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

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

A: The MERRC Fund is an alternative to Oregon Fire Code Section 510 requirements for fixed in-building emergency radio coverage systems in newly constructed buildings that lack minimum emergency responder radio signal strength. This would give building developers a cost-effective, no maintenance option in lieu of installing a fixed in-building radio coverage system in certain instances. Owners could choose a one-time contribution to the fund rather than installing a fixed system. The fund would be used by CANBY FIRE exclusively to purchase, install, and maintain mobile emergency radio equipment designed to increase coverage in buildings with poor radio strength.

Q: Why would CANBY FIRE 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 (CCOM, the 911 operator) must approve these systems, and both the building owner and CCOM can be held liable under federal penalty for any signal interference caused by the system. Therefore, CCOM requires a comprehensive legal agreement, specifies certain equipment, and requires annual maintenance.

Q: Who would be responsible for maintaining MERRC equipment?

A: CANBY FIRE would purchase, install, maintain, and replace equipment as needed. 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 could be realized with a MERRC alternative?

A: It depends on the particular building design and radio coverage needs, but many scenarios would net a 60% 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 would be in effect for FY 2018/19, and would be subsequently reviewed and modified as necessary to provide adequate funding to purchase, install and maintain fleet-wide mobile radio coverage improvements. The total square footage of the building area will be used to determine the total fee. Building permit applicants will need to request the MERRC alternative prior to final plan review approval.

FY 2018/19 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 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 well does a MERRC system compare to an in-building system?

A: In general, MERRC systems are a viable alternative to in-building systems, with some important differences. In most cases, an in-building system offers somewhat increased and better dispersed coverage, and works well even with a single fire apparatus response. However, under fire or collapse conditions, fixed systems can easily be compromised. Also, they only have a 24-hour battery life, which limits functionality in extended power outages and large scale emergencies. Mobile systems, on the other hand, have limited functionality on single unit responses (e.g., small medical response), 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. While each has its advantages and disadvantages, both are viable methods for providing emergency radio coverage.

Q: Why are building developers burdened with this cost?

A: The existing emergency radio coverage system in our region is very robust and provides effective coverage within nearly 90% of existing buildings. However, new construction techniques and materials have emerged (such as Low-E glass coatings) that can greatly impede wireless signals, both for cell phone coverage and the emergency radios used by fire and police responders. Since this is a problem encountered typically on a limited number of newly constructed buildings, it is generally not considered a cost that should be placed on all taxpayers. For that reason, the cost for solutions is generally limited to the owners or developers where coverage problems exist.

Q: Why not just ignore the problem?

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 may have been the single greatest example of risks encountered when responders do not have radio communications inside a building.

Q: Because the Fire Code authorizes fire departments to retroactively require in-building radio coverage, what guarantee is there that an expensive in-building system won't have to be installed later?

A: When an Alternate Materials & Methods Request is approved by CANBY FIRE 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.