

# BRITISH COLUMBIA AMATEUR RADIO COORDINATION COUNCIL

## BCARCC Radio Frequency Coordination Policies

### COORDINATION REQUIRES COOPERATION!!

The effectiveness of the British Columbia Amateur Radio Coordination Council (BCARCC) depends upon the respect and cooperation of those it serves. The BCARCC is supported by its members. One of our functions is the coordination of Amateur Radio fixed-frequency station operations. Although our Amateur sub-bands are a finite resource, they can support a large amount of fixed-frequency activity if shared in a harmonious manner; abuse can destroy the resource for everyone. The BCARCC needs input from all users of the resource and will function most effectively when all users participate actively in BCARCC's decision-making process. The BCARCC is a democratic and cooperative association of Amateur Radio clubs and station licensees in British Columbia making coordination decisions for the benefit of all of our community. *All potential operators of fixed-frequency stations are encouraged to seek coordination through the BCARCC prior to operation.*

All legal authority for Amateur Radio operations in Canada resides within Industry Canada – BCARCC has no legal authority for radio regulation; it functions only as a “registrar” of existing operations, and as a facilitator/mediator if requested. Industry Canada and BCARCC have agreed to cooperate under the terms of a Memorandum of Understanding (MoU).

### Frequency Coordination Policies Applicable to All Bands

#### General

1. The BCARCC does not "grant" or "approve" coordination of fixed frequency Amateur stations, but does register coordination. The final decision regarding operation of a fixed-frequency Amateur radio station lies with the federal government licensing authority (currently Industry Canada), and ultimately involves only the licensing authority and the licensee. However, the BCARCC exists as a voluntary coordinating body set up by and for Amateurs, whose purpose is to gather and make available information regarding current and proposed use of fixed frequencies for operations in the Amateur service in and adjacent to British Columbia. The BCARCC, through its appointed Coordinators, is able to provide advice and assistance regarding the selection of frequencies, sites, antennas and other technical details relative to establishing a fixed-frequency Amateur radio station in a manner which will avoid or minimize conflict between Amateur operations.
2. BCARCC Coordinators are appointed by the directors of the Council on the basis of the Coordinators' knowledge and experience in spectrum utilization, including propagation of radio signals at VHF and higher frequencies, knowledge of the

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geography and terrain of the area for which they are responsible, and their ability to manage a complex database. That knowledge, experience and ability is made available for the benefit of all Amateurs. Amateurs wishing to operate fixed-frequency stations are encouraged to take advantage of the services of the Coordinator in their area before applying for registration of coordination, both to minimize the potential for conflict to existing operations and to provide a basis for avoiding future conflict to their own operations.

3. Frequency coordination is a process through which the licensee of a radio station proposing to operate on a fixed frequency agrees to use a selected:
  - a. transmit and receive operating frequency;
  - b. location (geographical coordinates and ground elevation above mean sea level);
  - c. coverage pattern (antenna elevation above ground level, directivity, and effective radiated power);
  - d. mode of operation (voice, packet, etc.); and
  - e. access coding, if applicablesuch that the potential for conflict between users of the coordinated radio station and users of other stations using the same or adjacent frequencies is minimized.
4. From time to time, the BCARCC will publish a list of stations which have already been coordinated, with their frequencies and general locations. Amateurs desiring new or changed coordination may request coordination of any frequency not on that list in their coverage area. Coordinators may help to select a frequency, if requested to do so and if they have time available. Coordination is registered by the Coordinator based strictly on technical merit. Neither the number of potential users, club affiliation or other factors are taken into consideration
5. A successful frequency coordination will be evidenced by (1) email confirmation; and (2) a Certificate of Coordination, issued upon request.
6. Certificates of Coordination remain valid as long as all of the conditions listed in Article 13 and described in the accepted *On-line Update/Request Form* (or the form previously used for the same purpose) remain unchanged, or for a maximum of five years from the acceptance of the most recent update/request, whichever occurs earliest. Holders of coordination are encouraged to apply for a revised coordination if any listed condition is changed, and *must* apply for update of registration at least within five years of registration or last update of registration, in a spirit of cooperation so the coordination database can be kept up to date and accurate. If BCARCC becomes aware of a change without having received a registration update request, or if more than five years have passed without an update of registration, BCARCC may remove

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the affected repeater from its listing or may show the repeater in the listing as “Not Coordinated”, and may list another repeater as coordinated on the same frequency.

7. Coordination is based on the best data available to the Coordinator at the time a Coordination is registered. A Coordination is not a guarantee of a clear frequency. The licensee of a coordinated fixed-frequency station, like all other Amateurs, is responsible for avoiding conflict and has a duty to cooperate with other users to mitigate conflict if it occurs. **YOUR BEST PROTECTION AGAINST UNINTENTIONAL CONFLICT IS ACCURATE INFORMATION IN THE COORDINATION DATABASE.**
8. The boundaries for coordination activity of the BCARCC are the boundaries of the province of British Columbia and Yukon Territory. The BCARCC makes a best effort to communicate with Amateurs in Alberta and the north-western U.S.A., but cannot give any assurance regarding frequencies in use in those neighbouring areas at the time of coordination or in the future.

### **Request for Coordination**

9. A request for coordination may be submitted to the BCARCC Coordinator for the area in which the station to be coordinated will be located. Coordinators' mailing addresses, coordination areas, etc., will be published along with the list of coordinated frequencies.
10. Requests for coordination should be made using the on-line Update/Request Form found on the BCARCC website. Where a signature is required, submit a scanned copy or submit the request by ordinary mail.

### **Fees**

11. Deleted – Issue 3

### **Conditions Applicable to Coordination**

12. The BCARCC will process requests for frequency coordination of fixed-frequency stations from individuals or from sponsoring organizations. However, the individual or licensee representing the sponsoring organization, must hold an Advanced Amateur operating certificate or IC-approved equivalent, and be appointed by the organization to be the coordination holder. The Certificate of Coordination, issued upon request will be issued to the individual or the sponsoring organization.

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13. All registered coordinations are for a specific:
  - a. transmit and receive frequency;
  - b. transmitter location (latitude, longitude, and ground elevation above mean sea level (AMSL)) (AMSL is shown on standard topographic maps);
  - c. antenna elevation above ground, antenna gain and radiation pattern;
  - d. feed line configuration (filters, duplexers, feeder type and length);
  - e. effective radiated power (ERP);
  - f. mode of operation;
  - g. method of repeater access; and
  - h. sponsoring organization and station licensee.

This information will be on the Certificate of Coordination, but not all will be made public. (see "Confidentiality of Information").

14. The BCARCC recommends that all new coordinations use continuous tone coded squelch systems (CTCSS, DPL, etc.) as a means of repeater access. However, the BCARCC recognizes that in many cases carrier-operated-squelch will not result in undesirable station or system operation or complaints of conflict, and does not intend to require CTCSS for coordination in the foreseeable future. It remains the responsibility of Amateur Radio operators to take all reasonable steps to avoid conflict regarding frequency use
15. The BCARCC is not concerned with the ownership or control of transmitter or receiver sites.
16. Registered coordination will be evidenced by a Certificate of Coordination issued by the BCARCC:
  - a) after a frequency has been agreed to, and
  - b) after the request for coordination has been accepted, and
  - c) after the operator has advised the coordinator that the station is on the air, and
  - d) after the station has passed a 3-month test period with no unresolved reports of conflict.

Once the test period has been completed without reports of conflict, it is the responsibility of the coordination holder to submit a request for a Certificate of Coordination and to submit a revised Update/Request to reflect any subsequent changes in the coordination conditions originally specified.

17. **FOR THE PROTECTION OF YOUR COORDINATION, YOU MUST KEEP US INFORMED.** The licensee of a coordinated station (the coordination holder) is advised to keep the BCARCC informed as to the status of the station and any associated

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system by having an up-to-date On-line Update/Request Form on file with the BCARCC. A change of any of the parameters listed on the Certificate of Coordination without prior coordination by the BCARCC may cause the Certificate of Coordination to become invalid because of incorrect information in the coordination data base, which could lead to other stations being coordinated incorrectly. The BCARCC requires that an On-line Update/Request Form be submitted at least once every five years

18. Except in special circumstances, all correspondence from the BCARCC will be directed to the coordination holder. To facilitate this correspondence, the email address used must be that of the coordination holder; the postal address used must be his/her home address or personal post-office box.

### **Trial Period**

19. Normally there will be a three-month "trial period" during which other users of the coordinated frequency who experience conflict will advise the coordination holder and the BCARCC Coordinator for the area, and those users and the coordination holder are expected to make best efforts to resolve the conflict during that period, using common sense and in a spirit of good will. The BCARCC has no authority to resolve conflict issues, but may offer mediation if requested by the parties involved. If substantial conflict to a previously coordinated station or system occurs and cannot be resolved, the Registration of Coordination for the new station may be withdrawn (cancelled), on the principle of "first in has priority".
20. During the trial period the coordination holder may find it necessary or desirable to make changes to the conditions of the station from those under which the original coordination request was made (e.g., change antenna pattern, add filters, reduce transmitter power, etc.) These changes may be made without immediate reference to the BCARCC if they do not result in conflict. The coordination holder should keep a log of hours of operation (by date and time), of all complaints received, and of all changes, including the time and date when the changes were activated or cancelled. If changes are made, the coordination holder should protect the coordination by submitting a revised request form to the BCARCC Coordinator within a reasonable time (preferably within a month) after the end of the 6-month trial period.

### **Guidelines for Sharing Frequencies**

21. The following general principles apply as guidelines for coordination:
  - a. fixed separation distance cannot be used as a criterion for re-use of co-channel or adjacent channel frequency assignments -- natural geographic barriers and terrain characteristics must be taken into account;

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- b. receiver coverage may be a significant factor in determining system coverage, but systems using multiple voting receiver sites, or using receiving antennas sited higher than the transmitting antenna need not be given extended coverage protection, unless the system fits within the definition of a "wide-coverage system" (to be defined);
  - c. receiver coverage overlap will be based on the 50% probability of a mobile with omnidirectional ERP of 25 watts causing a response; i.e., producing a received signal greater than 0.5 microvolt at more than one repeater over a significant area;
  - d. repeaters operating with transmitter ERP greater than 100 watts may be requested to reduce output if required to provide reasonable coordination with other systems, either co-channel or adjacent channel; and
  - e. although repeater DX'ing by users may cause unintended conflict to co-channel systems, such operation is not a matter for BCARCC action;
22. Where it appears that a proposed new coordination may result in conflict between the new or modified station and an existing station or system, the Amateur requesting coordination should make a reasonable attempt to obtain, and submit with the request for coordination, letters of concurrence from current holders of Coordination Letters for the desired frequency. This requirement may be waived by the Coordinator if the Coordinator is convinced there will in fact be little or no conflict. If conflict is likely and no letter of concurrence is submitted with the application, the Coordinator may recommend an alternative frequency or other parameter, or decide the new request can not be coordinated.
23. Because of the shortage of available frequencies and the relatively low usage of some, a Coordinator may investigate the possibility of sharing a frequency. In such a case, the Coordinator may suggest to the new applicant that he/she approach the operator of a coordinated station and ask if the frequency could be shared. If that agreement is given in writing to the Coordinator, the new shared coordination will be registered by BCARCC. If that agreement is not given, the applicant will have to find an alternative that is technically acceptable.

### Conflicting Requests

24. Requests for coordination will be dealt with in the order of receipt of completed requests (i.e., the earliest complete request for coordination has precedence). However, conflicting requests received during any 24-hour period will be treated as though received simultaneously. The BCARCC does not accept responsibility for resolving conflicts between requests when a second or later request is received while an earlier application is pending.

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25. Conflict issues may be brought to the attention of the Coordinators, who will try to facilitate communication between the parties, if appropriate, to resolve the issue. If the issue cannot be resolved at this stage, the Chief Coordinator will pass the issue to the Policy Committee for resolution. If the Policy Committee cannot assist in resolving the issue, it may refer the issue to Industry Canada, if deemed appropriate, or to the Directors, for resolution. If asked to mediate between parties in a case of mutually conflicting requests for coordination, factors raised by the Coordinator for consideration may include, but are not necessarily limited to:
- a. limiting the potential for conflict with other Amateur operations;
  - b. giving preference to serving a larger number of potential users, including proposed operation of an open rather than a closed system;
  - c. avoiding duplication of coverage of an existing system in the same band, or providing new coverage for an area not presently covered;
  - d. preferring diversification rather than concentration of coordination holders except where there is substantial benefit to the community from concentration;
  - e. giving preference to applicants with a satisfactory record for resolution of previously reported problems; and
  - f. recognizing any potential for enhancement of the hobby through use of advanced technology or operating features.

The Coordinator may suggest that greater weight be given to items in the order listed (e.g., more weight to avoiding duplication than to potential for enhancement of the hobby).

### Transfer of Coordination

26. Coordination of an existing frequency can be transferred to another individual or organization provided:
- a. the party wishing to have the coordination transferred requests the BCARCC to register the transfer, and includes a letter from the present coordination holder agreeing to the transfer;
  - b. there will be *no changes* to the operating parameters of the station as set out in section 13, a. through h., *or that any changes requested receive prior coordination from the BCARCC* (if the changes include a change of frequency or a change of station location which will cause a significant change of coverage area, the request for transfer will be treated as a new request for coordination, subject to any prior request for coordination in the same general coverage area.)

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## Denial or Limitation of Coordination

27. The Coordinator may decide that the BCARCC should not register coordination as requested, or may recommend one or more of the following as a condition for coordination:
- a. use of a less congested band for operation;
  - b. limitation of antenna height;
  - c. limitation of antenna gain and ERP, generally or in specific directions;
  - d. use of a special access code or other limited means of access; and
  - e. such other technical requirements as deemed necessary to limit conflict to existing users.

The Amateur requesting coordination is under no compulsion to accept any or all of the recommendations of the Coordinator. However, if the Amateur proceeds to operate contrary to the recommendations of the Coordinator, the BCARCC will record the existence of the station in its data base with the notation "Not Coordinated".

## De-registration of Coordination

28. Under any of the following circumstances the BCARCC may elect to de-register the coordination of a fixed-frequency station, and to record the station as "Not Coordinated" in its data base:
- a. non-operation of the coordinated station or system for any period longer than 3 months unless the BCARCC has been advised in writing before the end of the 3-month period of the reasons for non-operation and the expected date (within 6 months of the original shutdown) when operation of the station or system is expected to resume;
  - b. non-operation of the coordinated station or system for any period longer than 6 months;
  - c. failure to provide notification to the BCARCC of any substantial change<sup>1</sup> to any of the parameters set out in the Coordination or of the operational status of the station or system within 3 months of such change;
  - d. persistent refusal to cooperate with another holder of a Coordination or other licensed radio user over a period of 3 months, or refusal to take reasonably prompt steps to mutually resolve harmful interference; or,

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<sup>1</sup> A "substantial change" would include a change of frequency or location of the station (either of which would require a change of the station licence), or a change of antenna pattern or ERP of 6 dB or more, or a doubling of antenna height above average terrain within 3 km of the location.



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- e. operation not in accordance with the Radiocommunications Act or General Radio Regulations, or cancellation by Industry Canada of the station licence or operator's certificate of the coordination holder.
- 29. Harmful interference, as referred to in section 28.d., means that which endangers the functioning of a radio navigation service or of other safety service, or seriously degrades, obstructs or repeatedly interrupts a radio communication service (including Amateur Radio) operating in accordance with the General Radio Regulations. Hearing the output of another co-channel repeater or radio on the frequency of a repeater or system not in use is not harmful interference.
- 30. In the event of a perceived cause for de-registration of coordination as set out in section 28., the secretary of the BCARCC will notify the coordination holder of the perceived cause by email or mail. If a satisfactory reply stating the action which will be taken to maintain coordination is not received within 2 months after the notification date, the coordination will be de-registered automatically, and the coordination holder will be notified, again by email or mail.

### Appeals

- 31. In the event that a coordination is de-registered, or a Coordinator denies a request for coordination or suggests technical or operational limitations as a condition of coordination, the Amateur requesting coordination or the coordination holder may appeal that action through an informal appeal procedure by sending a letter to the secretary of the BCARCC setting out the reasons why the Amateur believes coordination should be registered or maintained. The secretary will inform the directors and the policy committee of the contents of the letter. Within a reasonable time thereafter, the policy committee will consider the reasons for appeal and may confer with the Amateur and/or the Coordinator involved, after which the appeal will either be upheld and the request for coordination returned to the Coordinator for action, or refused and referred to the directors for confirmation or further review if appropriate. However, the BCARCC expects most disagreement to be resolved at the Coordinator or Policy Committee level without intervention by the directors.

### Confidentiality of Information

- 32. The BCARCC recognizes and respects the right and the desire of many licensees of fixed-frequency Amateur stations to keep most of the information about the station confidential. For that reason, published data will be limited and the following information will not be made public unless the coordination holder or sponsor explicitly agrees to allow it to be published:

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- Location, including elevation, height, latitude and longitude.
- Inter-station linking frequencies, not intended for general access to the station.

That information, however, may be passed to neighbouring coordination bodies, in confidence, to facilitate the coordination process.:

Other data obtained by BCARCC from requests for frequency coordination will be entered into the BCARCC database and made available only to the directors and the Coordinators, and to officials of Industry Canada, unless prior written permission is obtained from the coordination holder to release the information. BCARCC may request such permission from coordination holders from time to time if assistance is requested by another frequency coordination body.

The foregoing policy of confidentiality applies only to information obtained from requests for coordination. Information about non-coordinated stations obtained in any manner not related to a request for coordination may not be protected and may be made available to others in any manner deemed appropriate by BCARCC.

The personal information of the coordination holder or sponsor, provided to BCARCC, is protected in accordance with the *Personal Information Protection Act [SBC 2003] Chapter 63* or its successor legislation.

### Station Identification

33. Industry Canada “Technical Requirements Respecting Identification of Radio Stations”<sup>2</sup> requires that “The operator of each radio station communicating with other radio stations shall transmit the assigned call sign at least once in every transmission and at least once every 30 minutes of transmission”.

BCARCC, as policy, recommends that fixed-frequency stations automatically transmit the station call sign, by voice or cw, or both, at the end of a transmission if the call sign has not been transmitted during the previous 30 minutes.

Persistent lack of station ID may be taken to be evidence that the station is not coordinated, and another station may subsequently be registered as coordinated on the frequency.