



# L C A R C

## Louisiana Council of Amateur Radio Clubs

### *Frequency Coordinating Policies and Procedures*

The LCARC has delegated the responsibility of coordinating Amateur VHF and UHF frequency usage in Louisiana to its Frequency Coordinating Committee. These coordinating policies have been developed from practical experience over the years, reinforced by action of the LCARC Board of Directors and affirmed by the membership.

**POLICIES used in formulating a frequency coordination:**

1. No coordinations will be issued in which any parameters are in conflict with applicable FCC Rules and Regulations.
2. Repeater geographical spacing and frequency coordination will be determined by repeaters' "Service Area", i.e., the area within which effective communications can be maintained through the repeater under normal propagation conditions. Abnormal propagation conditions WILL NOT be considered when formulating a coordination. Each repeater's Service Area will be determined by the height of the transmitting antenna above average terrain (HAAT) and the effective radiated power (ERP) of the transmitter. Satellite receiver locations(s) may also be considered in determining the Service Area.
  - a. For most purposes, co-channel (same frequency) coordinations will use, AS A GUIDE, Service Areas based upon the criteria of Table I:

**Table I**

Given: ERP = 400 watts, frequency band = 144 MHz

HAAT <i>feet</i>	Range <i>Radius in statute airline miles</i>
50	23
100	29
200	38
400	49
800	62
1600	79

For an ERP of 100 watts, multiply ranges by 0.78, or 6 dB less. Appropriate corrections for other power levels or other frequency bands shall be made.

EXAMPLE: Co-channel repeater Service Area radii will be added so that a repeater with a calculated Service Area radius of 49 miles could be coordinated on the same frequency as another repeater with a Service Area of 62 miles, as long as there was at least 111 miles of separation between the repeaters.

- b. The Committee reserves the right to add a buffer zone to the above figures.
- c. 15 KHz adjacent-channel coordinations will be made such that about 40 dB of protection will be given to mobiles from each Service area when operating within the Service Area of the other repeater. This will reduce the separation arrived at by the co-channel technique in Item No. 2-a, above, by 50 percent.
- d. 20 KHz adjacent-channel coordinations will follow a similar technique and offer 20 dB of protection, at separations of about 25 percent of the co-channel mileage.
- e. 25 KHz or greater frequency separations will considered on a case by case basis.

3. Systems wherein the coordination request indicates that the ERP versus HAAT limits of Table II will be exceeded will be designated as Wide Area Coverage and, in addition to establishing a need for the requested coverage, must comply with the following:

- a. For coordination of a new repeater -- In addition to submitting all the data required on the coordination application forms, the applicant shall meet with the Coordinating Committee to provide technical details and such other information as may be pertinent in support of the application.
- b. For changes to an existing coordinated repeater -- In addition to submitting all the data required on the coordination application forms, the applicant shall submit a test plan which, as a minimum, shall include data on the field strength pattern of existing coverage and best estimates of proposed coverage. When these have been submitted, the applicant shall meet with the Coordinating Committee to provide technical details and such other information as may be pertinent in support of the application.

**Table II**

Maximum Effective Radiated Power (ERP) for frequency bands below:

(HAAT)**	29.5 MHz	420 MHz	1240 MHz
Up to 105 Feet	800 Watts	-----	-----
105 to 525 Feet	400 Watts	800 Watts	-----
525 to 1,050 Feet	200 Watts	800 Watts	-----
Above 1,050 Feet	100 Watts	400 Watts	-----

*\*\*NOTE: Antenna height above average terrain is measured to the center of the radiating portion of the antenna.*

4. On frequency bands where severe overcrowding is evident, new repeaters may be coordinated so as to minimize interference, and to balance activity among the channels, by placing new repeaters on channels which may already be occupied by existing systems. The determination of which existing system gets a co-channel user will be on a basis of activity, Service Area, and other factors deemed important.

a. LCARC will not consider for coordination any system that has not been on and operating regularly for a 6 month test period on the "Repeaters Builders' Channel" (RBC) to prove out equipment, determine the useable service area, and establish a basis for user activity level. Operation must occur at the actual permanent repeater location, and repeater activation must be by means other than carrier access (i.e., low frequency continuous tone (CTCSS), coded squelch, etc.). Repeaters operating on the RBC will receive an interim coordination which specifies the 6-month operating period. However, no interference protection from coordinated adjacent channel repeaters, or other repeaters operating on the RBC with interim coordinations, can be expected. Repeaters operating with an interim coordination on the RBC may not cause interference to fully coordinated co-channel repeaters. If this occurs, the system operating on the RBC must cease operation until the problem can be resolved.

b. The following repeater frequency pairs have been designated as "Repeater Builders' Channels":

<b>Input - MHz</b>	<b>Output - MHz</b>
144.570	145.170
223.000	224.600
447.900	442.900
908.000	920.000
1271.000	1283.000

c. LCARC will monitor the activity level on all repeater channels. This activity data, along with other relevant circumstances, will be used to determine candidate frequencies for new systems.

d. The RBC's may also be used for testing of temporary experimental repeaters, and for the operation of portable emergency repeaters. Except in the case of a declared emergency, these operations may not cause

interference to coordinated or interim coordinated co-channel or adjacent-channel repeaters, and they must accept any interference from coordinated or interim coordinated repeaters.

5. All "closed" repeater coordinations will be considered provisional and are subject to periodic review according to current conditions. Such coordinations may be more limited than for open repeaters. Coded squelch will be required on all "closed" repeaters.
6. All equipment (including user's equipment) is assumed to be technically comparable to current land mobile standards, concerning adjacent-channel selectivity, sensitivity, and intermodulation susceptibility.
7. Harmful interference is defined as: "Interference which seriously degrades, obstructs or repeatedly interrupts the operation of a radio communication service (FCC 97.3(r))" when operating within the Coordinated Service Area of the system in use.
8. All coordinations will be made in accordance with the band plans as designated by the American Radio Relay League (ARRL) exercising the local option of 15 KHz channel spacing for the 146 MHz to 147 MHz repeater spectrum and standard 20 KHz channel spacing for the 145 MHz repeater spectrum. A coordination will consist of: Name of sponsor, exact station location, Service Area, operating frequencies (including receive, transmit, control and link), maximum ERP, maximum antenna HAAT, frequency tolerance, maximum deviation for FM systems, and effective date of the coordination. Coded access or a directional antenna radiation pattern may be required under certain circumstances. (These provisions may be amended or waived at the discretion of the Coordinating Committee on a case-by-case basis.)
9. Coordinations are made with the following conditions:
  - a. Newly coordinated systems are to be operational within six (6) months;
  - b. Modifications to existing systems are to be implemented within six (6) months;
  - c. Written inquiries to or from LCARC must be acknowledged within thirty (30) days;
  - d. If the above conditions are not met, or if the system is observed to be off the air for three (3) months or longer, coordination may be withdrawn; and
  - e. Requests for a single extension for a period of an additional three (3) months will be considered on a case by case basis.
10. Coordinations are not the property of the sponsor, and they are not assignable or transferable to other sponsors, except with the approval of the LCARC membership at ~~the~~ a regular meeting. (This policy may not be waived by the LCARC Frequency Coordinating Committee.)
11. Proposed changes to a system, such as changes or additions of frequencies, change of station location, increase of antenna height, increase of ERP (including increase of transmitter output power, reduction of duplexer or transmission line loss, or increase of antenna gain) which would affect a coordination must be submitted to the Coordinating Committee before making changes, to permit a study of the impact of the changes.
12. Frequency coordination may be withdrawn if the sponsor, station location, or frequencies are changed, or if any other provisions of the coordination, such as antenna height or ERP, are exceeded, or if any operation is contrary to applicable FCC rules. Revocation of coordination will be based upon conditions existing during review by the Coordination Committee. Modifications or changes implemented subsequent to judgment by the Coordinating Committee will not be considered as grounds for reversal of decisions of the Coordinating Committee or during appeal of said decisions.
13. Frequency coordination may be withdrawn if the sponsor fails to respond to written inquiries from LCARC within 30 days of a certified mailing. All LCARC correspondence will be addressed to the most recent address of record. It is the responsibility of the sponsor to keep LCARC apprised of its correct mailing address.
14. If requested, LCARC will attempt to resolve disputes between affected parties. A sponsor or their designee may request a hearing before the Coordinating Committee at the next scheduled meeting of the Committee by writing to the Coordinating Committee Secretary. If the hearing request results from actions initiated by the Coordinating Committee, the written request must occur within 10 days of receipt of correspondence from the Coordinating

Committee. If the outcome of the Coordinating Committee hearing is not satisfactory to the sponsor or his designee, the sponsor or designee may then request a hearing before the LCARC membership at the next scheduled membership meeting with a written request to the Council Chairman that shall be mailed within 10 days of the Coordinating Committee hearing.

15. LCARC will periodically publish a Repeater Directory. Repeaters will be described in the following manner, at the discretion of the sponsor:
  - a. Open - All information will be listed;
  - b. Limited - Use may be limited. Contact sponsor for further information (closed repeaters will not be listed - this automatically applies to all link and control frequencies);
  - c. Uncoordinated repeaters shall be listed as such in the LCARC Repeater Directory; and
  - d. LCARC will note and publish simplex frequencies upon request, but does NOT formally coordinate them.
16. If appropriate, LCARC may supply appropriate repeater information to publishers of repeater directories.
17. Falsification of the annual repeater verification form will be grounds for de-coordination.
18. All newly coordinated repeaters must be capable of operating with PL (CTCSS) tone-coded squelch.
19. By signing the application form and/or the annual renewal form, the repeater trustee signifies that he/she accepts these policies and guidelines.
20. Upon request from a member of the LCARC Coordinating Committee, the trustee or sponsor of a repeater must be able to demonstrate that a repeater system is functioning as coordinated.

**PROCEDURES used when issuing a frequency coordination:**

1. A LCARC Frequency Coordination Technical Data Survey Form shall be sent to the requestor in response to a written request for coordination. Such requests will be logged by the Committee Secretary.
2. Upon receipt of a Technical Data Survey Form, the request shall be added to the agenda for the next meeting of the Frequency Coordinating Committee. The Committee shall make a coordination, with regard for intended area of coverage, geographical separation from co-channel and adjacent-channel users, mode of operation etc.
3. Letters shall be sent to co-site, co-channel, and adjacent-channel users of record, and adjacent area frequency coordinators, if appropriate, notifying them of the proposed operation (or changes to an existing coordination). Comments received in writing within 30 days regarding the tentative coordination (or changes) will be considered by the Committee.
4. Depending upon the responses received from step #3, above, the Committee Secretary shall either issue a written coordination, or shall repeat steps #2 and #3 for an alternate coordination.