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Guide to Assist Land-use Authorities in Developing Antenna System Siting Protocols

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1. Introduction

This guide is intended to assist Land-use Authorities (LUA) in ensuring effective local participation in decisions regarding proposals to build antennas and their supporting structures within their communities. For the purposes of this guide, an LUA means any local authority that governs land-use issues and includes a municipality, town council, regional commission, development authority, township board, band council or similar body. This guide complements Industry Canada's Client Procedures Circular CPC-2-0-03, Issue 5, [Radiocommunication and Broadcasting Antenna Systems](#). LUAs are encouraged to consult CPC-2-0-03 to better understand roles and responsibilities.

The requirements of CPC-2-0-03 apply to anyone (referred to as a "proponent") who is planning to install or modify an antenna system,¹ regardless of the type. This includes telecommunications carriers, businesses, governments, Crown agencies, operators of broadcasting undertakings and the public (including for amateur radio operation and over-the-air and satellite TV reception). The requirements also apply to those who install towers or antenna systems on behalf of others or for leasing purposes ("third party tower owners"). As well, the procedures contain obligations that apply to existing antenna system owners and operators, including those relating to the use of existing infrastructure (sharing).

This guide specifically addresses two areas:

- **Participation Process:** Addresses the LUA's role in effectively participating and influencing decisions with respect to proposed antenna systems within Industry Canada's antenna siting procedures. Industry Canada believes that antenna siting protocols jointly developed between proponents and LUAs can supplement the Department's antenna siting procedures, while at the same time having a higher degree of acceptance and compliance.
- **Local Protocol Development:** Sets out elements that LUAs might wish to include when developing protocols with proponents of antenna systems.

The federal Minister of Industry has the authority under the [Radiocommunication Act](#) to issue radio authorizations, to approve each site on which radio apparatus, including antenna systems (referred to as "antenna systems" or "installations"), may be located and to approve the erection of all masts, towers and other antenna-supporting structures. Industry Canada's role includes ensuring the orderly development and efficient operation of radiocommunications in Canada. In this regard, Industry Canada considers that the questions, comments and concerns of the local public and the LUA are important elements for proponents to consider when seeking to install, or make major modifications to, an antenna system.

Radiocommunication and broadcasting services are important for all Canadians and are used daily by the public, safety and security organizations, all levels of government, wireless service providers, broadcasters, utility companies and other businesses. Antenna systems are an essential component in providing these services and must be installed on towers, buildings or other antenna-supporting structures. Antennas and the structures that support them are integral to wireless network communication systems

¹ For the purposes of this document, an "antenna system" is normally composed of an antenna and some sort of supporting structure, normally a tower. Most antennas have their own integral mast so they can be fastened directly to a building or a tower.

and they provide the radio coverage the public and safety services need. With advancements in technology and given the growing demand for high-speed wireless access, communities in Canada are currently experiencing, or will soon experience, the deployment of new antenna systems.

Thanks to their local knowledge, LUAs are well qualified to explain to proponents the particular amenities, cultural or environmental sensitivities, planning priorities and other relevant characteristics of their area. The LUA may also be aware of potential Aboriginal or treaty rights or land claims that may be affected by a proposed installation. Working together, LUAs and proponents can find solutions which address reasonable and relevant concerns or point the way to alternative antenna system siting arrangements. Accordingly, Industry Canada encourages LUAs to develop local protocols to manage the process of identifying their own concerns, as well as those of the public they represent, regarding antenna system modifications or installations.

For the purposes of this document, Industry Canada will refer to any written local guideline, policy or process that addresses the issue of antenna placement as a “protocol”. Cooperation between LUAs and proponents through clear and reasonable protocols can result in the development of new and enhanced wireless services in a community-friendly manner.

Industry Canada² is available to assist in the creation of local land-use protocols for antenna system installations.

2. Participation Process

There are a number of steps a proponent typically follows in choosing a site for an antenna system installation; unless specifically excluded under Industry Canada’s process, one of these steps is consulting with the LUA. The community in an LUA’s area expect it to provide local knowledge, experience and leadership. The LUA can also ensure that any questions, comments or concerns are appropriately addressed by the proponent.

The subsections that follow suggest various aspects of a consultation process that an LUA may want to take into consideration when developing antenna siting protocols. Protocols are an effective means for an LUA to use to convey its preferences, as well as those of the community it represents, to antenna system proponents.

2.1 Placement of Antenna System

Proponents must consider various antenna system placement options, including using existing structures such as building rooftops and water towers, to minimize the impact on the local community. Radiocommunication antennas need to be strategically located to satisfy specific technical criteria and operational requirements. Therefore, there is a limited measure of flexibility in the placement of antennas and proponents are constrained to some degree by:

2 Please refer to *Radiocommunication Information Circular RIC-66* for a list of addresses and telephone numbers for Industry Canada’s regional and district offices. [RIC-66](http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h_sf06073.html) is available via the Internet at: http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h_sf06073.html.

- the need to achieve the required radiocommunication coverage, often in response to public demand;
- the availability and physical limitations of nearby existing structures (towers, rooftops, water towers, etc.) to accommodate additional antennas; and
- the securing of lease agreements to permit access to an existing structure.

Consequently, the LUA's or the public's preferred location for siting an antenna installation may not always be feasible.

LUAs are encouraged to develop protocols that are clear and within their area of responsibility. Protocols can include promoting the placement of antennas in optimal locations from a land-use point of view, or excluding certain types of installations from protocol requirements. Through protocols, an LUA can highlight its local knowledge and expertise related to area sensitivities, including environmental or cultural concerns, and land-use compatibility. Protocols can recognize local amenities and planning priorities while expediting the planning and approvals necessary for the installation of radiocommunication and broadcasting antenna systems.

2.2 Use of Existing Infrastructure (Sharing)³

The installation of a new antenna structure may at times reveal sensitivity in the local community. Therefore, Industry Canada requires proponents to first consider using existing towers or infrastructure (such as rooftops, water towers, utility poles, etc.). This approach is intended to minimize the proliferation of antenna towers. However, it is important to note that technical constraints, such as the need to: achieve a certain amount of radiocommunication coverage; re-use frequencies; and address equipment isolation issues; etc., may prevent a proponent from using an existing structure.

2.3 Preliminary Consultation

LUAs may wish to include in their protocols a mechanism for preliminary consultation. This would allow the proponent, before making any site selection decisions, to inform the LUA of its plans. Also, this initial contact allows a proponent to determine whether an LUA has a protocol in place regarding antenna system installations preferences. Within its own process, Industry Canada considers written formal contact as marking the official commencement of its 120-day⁴ consultation process between the LUA and the proponent.

With a protocol in place, this initial contact allows the LUA an excellent opportunity to:

- inform the proponent of established and documented local requirements and consultation procedures;

3 See also Client Procedures Circular CPC-2-0-17, [Conditions of Licence for Mandatory Roaming and Antenna Tower and Site Sharing and to Prohibit Exclusive Site Arrangements](http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09081.html). CPC-2-0-17 is available via the Internet at: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09081.html>.

4 The 120-day consultation period commences only once the proponent has formally submitted, in writing, all plans required by the LUA, and does not include preliminary discussions with the LUA.

- advise the proponent of historic and environmental land-use sensitivities including any related to potential Aboriginal or treaty right or land claim;⁵
- provide guidance and preferences to the proponent on the various preferred areas and sites to be considered;
- indicate its preferences; and
- provide information concerning any aesthetic or landscaping preferences.

2.4 Involving Local Public

Local public consultation offers a forum for members of the public located near the proposed installation to make comments, ask questions or raise concerns related to the proposed antenna system installation. This is an opportunity for the local public and the LUA to make the proponent aware of local considerations and, in so doing, influence the siting.

Industry Canada's own process recognizes two possible public consultation scenarios:

1. The LUA can set the format for public consultation in its protocol. This could identify situations that require public consultation and those that do not. It is important to note that, in all cases, telecommunications carriers, broadcasting undertakings and third party tower owners must notify and consult with the local public when proposing a new antenna tower.
2. If an LUA's protocol is silent on the issue of public consultation, or if there is no protocol, then the proponent will be required to follow Industry Canada's default public consultation process.

However an LUA is in an ideal position to develop a public consultation process because of its local experience and knowledge. For this reason, the Department encourages LUAs to include public consultation as part of their processes. The LUA, as the representative of the local community, can assist and guide proponents to conduct meaningful consultation by establishing reasonable and timely protocols which ensure local land-use concerns are appropriately addressed.

2.5 Responding to Consultation

Even in cases where the LUA does not have a local protocol, the LUA should take the opportunity built into Industry Canada's procedures to examine carefully the details of the proponent's proposal. During its examination of the proposal, an LUA may ask the proponent for additional information to determine whether there are any local land-use or public concerns. As part of the discussions, the LUA can engage the proponent by suggesting reasonable alternatives and/or mitigation measures that would address any questions, comments or concerns.

To maximize the benefit of this consultation process, both parties have to consider each other's requirements and constraints so they can work effectively together. In so doing, the parties can devise solutions that will minimize the impact of the proposed structure on the local surroundings, while at the same time taking into consideration each other's interests.

5 LUAs are encouraged to refer to online resources [for example, the Aboriginal and Treaty Rights Information System (ATRIS) (http://sidait-atris.aadnc-aandc.gc.ca/atris_online/home-accueil.aspx)] as applicable.

2.6 Concluding Consultation

Industry Canada advises that an LUA's protocol should include a mechanism for issuing a formal concurrence to mark the end of the consultation with the proponent. This may consist of a formal decision by a designated official or relevant committee or another formal means, such as a sentence or other reference in the town council minutes. If an LUA decides that a consultation ends with the issuance of a building permit, then the protocol should indicate this.

If the proponent has met the public consultation requirements, either through the LUA's or Industry Canada's default process, and neither the LUA nor the public formally communicates any concerns to the proponent about its proposal, Industry Canada will deem that the land-use authority and the public have no objections.

2.7 Impasse Negotiations, Dispute Resolution Process

When developing protocols, LUAs should consider the means by which disputes will be resolved, ensuring they are appropriate for the local community. By documenting this process, all stakeholders will understand their roles and responsibilities as well as the process for resolving disputes. Industry Canada generally favours having the proponent, the local public and the LUA work toward a solution which takes each other's interests into consideration. Where an LUA or a proponent feels it may be helpful to do so, it may engage Industry Canada in an effort to move the discussions forward. Under Industry Canada procedures, if either the LUA or proponent believes discussions have reached an impasse, either can formally request departmental intervention concerning a reasonable and relevant concern. It is anticipated this will occur rarely.

LUAs may wish to consider incorporating alternate dispute resolution options into their protocols. Many alternate dispute resolution processes are interest-based rather than regulatory in nature. Therefore, the parties are more likely to find a mutually beneficial resolution.

2.8 A Timely Process

To avoid unnecessary delays, Industry Canada's process indicates that LUAs are normally expected to conclude the consultation process within 120 days from the receipt of the formal consultation request. Accordingly, when developing protocols, LUAs should not exceed these timelines.

3. Local Protocol Guide Development⁶

3.1 Protocol Principles

The following set of considerations and suggested principles may serve as a guide to LUAs developing protocols that respectfully balance local land-use interests with the benefits that radiocommunication, including broadcasting, brings to a community. The protocol should, as appropriate, address the following:

⁶ Municipalities may also wish to refer to the protocol template developed in partnership between the Federation of Canadian Municipalities (FCM) and the Canadian Wireless Telecommunications Association (CWTA). The FCM/CWTA template can be found on the FCM's website, www.fcm.ca.

- Information to proponents describing:
 - areas of historic or environmental importance to the community and the need to minimize the impact of the proposal on these areas; and
 - local preferences for antenna siting.
- Incentives to encourage aesthetically pleasing structures.
- Exclusions, which may build upon those established by Industry Canada (CPC-2-0-03, Section 6).
- Public consultation requirements that Industry Canada believes should be proportional to the proposal and its impact on the local surroundings. LUAs may wish to consider establishing a two-track process:
 - a streamlined concurrence process for less controversial proposals, such as new sites in industrial areas or on municipal properties, for emergency services or personal installations by members of the public (including for amateur radio operation and over-the-air and satellite TV reception), and
 - a process that includes broader public consultation for non-excluded structures likely to be of interest to the local community, such as the construction of new towers used by telecommunications carriers, broadcasting undertakings and third party tower owners.

The protocol should also establish a reasonable processing timeline that respects the timelines established in CPC-2-0-03 for proposals submitted to the LUA for concurrence.

3.2 General Protocol Template

The following elements are provided to aid LUAs in developing protocols dealing with antenna system installations:

Objectives

A short discussion on the overall objectives of the local protocol.

Jurisdiction

A discussion of the LUA's responsibilities and obligations in safeguarding legitimate concerns related to local land-use. Also, the role and responsibility of Industry Canada and the authority granted under the *Radiocommunication Act* to approve the location of radiocommunication facilities.

Consultation with the LUA

This may include:

- criteria for excluding additional antenna systems, other than those listed in the CPC-2-0-03, from LUA consultation;
- process for LUA notification;
- list of all documents and drawings that the proponent must submit;
- processing and administrative fees;
- the means by which the LUA will indicate concurrence; and
- process time frames that respect those established by CPC-2-0-03.

Excluded Antenna Structures

Industry Canada believes that not all antenna systems should be subject to a full land-use or public consultation process. Subjecting all proposals to the full consultation process would place an unnecessary and significant administrative burden on proponents, the LUA and the local public. Under Industry Canada's process, certain proposals are considered to have minimal impact on the local surroundings and so are excluded from public and land-use consultations. Industry Canada believes that consultation requirements should be proportional to the potential impact of the proposal. When establishing a local protocol, LUAs should consider the types of proposals that have minimal impact and so would warrant exemption from land-use and/or public consultation. It should be noted that any exclusion criteria established by the LUA can only augment, as appropriate, those established under Industry Canada's Exclusion List (CPC-2-0-03, Section 6).

Antenna Structures Not Excluded

LUAs may wish to consider the following when developing consultation protocols:

- the type of structure: new, temporary or existing antenna systems as well as non-tower structures;
- the intended use of the structure, whether personal, commercial or safety;
- the effect on significant natural or cultural features; and
- the landscaping, access control, fencing and road access.

Furthermore, LUAs can:

- encourage the placement of new towers in commercial, industrial/agricultural areas and utility or roadway easements;
- ask the proponent to suggest various options for consideration; and
- identify preferred criteria for antenna structure siting for new structures that exceed a specified height.

Public Consultation

Public consultation is an important part of the overall consultation process. Industry Canada believes that the local public should be consulted regarding non-excluded antenna proposals. Consultation allows the community to be involved and so ultimately influence the proposal's siting. Discussions can allow stakeholders to work towards a consensus. While LUAs are free to structure their public consultation process to meet their needs, Industry Canada's process consists of two distinct components:

- **Public Notification** - where the proponent informs the public of the proposed antenna system installation or modification, providing the information needed for a complete understanding of the proposal.
- **Public Engagement** - where the proponent engages the public and responds to all questions and comments, addressing all reasonable and relevant concerns. Public engagement may take various forms, from answering letters to hosting a public meeting or drop-in, depending on the community's level of interest.

Establishing Appropriate Time Frames

It is important that the protocol establish time frames for a consultation process, to ensure timely response to any questions or concerns and to avoid unnecessary delays to the proponent and the LUA.

Industry Canada expects that any time frames established within an LUA's protocol will respect those established by CPC-2-0-03.

Under Industry Canada's procedures (CPC-2-0-03, Section 4.4), construction of an antenna system must be completed within three years of the conclusion of consultation. After three years, consultations will no longer be deemed valid except in the case where a proponent secures the agreement of the relevant land-use authority to an extension for a specified time period in writing. While Industry Canada does not

support a reduction of the three-year time limit, LUAs may wish to consider including in their protocols procedures related to extending the time limit for construction.

Criteria not Necessary to Address Through Local Protocols

As described in Industry Canada's procedures (CPC-2-0-03, Section 7), proponents have specific obligations already subject to federal requirements. Protocols should not impose additional obligations in these areas. However, an LUA may wish to ask questions or seek clarification from proponents concerning their proposed steps and the alternatives available to satisfy these and any other radio authorization requirements. Proponents must comply with:

Health Canada's public radio frequency exposure guidelines - [Safety Code 6](#) (*Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz - Safety Code (2009)*);

Radio Frequency Interference and Immunity - [EMCAB-2 — Criteria for Resolution of Immunity Complaints Involving Fundamental Emissions of Radiocommunications Transmitters](#);

- [Canadian Environmental Assessment Act, 2012](#) – CEAA 2012
- Aeronautical Safety - [Transport Canada](#) and [NAV CANADA](#) requirements for aeronautical safety

4. Conclusion

Land-use authorities, with their local knowledge, experience and leadership ability, have an important role in the consultation process relating to the siting of antenna systems. Clear and reasonable protocols will enable effective participation and cooperation between the LUA and the proponent. Such protocols can be used to identify the interests of the community as well as guiding land-use principles. Moreover, protocols allow for the introduction of radiocommunication services, including broadcasting, in the local community in a timely manner. Protocols can assist proponents planning to install antenna systems, while at the same time giving due consideration to local land-use issues.