

# COORDINATION POLICY AND GUIDELINES of the South Eastern Repeater Association, Inc.

Representing Coordination and VHF/UHF interests throughout Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

Revised and Adopted January, 1987. **Latest Revision, June 2015**

A guide for our Frequency Coordinators and for the prospective repeater owner and/or trustee explaining rules on how to achieve coordinated status and governing their duties for operating and maintaining repeaters in the VHF, UHF, and microwave amateur frequency spectrum as set forth according to the Federal Communications Commission (FCC), and by the South Eastern Repeater Association, Inc. (SERA) which is the recognized coordinating body of the member states in the southeastern United States.

## INTRODUCTION

The SERA Coordination Policy and Guidelines were rewritten at the request of the Board of Directors and approved at the annual meeting in January, 1987, with updates approved at the January and July, 1995, and June 2013 and June 2014 board meetings. The rewrite was required to update the old coordination policy and to coincide with new FCC Rules and Regulations concerning repeater councils, repeater owners, trustees, and users, and the coordination of repeater, link, and control frequencies in general. The rewrite sought to cover every area involving repeater coordination. The rewrite was based on FCC information and rules governing the operation of repeater councils across the nation. The policy is written in such a way as to explain in detail what is required by FCC Rules and Regulations and recommendations for coordination procedure when placing a repeater on the air. Interference and arbitration is defined so that repeater owners, trustees, and users will know how the SERA will stand on each issue. This document is intended to compliment the SERA By-Laws and is the detailed policy of SERA.

This document covers in detail the recommended allocations to various modes of operation in the Amateur Radio Service on VHF, UHF, and microwave bands. The SERA Frequency Utilization Plan carefully spells out where operators may operate using various modes and, at the same time, comply with FCC Rules and Regulations and SERA Policy and Guidelines. The committee also made every effort to allocate frequencies for operational capabilities in every amateur radio mode. By drafting this comprehensive document, addressing every possible aspect of coordinating VHF, UHF, and microwave frequencies, the SERA feels that the best interest of all amateurs will be served for years to come.

As the amateur frequency spectrum becomes more crowded, the future adherence to these guidelines will foster pleasing operation on VHF, UHF, and microwave amateur bands in our service area, as well as good relationships among repeater owners, trustees, and users throughout the SERA districts. Although coordination is strictly voluntary and even though FCC Rules and Regulations do not require coordination, in all cases of conflict an uncoordinated repeater bears the primary responsibility of resolving any problems. The SERA Coordination Policy and Guidelines are written for those who wish to coordinate, giving a clear definition of what is required of the repeater owner and/or trustee in order to acquire coordinated status. Since 1971, voluntary compliance by repeater owners and/or trustees and users is what has, and will, continue to make our coordinating system work.

## POLICY 1 - GENERAL INTRODUCTION

Originally formed in 1971 as the North Carolina FM Repeater Association, In 1973, becoming the Carolinas-Virginia Repeater Association, Inc., and in 1981, CVRA-South Eastern Repeater Association, Inc. (CVRA-SERA) and in 1987, South Eastern Repeater Association, Inc. (SERA), the Association is the recognized amateur frequency coordinating body for the following geographical areas, herein called

### DISTRICTS:

- A. the entire state of NORTH CAROLINA,
- B. the state of VIRGINIA, south of a line formed by the 38 degree parallel of latitude extending from the Atlantic Ocean, west to U.S. Route 33, then following U.S. Route 33 to the West Virginia State line,
- C. the entire state of SOUTH CAROLINA,
- D. the entire state of TENNESSEE,
- E. the state of WEST VIRGINIA, except an easternmost area referred to as the "panhandle", which is made up of the counties of: Berkeley, Hampshire, Hardy, Jefferson, and Morgan,
- F. the entire state of KENTUCKY,
- G. the entire state of GEORGIA, and F. the entire state of MISSISSIPPI.

## POLICY 2 - FIXED COORDINATION

SERA coordinates only the types of fixed amateur transmitting facilities in those amateur frequency segments as authorized by the FCC:

- A. Repeaters
- B. Link/Control
- C. Auxiliary Stations

A digi-repeater is usually a simplex operating system. Duplex digital systems which utilize FM repeater input and output pairs are classified as repeaters, operating digital, and shall be coordinated by the SERA, as would any other FM repeater pair.

The SERA recognizes organized statewide digital communications organizations. Further, the SERA recommends allocation of frequencies for digital (packet) radio use. Finally, the SERA delegates the recognized digital groups the task of assigning digital systems and operation within the allocated frequencies. In order to become a "delegated digital organization" as recognized by the SERA, the organization must contact the Director of that SERA District by letter and fulfill the current requirements.

## POLICY 3 - FREQUENCIES

The SERA will designate FM simplex frequencies, which will be listed in the SERA Frequency Utilization Plan. These simplex frequencies shall not be used for digi-repeaters, although simplex digital (keyboard to keyboard) operation is permitted as is CW, RTTY, and other FM simplex operation.

The SERA coordinates repeater, link, and control frequencies with maximum frequency utilization of designated amateur bands. Voluntary compliance with our policy has proven successful in each of our districts.

### Recommended Repeater Frequency Utilization:

- A. 28 MHz: ten meter pairs are issued with low in, high out, with a 100 KHz offset. Channel spacing is 20 KHz.
- B. 50 MHz: six meter pairs are issued low in, high out, and a 1 MHz offset. Channel spacing is 20 KHz.

- C. 144-148 MHz: most two meter pairs are issued with a plus (+) 600 KHz offset and 15 KHz channel spacing above 147 MHz; minus (-) 600 KHz offset and 15 KHz channel spacing between 146 and 147 MHz; and minus (-) 600 KHz offset and 20 KHz channel spacing below 146 MHz.
- D. 222 MHz: all 222 MHz pairs are issued with a minus (-) 1.6 MHz offset and 20 KHz channel spacing.
- E. 440 MHz: all 440 MHz pairs are issued with a plus (+) 5 MHz offset, high input, low output, and 25 KHz channel spacing.
- F. 902 MHz: all 902 MHz pairs are issued with a minus (-)12 MHz offset, or -25 MHz offset, low input, high output, with 12.5 kHz channel spacing from 25 MHz offset, and 100 kHz for 12 MHz offset (see FUP for further details).
- G. 1240 MHz: all 1.2 GHz pairs are issued with a minus (-) 20 MHz offset, low input, high output, and 100 KHz channel spacing.

#### ***POLICY 4 - FREQUENCY COORDINATORS***

SERA Frequency Coordinators are the Directors, Vice Directors, and their Assistants in each district. Their job is to make maximum use of frequencies available for amateur use by using the SERA Coordination Policy and Guidelines and through mutual cooperation of repeater trustees. SERA offers coordination to benefit both repeater trustees and users.

#### ***POLICY 5 - REPEATER COORDINATION PARAMETERS***

Under normal circumstances, SERA normally maintain the following recommended repeater distance spacing:

- A. Co-channel distances:
  - 1. 28 and 50 MHz repeaters: 100 miles. It should be noted that repeaters on these bands may require special consideration when determining mileage for co-channel spacing. Coordination for repeaters on these bands will be considered on a case by case basis. Additionally, coordination may require contact with many neighboring states that may, or may not, be an SERA District.
  - 2. 144-148, & 222 MHz, repeaters: 100 miles.
  - 3. 440, 902, 1240 MHz, and above, repeaters: 75 miles.
- B. Adjacent channel distances: (16K0F3 and 20K0F3 emission)
  - 1. 28, 50, & 222 MHz repeaters: 25 miles at 20 KHz spacing.
  - 2. 144-148 MHz repeaters:
    - a. 144-145 MHz: 25 miles at 20 KHz spacing.
    - b. 144-145 MHz: 50 miles at 10 KHz spacing
    - c. 144-148 MHz: 50 miles at 12.5 KHz spacing
    - d. 146-148 MHz: 50 miles at 15 KHz spacing.
  - 3. 440, 902, 1240 MHz and above, repeaters with 25 kHz (or greater) : 0 (zero) miles.
- C. Adjacent channel distances: (11K0F3 emission)
  - 1. 902 MHz with 12.5 kHz spaced channels; 25 miles

Coordination may require contact with many neighboring states that may or may not, be an SERA District.

#### ***POLICY 6 - REPEATER DISTANCE VARIANCE***

Channel spacing distances referred to in Policy 5 may be adjusted as necessary by the Frequency Coordinator. Repeater locations that are unusually higher than the surrounding average terrain (i.e. mountain peaks or a multiple floor building in a metropolitan area) may require spacing distance in excess of Policy 5 guidelines. Repeater locations where terrain and low ERP are a factor may allow for less distance. Decisions concerning distances are based on various technical parameters of the proposed repeater. Those decisions are made at the discretion of the Frequency Coordinator.

#### ***POLICY 7 - REPEATER POWER LIMITATIONS***

Although the FCC has eliminated specific power limits for repeaters according to height above average terrain (HAAT) as contained in the former Section

97.67(c), the SERA will continue to observe this policy. Any decision to grant a variance from the power to HAAT ratio will be left to the Frequency Coordinators. Frequency Coordinators also have the authority to impose power limitations of a repeater which may be based in whole or in part on calculated effective radiated power (ERP), height above average terrain (HAAT), antenna system design, and separation from co-channel and adjacent repeaters.

A. For 28 MHz through 225 MHz:

1. up to 100 feet HAAT - 800w ERP
2. 100-500 feet HAAT - 400w ERP
3. 500-1000 feet HAAT - 200w ERP
4. 1000 feet and above - 100w ERP

B. For 430 MHz and above, under normal circumstances:

1. up to 1000 feet HAAT - 800w ERP
2. 1000 feet and above - 400w ERP

C. As a rule, SERA does not honor requests for repeater pairs that are contrary to our recommended plan, which has been designed for maximum utilization of frequencies in our areas.

### ***POLICY 8 – INDIVIDUAL or CLUB COORDINATION: REPEATER CALL SIGN, TRUSTEE, SPONSOR, and HOLDER OF RECORD***

An individual coordination has an individual amateur radio operator's station call sign as the repeater call sign, repeater trustee, and holder of the coordination record. A sponsoring individual or sponsoring organization is optional.

A club coordination that has an amateur radio club call sign as the repeater call sign, must have the trustee, as indicated in the FCC ULS as the trustee of that Club Coordination. A sponsoring individual or sponsoring organization is optional. The holder of record for a club coordination needs to be documented clearly such that there is no doubt by SERA, the CLUB, and the Repeater Trustee as to who holds the coordination and who owns the repeater equipment.

Repeaters coordinated with FCC assigned Military Recreation call signs shall have the individual indicated on that Military Recreation call sign as the repeater trustee.

All requests for coordination or for changes in listing, call sign, or sponsorship, for a repeater or its associated link shall be submitted in the SERA Universal Coordination System (UCS) and approved by the new trustee and club president.

Frequency coordination requests will be made on the SERA Universal Coordination System (UCS) the official SERA online system. The applicant shall provide all requested information and submit the application to the appropriate district Frequency Coordinator for final approval.

### ***POLICY 9 - HEIGHT, POWER, FREQUENCY, OR LOCATION CHANGES***

Coordination is based on information provided by the applicant and entered in the SERA UCS. If a repeater trustee significantly changes the location, antenna height or pattern, effective radiated power, frequency, or other operating parameters of his system, the repeater will be required to be re-coordinated. The SERA Frequency Coordinator shall be notified by making the changes in UCS or by email explaining the changes. Re-coordination is required to verify that interference to or from other repeaters does not occur. Re-coordination is not to allow another repeater or proposed repeater to be assigned to the frequency.

Note: This shall include a power change of 1 dB, an antenna height change of more than fifteen feet, or a horizontal move of more than 1,500 feet. For a 1 dB power change, use a factor of .75 or 1.25 of the original power. For example a 100 watt ERP station multiplied by .75 would be 75 watts, or multiplied by 1.25 would be 125 watts. This will be computed automatically for you by filling in the power, antenna, duplexer information, antenna HAG, etc., in SERA UCS Database.

### ***POLICY 10 - DIRECTIONAL & NON-DIRECTIONAL***

In all cases, a coordinated repeater using a non-directional antenna and changing to a directional antenna or using a directional antenna and changing to a nondirectional antenna will require re-coordination. Any subsequent approval will transfer the repeater to the status of a newly coordinated repeater as defined in Policy 12.

### ***POLICY 11 - REPEATER PAIRS RELINQUISHED***

Normally, repeater frequency coordinations are not transferable. When the current trustee of record relinquishes his coordination in writing, the frequencies revert back to the SERA frequency pool. If a trustee sells his repeater system to another person, the same frequency pair may be re-coordinated to the new owner; provided, the coordination request meets the SERA Coordination Policy and Guidelines, the proposed new trustee makes an application through the SERA UCS Online database within thirty days of the sale, and the current trustee of record has relinquished that frequency pair. If the new owner does not make an application within thirty days, the frequencies shall revert back to the SERA frequency pool. The frequency coordinator can change without recoordination the "trustee only" with the proper documentation from the repeater official and no changes are made to the repeater itself. If a club, the trustee must match that showing in the FCC ULS Database.

### ***POLICY 12 - REPEATER RE-COORDINATION***

Re-coordination affected by Policy 9 and 10 transfers a repeater to newly coordinated status. A change of Trustee with no physical changes to the repeater does not.

### ***POLICY 13 - TRUSTEE RESPONSIBILITY***

The trustee of a coordinated repeater shall notify their SERA Frequency Coordinator of a change in his email or physical address change in the SERA UCS. The trustee should also make the changes in the FCC ULS database, in writing, within ten days of any change in their mailing address. Trustees shall notify

their Frequency Coordinator in writing by email, within ten days of the date the repeater ceases operation. If a repeater permanently ceases operation or is sold for relocation, the trustee shall notify their Frequency Coordinator in writing, within ten days of the event. Such cessation letter will be construed to mean the trustee is relinquishing the assigned frequency pair. Failure to keep current in the SERA UCS may also be construed as notification that the repeater has ceased operation and the frequencies are available for re-assignment.

**NOTE: If the repeater owner or trustee of record fails to keep the SERA UCS current for a period of two consecutive years, the SERA shall automatically de-coordinate the frequency pair and list that repeater as uncoordinated in the SERA Database and Repeater Journal.**

**After de-coordination the frequency pair may be "returned to the pool" and be available for re-coordination.**

**Failure to keep the SERA UCS Database current for a period of two consecutive years will also mean removal from the annual data provided to the ARRL for its repeater directory.**

## **POLICY 14 - COORDINATION SPECIFICS**

In terms of coordination, the SERA has established policies dealing with priorities for repeater frequency requests.

- A. The SERA recognizes two fundamental motivations for the establishment of an amateur repeater:
1. As a service to other amateurs living or traveling in the service area, and
  2. As an exercise in individual achievement on the part of the owner(s) or trustee(s).
- Both of these motivations are equally valid and in the traditional spirit of amateur radio. However, in cases where these two rationales are in conflict, service must prevail over individual achievement. For example: The desire of an operator to set up a new repeater, largely for reasons of self-achievement, in an area already well served by existing repeaters, must be accommodated in a way that does not detract from the existing area serviced, in terms of co-channel or adjacent channel interference.
- Most large cities already have enough two meter repeaters for both emergency and routine communication. Therefore, small towns and rural areas that are removed from those cities may take priority in the allocation of available frequency pairs. Those less populated areas may not be able to utilize other bands as easily as more populated areas because of the limited number of amateurs available to support the use of alternate bands.
- B. The owner and/or trustee of the proposed repeater shall actively participate with the Frequency Coordinator in the survey of available frequencies and the coverage area of existing systems. Further, the owner and/or trustee will bear the primary responsibility for any testing or monitoring period that might be required by the Frequency Coordinator. The Frequency Coordinator may also require the logging of signals heard, at the proposed coordination site, from co-channel and/or adjacent users. Although the final decision will be at the discretion of the Frequency Coordinator, during any arbitration that may take place; the burden of proof of an alleged clear frequency will rest with the proposed repeater owner and/or trustee.
- C. Repeater frequency assignments shall be made with more consideration given to the transmissions of fixed and mobile stations than the output signal of the repeater. The majority of repeater coordination problems arise from fixed and mobile stations inadvertently accessing co-channel and adjacent channel repeaters in addition to the one intended.
- D. Existing coordinated repeaters have first right to continued use of their frequencies and reasonable service areas. The effective use of an existing repeater should not be appreciably diminished by a new repeater.
- These rights have great weight, but are not absolute. *For example:* An established wide area repeater should tolerate minor loss of fringe coverage and the occasional inadvertent access, to allow a new repeater to provide needed service in a location distant from the first. Further, "first on frequency" carries no special right to make a technical parameter change without Re-coordination of the frequency assignment, as stated in Policy 9.
- E. Requests for closed repeaters will be discouraged. The rationale for our position is simple. Frequency pairs are a limited and valuable resource and they should be made available to all amateurs.
- F. Repeater linking via remotely controlled transmitters and/or receivers, utilizing and allocated SERA repeater input and/or output frequency, has the potential to cause harmful interference to coordinated repeater operations and is therefore highly discouraged.
- G. Repeater owners/Trustees are encouraged to utilize tone encode and decode to help interference from stations that might be in an area and access more than one at a time. In some cases, CTCSS may be required by the coordinator for the repeater to be coordinated. Eight numbered CTCSS frequency pools, containing five standard tone frequencies, have been recommended for use on 50, 144-148, & 222 MHz in specific geographical areas. CTCSS tones may be assigned, and their use will be required, on 440, 902, 1240 MHz and above. Of these designated pools, two have been reserved for common or alternate use. Further, two discrete tone frequencies have been reserved for common use.

POOL #1: TN-E, NC-E 67.0 (XZ), 88.5 (YB), 118.8 (2B), 156.7 (5A), 206.5 (8Z)

POOL #2: WV, TN-M, SC 69.3 (WZ), 91.5 (ZZ), 123.0 (3Z), 162.2 (5B), 210.7 (M2)

POOL #3: NC-W 71.9 (XA), 94.8 (ZA), 127.3 (3A), 167.9 (6Z), 218.1 (M3)

POOL #4: GA-S, TN-W, VA-E 74.4 (WA), 97.4 (ZB), 131.8 (3B), 173.8 (6A), 225.7 (M4)

POOL #5: MS-S, KY-W, VA-W 77.0 (XB), 103.5 (1A), 136.5 (4Z), 179.9 (6B), 229.1 (9Z)

POOL #6: KY-E, GA-N, MS-N 79.9 (WB), 107.2 (1B), 141.3 (4A), 186.2 (7Z), 233.6 (M5)

POOL #7: Common Pool 1 82.5 (YZ), 110.9 (2Z), 146.2 (4B), 192.8 (7A), 241.8 (M6)

POOL #8: Common Pool 2 85.4 (YA), 114.8 (2A), 151.4 (5Z), 203.5 (M1), 250.3 (M7)

Common Tone 1                      100.0 (1Z)    Tone 2 - 254.1 (OZ)

- H.        The following CTCSS frequency pool (already adopted and in use by the ARRL) will be applicable to 28 MHz repeater allocations. This plan is structured to provide a mechanism where users in the various areas of the SERA and/or the United States do not key up distant repeaters (unless they select the appropriate tone).

ARRL Standard    SERA    Additional

Region W4 146.2 (4B), 100.0 (1Z) 82.5 (YZ), 186.2 (7Z)    Region W5 151.4 (5Z), 103.5 (1A) 85.4 (YA), 192.8 (7A)  
Region W8 167.9 (6Z), 114.8 (2A) 77.0 (XB), 203.5 M1)

#### **SERA Coordination Policy for Digital Repeater (Revised June, 2015)**

Due to the wide variety of formats, modes and bandwidths for digital repeaters, coordination of digital and mixed mode (digital and analog operating on same frequency pair) presents unique challenges for repeater coordination. As new digital and mixed modes are developed, changes in coordination guidelines should be adopted to ensure best use of spectrum and minimize impact to existing repeater operators.

*In all cases, standard co-channel and adjacent channel parameters apply.*

#### **New Repeater Coordination Requests**

D-STAR, NXDN, and **DMR** repeaters operating in **digital only mode** may be coordinated in the 2m band on one of the 8 pairs designated for narrowband digital repeaters (144.920 – 145.08 outputs)

NXDN and D-Star may be coordinated on one of the 10 KHz splinter pairs in the 144-145 sub-band (i.e. 145.12, 145.140, etc.).

In the 70cm band, **NXDN, D-STAR and DMR may be coordinated** on one of the 18 pairs between 440.5125 and 440.7250 or one of the 12.5 KHz splinter pairs between the standard 25 KHz pairs. If none of these pairs are available, one of the standard repeater pairs in the 2m or 70cm band may be used, but should only be used as a final choice to avoid mixing digital and analog repeaters.

DMR (MotoTRBO), P25 (APCO25) operating in digital only or mixed mode **using narrowband FM** coordination requests should first be attempted in the 70 cm band using one of the 12.5 KHz splinter pairs. If this cannot be accommodated on a 70cm pair, one of the standard 2m or 70cm repeater pairs may be used as a final choice.

System Fusion repeaters **may only be coordinated on one of the standard 2m or 70 cm repeater pairs.**

NXDN **System Fusion, P25 and DMR** repeaters operating in mixed mode **with wideband FM** may be coordinated on standard repeater pairs in either 2m or 70cm bands.

#### **Change from Existing FM to Digital Repeater Coordination Requests**

If an existing FM repeater owner operating on a standard repeater pair wishes to change to a digital repeater operating in digital only mode, a frequency change to one of the digital only pairs above should be suggested according to the digital mode to be used. If none of pairs are available for the specific digital only mode, the repeater may remain on the standard pair in the 2m or 70cm band.

If an existing FM repeater owner operating on a standard repeater pair wishes to change to a digital repeater operating in mixed digital and analog mode, it should remain on the standard repeater pair.

## **POLICY 15 - GOOD REPEATER OPERATING PRACTICES**

Good operating practices are needed by repeater owners and/or trustees and users alike to achieve the standards that are expected in the amateur radio service. Although coordination councils lack the actual "police power" to regulate amateur frequencies, mutual cooperation between the coordination council, owners and/or trustees, and users is required to make frequency coordination work. Our coordination policy is an outline, which, if followed on a voluntary basis by all, will allow the coordination plan to work, thereby providing a better operating climate for all within amateur radio.

Further, the SERA advocates:

- A. Repeater owners and/or trustees and users are expected to maintain good engineering and operating practices, as well as common amateur courtesy. Good amateur practice promotes harmony and prevents unwanted interference to, and from, other systems.
- B. Repeater users should use only the necessary amount of power to operate into repeaters. This prevents unwanted activation of other repeaters on the same frequency, and at times, on nearby adjacent channel repeaters.
- C. Repeater users should see that their equipment operates on the proper frequency and their deviation should not exceed 5 KHz peaks. Digital operation may require a lower deviation setting to prevent over-deviation into a digital system.
- D. When the repeater's effective radiated power exceeds its receive capability, operators tend to use excessive transceiver power in order to access a repeater. This creates an atmosphere of potential interference to other co-channel and adjacent channel repeaters. Therefore, it is strongly suggested that repeater ERP should always equal the receive capability.
- E. Repeater owners and/or trustees are encouraged to use state of the art equipment with sufficient filtering on input and output, as well as maintaining proper calibrations, to prevent adjacent channel interference.

## **POLICY 16 - REQUESTS FOR COORDINATION**

Although voluntary from the beginning of repeater operation, frequency coordination has played a large part in maintaining order in the operation of repeaters. The SERA strongly recommends to all amateurs that wish to construct and operate a repeater to seek coordination and cooperate fully with their coordination council.

- A. Any verbal or email discussion concerning coordination with the Frequency Coordinator is welcomed. No official action will be taken until a submission is prepared in SERA UCS Database is received providing all of the required information.
- B. Any licensed amateur that wants to construct and operate a repeater shall contact the SERA Frequency Coordinator for their area and submit the proper information in SERA UCS Online. When the UCS Submission is complete it will automatically notify the proper coordinator that a frequency pair or repeater coordination change is being requested and requires attention. The applicant shall provide all requested information.
- C. The SERA shall be provided all control or link frequencies used in a repeater system. This information will be used to help prevent interference from other repeater systems, which might use control or link frequencies. Link and control frequencies are also required to be coordinated. All control or link frequencies must comply with the current SERA band plan. This information will be held as confidential and not be published or made available to anyone, other than frequency coordinators through the regular course of their duties.
- D. New SERA frequency coordinations are issued to the trustee named in SERA UCS Online and are valid for six months from the date of issue. The repeater should be operational within this time period. If unavoidable circumstances prevent the new repeater from being placed on the air, a onetime six month construction extension may be issued by the Frequency Coordinator. Requests are to be made by email to the Frequency Coordinator **by email**, or by letter. The extension request shall state the problems and/or reasons that prevented the repeater from being operational.
- E. The trustee of a new repeater shall notify the Frequency Coordinator by using email or US Mail, when his repeater is on the air in a permanent condition and operating within the specifications of the original coordination request.
- F. Although the FCC no longer requires submission of repeater system diagrams, other pertinent data, and logging of repeater operation, repeater trustees are still responsible for maintaining the complete history and system description in written form. Further, it is strongly recommended that each repeater trustee maintain a copy of the current SERA Coordination Policy and Guidelines.

## **POLICY 17 – REPEATER DE-COORDINATION**

To preserve the integrity of the coordination process and to maintain accurate records, the SERA provides certain rules that shall be followed by all repeater owners/trustees as a condition of their frequency coordination. If these requirements are not followed, de-coordination of the assigned repeater frequencies shall occur.

Each SERA Frequency Coordinator is responsible to carry out the policies of the SERA listed below: Repeater de-coordination shall occur,

1. If the FCC orders the system to permanently cease operation, or
2. If the amateur radio license of the owner, trustee, or the club (whomever is the "holder of record") is suspended, revoked, or expires, or
3. If the licensee fails to maintain a current address on file with the SERA and the FCC, or
4. If the existence of a working system cannot be confirmed; or, if the holder cannot comply with the request of the Frequency Coordinator to demonstrate the operation of such system within thirty (30) days of a request to do so; or, if a working system is not on the air and the owner/trustee has not filed an email or written request requesting a construction extension.
5. If the trustee of the system consistently violates good engineering or amateur radio practices by:

- a. operating his/her system with excessive deviation, spurious emissions, or off frequency as to cause harmful interference to adjacent channel users, or
  - b. having been found to be responsible for interference to another system, and refusing to cooperate with other owners/trustees involved and/or the SERA Frequency Coordinator, or
  - c. operating remotely controlled transmitters and/or receivers for the purpose of repeater linking, which utilize any allocated SERA repeater input and/or output frequency, which cause harmful interference to coordinated repeater operations, or
6. If the repeater owner/trustee significantly changes the previously coordinated operating parameters of a repeater such as location, power or antenna height above ground as specified in Policy 9 without prior re-coordination or approval by the respective SERA Frequency Coordinator, or
  7. If the repeater owner/trustee changes any information on the annual datasheet (thereby altering the original coordination agreement, such as antenna height above ground, latitude & longitude, power output, or any other change specified in SERA Policy 9) without prior submission and approval by the respective SERA Frequency Coordinator, the repeater shall be transferred to an uncoordinated status, or

Should the SERA de-coordinate a repeater pair, per the guidelines above, the repeater owner/trustee may re-apply for coordination by using the SERA UCS Database. Re-coordination, however, is not automatic and may not be granted, if in the meantime, another request for the frequency is in process or if the condition(s) that led to de-coordination have not been corrected.

### **DE-COORDINATION ACTION:**

Policy 17 violations of sections #1, #6, #7, or #8 shown above shall result in automatic de-coordination. If violations of #2, #3, #4, or #5 of Policy 17 sections shown above are brought to the attention of the respective SERA Frequency Coordinator, the SERA requires its Frequency Coordinator(s) to proceed with the following action:

1. The Frequency Coordinator shall gather, document, and file their research that indicates the frequency pair has not been in use for a period of ninety (90) days or that a policy of SERA has been violated.
2. Policy 17, De-coordination Action, #2 - The Frequency Coordinator will attempt to contact the repeater owner/trustee through e-Mail, phone contact, or a personal visit. Should these attempts be unsuccessful, the Coordinator will attempt contact by *USPS First Class Mail* to the trustee of record using the FCC database address and the last address supplied to the SERA, if it should differ from the FCC record.

Policy 19 remains unchanged with the requirement that interfering parties must correspond by certified mail.”

3. If no response is successful within thirty (30) days using all methods listed in point #2, or if any repeater owner/trustee refuses to cooperate by refusing to discuss the matter with the coordinator, or if the repeater owner/trustee fails to respond, the SERA shall empower the State Frequency Coordinator to de-coordinate the frequency pair.
4. Should the repeater owner or trustee respond to the action in point #2 in a cooperative manner, the owner or trustee may request that the coordination be maintained. Coordination will be maintained for a period of ninety (90) days whereupon the repeater owner/trustee must meet the requirements of a working system as listed in the SERA policies.
5. Within ninety (90) days, the owner or trustee must write a letter to the respective State Frequency Coordinator stating that the repeater is on the air and working properly, or that other policy violations have been corrected. Failure to comply with the above action after ninety (90) days shall result in the de-coordination of the frequency pair.

### **POLICY 18 - INTERFERENCE POLICIES**

The SERA maintains a policy of dealing with interference problems between repeater owners, trustees, and sponsors to resolve these disputes. This policy complies with FCC rulings and guidelines.

- A. If an uncoordinated repeater causes harmful interference to a coordinated repeater, the primary responsibility for correcting the interference rests with the trustee of the uncoordinated repeater in accordance with FCC Part 97.205(c).
- B. If both repeater systems are coordinated, the trustee of both repeaters equally bear the responsibility for correcting the interference in accordance with FCC Part 97.205(c).
- C. If both repeater systems are uncoordinated SERA will not litigate the problem.
- D. In cases where a repeater in a SERA district is involved with interference with a system operated outside of a SERA district, the SERA Frequency Coordinator will work with the frequency coordinator from the other territory and should work within SERA Policies and Guidelines while working to resolve the dispute with the other repeater and Frequency Coordinator.
- E. If a repeater trustee changes the location, antenna height or pattern, ERP, frequency, or other operating parameters of his system, as defined in Policy 9, and subsequently causes interference to other co- channel or adjacent channel repeaters, that repeater trustee bears primary responsibility for correcting the interference.

### **POLICY 19 - INTERFERENCE REVIEW PROCEDURES**

SERA policies provide equal fairness to all parties that are involved in review and arbitration procedures that are a result of repeater interference complaints.

- A. A repeater trustee who is a victim of harmful interference from another repeater system, or its operators, shall document times, band conditions, station call signs, and the type of interference experienced. Abnormal band conditions will not be considered as a valid reason for filing an interference

complaint. The trustee of the repeater who is receiving interference shall contact the trustee of the interfering repeater by certified mail, return receipt requested, outlining the existing problem and include documentation. The responding trustee shall answer any letter received within thirty days.

- B. If negotiation attempts fail and the interference problem cannot be resolved with the trustee of the interfering repeater, the offended trustee shall then contact his SERA District Director by letter, outlining the problem and provide his documentation of the problem. Any failed attempt to contact the interfering repeater trustee should also be explained in detail.
- C. The Frequency Coordinator shall use the complete documented history of the affected repeater and offending repeater that is contained in the applicable coordination file and database. If the Frequency Coordinator needs any other information, the individual trustees, or sponsors, shall provide that information within thirty days of any request by the Frequency Coordinator.
- D. If the Frequency Coordinator cannot resolve the problem, using the guidelines explained above, and the trustee bearing responsibility for the interference does not cooperate, or does not take reasonable action to resolve the problem, or refuses to cooperate with the Frequency Coordinator in any way, the SERA Frequency Coordinator will consult the FCC Enforcement Division in writing, outlining the existing problem. He will also notify the affected repeater trustee and offending repeater trustee in writing of the letter being sent to the FCC. Upon consultation with the FCC Enforcement Division, the Frequency Coordinator may continue negotiations with the repeater trustee or turn all documentation over to the SERA President who will impanel a review board. The review board shall have thirty days to uphold the suggested action or recommend further investigation, negotiations, or alternative actions.
  - 1. If the decision of the Frequency Coordinator is upheld, the review board shall notify the trustee of the interfering repeater by certified mail, return receipt requested, and all other involved parties within ten days of the affirmed finding.
  - 2. If the trustee of the interfering repeater does not comply with the findings of the review board or refuses to agree to binding arbitration, the Frequency Coordinator shall notify the repeater trustee by certified mail, return receipt requested, that his frequency has been de-coordinated. The Frequency Coordinator will then write to the FCC Enforcement Division, whose jurisdiction the interfering repeater is located, and request enforcement of the de-coordination in accordance with current FCC regulations. The Frequency Coordinator shall include an outline of all action taken and photocopies of all documents generated as a result of this matter. At this point, any further action rests with the FCC.
    - a. If the trustee of the interfering repeater agrees to binding arbitration, an arbitration committee will be impaneled. Consisting of three members, one appointment will be made by the SERA Executive Committee and one appointment will be made by the trustee of the interfering repeater. These two appointees will unanimously select a third member who will serve as the committee chairman. The members of this arbitration committee will be licensed amateur operators, as well as repeater trustees, and full members of the SERA. No member of the arbitration committee shall be an elected officer or appointee of the involved SERA district. No officer or appointee of another coordinating entity may be a member of a SERA arbitration committee. The decision of this committee will be final.
    - b. No professional arbitrators will be used. It is strongly believed that problems involving amateur radio, is best understood by licensed amateur radio operators.
    - c. The SERA will pay all reasonable and necessary out of pocket expenses incurred by the arbitration committee. Expenses will be subject to approval by the Executive Committee. Expenses will not include fees for services rendered.
- E. All cases of malicious interference shall be forwarded to the FCC Enforcement Division having jurisdiction in the area where interference is located after proper documentation has been made. Documentation shall include, but not be limited to, times, band conditions, station call signs, and the type of interference experienced.
- F. The FCC has adopted rules to define the NATIONAL RADIO QUIET ZONE, which is referred to in Part 97.3(k). The area is bounded by latitude 39 degrees, 15 minutes, north; longitude 78 degrees, 30 minutes, east; latitude 37 degrees, 30 minutes, south; and longitude 80 degrees, 30 minutes, west. Located in the area surrounding the National Radio Astronomy Observatory at Green Bank, WV, and the U. S. Naval Research Laboratory at Sugar Grove, WV, the Quiet Zone protects the area where sensitive radio astronomy and national security operations take place. Amateurs, who wish to place repeaters, beacons, or other transmitting devices within the Quiet Zone, shall contact the SERA for coordination of the requested frequencies. Upon receipt of the approved coordination from the SERA, final permission to place the repeater system on the air shall be obtained from: National Radio Astronomy Observatory, Interference Officer, P. O. Box 2, Green Bank, WV 24944-0002. Like any other coordinated system, changes in location, antenna height or pattern, ERP, frequency, or any other operating parameters of the system, as defined in Policy 9, require approval from your SERA Frequency Coordinator AND the Interference Officer at Green Bank.

## ***POLICY 20 - REPEATER INDEXES AND PUBLISHED LISTINGS***

Aside from coordination of repeaters in the southeastern United States, the SERA shall maintain a database of information that will be readily available to all officers of the organization. The source of data contained in the Repeater Journal listings, or indexes, is the respective SERA Frequency Coordinator. Listing from any other source will be reviewed and approved by the respective Frequency Coordinator, prior to publication.

- A. The SERA shall maintain a computerized database of all known repeaters in the districts, which it serves. The repeater listings will be updated quarterly for publication in the Repeater Journal, the official publication of the SERA, and are believed to be correct to the best of our knowledge. The published listings will contain only basic pertinent repeater information. All other repeater information, will be held as confidential and will not be published or made available to anyone, other than frequency coordinators through the regular course of their duties. Newly coordinated frequencies may sometimes miss publication deadlines and not readily appear in the Repeater Journal, even though the information will be contained in the master database.
- B. The Repeater Journal shall publish all known repeaters, coordinated or uncoordinated, to satisfy the requirements of our IRS Tax Exempt status. Further, the Repeater Journal reserves the right to publish the status of any repeater within its respective districts. The operational parameters of all repeaters within the SERA districts will be contained in our database. Any repeater operating contrary to the official SERA Frequency Utilization Plan shall be marked as such in the database. By publishing a "non-band plan" repeater, the SERA is not condoning such operation.
- C. The SERA Repeater Index may not be published or reproduced, in any form, by any individual, publication, electronic source, or any other means, for distribution without the expressed written consent of the SERA, Inc.



- D. While the SERA makes every attempt to publish correct and accurate indexes, we cannot be responsible for errors in our lists including, but not limited to, those repeaters which may, or may not be, on the air. In cases where proposed repeaters, or repeaters under construction, are listed for one year and no communication has been received by the SERA concerning the status of the repeater, the listing will be deleted in accordance with Policy 16(D).
- E. Repeater owners and/or trustees are responsible for the accurate listing of their repeater. Likewise, the owner/trustee is responsible to see that all pertinent operational information is on file with the SERA.
- E. Failure to maintain up to date information in the SERA UCS Database may be construed to infer that the repeater is no longer on the air and the frequency is available for re-assignment.

## **DOCUMENT MODIFICATION HISTORY**

SERA Coordination Policies and Guidelines Rewrite, Adopted by the Board of Directors in January, 1987.

An updated rewrite for clarification, by titling and codification of the individual paragraphs, and deletion of the CVRA title from the organization was made and approved by the Board of Directors in January, 1989.

Boundary changes for the Kentucky District and the addition of the Mississippi District were made in August, 1989.

Clarifications regarding club coordinations and trustee responsibilities (Policies 8, 9, and 13) made July, 1990.

Complete re-writes for Policies 13, 16, 17, 18, and 19, typographical errors, as well as other minor word additions or deletions were approved by the SERA Board of Directors in January, 1995.

Complete re-writes for the Introduction, Policies 2, 3, 5, 6, 7, 8, 9, 10, 12, 14, 15, 17, and 20, typographical errors, as well as other minor word additions or deletions were approved by the SERA Board of Directors in July, 1995.

Minor change in wording of Policy 1 under Districts and reversed the order of appearance of WV & TN was approved by the SERA Board of Directors in January, 1996.

Minor change in adjacent channel spacing contained in Policy 5, Subsection B.1 and B.1.b. was approved by the SERA Board of Directors in June, 1996.

Added policy subsections 14.F and 17.A.5.c, concerning the operation of remote bases", and renumbered CTCSS/PL policy to 14.G, which was approved by the SERA Board of Directors in June, 1997.

Minor change in wording of Policy 5.B.1 adding 222 MHz, where it was apparently omitted from that sentence. Further, the proper abbreviations for kilohertz and megahertz were inserted. Both changes approved as an administrative error correction by the SERA Board of Directors, in January, 1999.

Minor change to correct a clerical error in the wording of Policy 7A and 7B, where 222 MHz needed changed to read 225 MHz and 450 MHz needed changed to read 430 Mhz. Correction approved by SERA Board of Directors in June, 1999.

A change was made in Policy 5.A.3 whereby co-channel spacing was reduced from 100 to 75 miles for repeaters operating on 440, 902, 1240 MHz, and above. A change was made in Policy 14.G requiring the mandatory assignment and use of CTCSS tones for repeaters operating on 440, 902, 1240 MHz, and above. A change was made to Policy 20.C where it applies to the copyright of the SERA Repeater Journal Index(es). All references to "limited coverage" 440 MHz repeaters were deleted from Policy 5. The SERA Board of Directors adopted these changes in January, 2001.

A modification to Policy 14.G and the creation of Policy 14.H specifying the CTCSS tones that would be used for 28 MHz repeaters. This new policy (14.H) parallels the ARRL's 28 MHz repeater plan in regions W4, W5, and W8, and adds two additional tones (for later expansion). The SERA Board of Directors adopted this change in January, 2002.

A change was made in Policy 5.B.3 and eliminated Policy 5.B.4 whereby Adjacent channel spacing was reduced from 25 miles to 00 (zero) miles for repeaters operating on 440, 902, 1240 MHz and above. The SERA Board of Directors adopted this change in February 2003.

A complete language change was made to Policy 17 and approved by the SERA Board of Directors on June 12, 2004.

Additions were made to Policy 5 for narrow band 900 MHz operation. Removal of the "first on frequency" statement in Policy 14 Section D and

change of Policy 18 B to agree with 97.205(b) of FCC rules. Elimination of mention of FCC Engineer in Charge (EIC) for enforcement actions and replaced with FCC Enforcement Division. The SERA Board of Directors adopted these changes in January 07, 2006.

Policy 17 was completely re-written and approved by the SERA Board of Directors at the SERA Summer Meeting on June 11, 2011.

Updates were made to Policy 8 to address repeater call sign and trustee policy. Removed the reference to "first on frequency" in Policy 12. The SERA Board of Directors adopted these changes on January 08, 2012.

Updates to the SERA CP&G were requested, submitted and approved by unanimous vote 07/01/2014  
Dr. Mike Fariss, K4EZ By-Laws Chairman