


<p style="text-align: center;">REGIONAL WIRELESS COOPERATIVE POLICIES AND PROCEDURES</p>	
	<p><b>No.</b> <b>O-12.12</b></p>
<p><b>Subject:</b></p> <p><b>Emergency Responder Radio Coverage Systems Policy</b></p>	<p><b>Revised: 11/2023</b></p> <p><b>Prior Rev:</b>  <b>05/2023</b>  <b>07/2022</b>  <b>11/2020</b>  <b>04/2019</b>  <b>05/2012</b></p>

### 1.0 Purpose

- 1.1. The purpose of this policy is to provide standards for the deployment of Emergency Responder Radio Coverage Systems (ERRCS) to improve radio signal coverage inside of buildings and underground spaces on the Regional Wireless Cooperative (RWC) network.

### 2.0 Owner

- 2.1. RWC Operations Working Group (OWG).

### 3.0 Applies To

- 3.1. Any entity installing an ERRCS within the RWC service area and on the radio frequencies licensed from the Federal Communications Commission (FCC) by RWC Member(s).

### 4.0 Background

- 4.1. An ERRCS is used to enhance radio signals within buildings, structures or other locations where signals would otherwise be inadequate.
- 4.2. An improperly installed or maintained ERRCS can cause interference or degrade radio performance putting first responder safety at risk.
- 4.3. FCC 47 CFR Part 90.219 Use of Signal Boosters and 47 CFR Part 2 FCC Certification Requirements govern use and certification of radio amplification systems.
- 4.4. An ERRCS may include Bi-Directional Amplifiers (BDA), Distributed Antenna Systems (DAS) or other active devices designed to amplify radio signals.

- 4.5. The National Institute for Certification in Engineering Technologies (NICET) IB-PSC certification curriculum found at ([www.nicet.org](http://www.nicet.org)) provides the necessary benchmarks for experience, performance and technical recommendations.

## 5.0 Policy Statement

- 5.1. Entities desiring to operate an ERRCS on RWC Member-licensed frequencies and within the service area of the RWC network must obtain written consent and approval from the licensee per FCC 47 CFR 90.219 (b)(1)(ii).
  - 5.1.1. A Rebroadcast Authorization Form must be submitted prior to any ERRCS installation. This form can be found at [rwcaz.org](http://rwcaz.org).
- 5.2. RWC network licensed frequencies are managed by the RWC Administrative Manager.
- 5.3. Enhancement of the RWC VHF Fire Hazard Zone network will not be allowed.

## 6.0 Supporting Rules

- 6.1. Documents required by the RWC for review when applying for Re-Broadcast Authorization:
  - 6.1.1. Complete ERRCS design including site floorplan with antenna and equipment locations and a riser block diagram showing all floors.
  - 6.1.2. Itemized list of system components including manufacturer make and model numbers.
  - 6.1.3. Baseline pre-treatment signal level testing documentation based on RWC donor site and channel data.
  - 6.1.4. Beginning 8/1/2024 NICET IB-PSC credentials shall be provided to the RWC when submitting plans for new ERRCS projects.
- 6.2. As of the date of this policy, Class A amplifiers (see FCC 47 CFR 90.219 (a)) must be used for any ERRCS installed to operate on the RWC 700 MHz P25 network.
  - 6.2.1. Existing Class B amplifiers must continue to be maintained on an annual basis. If an existing Class B amplifier fails it must be replaced with a Class A amplifier.
- 6.3. ERRCS installation contractors must follow the Authority Having Jurisdiction (AHJ) fire code pertaining to ERRCS installations.
- 6.4. Installation of an ERRCS must follow National Fire Protection Association and/or National Electrical Code jurisdictional standards.
- 6.5. ERRCS owner or installation contractor must submit required documents including the RWC Rebroadcast Authorization form. Required forms and documents can be found at [rwcaz.org](http://rwcaz.org).
  - 6.5.1. Installation of any ERRCS will not be allowed until the required documents are submitted and approved by the RWC. Once approved, the RWC will provide frequencies and subsite location to use.
  - 6.5.2. Multiple building campuses with more than one (1) building sharing the same address require a single campus wide solution if an ERRCS is needed.
    - 6.5.2.1. An ERRCS fiber DAS system would be required for all buildings located on the same parcel as identified by the county assessor's office.

6.5.2.2. If a building requires more than a single BDA, per the manufacture installation recommendations, then an ERRCS fiber DAS system installation would be required.

6.6. The RWC does not require entities to maintain any minimum coverage requirements within buildings or structures.

6.6.1. The RWC, per FCC rule 90.219 (d) (1), does not allow for BDA's/Signal Boosters to operate in areas of buildings with existing adequate coverage.

6.7. Beginning 8/1/2024 – All installation technicians who are servicing any ERRCS projects must have a minimum NICET IB-PSC Level 1 certification. Technicians which have 6 months or less of in-building experience, must be overseen by a NICET IB-PSC Level 2 certified technician. Projects leads are required to possess a minimum NICET IB-PSC Level 2 certification. Project leads must be on site during commissioning and testing of the system. All ERRCS project designers are required to have the NICET IB-PSC Design certification.

## **7.0 Responsibilities**

7.1. Prior to being energized the system design must be provided to the RWC.

7.2. ERRCS RF energy for the uplink is extremely important. Contractor must contact the RWC to arrange the testing process required for energizing an ERRCS.

7.3. Once the ERRCS is energized, detailed measurements of signal strength of all areas enhanced must be provided.

7.4. New and existing radio amplification systems (signal booster), must be registered with the FCC (<https://signalboosters.fcc.gov/signal-boosters/>).

7.5. In the event of interference or malfunction of an ERRCS, the entity responsible for its installation and/or operation shall discontinue operation of the system until it is repaired or interference has been eliminated.

7.5.1. The RWC will work with an offending entity to resolve problems due to interference, pursuant to CFR 90.173(b).

7.5.2. The RWC will de-energize any ERRCS that is causing interference and cannot be resolved immediately.

## **8.0 Conditions for Exemption or Waiver**

8.1. As provided in the Waiver or Exception Policy.

## **9.0 Applicable Policies and/or Procedures**

9.1. As listed at [www.rwcaz.org](http://www.rwcaz.org).