



DEPARTMENT OF PUBLIC WORKS
Quality, Excellence, Innovation

Raul M. Rojas
DIRECTOR

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TO: MERA Executive Board

FROM: Pat Echols, Operations Officer

Administration
PO Box 4186
San Rafael, CA 94913-4186
415 473 6528 T
415 473 3799 F
415 473 3232 TTY
CRS Dial 711
www.marincounty.org/pw

SUBJECT: AGENDA ITEM C-2: PROPOSED CONVENTIONAL RADIO CHANNEL RECOMMENDATIONS FOR NEXT GEN SYSTEM

Recommended Action: Approve MERA Operations Working Group recommendations for sustaining conventional radio channels in support of the Next Gen system.

Accounting

Airport

Background & Discussion: Existing conventional radio channels provide backup to the current MERA digital trunked system as well as interoperability with local, State and National agencies in Marin County. The conventional radio facilities are located at Bay Hill/Bodega, Big Rock, Civic Center, Dollar Hill, Forbes Hill, Civic Center Jail, Mt. Barnabe, Mt. Tamalpais, Pt. Reyes (Mt. Vision), San Pedro, Sonoma Mt., Stewart Pt. and Tomales Fire Station. Motorola's proposed design for the MERA Next Gen system will not require support equipment or microwave links at the following sites: Forbes Hill, Bay Hill/Bodega, Sonoma Mt. and Tomales Fire Station.

Building Maintenance

Capital Projects

Certified Unified Program
Agency (CUPA)

Communications Maintenance

County Garage

Disability Access

County staff prepared a summary of the affected conventional radio channels and proposed recommendations for relocating and retaining these resources as MERA transitions to the Next Gen system. The MERA Operations Working Group reviewed and discussed the attached recommendations at their March 1 meeting. The group concurred that it is vital to retain these resources for interoperability with other regional/State agencies and for backup use in the event of a malfunction or failure of the MERA digital trunked system. Accordingly, they unanimously recommended that they be presented to your Board for consideration.

Engineering & Survey

Flood Control &
Water Resources

Land Development

Purchasing

Real Estate

The estimated cost to implement these recommendations is \$172,000, which includes a 15% contingency. This estimate does not include County DPW labor for relocation of existing equipment.

Reprographic Services

Road Maintenance

Stormwater Program

Attachment: Conventional Channel Recommendations

Transportation &
Traffic Operations

Waste Management

Conventional Radio Channel Recommendations

The following actions are recommended to support conventional radio channels when the NextGen system becomes operational:

New Tomales Site

- 1) Move the 700 MHz Interop Calling channel (Rx only) from Bay Hill Road to the new Tomales site. Utilize existing antenna at the new site. Marin County DPW to move equipment and tower MERA to install antennas. Licensing to be contracted out/funded by MERA.
- 2) Move the 700 MHz Interop Tactical, multi-frequency base from Bay Hill Road to the new Tomales site. Use existing antenna at the new site. Marin County DPW to move equipment and tower MERA to install antennas. Licensing to be contracted out/funded by MERA.

Big Rock

- 1) Convert the existing simulcast, UHF-T Band, "Marin Command Channel" to a simulcast UCALL channel and keep at Big Rock. Conversion to be performed by Marin County DPW and licensing to be contracted out/funded by MERA.
- 2) Convert the existing UHF-T Band, "CWMA Channel" to a UTAC channel and keep at Big Rock. Conversion to be performed by Marin County DPW and licensing to be contracted out/funded by MERA.
- 3) Update the existing "Marin Local" base station to a newer model. Funded by MERA
- 4) MERA to purchase a 4-channel VHF and a 4 channel UHF combiner to save antennas on the tower.

Civic Center (2nd Deck)

- 1) Remove the KNOX Box control station as it will no longer be required in the new system. KNOX DTMF signaling will be supported on the new mobile and portable radios. Motorola equipment removal as part of project.
- 2) Remove the FSA interface control station as it will no longer be required in the new system. The new Fire Station Alerting system will support all Fire Stations and Siren locations. Motorola equipment removal as part of project.
- 3) Remove the CWMA control station as it will no longer be required. All remote CWMA repeaters will be converted to UTAC repeaters with direct microwave control. Removal will be by Marin County.
- 4) Remove the Marin Local control station from Civic Center and move it to Dollar Hill for better performance when used with the Sonoma Mt. site. Removal/Install by Marin County DPW and antenna by MERA. Licensing by MERA.
- 5) Remove the Comm/OES control station from Civic Center and move it to Dollar Hill for better performance when used with the Sonoma Mt. site. Removal/Install by Marin County DPW and antenna by MERA. Licensing by MERA.
- 6) Remove the Medical Mutual Aid control station from Civic Center and move it to Dollar Hill for better performance when used with the Sonoma Mt. site. Removal/Install by Marin County DPW and antenna by MERA. Licensing by MERA.
- 7) Replace the CHP low band radio with newer radio. Replacement by Marin County DPW, funded by MERA.
- 8) Replace the Aircraft radio with a newer radio. Replacement by Marin County DPW, funded by MERA.
- 9) Consider purchasing a five channel VHF combiner to eliminate the large quantity of radios on the Civic Center roof.

Dollar Hill

- 1) Convert the existing Marin Command simulcast channel to UCALL. Conversion by Marin County DPW.
- 2) Install CALAW1 which was moved from Forbes Hill. Installation by Marin County, antennas and licensing by MERA.
- 3) Install CFF#1 radio which was moved from Forbes Hill. Installation by Marin County DPW, antennas and licensing by MERA.
- 4) Install CDF#2 radio which was moved from Forbes Hill. Installation by Marin County DPW, antennas and licensing by MERA.
- 5) Install COMM/OES radio moved from Civic Center. Installation by Marin County DPW, antennas and licensing by MERA.
- 6) Install Marin Local radio moved from Civic Center. Installation by Marin County DPW, antennas and licensing by MERA.
- 7) Install Med Mutual Aid radio moved from Civic Center. Installation by Marin County DPW, antennas and licensing by MERA.

Civic Center Jail Backup

- 1) Remove the existing Jail backup channel as it is T-Band will need to be removed.
- 2) Purchase a new 700/800 MHz repeater and install at Jail as backup. Funded by MERA.
- 3) MERA to license a new 700/800 MHz channel.

Mt. Barnabe

- 1) Remove the Fire Volunteer paging radio from Mt. Barnabe as paging will be supported on the new radio system. Motorola to remove as part of FSA project.
- 2) Upgrade the existing Marin Local repeater to a newer model. Funded by MERA.
- 3) Convert the existing CWMA channel to a UTAC channel. Conversion by Marin County DPW, licensing by MERA.
- 4) Determine if SOF1 low band is still required for interop.
- 5) Replace old MCOE Micor radio with newer radio in order to preserve the channel.
- 6) Consider use of VHF and UHF combiners to reduce the amount of antennas on the lookout.

Mt. Tamalpais

- 1) Remove the volunteer paging radio as it will no longer be required as paging will be taken care of on the new radio system. Motorola to remove as part of FSA project.
- 2) Replace old MCOE Micor radio with newer radio in order to preserve the channel.
- 3) Remove the test and interference radio as it is T-Band. Marin County DPW to remove.
- 4) Convert the CWMA radio to a UTAC radio. Conversion by Marin County DPW with licensing by MERA.
- 5) Replace the Marin Local repeater with a newer model. Funded by MERA.
- 6) Consider UHF and VHF combiners.

Pt. Reyes

- 1) No change.

San Pedro

- 1) Convert the existing Marin Command channel to UCALL. Conversion by Marin County DPW with licensing by MERA.

Sonoma Mt.

- 1) Sonoma Mt. is a key conventional radio site for communication in northern Marin County. Keep the MERA building at Sonoma Mt. and consolidate all conventional radios into this building.
- 2) If SOF1 is still required for mutual aid, replace the existing Micor radio. Funded by MERA
- 3) Upgrade the Medical Mutual Aid radio. Funded by MERA
- 4) Upgrade the Marin Local repeater. Funded by MERA.

- 5) Convert the CWMA repeater to UTAC. Conversion by Marin County DPW with licensing by MERA.
- 6) Install 2-new UHF repeaters for SCSO interop. Installation by Marin County DPW with licensing by MERA.
- 7) Install 2-new UHF repeaters for Petaluma PD interop. Installation by Marin County DPW with licensing by MERA.

Stewart Pt.

- 1) Remove the volunteer paging from Stewart Pt. Motorola to remove as part of the paging project.
- 2) Remove the FSA repeater from Stewart Pt. Motorola to remove as part of the FSA project.
- 3) All others remain.

Proposed Marin County Conventional Radio Resources

<u>Site</u>	<u>Channel</u>	<u>Use</u>
Tomales	7 CALL 50	National Interop
	7 TAC	National Interop
Big Rock	COMM/OES	Radio Shop/OES
	UHF Medical	National Medical
	MCOE	MISC
	Marin Local	County Mutual Aid
	CA LAW 1	State Mutual Aid
	V CALL 10	National Interop
	7 CALL 50	National Interop
	7 TAC	National Interop
	UCALL40	National Interop
U TAC	National Interop	
Civic Center	CESRS	State Mutual Aid
	CHP	CHP Dispatch
	F-12 Alerting	Building Alerting
	CDF Intercom	State Mutual Aid
	VHF CLERS	State Mutual Aid
	UHF CLERS	State Mutual Aid
	Aircraft	Aircraft
OES Fire	State Mutual Aid	
Dollar Hill	8 CALL 90	National Interop
	SNR VHF	San Rafael PW
	U CALL 40	National Interop
	SNR UHF	San Rafael Fire
	CA LAW 4	State Mutual Aid
	7 CALL 50	National Interop

	7 TAC	National Interop
	CA LAW 1	State Mutual Aid
	CDF #1	Fire
	CDF #2	Fire
	COMM/OES	Radio Shop/OES
	Marin Local	County Mutual Aid
	Med Mutual Aid	EMS
Civic Center Jail	Jail Backup	Jail MERA Backup
Mt. Barnabe	Med Mutual Aid	EMS
	U CALL 40	National Interop
	8 CALL 90	National Interop
	SOF1	Mutual Aid
	MCOE	MISC
	COMM/OES	Radio Shop/OES
	PRNSS	Interop - Sea Shore
	Marin Local	Radio Shop/OES
	U TAC	National Interop
	7 CALL 50	National Interop
	7 TAC	National Interop
Mt. Tamalpais	COMM/OES	Radio Shop/OES
	Marin Local	Radio Shop/OES
	MCOE	MISC
	SOF1	Mutual Aid
	Med Mutual Aid	EMS
	UHF Medical	National Medical
	USCG 16	Coast Guard
	USCG 16/22a/9	Coast Guard
	U TAC	National Interop
	7 CALL 50	National Interop
	7 TAC	National Interop
Pt. Reyes	7 CALL 50	National Interop
	7 TAC	National Interop
San Pedro	U CALL 40	National Interop
	V FIRE 21	National Interop
	V CALL 10	National Interop
	7 CALL 50	National Interop
	7 TAC	National Interop

County DPW

Radio Shop CA Park & Rec State Mutual Aid

Sonoma Mt.

CA LAW 4	State Mutual Aid
SOF1	Mutual Aid
Med Mutual Aid	EMS
COMM/OES	Radio Shop/OES
7 CALL 50	National Interop
7 TAC	National Interop
V FIRE 21	National Interop
Marin Local	Radio Shop/OES
U TAC	National Interop
SCSO 1	Law Mutual Aid
SCSO 2	Law Mutual Aid
PET PD 1	Law Mutual Aid
PET PD 2	Law Mutual Aid

Stewart Pt.

Med Mutual Aid	EMS
V CALL 10	National Interop
7 CALL 50	National Interop
7 TAC	National Interop