



Standard Operating Procedure

Title / Subject

Amateur Radio Co-Location on SIRN Sites

References/Updates:

Created: 9/8/2026

1. Introduction/Purpose

This Policy provides the following rules to follow when installing a repeater station on a SIRN controlled property.

The SIEC encounters varying levels of expertise in the amateur radio entities and the individuals making co-location requests. As a result, a comprehensive policy and a documented evaluation ensures a fair and equitable decision for each request.

Amateur radio organizations desiring to install an amateur repeater on a WV SIRN facility must apply to do so by completing an application as specified by the SIEC and sent to the WV SWIC. Decisions denying or granting permission shall result from the information provided and other such information acquired in further research surrounding the request.

2. Definitions

All definitions are in the "Definitions" document located on the SIRN Website at www.sirn.wv.gov.

3. Background:

The West Virginia Statewide Interoperability Radio Network operates radio telecommunication sites across West Virginia and provides infrastructure facilitating emergency services, public safety and governmental radio communication capabilities. The use of this robust system also provides interoperability between the various agencies, thus allowing enhanced tax dollar effectiveness and operational efficiency to the agencies serving State citizens.

The capability of the Amateur Radio community to provide supplemental communications capacity to emergency management is widely recommended and provided for in FCC regulations and FEMA guidelines. A positive performance record can be found in the many years of services provided in times of emergencies and disasters across the US.

In recognizing the history of cooperation between the Public Safety and Amateur Radio communities, the SIEC has established this policy to ensure the integrity of SIRN while helping to assess the *possibility* for amateur radio to locate on SIRN controlled facilities.

4. Repeater Electronic Equipment

- a.** Amateur radio equipment may not be installed in a SIRN owned/controlled shelter that houses SIRN equipment.
 - i.** Installation of the Amateur radio equipment shelter may be performed at the discretion of and under the direction of SIRN using approved methods and materials.
 - ii.** Controlled access to the amateur equipment will be provided as determined by individual site specifics.
 - iii.** Unlimited access is not to be expected.
- b.** No equipment or device associated with the repeater shall interfere with any other equipment existing on the site at the time of its installation or at any future time. Amateur radio operation is secondary to any emergency service/public safety stations.
 - i.** A means to disable the repeater equipment at the site must be available to any SIRN personnel.
 - ii.** Any transmitter installed must be capable of being turned off remotely by the control operator(s) as needed.
 - iii.** An external tag, label or otherwise visible marking legible to anyone shall be attached to the Amateur Radio equipment shelter and provide information allowing the contact of at least two responsible individuals should the need arise.
 - iv.** The repeater receiver shall only activate the repeater transmitter with the reception of the proper CTCSS or DCS present.
 - v.** SIRN technical staff will work with the Amateur operator to remedy any interference issues that may arise.
- c.** As a result of SIEC's mission to promote interoperability and to maximize the repeaters effectiveness in emergency situations and disaster operations, the following operational perimeters shall be adhered to:
 - i.** The repeater shall operate in analog FM mode and shall be the mode utilized during emergency/disaster operations.
 - ii.** As an alternative to FM only, mixed mode operation is permissible if analog FM is automatically selected by the "what goes in comes out" methodology.

5. Repeater Antenna Systems

- a.** Amateur radio repeater antenna systems may be installed on SIRN owned or controlled towers according to standards specified by the SIEC in this policy or as is otherwise necessary in specific situations as they arise.
- b.** Antenna system locations on the tower shall be determined by the SIEC, with consultation of the SIRN Technicians
 - i.** To prevent interference to existing and future public safety communication resources; must have minimum 30' vertical separation
 - ii.** To provide assurance that stresses added to the tower structure by the amateur antenna system do not impact the existing and future public safety tower loading requirements
- c.** Antenna make, model, dimensions, weight, feedline make, and model and other specs shall be included on all applications for installation on SIRN towers.
 - i.** All hardware and supplies provided for installation of antennas and feedline on SIRN towers shall match existing tower hardware and supplies or may need to be upgraded as circumstances dictate. Galvanized or stainless steel is standard.
 - ii.** Only copper, corrugated-shield, jacketed feedline of 1/2 inch or larger outside diameter may be used.

- iii. Jumpers between feedline and antennae shall be only as long as necessary to transition to a support span.
- iv. Feedlines shall be tagged with three bands of Scotch 33 tape (electrical phase marking tape) in a color other than red.
 - 1. one foot from the top connector (antenna end)
 - 2. one foot from the bottom connector before it attaches to the bottom ground
 - 3. every 50 feet along the length of the feedline between top and bottom
- v. Feedlines shall be bonded to the tower at the top end of the feedline run, at the bottom of the feedline run and at intervals no greater than 200 feet using feedline grounding kits.
- vi. Lightning suppression devices shall be grounded to the common tower/electrical ground as prescribed by installation inspectors.
- d. SIEC approved licensed and insured tower contractors shall install all antenna systems on SIRN towers.
 - i. SIRN technicians or other SIEC specified representatives must be present during all antenna installation, repair, maintenance or any other work performed on the tower structure and shall be coordinated accordingly.

6. Grandfathering

- a. Amateur radio has permission to continue using their legacy equipment in its current configuration and locations until it is retired, sold or modified

****** A copy of the MOU with the local Emergency Management agency directly involved should be sent with the application. ******

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