Re: Motorola Solutions Existing System Support Offer

I write to request that you follow up with Motorola regarding their promise to provide support for MERA's existing emergency radio communications system. As you are very aware, the Next Gen Project schedule has been delayed by a number of issues, including the major surprise regarding the application for 700MHz frequencies to the Regional Planning Committee. The Governing Board discussed this delay at length during its September 27, 2017 meeting. A key concern was providing reliable operations of the existing system until the new system is operational. In response to the Governing Board's concern, the Motorola representative, Mr. Applewhite, said that Motorola is committed to helping MERA keep the existing system operational for an extended period of time, until MERA cuts over to the new system.

By its letter, dated April 16, 2018, Motorola offered to provide "an additional year of Technical Support with commercially reasonable efforts for the existing system" as well as a variety of resources for replacement equipment. During its April 25, 2018 meeting, the Governing Board discussed how Motorola's letter fell short of Motorola's commitment, as provided by Mr. Applewhite at the September 27, 2017 meeting. In response to this discussion, Motorola's representative, Mr. Martin, again stated that Motorola is committed to helping MERA keep the existing system operational for an extended period of time. Mr. Martin promised that Motorola will do everything it possibly can to support the existing system, "short of creating a new production line for an old part."

Although Motorola might have orally promised to provide support through system cutover, their written commitments do not reflect this promise. I am concerned about the significant public safety and financial risks of Motorola failing to honor the oral promises of its representatives. For this reason, I am requesting that you send Motorola a letter with a description of our understanding of their promises to provide support through system cutover, and request a signed acknowledgement of that understanding from Motorola.

We are approaching the one-year anniversary of Motorola's letter, by which it promised to provide an "additional year" of support. Therefore, we urgently need Motorola's written assurance that Motorola will continue to provide support for the existing system, until system cutover. Please let me know if MERA can provide any assistance or information in this preparing this critical correspondence with Motorola.



Maureen Cassingham,

MERA Executive Officer

Marin Emergency Radio Authority
95 Rowland Way - Novato CA 94945
Phone: (415) 878-2690 Fax: (415) 878-2660

March 1, 2019

Kent Martin, Regional Services Manager – California
Motorola Solutions, Inc.
10680 Treena Street, #200
San Diego, CA 92131

Re: Marin Emergency Radio Authority (MERA) Existing System Support Letter

Dear Mr. Martin,

On April 16, 2018, Motorola provided an existing system support letter (attached) that detailed Motorola's commitment to ongoing support of the existing system during the Next Generation System extended deployment schedule. As you well know, we are currently anticipating a year 2023 cutover to the Next Gen System and there will be an ongoing need for support from Motorola for the existing system until the Next Gen System is operational. By your letter, dated April 16, 2018, Motorola offered to provide "an additional year of Technical Support with commercially reasonable efforts for the existing system" as well as a variety of resources for replacement equipment. The expiration of Technical Support in April of 2019 for the existing system is of great concern and must be addressed immediately to honor commitments made by Motorola.

During its April 25, 2018 meeting, the Governing Board discussed how your letter fell short of Motorola's commitments, as provided verbally by Mr. Applewhite at the September 27, 2017 meeting. Mr. Applewhite, said that Motorola is committed to helping MERA keep the existing system operational for an extended period of time, until MERA cuts over to the new system. In response to this discussion, you reiterated Motorola's commitment and assured MERA that Motorola will do everything it possibly can to support the existing system, "short of creating a new production line for an old part."

While there has been some work towards identifying, procuring, and updating firmware of equipment spares, MERA remains deeply concerned about the significant public safety and financial risks of Motorola failing to do everything it possibly can to support the existing system. I urge you to take this opportunity to review Motorola's commitments to date and provide additional written assurances to demonstrate that Motorola will continue to provide any necessary support to MERA (including the

forthcoming technical support expiration) for the existing system, until system cutover. MERA must receive these written assurances before the expiration of any ongoing support services offered in Motorola's April 16, 2018 letter. Please call me at (415) 473-6552 if you need more information or wish to discuss this.

Sincerely,



Ernest Klock
MERA Operations Officer

Attachment: Motorola Existing System Support Letter dated April 16, 2018

c: Chief Richard Pearce, MERA Board President
Todd Cusimano, MERA Board Vice President
Maureen Cassingham, MERA Executive Officer

April 8, 2019

Ernest Klock
Assistant Director
County of Marin
Department of Public Works
3501 Civic Center Drive, Suite 304
San Rafael, CA 94903

RE: MERA Next Generation Radio Communications Contract – Existing System Support

In a letter dated April 16, 2018, Motorola provided an additional year of Technical Support with commercially reasonable efforts for the existing radio system. Since the transition to the new ASTRO 25 system is still in process, Motorola is able to extend Technical Support services for the existing SmartZone system until June 2020. As this support extension is an exception to Motorola's standard support policy, any further extensions are subject to review and availability.

As described in the previous letter, there still remains a very limited stock of refurbished components to help restore the legacy radio system while repairs are made to damaged components. Motorola will continue to monitor their availability and update you if they become depleted. In addition, since these systems and components are beyond their support, the availability of the tools and experienced personnel is becoming scarce.

As an added level of protection, Motorola is ensuring that the additional spare equipment that Marin County has procured to augment their spares pool is compatible and configured for use on the existing system.

If you have any additional questions, please contact me at 619-203-3795, or you can email me at Kent.Martin@MotorolaSolutions.com.

Sincerely,



Kent Martin
Regional Services Manager - California
Motorola Solutions, Inc.