Industry Canada

SP 450 MHz
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Spectrum Management

Spectrum Utilization Policy

Spectrum Utilization Policy for the Frequency Bands 450-451 MHz and 455-456 MHz and also parts of the 150 MHz Band Used in Support of Broadcasting Operations and the Frequency Bands 409-410 MHz and 420-421 MHz Used by the Mobile Radio Service

Canada

Aussi disponible en français – PS 450 MHz

1. Intent

The purpose of this document is to specify the spectrum utilization policy for the frequency bands 450-451 MHz and 455-456 MHz and also parts of the 150 MHz band used in support of broadcasting operations and the Frequency bands in the 409-410 MHz and 420-421 MHz used by the Mobile Radio Service.

2. Bands 450-451 MHz and 455-456 MHz and Parts of the 150 MHz Band

2.1 Introduction

The Department of Communications issued Gazette Notice DGTP-010-84/TRS-028-84, dated November 13, 1984 proposing a change to the spectrum utilization policy for the frequency bands, 450-451 MHz and 455-456 MHz. These bands have been used for Studio Transmitter Links (STL's) for AM broadcast stations, broadcast pickup and mobile operations associated with broadcasting undertakings.

In an earlier proceeding, the Department provided for experimental implementation and testing of AM stereophonic broadcasting systems in Canada in Gazette Notice DGTN 004-82/DGTR 013-82 over the period September 1, 1982 to March 1, 1984. This test period was extended in subsequent Gazette Notices. It is expected that this trial will lead to the eventual conversion of AM broadcast stations from monaural to stereo format which will, in turn, require studio transmitter links with the capacity to carry stereo programming.

The bandwidth requirements for stereo Studio Transmitter Links are larger than could be reasonably accommodated in the 150 MHz and 450 MHz bands. In addition, there is a continuing overall demand for spectrum to meet the requirements for mobile operations, including those associated with Broadcast Undertakings. While needs for the fixed service can be met at higher frequencies, for technical reasons demand for mobile spectrum must be met today in the VHF/UHF portions of the radio frequency spectrum.

Consequently, the Department proposed in November, 1984 that all new and existing AM broadcast stations proposing to broadcast in stereo utilize Studio Transmitter Links in higher frequency bands, thus leaving the remaining spectrum for mobile and other broadcasting auxiliary operations. However, certain flexibility was proposed for dealing with STL's in geographic areas where the use of the radio frequency spectrum is low.

2.2 Policy

2.2.1 General

The general principle of restricting the fixed service usage of bands below 1 GHz particularly in areas of intensive frequency use wherever and whenever possible in favour of usage for mobile services, will be followed.

Similarly, the general principle of encouraging the use of non-radio alternatives wherever and whenever they are practical and particularly in areas of intensive frequency use will be pursued.

Where use of radio is warranted, STL's for new AM (and FM) broadcast stations, whether they operate in monaural or stereo format, should be authorized in higher frequency bands. The 1.7 GHz band, as defined in SP 301.7, is the preferred band for AM and FM monaural and stereo STL's. Under special circumstances the spectrum in the band 956-960 MHz as defined in SP 300.89 can also be used for STLs.

2.2.2 Existing STLs - Monaural

Existing AM and FM broadcast stations which choose to continue to broadcast monaural programming may, if they are currently assigned a Studio Transmitter Link in the bands 450-451 and 455-456 MHz continue to use that link on a standard basis. Those using STL's in the 150 MHz band for this purpose may also continue but are designed non-standard on the effective date of this policy.

2.2.3 Existing STL's Converting to Stereo and New STLs

Existing monaural broadcast stations converting to broadcast in stereo and wishing to use a STL will normally relinquish any existing 150 MHz or 450 MHz STL assigned to them and replace it with an assignment in one of the higher frequency bands designated for this purpose, except as noted in 2.2.4 below. On application by the licensee, and at the discretion of the appropriate Regional Director, a short term dual STL operation for up to two years can be authorized. In such an arrangement, an STL operating in a higher frequency band would transmit the stereo service and the existing 150 MHz or 450 MHz STL would provide a monaural backup service. New STLs will be assigned in higher bands except as noted in 2.2.4.

2.2.4 Application of Policy

In areas of Canada where the demands for mobile services is defined as light, the Regional Director may choose to license monaural STL's and with sufficient justification, stereo STL's in the 450 MHz band to support the operation of new and existing AM broadcast stations. These areas of light mobile use are defined in the DOC Radio Systems Policy, RP-004. However the Regional Director may wish to vary these definitions due to local needs and circumstances, and license STL's on a non-standard, or in exceptional cases, on even a standard basis. No further 150 MHz STL assignments will be made.

2.2.5 Provisions for Non-Standard STLs

Providing the demand for mobile assignments in a particular geographic area in the 150 MHz or 450 MHz range is not high, STLs licensed on a non-standard basis may continue to operate in those bands on that basis indefinitely. In the event the frequencies are required at some time in the future to meet a mobile requirement, the general provisions for the

rearrangement or modification of non-standard systems would apply (i.e. as specified in SP GEN, the non-standard STL operation would receive up to a 2 year notice dependent on local circumstances, at the discretion of the appropriate Regional Director, to vacate the frequency at which time they could then apply to establish a new STL in other bands that are available for that purpose).

2.2.6 Mobile Operations in Support of Broadcasting

Frequency requirements for mobile operations used in support of broadcasting operations will continue to be met in the bands 450-451 and 455-456 MHz, but assignments will be made at the lower end of each of these two 450 MHz subbands, to the extent possible. This is to permit the eventual introduction of new technology mobile systems in the vacated spectrum. Except for mobile operations used in support of broadcasting operations, no new mobile assignments for other purposes will be made in those bands pending the result of a future policy review.

3. Bands 409-410 MHz and 420-421 MHz

3.1 Introduction

In the same Gazette Notice DGTP-010-84/TRS-028-84, dated November 13, 1984 the Department proposed a reallocated use for the bands 409-410 MHz and 420-421 MHz currently designated solely for medium capacity mobile radiotelephone systems since there were no apparent plans to develop radiotelephone systems in this band in several areas of the country while demand for mobile radio dispatch systems remained high in many of these same areas. The proposal also included provisions for continuance and expansion of any existing radiotelephone systems within the operating territory of the particular licensee.

3.2 Policy

As a principle, the Department will act to ensure use of spectrum in an efficient and effective manner to meet the varying demands of users across Canada. While the bands 409-410 MHz and 420-421 MHz have been used for the implementation of a mobile radiotelephone system in some areas, there is no apparent interest in other areas to implement such systems in these bands at this time - particularly with the recent introduction of 800 MHz, North American compatible, cellular radiotelephone systems and the allocation by the Department of 40 MHz of mobile spectrum for this purpose.

The Department is, therefore, allocating these particular bands for use by dispatch mobile radio services in addition to their currently allocated use for mobile radiotelephone services. This newly allocated use will share these bands geographically with the mobile radiotelephone use on an either/or basis. That is to say that any mobile radiotelephone systems already licensed will be allowed to grow to their design potential and to extend to the boundaries of the licensee's operating territory. The Department will not assign any dispatch mobile radio systems that would compromise full mobile radiotelephone system

development in these areas. At the discretion of the Regional Director, the use of radio operating in these bands as a means of local loop replacement for telephone companies may be authorized in areas of light mobile use.

In those areas where mobile radiotelephone systems have not yet been licensed in the bands 409-410 and 420-421 MHz, the radiotelephone use will be retained as a standard use until April 30, 1987. Until the end of this period, letters-of-intent could be accepted from telephone companies for new applications for mobile radiotelephone systems provided the need for a third mobile radiotelephone system were justified. (The first two common mobile radiotelephone systems are the VHF General Land Mobile Radio Service and the 800 MHz Cellular Mobile Radiotelephone Service).

The use of these bands for dispatch mobile radio systems may be limited by each Regional Director to certain types of new mobile systems (e.g. - trunked systems only). During the period until April 30, 1987 the Department may also license applicants for dispatch mobile radio systems in these bands if they can satisfy the Regional Director why other 400 MHz bands could not accommodate their proposed mobile usage. The need and extent of this justification would be at the discretion of the Regional Director and will be waived after April 30, 1987.

In geographical areas where duplex mobile operations cannot be utilized due to radio astronomy observations in the band 406.1-410 MHz (see Annex 1), the Department will accept applications for simplex operations in the band 420-421 MHz.

Due to the use of the band 420-421 MHz in border areas by the Radiolocation Service in the U.S.A., mobile systems in certain areas of Canada may be disrupted during periods of emergency. For this reason, safety service users which could not tolerate such disruptions should not plan to use the band 420-421 MHz on a simplex basis or on a duplex basis with the band 409-410 MHz.

4. Implementation

This Spectrum Utilization Policy is effective on its release.

V. Hill
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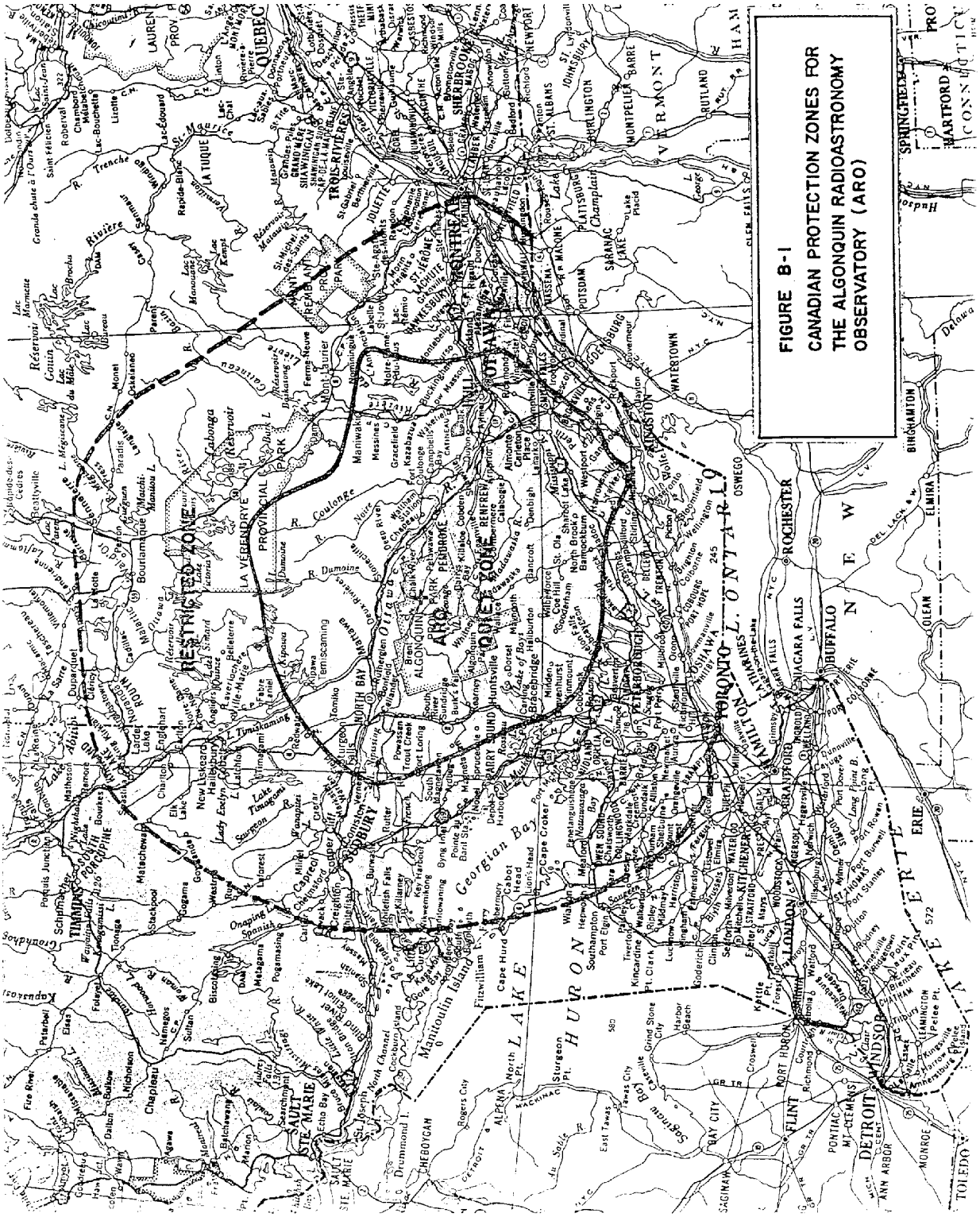
FIGURE B-1
CANADIAN PROTECTION ZONES FOR
THE ALGONQUIN RADIOASTRONOMY
OBSERVATORY (ARO)
RESTRICTED ZONE
PROVINCIAL PARK
ARO
QUIET ZONE
L. ONTARIO
L. ERIE
L. HURON
Georgian Bay
Manitoulin Island
QUEBEC
MONTREAL
OTTAWA
TORONTO
HAMILTON
BUFFALO
ROCHESTER
DETROIT
WINDSOR
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