

MARIN IJ

Environmental report on new Marin radio system sees unsightly antennas as chief impact



A Marin Emergency Radio Authority antenna on Mount Tiburon is seen in 2018. (Robert Tong/Marin Independent Journal)

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A planned \$40 million overhaul of Marin's emergency radio system will spoil several local scenic vistas no matter what steps are taken to camouflage the system's antennas and microwave dishes.

A new environmental report released on the system concludes that it would cause some significant and unavoidable aesthetic issues even if measures are taken to ease the impacts.

"It's hard to put up a 60-foot tower without people being able to see the thing," said Dave Jeffries, Marin Emergency Radio Authority's deputy executive officer.

Under the California Environmental Quality Act (CEQA) law, projects may still proceed despite significant impacts that can't be mitigated if it is determined that the project's unmitigated effects are outweighed by the project's benefits.

"This isn't a commercial system where people are making money off it," Jeffries said. "This is a public safety radio system."

MERA, which is comprised of 25 public agency members, operates a network of radio antennas linked with microwave and broadband connections that provides inter-agency communication between police, firefighters and public works crews throughout Marin.

Recent changes to federal frequency requirements make it necessary to upgrade all existing radio communications systems, including MERA's system, to 700-megahertz systems by 2024. The planned upgrade is expected to improve the current system's coverage area and operational reliability.

The final environmental impact report for the original MERA system was certified in 2000. The proposed project would replace equipment at currently operating sites as well as install telecommunications facilities at new sites. Eight new sites would be added and 10 existing sites would be upgraded. Five other existing sites would be decommissioned.

As required by the California Environmental Quality Act, the new subsequent environmental impact report, or SEIR, evaluates several alternatives for reducing or avoiding identified impacts while meeting the project's goals. Four alternatives are presented in the SEIR.

Under Alternative 1, the proposed project would not proceed and MERA would continue to operate with its existing network using 400-megahertz frequencies. Under Alternative 2, there would be no change in the location or number of existing MERA sites, but changes would be made at each of the 16 sites to provide 700 megahertz communication channels.

Alternative 3 was submitted by Motorola Solutions in 2017 in response to MERA's request for proposals; it would use eight of MERA's existing telecommunication sites, add seven new sites and decommission eight existing sites. Alternative 4 is similar to the proposed project but substitutes alternate locations for three of the proposed sites in an effort to reduce aesthetic impacts.

According to analysis in the SEIR, the first two alternatives would create no new environmental impact, but would leave coverage and reliability gaps in the system. Alternative 3 would have less of an environmental impact than the proposed project, since it would add just seven new sites, not eight.

Under this approach, the power of the radio signals would have to be boosted to compensate for the smaller number of tower sites; that would result in MERA's transmissions interfering with radio signals in other nearby jurisdictions. Rollout of the system was pushed back from this year to 2022, after a MERA oversight committee raised concerns about this issue, and contract disputes with Motorola developed, requiring a \$5.3 million increase in the project's cost.

Alternative 4 would reduce aesthetic impacts by removing an antenna site in Tomales and finding alternative locations for sites planned for water tanks in Mill Valley and San Rafael, at Skyview Terrace. According to the SEIR's executive summary, "However, these benefits to aesthetics in some areas are achieved only by creating more significant visual impacts at the alternative locations, potentially affecting nearby residences."

The Mill Valley water tank site is located in a residential neighborhood and is buffered from the road and surrounding residences by a band of trees. The antennas at the site would reach a maximum height of 70 feet rising above the 30-foot tank and trees, which are nearly 60-feet tall.

Mill Valley City Manager James McCann said the Mill Valley City Council urged the authority to ensure that people who live near the proposed site are notified of the SEIR so they have a chance to comment.

"I think the environmental effects of locating an antenna on the tank should be fairly limited," McCann said, "and can be mitigated through the normal process."

Because none of these four alternatives achieves the basic objectives of the upgrade, the SEIR deems the proposed project the environmentally superior alternative. MERA's governing board will decide whether to approve the proposed project or one of the alternatives after it certifies the SEIR.

In addition to the impacts on views, which can't be mitigated, the SEIR identifies a number of other impacts that can be mitigated to be less than significant. Among these are potential hazards due to radio frequency exposure that would exceed Federal Communications Commission limits at three antenna sites: 1600 Los Gamos Drive in San

Rafael, the Civic Center and 99 1/2 Mt. Tiburon Road. The recommended mitigation is to install exposure warning signs in the controlled access rooftop areas of each site.

When the original MERA system was being reviewed in the early 2000s, Tiburon resident Howard Zack sued to block installation of the site at 99 1/2 Mt. Tiburon Road, which was less than 100 feet from his home. Zack expressed concern that the radio frequency exposure would pose a health risk to his family. MERA responded that nearby single-family homes would receive negligible exposure since they were at a lower elevation and screened from the antenna by dense tree growth.

A Marin Superior Court judge issued a stop-work order to halt construction of the site at Zack's request, but that order was overturned by a state appeals court in August 2004.

A public hearing on the SEIR will be held from 6-8 p.m. Oct. 10 in the Marin County Board of Supervisors' chambers, Room 330, at the Civic Center.

COMMENTS:

- [Bertram](#) • 2 days ago • edited

What the flock does what the thing looks like have to do with the frickin environment ? You people make my butt hurt .

[Garril Page](#) • 2 days ago

Decommission 5, wait! decommission 8 sites; then, add new, wait! move some old... what a carney shell game! Motorola sold the County on another isolated, dysfunctional, cost-ineffective system, and, Yippee! this one will be unsightly and interfere with radio signals as well as increasing concerns about as-yet unanswered potential for public harm. So, of course, we are asked to bail out MERA again. Please, Comment to the BOS by Oct 10 in the vain hope they might wise up.

[kj](#) • 2 days ago

ins't this the same frequency as 5G cell networks which has been denied to the Marin public? where's the outcry from the tin foil hat crowd on this?

[Ronrico Padroni kj](#) • 2 days ago

No, 5G uses much higher frequencies (starting at around 25 GHz) and is very low powered, 5G could never be used for a public radio emergency system.

[Ben Raines kj](#) • 2 days ago

The same nutjobs and Luddites should be out protesting this and anything having to do with hi-tech, other than their personal smartphones...

[Ronrico Padroni](#) • 3 days ago

This is a commercial radio system and private corporations stand to make big money off of it.

The FCC is a commercial government agency created to regulate air (waves). The FCC buys, sells and allocates the frequencies for primarily commercial interests.

Now the FCC wants the public agencies to use the 700 MHz UHF band by 2024, which was opened up by changing the commercial TV frequencies up to the 900 MHz band.

The best and most cost effective plan is to use alternate #1, keep the 400 MHz band as it is, it was already expensive enough and actually 400 MHz works better in Marin, the lower the frequency the better the radios 'get out' the transmissions, the higher frequencies don't work as well, but this is all about making money for Motorola.

Alternate #2 would satisfy the FCC requirements of moving up the frequencies to 700 MHz without adding more locations of antenna towers but would require that the radio gear be changed out to 700 MHz by 2024. We aren't done paying off the first MERA system yet, so hopefully we might pay off the first system before we start having to buy any new systems. The \$5.3 million in increased project costs from Motorola is another red flag why we should not approve alternates 3 and 4.

The separate microwave repeater system will have to be upgraded if alternate #2 is chosen, that cost will be about \$5 million to accommodate the new 700 MHz radio gear, but if alternate #1 is implemented (which is basically no change) the microwave system won't need to be upgraded.

I think that the FCC's requirement that all government agencies start using the 700 MHz band is all about private corporate profits and not really an improvement in our public radio systems.

[LumpyPudding Ronrico Padroni](#) • 3 days ago

Ronrico - I think there were problems with the various public health and safety agencies ability to interconnect. I don't know if the old system was a digital system but I am under the impression the new one is and will afford much more robust communications between various agencies. The whole point of this is that - during times of emergency there were problems with fire communicating with the various police agencies, etc. Hopefully the

system will be more robust. Cell phones are unreliable when emergency situations arise.

[Ben Raines LumpyPudding](#) • 2 days ago

The old system from the 90's used low band radios, limited frequencies. The current system is fine but Motorola won't make any money so that's why the push to upgrade

[Ronrico Padroni Ben Raines](#) • 2 days ago

Motorola and the political forces already made big money from upgrading our old VHF (Very High Frequency) systems to digital UHF frequencies.

There are problems with using UHF compared to VHF (like we used for many decades).

The VHF frequencies do a much better job of penetrating foliage, hills and buildings, but the mobile units used to put out 30 watts of RFR or more, and the base stations put out hundreds of watts of radio frequency radiation (RFR). When the taxpayers were sold the new Marin Emergency Radio Authority (MERA) scam/plan, it involved replacing all the mobile, handheld and base station units with new higher frequency UHF radio gear, and also building a separate microwave repeater system to take all the radio traffic (using phone lines and radio) and multiplexing all that traffic onto a single focused high powered beam that is sent out from microwave dishes or feedhorns from strategic mountain top locations to other strategic locations throughout Marin and southern Sonoma Counties.

Because the higher frequencies used by the agencies don't penetrate as well as the VHF

did, the addition of the microwave repeater system enabled better coverage.

There are no real problems now with the new system (which cost us over \$40 million and has not been paid off yet).

But new expensive problems are going to arise if we switch to the 700 MHz band in 2024, and that will mean that the current system will not only need new radio gear, but also a new separate microwave repeater system to make it work. It's all about private profit here, we don't really need to pay for all this work, all the money the taxpayers spend is mainly going into Motorola's profit machine, and to play along with the FCC's profiteering game to change frequencies. Part of this program is being marketed to the public under the ruse that by using the 700 MHz band, all Federal, State and local public agencies will be using the same band, more big brother authority, but in reality, is not necessary at all.

Absolutely no doubt that most of the taxpaying public knows nothing about what is happening with our public communications here in Marin, if they did, they would not have voted for the MERA upgrade tax. We still haven't paid off the cost for the initial MERA system.

We have to listen to marketing schemes about communications failures during the fires up north (not in Marin) and other sales pitches about coverage problems that are not really valid here, all in order to get us to part with our money and give it to the Motorola Corporation. I voted NO on the last MERA upgrade tax for many good reasons, but the taxpayers are so gullible they passed it without my help, so be it.

I believe this thing is years behind schedule and will, no doubt, be way over budget. It's probably a total waste of money to boot.

[hillclintgonegirl bill brennan](#) • 3 days ago

Agree 100%. All these problems were foreseen and discussed leading up to the tax vote. There's something fishy about how long this supposedly critical emergency system is taking, on the heels of several wildfires. I've asked before, where's the urgency on the part of the fire/emergency folks to get this damn thing up and running??

[Bill Brennan hillclintgonegirl](#) • 2 days ago

I really wonder if this thing is even necessary. It seems like old fashioned technology to me.