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Radio Standards Procedure

# **Licence Application Submission Procedure for Planned Radio Stations Below 960 MHz**

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**Canada**

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## **Introduction**

The Minister of Industry may issue licences for such terms and under such conditions as he/she considers appropriate for ensuring the orderly development and operation of radiocommunications in Canada; and the Minister may amend the conditions of any such licence where he considers such amendments necessary for the purpose for which the original conditions were provided. The Minister may set a time within which the licensee shall commence construction and may also set a time within which the licensee must have the station in operation.

## **Preamble**

Authority to install and operate a radio station in Canada will be granted only after a complete evaluation and acceptance of a submission. Formal authority is issued in the form of a radio licence.

The design and installation of all radio stations must follow good engineering practices and be technically sound.

Where equipment that permits the interconnection of a radio station to the Public Switched Telephone Network is to be used, this equipment should meet the operational and technical requirements that have been established for these devices.

Submissions shall include the details of all associated radio stations that are operated in such a way as to form a communications system.

Information in support of any special circumstances or requests that will affect the evaluation of a radio system proposal should be forwarded to Industry Canada when applications are submitted.

Industry Canada reserves the right to hold consultations with other interested parties who might be impacted by a proposal on technical and economic grounds.

All information furnished in support of a submission for certification or licensing and having commercial security and/or proprietary consequences will be retained by the Department and treated as confidential within the Department. Should a request be received for the disclosure of the information, either informally or under the *Access to Information Act*, applicants will be given the opportunity to make representations to the Department as to why the information should not be released; however, the Department cannot guarantee that all information can be protected in all circumstances. Please review the *Access to Information Act* and the *Access to Information Regulations* to obtain further information on this topic.

The application of this procedure may be complemented by local frequency management practices and procedures of the Regional Director for the area in which the proposed station(s) is (are) intended to operate. Where additional guidance is required, applicants are encouraged to contact the nearest regional or district office of the Department.

The Department reserves the right to request any additional information or place restrictions on the operating parameters of any radio station as deemed necessary.

All reference material is available on the [Spectrum Management and Telecommunications website](http://ic.gc.ca/epic/site/smt-gst.nsf/en/home?OpenDocument) of Industry Canada at <http://ic.gc.ca/epic/site/smt-gst.nsf/en/home?OpenDocument>.

## 1. General Information

### 1.1 Overview

This document describes the procedures to be followed in order to obtain or modify a radio station licence for the operation of fixed and mobile radio stations in the land mobile, fixed, aeronautical and maritime services, as well as in development or public information services. Fixed radio stations for the fixed service will also be licensed under this procedure for systems operating on frequencies below 960 MHz.

### 1.2 Modifications to Existing Stations

The procedures specified in this Radio Standards Procedure (RSP) must be followed when a licence is required for a new radio installation or if modifications to existing radio stations are planned, such as:

- modification of the location of fixed stations;
- addition of radio channels;
- modification of the operating frequency of existing radio channels;
- modification of station Effective Radiated Power (ERP);
- modification of antenna and/or filter characteristics;
- modification of equipment characteristics, e.g. bandwidth, modulation or capacity characteristics;
- modification to the centre of operation of a mobile to mobile system.

### 1.3 Stations Exempted from Licensing

Pursuant to the *Radiocommunication Regulations*, amateur radio stations are exempted from the radio licence requirement. Further details can be found on the [Amateur Radio Service Section](#) of the Spectrum and Telecommunications website. Low-power radiocommunication devices may also be exempt from licensing requirements. For such equipment, refer to Certification Criteria as defined in Radio Standards Specifications RSS-210 and RSS-310 (see Appendix A). A radio apparatus that is operated on board an aircraft in the performance of aeronautical service or on board a ship or vessel in the performance of maritime service is exempted from the licensing requirement when operating within Canada.

### 1.4 Certified Radio Equipment

Radio equipment used in Canada must normally be certified under the terms of the appropriate RSS. For more information, please consult the documents entitled *Standards and Certification of Radio Apparatus and Electronic Equipment Used in Canada*, the *Radio Equipment List (REL)*, as well as the *Radio Equipment Technical Standards List*. The links to the websites for these documents can be found in Appendix A.

## 1.5 Consultation with the Department

The Department encourages applicants to contact their local office to discuss issues pertaining to policy and planning of future systems or to obtain more information about the process of applying for a radio licence. Contact information is available in the Radiocommunication Information Circular *Addresses and Telephone Numbers of Regional and District Offices* ([RIC-66](#)).

## 1.6 Application Submission

The Department strongly encourages applicants to submit their radio station licence application online via the [Spectrum Direct website](#) at <http://sd.ic.gc.ca>.

Applications can also be sent by e-mail, print form or fax to one of the Department's offices.

In the case of first-time applicants who submit their application by e-mail, the Department reserves the right to require a signed attestation in order to confirm the application's authenticity.

Any incomplete application may cause processing delays and the Department may not be able to meet the service standard.

## 2. Documents to Consult when Completing a Radio Station Licence Application

Please refer to Appendix A for a complete list of relevant documents and references to assist in submitting a radio station licence application to Industry Canada.

## 3. Documents and Information to be Submitted

### 3.1 Via Spectrum Direct

The Department encourages applicants to submit their mobile and fixed radio licence applications via the Spectrum Direct website, which can be found at the following address: <http://sd.ic.gc.ca>. All first-time users will need to create an account and web profile on their initial access to the site. Online help is available to assist with this process, or applicants may contact one of Industry Canada's offices (see RIC-66 above).

### 3.2 By Printed Form

A completed licence application form for each land, mobile, aeronautical mobile (aircraft) or maritime mobile (ship) station must be submitted for each radio station for which an installation is planned. A single application form may be submitted for several land mobile stations if all of the data is identical. These forms are available from Industry Canada's Spectrum Management and Telecommunications website at [http://ic.gc.ca/epic/site/smt-gst.nsf/en/h\\_sf06007e.html](http://ic.gc.ca/epic/site/smt-gst.nsf/en/h_sf06007e.html). More specifically, the following forms must be used, according to station type:

[IC-2365](#): Land stations - Applications for Licence to Install and Operate a Radio Station in Canada;

[IC-2366](#): Mobile stations - Mobile Radio Station Licence Application;

[IC-2367](#): Aircraft stations - Application for a Licence to Install and Operate a Radio Station in an Aircraft Registered in Canada;

[IC-3020](#): Ship stations - Application for a Maritime Mobile Radio Station Licence.

### **3.3 Additional Information**

In addition to the completed forms, applicants will need to submit the following information:

- a diagram of the antenna structure and multi-coupling chains when the application is intended for a station located on a multi-frequency site;
- a topographical map when no civic address to identify a fixed station's proposed location is available, or similar information provided by GPS coordinates;
- a power of attorney when an application is filed by a third party.

The Department may also request additional information about the description of a proposed radiocommunication system's operation and performance when:

- the proposed network relies on innovative techniques or new radiocommunication techniques, such as spread spectrum or other techniques;
- the proposed radio equipment has not been issued a technical acceptance certificate (TAC) according to the procedure defined in RSP-100.

Appendix B describes the technical and operational specifications of the system that might be required in these instances.

## **4. Licence Fees**

Licence issuance fees are prorated from the date of authorization to the end of Industry Canada's current fiscal year (March 31). Annual renewal fees are payable thereafter. A full description of the licensing fee structure may be found in Radiocommunication Information Circular, [Guide for Calculating Radio Licence Fees](#) (RIC-42).

## **5. Overview of the Licence Application Process**

Processing a licence application is based on the following steps and criteria:

- verification and eligibility of the applicant;
- verification of conformity with the provisions set forth in CPC-2-0-03 (Radiocommunication and Broadcasting Antenna Systems);
- verification of conformity with the frequency redeployment plan where relevant;
- technical review of proposed system's electromagnetic compatibility;
- request for frequency coordination where relevant; and
- application authorization.

The following sections provide more detailed information about some of these steps. Note that any incomplete application may delay the review process of a licence application and also have an impact on the departmental service standard commitment. It is the applicant's responsibility to ensure that all required information is provided.

## 5.1 Radiocommunication and Broadcasting Antenna Systems

Before submitting any licence application for a fixed station, applicants must consult Client Procedures Circular entitled [Radiocommunication and Broadcasting Antenna Systems](#) (CPC-2-0-03) and follow the procedures and conditions specified therein.

Industry Canada's new antenna siting and approval procedures deal with the impact of antennas and their structures on the environment with respect to the following points:

- sharing of existing antenna structures;
- consultation on land use;
- public notification and consultation;
- environmental review;
- radio frequency fields; and
- air navigation safety.

These procedures help to ensure greater community consultation and continued deployment of radiocommunication systems across Canada. For fixed radio stations that require radio licensing, an attestation must be submitted to confirm that the proposed station complies with the procedures.

The attestation ([form IC-2430](#)) is available on Industry Canada's website under [Radiocommunication and Broadcasting Antenna Systems](#).

## 5.2 Conformity with the Frequency Redeployment Plan

The provisions of the Frequency Redeployment Plan are in force in the areas where the spectrum is congested, i.e. in areas where mobile service traffic is intense and where applicants may be refused spectrum access. These provisions may also target assignments in areas neighbouring a congested area if it is foreseeable that these assignments will have an impact on spectrum availability in the congested area. The Plan covers frequency bands of the land mobile service in the 100-500 MHz range. The list of affected bands is provided in the [Redeployment Plan for Spectrum Efficient Land Mobile Equipment in the Frequency Range 100-500 MHz](#) (RDP 100-500 MHz) in addition to the [Standard Radio System Plans \(SRSP\)](#), which can be found on Industry's Canada website.

## 5.3 Frequency Coordination

The goal of frequency coordination is to protect assignments both in Canada and in foreign jurisdictions from harmful interference. When appropriate, the Department will ensure frequency coordination with the administration of the foreign jurisdictions. Should coordination be unsuccessful, the Department will notify the applicant and will assist the latter in finding alternative solutions. International coordination procedures are set forth through bilateral agreements. For more information on this issue, please consult [Terrestrial Radiocommunication Agreements and Arrangements](#) (TRAA) on the Spectrum and Telecommunications website.



## **6. Service Standards**

Industry Canada is committed to providing quick, reliable and courteous services to its clients. To this end, the Department has adopted service standards for application processing. A detailed description of the Department's service standards can be found in the document entitled [Spectrum Management Services Standards](#), available on the Spectrum Management and Telecommunications website.

## **Appendix A - Related Documents**

[CPC-2-0-15](#) - Canadian Ownership and Control

[Standards](#) - Technical Standards Lists

[Pamphlet](#) - Standards and Certification of Radio Apparatus and Electronic Equipment Used in Canada

[RDP 100-500 MHz](#) - Redeployment Plan for Spectrum Efficient Land Mobile Equipment in the Frequency Range 100-500 MHz

[REL](#) - Radio Equipment List

[RIC-42](#) - Guide for Calculating Radio Licence Fees

[RIC-66](#) - Addresses and Telephone Numbers of Regional and District Offices

[RP-003](#) - Policy Guidelines for Mobile Radio Trunked Systems

[RP-010](#) - Policy Guidelines Concerning the Transfer of Radio Licences

[RSP-100](#) - Radio Equipment Certification Procedure

[RSP-113](#) - Application Procedures for Planned Radio Stations Above 960 MHz in the Fixed Service

[RSS-210](#) - Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment

[RSS-310](#) - Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category II Equipment

[SRSP](#) - Standard Radio System Plans: Technical Requirements for Land Mobile and Fixed Radio Services

[TRAA](#) - Terrestrial Radiocomm Agreements and Arrangements

[TRC-43](#) - Notes Regarding Designation of Emission (Including Necessary Bandwidth and Classification), Class of Station and Nature of Service

## **Appendix B - Technical and Operational Specifications of the System**

### **(A) Functional Description of the System**

- (i) A statement of the system justification, required coverage area, system configuration, method of operation, and deployment of frequencies, using maps as necessary;
- (ii) Data pertaining to the existing radio system, such as radio channel loading, capacity, the number and kind of mobile units, the anticipated growth in subscribers and system data rates, and any other factors that would affect radio channel sharing by other users in the same area;
- (iii) Description of ancillary equipment and sub-systems, such as selective calling, tone-coded squelch, data transmission capabilities, facsimile, etc.;
- (iv) Data pertaining to the type of modulation methods used, nature of the signal and type of information to be transmitted and, where digital formats are used, information related to packet length, bit rate, error correction techniques, etc.;
- (v) Short- and long-term spectrum requirements, including the number of frequencies required and frequency band(s); and
- (vi) Other information as requested by the Department.

### **(B) Equipment Requirements**

Where proposed stations will use equipment that has not yet been certified, applicants should follow the radio equipment certification procedures outlined in RSP-100. This information should be included at the time licence applications are submitted to the Department. Uncertified equipment will be considered for licensing on a case-by-case basis.

### **(C) System Performance**

- (i) Transmission path calculations (based on the required coverage area) are required for each coverage area or link;
- (ii) A path profile diagram is required for each radio path where a clear line of site path does not exist. Path profiles should be drawn on the basis of an effective  $4/3$  earth radius;
- (iii) Minimum required signal level and expected system performance must be specified;
- (iv) For systems using digital techniques, the system performance should also specify the expected bit error ratio;

- (v) For systems carrying multi-channel telephony, the expected noise power ratio (NPR) to be calculated in a 3.1 kHz bandwidth at the radio receiving terminal baseband output using white noise loading techniques in accordance with CCIR Recommendation 399 (latest revision); and
- (vi) When special performance requirements have to be met, these should be stated.