



EMERGENCY COMMUNICATIONS COMMISSION RADIO SYSTEM

Policy 05-06

April 14, 2016

SLATER COVERAGE ENHANCEMENT

I. PURPOSE

The purpose of this policy is to establish the expectation of coverage for participating users of the SLATER system and define the process for enhancements.

II. DEFINITIONS

SLATER - The St. Louis Area Trunked Emergency Radio is a unified 800MHz digital two-way radio system used by first responder agencies in the counties of St. Louis, St. Charles, and Jefferson Missouri. For the purposes of this policy, SLATER refers to only the portion of the system that owned by St Louis County and primarily serves St. Louis County agencies.

Coverage - The range of signal provided by the SLATER system for effective two-way radio communications.

Delivered Audio Quality {DAQ}- Is a measure of intelligibility of digitized voice on a scale of 1-5. One representing "Unusable" and five representing "Speech easily understood".

User Agency - Is a St Louis County agency with an active user agreement to operate on SLATER.

III. SYSTEM COVERAGE

The Emergency Communications Commission (ECC) established coverage standards for the system vendor (Motorola) as a contractual obligation to which SLATER was designed and subsequently built. This criteria clearly quantified the coverage area within St. Louis County, using industry standard definitions of audio quality under specific characteristics of radio type and placement. The coverage requirement are as follows:

A. **98%** area reliability within the **rural** region of St Louis County using a portable radio at

- the hip, **on-street**, and with a Delivered Audio Quality (DAQ) of 3.4.
- B. **98%** area reliability within the **urban** region of St Louis County using a portable radio at the hip, **on-street**, and with a Delivered Audio Quality (DAQ) of 4.0.
 - C. **95%** area reliability within the **urban** region of St Louis County using a portable radio at the hip, in-building limited to **10dB** penetration loss to above ground floors, and with a Delivered Audio Quality (DAQ) of 3.4.

A stringent test plan was put in place to methodically validate that this coverage criteria had been met. While the ECC has certified that the coverage requirements have been successfully achieved, coverage is viewed collectively for the entire county; therefore the ECC asserts no claim or guarantee as to the coverage provided at any specific geographic location.

IV. REPORT COVERAGE ISSUES TO THE ECC

The ECC verified that the SLATER system has greatly enhanced radio communications within St. Louis County. However, there may be isolated exceptions or unique situations where coverage is insufficient for reliable two-way communications. Users are expected to report coverage concerns to the ECC such that they can be verified and addressed. To report incidents where coverage is thought to be the primary significant factor in the inability to communicate, the following web link has been established:

<https://stlouiscountymo.gov/st-louis-county-government/emergency-communications-commission/forms/>

By the very nature of radio systems, a guarantee of 100% clear communications is impractical and unachievable. Sporadic or "one-off" audio problems need not be reported, as these issues are typically impossible to isolate the underlying root cause. Only chronic and repeatable radio problems should be reported via the web link.

Agencies should provide details in the report form describing the location, symptoms; and circumstances which resulted in the coverage related radio problems. This information is required for ECC staff to investigate and in some cases revisit to validate radio coverage issues.

V. EXCEPTIONS TO THIS POLICY

The system was not designed for, nor is coverage guaranteed, to support radio communications under the following conditions:

- A. Portable radio(s) used inside a vehicle
- B. Portable radio(s) otherwise positioned from vertical on the hip
- C. Portable radio(s) holstered with unapproved clip or case
- D. Portable radio(s) using a modified, after market, or unapproved antenna. (i.e. stubby antenna)
- E. Mobile or Portable radio(s) of a make or model that is not approved by the ECC as stated in Policy #05-03: Subscriber Radio Features
- F. User Agencies that have modified equipment or removed features and/or accessories to which SLATER was designed accept the impact on radio coverage.

VI. ON-STREET PORTABLE COVERAGE

The SLATER system was designed with On-Street Portable at the hip being the primary concentration to establish coverage expectations. Although likely to be infrequent, authorized users who experience communication issues related to insufficient coverage while using a portable radio at the hip **On-Street** will be investigated by ECC staff. ECC Staff is responsible to determine if these cases result from variables within the ECC's control (i.e. system anomalies, performance degradation, interference, etc...). If such a determination is made, ECC Staff will take corrective action as necessary.

In the event radio communications is unreliable at a pre-determined location, agencies should resort to their specific standard operating procedures for backup communications.

VII. IN-BUILDING COVERAGE

Instances of insufficient coverage are most likely to occur inside of buildings constructed of heavy material (e.g. steel, concrete, masonry, sheet metal), underground structures (e.g. bunkers, parking garages, tunnels), and below grade floors or basements regardless of structure type.

Radio Users have the capability to communicate from within buildings that have insufficient radio system coverage by:

- A. Moving operations to a direct channel or;
- B. Utilize a Digital Vehicular Repeater System (DVRS) when access to the radio system is necessary in order to communicate with dispatch;

In accordance to your agency's standard operating procedures for backup communications.

VIII. NON-CRITICAL RESPONSE LOCATIONS

Non-Critical Response locations are described as structures which do not meet the criteria in the following section of a Critical Response Location. Non-Critical Response Locations are generally privately owned structures used for residential or commercial business purposes. Examples of such Non-Critical Response Locations include, but are not limited to:

- Residential Homes, Condos, and Apartment Complexes
- Religious establishments, Churches
- Hotels or Motels
- Commercial Businesses used for Office, Retail, Entertainment, & Food
- Warehouse and Distribution Centers
- Assisted Living, Nursing Homes, and Rehabilitation Centers
- Hospitals (Except as noted below)
- Private Educational Institutions (Day Cares, Colleges, Universities, Trade)

Agencies with a determined need for enhanced radio system coverage of Non-Critical Response Locations are encouraged to work with the owner of the establishment to achieve the desired coverage at the owner's expense.

Municipalities are expected to adopt and enforce the provisions of the International Fire Code which requires owners of new or modified buildings to provide public safety radio communications enhancements as necessary to achieve 95% in-building coverage. As stated in the International Fire Code, these in-building enhancement systems must comply with Federal, State, and Local regulations and as described per ECC Policy #05-05: Booster and In-Building Amplifier Installation and Use.

IX. CRITICAL RESPONSE LOCATIONS

Critical Response Locations are structures necessary for the welfare of the public and first responders and to provide for continuity of government operations. Critical Response Location facilities include, but are not limited to:

Public Schools in the areas routinely occupied by students
Government Building {City Halls, Administration, Public Safety Stations)
Hospital Emergency Department {Triage, Treatment, & Waiting Area Only)

Cities or sponsoring User Agencies may submit a request for in-building enhancement of these facilities for consideration by the ECC following the process outlined in this policy. Pending availability of funds, the ECC may elect to contribute funds associated with the request to achieve 95% coverage in the publically accessible areas of Critical Response Locations.

X. IN-BUILDING COVERAGE ENHANCEMENT PROCESS

1. The User Agency must report the coverage issue via the ECC web link in this policy
2. Any coverage enhancement request submitted to the ECC must have a sponsoring User Agency.
3. If the sponsoring User Agency is not the tenant or owner of the building, the User Agency is responsible for coordinating surveys, retrieving pertinent building information, establishing points of contact, and submitting the coverage enhancement request to the ECC on the owner's behalf. Any fees associated with creating the request is the User Agency's responsibility.
4. The Coverage Enhancement request must include the information outlined in section XI. The ECC reserves the right to return or reject any request which is incomplete.
5. Coverage Enhancement requests must be submitted to the ECG Director.
6. The Coverage Enhancement request will first be vetted by ECC Staff, then placed on the agenda for review by the Operations Committee, where a recommendation will be made to the ECC. The sponsoring User Agency will be notified when the request will be discussed and is highly encouraged to attend.
7. The sponsoring User Agency will be notified when the request is placed on the agenda at the monthly ECC meeting and is highly encouraged to attend.

XI. COVERAGE ENHANCEMENT SUBMITTAL GUIDELINES

Coverage Enhancement requests must be descriptive enough to define the problem, the impact on operations, and the proposed solution to rectify the coverage issue. The following information is necessary for the ECC to evaluate the request and make a determination:

Requester must include the following information:

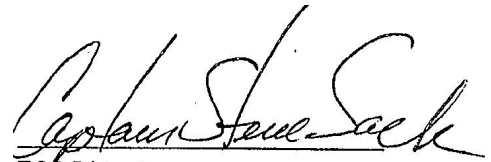
Cover Letter stating Justification
Proof the jurisdiction has adopted IFC 510 and why this building takes exception
Building address
Current Building Use
Building population
Owner of the Building
Building plans

Requester must submit cost and vendor information listed below.

Company Capabilities
Experience
Reference of similar projects
Statement of Work
System Description
System Design
General Schedule
Pricing
Conditions of Quotation
Acceptance Test Plan (ATP)
Maintenance, Service, and Warranty


Adopted by the Emergency Communications Commission

By order of:


ECC Director

JP:RK
E600

Approved at the regular Commission meeting of April 14


WILLIAM G. KARABAS
Chairman