



Mobile Emergency Responder Radio Coverage (MERRC) Program Questions & Answers

Q: What is the Mobile Emergency Responder Radio Coverage (MERRC) Program?

A: The MERRC program is an alternative to Oregon Fire Code Section 510 requirements for fixed in-building emergency radio coverage systems in newly constructed buildings. This gives building developers a cost-effective, no maintenance option in lieu of installing a fixed in-building radio coverage system in certain instances. Owners can choose a one-time contribution to the MERRC fund rather than installing a fixed system. The fund is used by TVF&R exclusively to improve emergency radio communication in buildings.

Q: Why would TVF&R consider an alternative to fixed in-building emergency radio coverage systems?

A: Fixed in-building Public Safety radio signal amplification, repeater, and distributed antenna systems can be complicated and extremely expensive to design, install, and maintain. Equipment must be maintained annually, and replaced or repaired as needed, and installers must be FCC licensed. Additionally, under FCC rules, the signal owner (WCCCA, the 911 operator) must approve these systems, and both the building owner and WCCCA can be held liable under federal penalty for any signal interference caused by the system. Therefore, WCCCA requires a comprehensive legal agreement, specifies certain equipment, and requires annual maintenance.

Q: Who would be responsible for maintaining MERRC equipment?

A: TVF&R would purchase, maintain, and replace our own radio equipment that is used by our firefighters. In contrast to a fixed in-building radio system, a building owner would have no ownership, responsibility, or liability for any MERRC equipment.

Q: How much savings can be realized with a MERRC alternative?

A: It depends on the particular building design and radio coverage needs, but many scenarios would see a 50% to 80% savings. Since most in-building systems range from \$75,000 to \$200,000 (not including maintenance, repair, and replacement costs), this represents a very substantial savings to building developers and owners.

Q: What type of buildings would qualify for the MERRC alternative?

A: Buildings would be evaluated on an individual basis, and most buildings, such as offices, retail, parking garages, and other occupancies would be approved by the Fire Marshal.

Q: What is the cost of the MERRC alternative?

A: The following fee schedule is in effect for FY 2023-24. The total square footage of the building area is used to determine the total fee. Building permit applicants will need to request the MERRC alternative prior to final plan review approval.

FY 2023-24 MERRC FEE

The first 0-50,000 sf = \$0.50/sf

The next 50,001-100,000 sf = \$0.30 / sf

For each square foot over 100,000 = \$0.10 / sf

The following are examples of the fee schedule as applied (numbers rounded)

Example # 1: 20,000 sf building.

- MERRC Fee: 20,000 sf x \$0.50 = \$10,000 TOTAL
- Compared to in-building BDA System: Estimated design and install = \$65,000 TOTAL
- ***Estimated cost savings to customer = \$55,000***

Example # 2: 90,000 sf building.

- MERRC Fee: First 50,000 sf x \$0.50 = \$25,000 + (50,001 to 90,000) x \$0.30 = \$12,000 TOTAL = \$37,000
- Compared to in-building BDA System: Estimated design and install = \$145,000 TOTAL
- ***Estimated cost savings to customer = \$108,000***

Example 3: 300,000 sf 5- story building.

- MERRC Fee: First 50,000 sf x 0.50 = \$25,000 + (50,001 to 100,000) x \$0.30 = \$15,000 + (100,001-300,000) x \$ 0.10 = \$20,000. TOTAL = \$60,000
- Compared to in-building BDA System Estimated design and install = \$310,000 TOTAL
- ***Estimated cost savings to customer = \$250,000***

Q: How does the MERRC program compare to an in-building systems?

A: In general, the MERRC program is a viable alternative to in-building systems, with some important differences. In most cases, an in-building system offers increased coverage, and works

well when properly design, installed, and maintained. However, under fire or collapse conditions, fixed systems can be compromised. They also can cause significant interference problems which impacts the public emergency radio system. Further, they only have a 24-hour battery life, which limits functionality in extended power outages and large-scale emergencies.

On the other hand, portable or mobile systems, radios, and related equipment funded with the MERRC program may not have the same level of coverage in all cases, but will not be compromised in fire or collapse scenarios, and are unaffected by extended power outages, making them ideal for large scale and extended incidents. Additionally, with enhanced radio equipment that TVFR can utilize anywhere, it helps better protect both new and existing buildings which provides a greater public good. While each has its advantages and disadvantages, both help protect buildings, firefighters, and the public.

Q: Why not just ignore the radio coverage in new buildings?

A: Lack of adequate radio communication between firefighters, police officers, and the 911 emergency dispatch center can have life or death ramifications. Occupants of buildings expect that, in the event of an emergency, responders will be able to operate effectively. Without emergency radio communications, occupants, the public and emergency responders are at significant risk. The collapse of the Twin Towers in New York is an example of risks encountered when responders do not have adequate radio communications inside a building.

Q: Is there a guarantee that an expensive in-building system won't have to be installed later?

A: When an Alternate Materials & Methods Request is approved by TVF&R that authorizes the MERRC option in lieu of a fixed system, the building radio coverage requirements are thereby "approved". This ensures there will be no additional expense or radio coverage-related requirements placed on the approved building in the future.

Q: What type of radio equipment will be purchased with the MERRC program?

A: One of the major benefits of the MERRC program is that it allows TVFR to continually review and update radio equipment as technology changes, rather than require in-building equipment which will become outdated. The program has been used to purchase mobile repeaters, advanced microphones, and related technology for improving in-building emergency radio communications. New technology will continually be evaluated, such as radios that can transmit on current public safety radio frequencies, cellular frequencies, satellite, or available Wi-Fi signals. The fund allows TVF&R to continually evaluate the most advanced technology to enhance emergency communications in all buildings.

Please feel free to contact Fire Marshal Steve Forster directly at (503) 259-1429 if you have any further questions on the MERRC program.