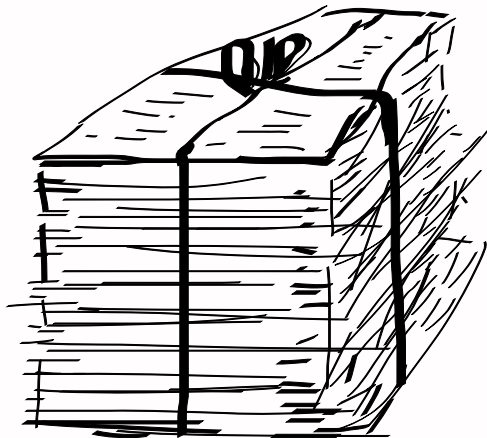


Reporting and Compliance

CanWISP 2021

Brenda Bouchette

bjbouchette@tacitlaw.com



Agenda

- ISED Reporting Requirements
 - Tower Collocation
 - Spectrum Deployment Technical Data
 - Spectrum Deployment Report
 - Licence Compliance Report
 - Safety Code 6 Reporting
 - Broadband Maps
 - New Tower Builds
- CRTC Reporting Requirements
 - Registration as carrier
 - Data Collection System
- Other Entities
 - Canadian Centre for Cyber-Security
 - Canada Labour Program

ISED Reporting Tower Collocation

- Generally triggered by ownership of spectrum licence or frequency licence
- Twice a year, March 1 and Sept 1
- Form is emailed to you, and filed by email, RTS-IPP@ic.gc.ca
- Only applies to collo requests to/from licensees identified as carriers in ISED's billing database. This list is sent with the email.
- No reporting required for collo requests to/from non-carriers, ex. vhf/uhf operators, tower real-estate companies.

If you initiate/receive a tower sharing request to/from another carrier:

- You must receive or provide a unique request ID. Both carriers use this same ID in report.
- The information that must be provided and the timelines that must be observed are provided at the ISED website:
 - Framework for Mandatory Roaming and Antenna Tower and Site Sharing
- Exclusive arrangements are prohibited.
- The report is not publicly accessible.



Tower Sharing Report Form

- First tab contains contact information

A	B	C
1		
2	1. Contact Information	
3		
4	Provide the name, title, telephone number, and email for a primary contact and alternate to answer questions regarding the data provided.	
5		
6		All rows are mandatory. <u>You must provide a primary and alternate contact.</u> Enter your data in column C
7	1 Name of Licensee (as it appears on your licence) max 100 char.	YourCompany
8	2 Primary Contact Name max 60 char.	Your Name
9	3 Primary Contact Title max 80 char.	Title
10	4 Primary Contact Telephone Number format to use 613-555-1234 (no extensions)	888-867-5309 x101
11	5 Primary Contact Email Address max 129 char.	regulatory@yourcompany.ca
12	6 Alternate Contact Name max 60 char.	Somebody Else
13	7 Alternate Contact Title max 80 char.	Title
14	8 Alternate Contact Telephone Number format to use 613-555-1234 (no extensions)	888-867-5309 x102
15	9 Alternate Contact Email Address max 129 char.	another@yourcompany.ca
16		
17	Note that the licensee name entered in cell C7 will automatically be added to the top of Tabs 2, 3 and 4	
18		



Tower Sharing Report Form

- Tab 3 looks exactly like tab 2.

	A	B	C	D	E	F	G	H	I	J	K	L
1	2. Tower Sharing Requests Initiated											
2												
3	Licensee Name		YourCompany			Period covered by this report:			March 1, 2019 to August 31, 2021			
4	<p>Must include all new requests initiated during the reporting period and data regarding ongoing negotiations (with no date in column K or L in your previous report); do not include 1 for 1 equipment swaps.</p> <p>We should be able to match all records in this worksheet with those in the tower owner's Requests Received spreadsheet</p>											
5	First six columns are mandatory						<p>All dates must be in yyyy-mm-dd format and follow each other (for ex. column H cannot precede G)</p> <p>All dates must be within the reporting period <i>unless updating request from the previous report that was ongoing</i></p> <p>If date included in column K or L, other negotiation dates must also be included in that row</p> <p>Every stage must have two dates (sent and responded to) unless negotiations are ongoing</p>					
6	MUST BE UNIQUE			Physical Location of tower		Stage 1		Stage 2		Stage 3	If no agreement...	
7	Unique request identifier	Name of tower owner (only include carriers, refer to our list)	Unique <u>site</u> ID	Civic Address	Latitude in decimal format (ex. 43.1851)	Longitude in decimal format (ex. -79.9447)	Date PIP request sent to tower owner	Date PIP request responded to by tower owner	Date Proposal to Share sent to tower owner	Date Proposal to Share responded to by tower owner (considered Offer)	Date a Tower Sharing Agreement was entered into	Date request was cancelled or tower owner considered it withdrawn
8												
9							No requests initiated or received during the reporting period.					
10												

This has to match
for both carriers.

Most of the time, you
have nothing to report.

The contents of the Preliminary
Information Package are
defined in the Framework.

Tower Sharing Report Form

- You provide information on the number of towers you own and operate from in the fourth tab.

	A	B	C	D	E	F	G
1	4. Towers and Sites in Network						
2							
3	Licensee Name	YourCompany		Period covered by this report:	March 1, 2019 to August 31, 2021		
4							
5	Columns A to F are mandatory. Every column MUST include a <u>number</u> (no text).						
6							
7	Total number of towers and sites in network <u>must be equal to columns B+D+E+F</u>	Total number of towers your company owns	Total number of towers owned (from B) that are shared with at least one other <i>carrier</i> (do NOT include number from column C in total in column A)	Total number of towers owned by another <i>carrier</i> on which you have equipment and operating from	Total number of towers owned by 3rd party (e.g. tower company or other type of licensee) on which you have equipment and operating from	Total number of sites (rooftops, church steeples, water towers, etc) on which you have equipment and operating from	
8	100	30	0	1	9	60	Enter your
9							
10							
11	*NEW* Before submitting your data, please compare it to your previous report.						
12	While we expect towers to be decommissioned from time to time, generally the numbers provided should NOT be decreasing from one reporting period to another.						
13	If any of the numbers decrease or there is a significant fluctuation from one reporting period to another, please provide a detailed explanation in your email.						
14							

This number

has to equal the sum of these four numbers

ISED Reporting Tower Collocation

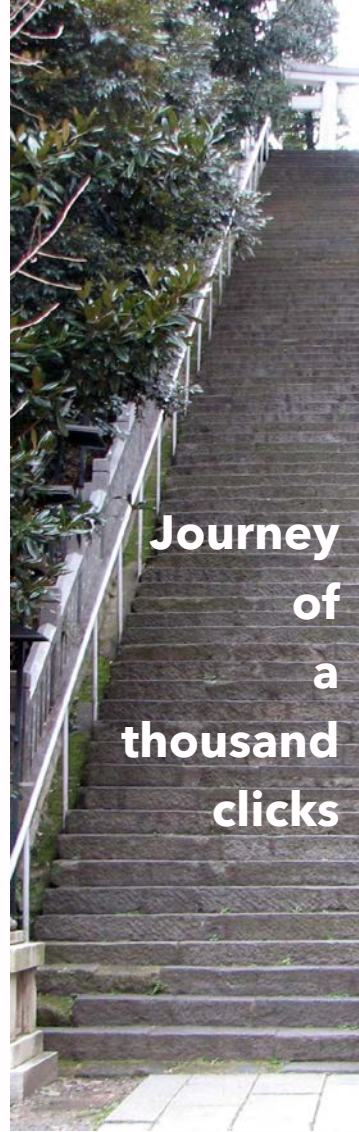
- If you do initiate or receive a request with another carrier, review the ISED Framework and keep all documentation.



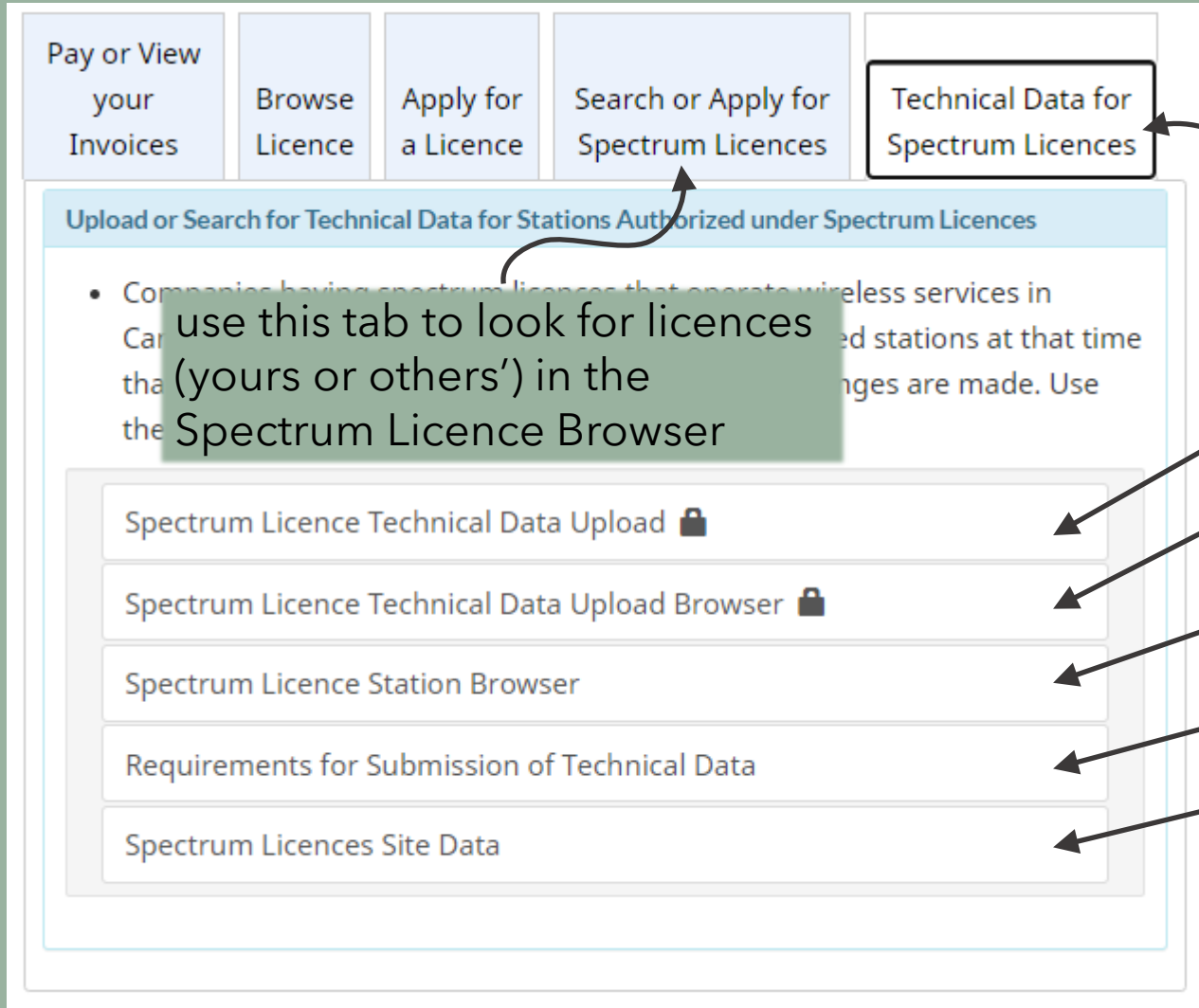
ISED Reporting

Spectrum Deployment Data Upload

- Triggered by ownership of spectrum licence (ex. 3.65 GHz or 5.2 GHz).
- Does not apply to station licences (ex. Microwave point-to-point, vhf/uhf stations).
- Supposed to be updated with every change in deployment
- Your spectrum licence number looks like 010234567-002
- Last three digits (ex. -002) are supposed to be incremented (ex. to -003) with each licence renewal. Licence term may be one year, five years, or any other time period.
- When the last three digits are incremented, your previous upload disappears.
- This is supposed to happen on the licence roll-over date, but in reality it happens when it happens. It's good practice to check every six months in the Spectrum Licence Browser.
- The report is publicly accessible.



Spectrum Deployment Data Upload



- Reporting is accessed through the [Spectrum Management System](#) website, under “Radiocommunication Licensing Services”
- If you don’t have a login, you will register for one.

this tab for upload and file description

this link for upload

this link to check that you’re up to date

this link to search for uploaded data by geographic area

this link for file format requirements

this link to download all uploaded data

Spectrum Deployment Data Upload

- If you don't have a login, you will register for one.
- If you have trouble with registration or upload, your local spectrum management office should be able to assist. Find a contact email in [RIC-66](#).
- Upload must be done using a .csv file. It is helpful to prepare this using an excel file.
- The schema and field descriptions for the .csv format can be found [here](#), or by following the link on the previous slide.
- Upload one .csv file for each licence area.
- There is one line per antenna/sector and one line per frequency.
- Once you have completed the upload, click "Refresh". You will see either an error message (unhelpful) or a message of "Success!" You are not done. Be sure to scroll to the bottom of the page and click "Import".

Spectrum Deployment Data Upload

File Format Requirements

There is no header row in the .csv file upload format. Delete this header row when you make the .csv file.

All of these fields are the same for each row in this upload.

	A	B	C	D	E	F	G	H	I	J
	my reference	licence_number	office_number	company_code	reference_number	contact_name	business_telephone	extension	email_address	location
1										
2	Site 001 West Sector	010234567-002	04	04012345678	4-077	Your Name	8888675309	101	regulatory@yourcompany.ca	Lake Wi
3	Site 002 SouthEast Sector	010234567-002	04	04012345678	4-077	Your Name	8888675309	101	regulatory@yourcompany.ca	Lake Wi
4										

I find it helpful to use a reference column. This is not defined in the .csv schema, so delete this column when you make the .csv file.

This number increments each year. Make sure it's right. Check the Spectrum Licence Browser.

Office No. = first two digits of company code

Reference No. is the tier area

Spectrum Deployment Data Upload

File Format Requirements

	J	K	L	M	the same for each site	P	Q	R		
1	location		province_code	latitude	longitude	site_elevation	structure_height	zone_enhancer_indicator	date_last_modifications	tx_fre
2	Lake Winnipeg N	MB	524708.5	975717.5	217	12	N	2021-01-15	365	
3	Lake Winnipeg S	MB	523844.5	974518.5	217	12	N	2021-01-15	365	
4										

All of these fields are the same for each site

"N", unless this is a cell repeater.

The upload returns an error if the co-ordinates of a site are too close (<100m or so) from an area boundary.

Lat & long are in the following horrible format:
DDMMSS.S or DDDMMSS.S

Format the date as text, otherwise excel might treat it as a date and it will appear as a meaningless number in the .csv file.

Spectrum Deployment Data Upload

File Format Requirements

Radio Information

Radio model and emission class comes from the [Radio Equipment List](#).

	R	S	T	U	V	W	X	Y	Z	AA	AB	
	tx_frequency	tx_upper_frequency	rx_frequency	rx_upper_frequency	tx_radio_model_number	rx_radio_model_number	tx_radio_manufacturer_code	rx_radio_manufacturer_code	bandwidth	class_emission	tx_power	tx_a
1												
2	3655		3655		3082CHH	3082CHH	R7	R7	10	X1D	10	Super-
3	3655		3655		3082CHH	3082CHH	R7	R7	10	X1D	10	Super-
4												

Provide the centre frequency only. If the frequency is dynamic, provide the lower & upper extents of the range.

Manufacturer codes are listed in the schema.

Power in Watts. You may get an upload error if the power exceeds the power allowed in the RSS or SRSP.



Spectrum Deployment Data Upload

File Format Requirements

	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS
1	tx_ant_model_no	rx_ant_model_no	tx_ant_manufacturer_code	rx_ant_manufacturer_code	tx_ant_height	rx_ant_height	tx_ant_omni_indicator	rx_ant_omni_indicator	tx_ant_azimuth	rx_ant_azimuth	tx_ant_elevation_angle	rx_ant_elevation_angle	tx_ant_gain	rx_ant_gain	tx_line_loss	rx_line_loss	
2	Super-60deg-sector	Super-60deg-sector	ZZ	ZZ	8	8	N	N	55	55	-2	-2	16	16	0.5	0.5	
3	Super-60deg-sector	Super-60deg-sector	ZZ	ZZ	8	8	N	N	55	55	-2	-2	16	16	0.5	0.5	
4																	

Antenna Information

All units are specified in the schema.

This can be any textual description, usually the model number.

Manufacturer codes are listed in the schema.

"Y" for omni, "N" otherwise

0 for omni, 360 for north

Line loss is usually 0 for integrated antenna or 0.5 for a short jumper.



Spectrum Deployment Data Upload

Radio Information

The radio model and emission class can be found in the [Radio Equipment List](#) which contains data for all approved radios.

Radio Equipment Search

Hardware Version Identification Number (HVIN):

Product Marketing Name (PMN):

PMP450

Host Marketing Name (HMN):

Certification Number

Company Name:

Company Number:

Equipment Description:

▼ Advanced Search

Radio Specification (BETS99-RSS999)

RSS192

Low Frequency (0-99999) [MHz]

High Frequency (0-99999) [MHz]

Occupied Bandwidth (0-99999) [kHz]

Emission Code (Alphanumeric):

Low Power (0-99999) [W]

High Power (0-99999) [W]

Effective Date (Both fields should be filled)

From

yyyy-mm-dd

To

yyyy-mm-dd

Product Name



Narrow your search by choosing the [radio specification](#). RSS192 is for equipment in the 3450-3650 MHz range.

Radio Equipment List (REL) - Search Results

3 Items found

Displayed Items: from 1 to 3

Maximum Items on Page

20

Sorting by

Certification Number

☒ Grouping by Company

Update

CSV Download

Click on an HVIN links to view the Equipment Details

109W - Cambium Networks Inc.

Hardware Version Identification Number (HVIN)	Product Marketing Name (PMN)	Host Marketing Name (HMN)	Firmware Version Identification Number (FVIN)	Certification Number	Approval Date
3082CHH	PMP450i 3GHz Tranceiver			109W-0028	2016-12-29
3082HH	PMP450i 3GHz Tranceiver			109W-0028	2016-12-29
3092HH	PMP450i 3GHz Tranceiver			109W-0028	2016-12-29

Choose the most likely product. There are often many that are the same.



Spectrum Deployment Data Upload

Radio Information

Radio Equipment List (REL) - Details for: 3082CHH

Product Modifications (C2PC, C3PC, C4PC) Multiple Listing Add New Product(s) (C1PC) Partial Transfer

Company Number:	109W
Company Name:	Cambium Networks Inc.
Certification Number:	109W-0028
Approval Date:	Thu Dec 29 00:00:00 EST 2016
Hardware Version Identification Number (HVIN):	3082CHH
Product Marketing Name (PMN):	PMP450i 3GHz Transceiver
Host Marketing Name (HMN):	--
Firmware Version Identification Number (FVIN):	--
Equipment Description:	PMP450i Fixed Outdoor MIMO Transceiver
Type of Radio Equipment:	Fixed Wireless Access Equipment (3450-3650 MHz)
	Wireless Broadband Access (3650-3700 MHz), Unrestricted Contention Protocols

Lab Information

Certified By:	Elite Electronic Engineering Co.	2987A
Wireless Lab:	D.L.S. Electronic Systems, Inc.	2060A
SAR Lab:	--	--
RF Exposure Lab:	--	2060A-1
Nerve Stimulation Lab:	--	--
Power Density Lab:	--	--
Hearing Aid Compatibility Lab:	--	--

RF Exposure Results

Radio Model Number for Columns V&W above

RF Exposure Results

Type	Value	Compliance Distance
RF	7.13 W/m2	840 mm

Emission(s) Click on a Specification link to view the Emission Details

Specification	Issue Number	Frequency Range		Emission Designator	Power		Field Strength	Dist.
		From	To		Min.	Max.		
RSS197	1	3652.5 MHz	3697.5 MHz	4M57X1D--	1.0 mW	3900.0 mW	--	--
RSS197	1	3670.0 MHz	3680.0 MHz	36M3X1D--	1.0 mW	12900.0 mW	--	--
RSS197	1	3660.0 MHz	3690.0 MHz	18M3X1D--	1.0 mW	15400.0 mW	--	--
RSS192	3	3460.0 MHz	3640.0 MHz	18M3X1D--	1.0 mW	33300.0 mW	--	--
RSS192	3	3452.5 MHz	3647.5 MHz	4M57X1D--	1.0 mW	36100.0 mW	--	--
RSS192	3	3470.0 MHz	3630.0 MHz	36M6X1D--	1.0 mW	40000.0 mW	--	--

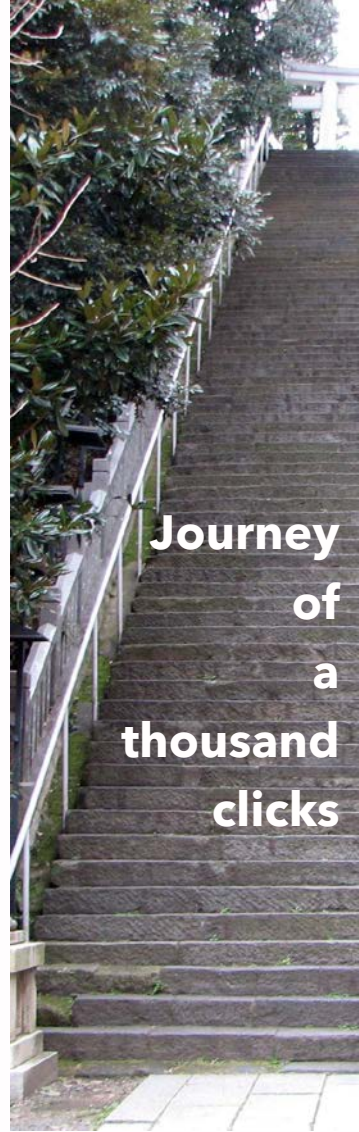
The last three characters are the emission designator in Column AA above. Here, the designator is "X1D".



ISED Reporting

Spectrum Deployment Data Upload

- You can get help from your friendly local spectrum officer ([RIC-66](#)).
- Or, from your friends at Tacit Law.



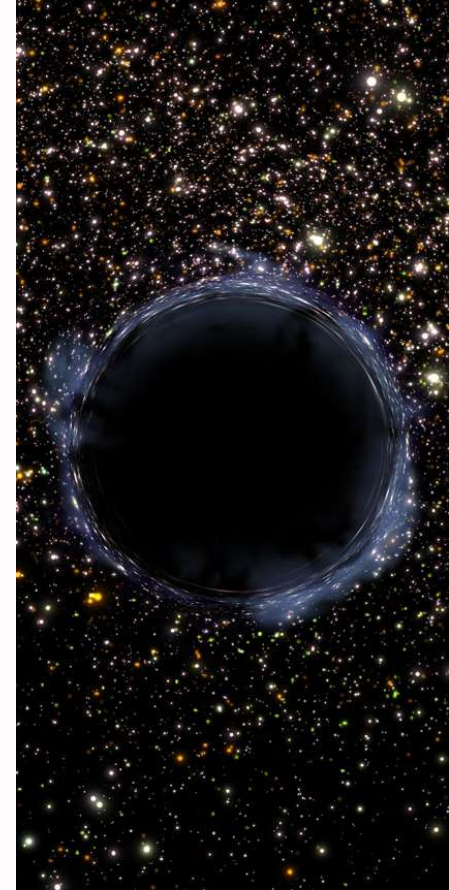
**Journey
of
a
thousand
clicks**



ISED Reporting

Spectrum Deployment / Usage Report

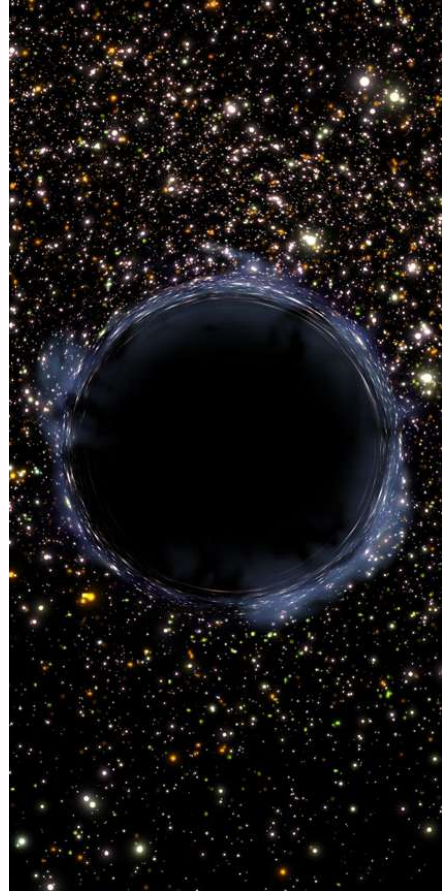
- Triggered by ownership of a spectrum licence that comes with deployment requirements (i.e. spectrum bought at auction)
- Required, but there may be no notification.
- Report is sent to ic.spectrumoperations-operationsdspectre.ic@canada.ca.
- No template or required format.
- This is an attestation that you have met the deployment requirements associated with the licence.
- Not publicly accessible



ISED Reporting

Spectrum Licence Annual Report

- Triggered by ownership of a spectrum licence that has a research & development requirement as a condition of licence (i.e. licence bought at auction).
- You should receive a request and template by email.
- Report is sent to ic.spectrumoperations-operationsduspectre.ic@canada.ca.
- Simple Word document – the only required information is your revenues for the last fiscal year.
- If your revenues are less than \$1 billion, you are exempt from the R&D requirement.
- Not publicly accessible.

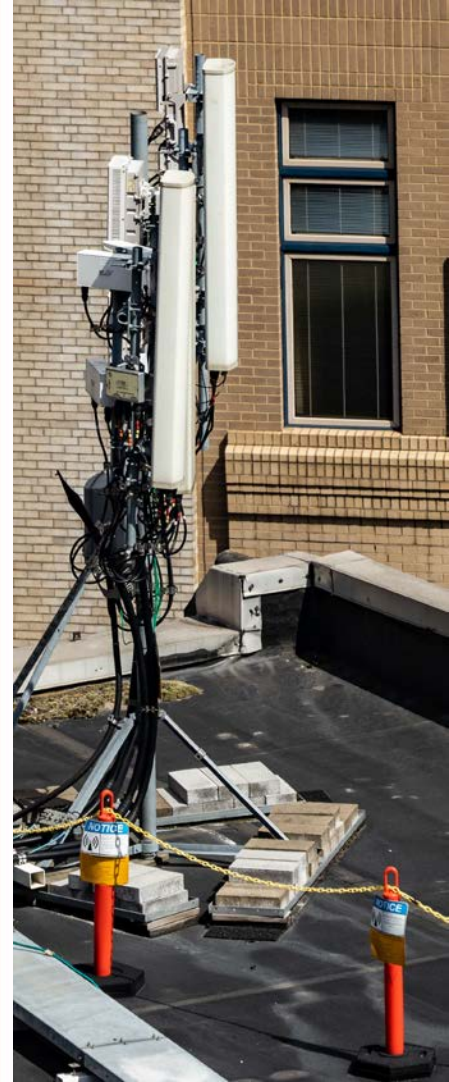


ISED Reporting Safety Code 6

- Generally triggered by ownership of a spectrum licence.
- You should get a request for this report from ISED.
- Report is sent to ic.spectrumoperations-operationsdsuspectreic@canada.ca
- The report is submitted using an excel template showing the radiation levels at the selected reporting sites.

Resources

- [Limits of Human Exposure](#) (Safety Code 6) from Health Canada
- [Technical Guidelines](#) from Health Canada
- [Technical Note 261](#) from ISED

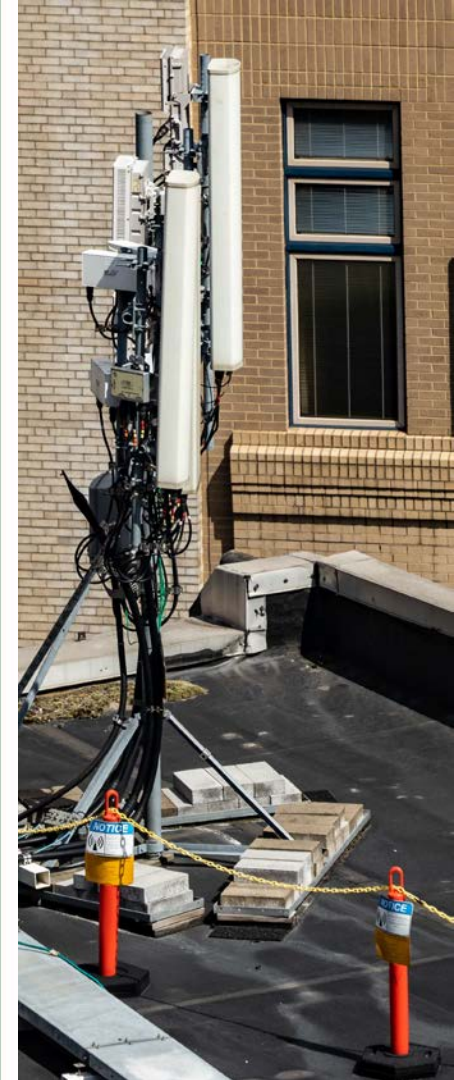


ISED Reporting

Safety Code 6

Reporting Requirements

- You must report on 10% of your sites each year, and each year you should report on different sites.
- The sites in the report are distributed evenly across three categories:
 - Rooftop
 - Towers < 10m
 - Towers 10m to 15m
 - Towers 15m to 25m
 - Towers > 25m
- The results may be based on calculations or measurements. If the calculations show that public spaces are exposed to less than 50% of the SC6 limit, then measurements are not necessary.
- For many simple WISP sites, measurements are not necessary.



ISED Reporting

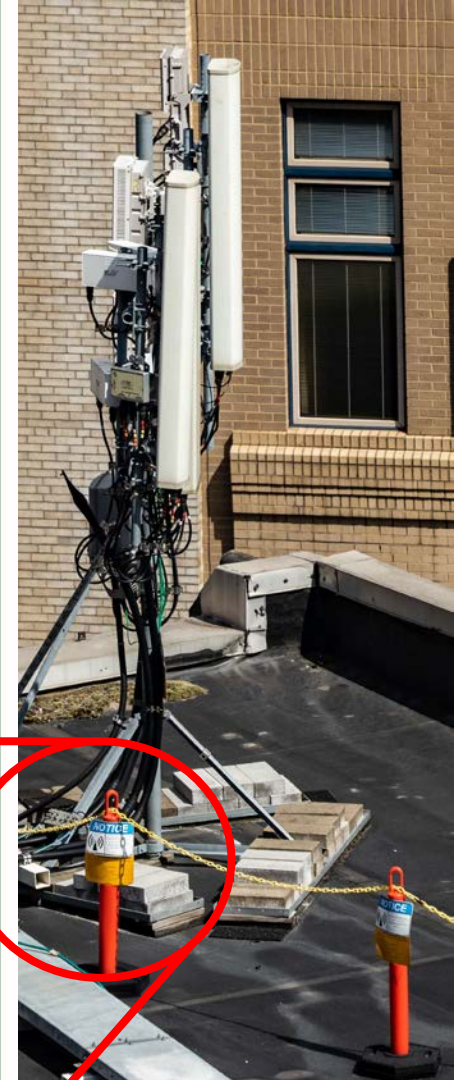
Safety Code 6

Three ways to demonstrate compliance

- Public space falls outside of exclusion zone based on calculation
- Public space is exposed to < 50% of SC6 limit based on calculation
- Public space is exposed to < 100% of SC6 limit based on measurements

Public Space

- "Public space" is accessible to the general public, with no access control or demarcation measures.
- "Public space" is up to 2m above ground level / rooftop level.
- If the bottom corner of your lowest antenna is 2.5m (8') above ground level, or above rooftop level, your site may be exempt.



ISED Reporting Safety Code 6

Exclusion Zone Calculation

- You can do this yourself with time and technical expertise.
- [Technical Note 261](#) (TN-261) from ISED
- TN-261 explains how to calculate the sphere and the cylinder
- If neither the sphere nor the cylinder, extend below the plane that is 2m above ground / rooftop, your site is exempt. No measurements are necessary.
- Exclusion zone is based on 50% of SC6 limit, using worst-case assumptions.

Figure 5 — If the near-field/far-field boundary (sphere) and the restricted zone (cylinder) intersect, the overall non-exemption zone is the combination of the sphere and cylinder

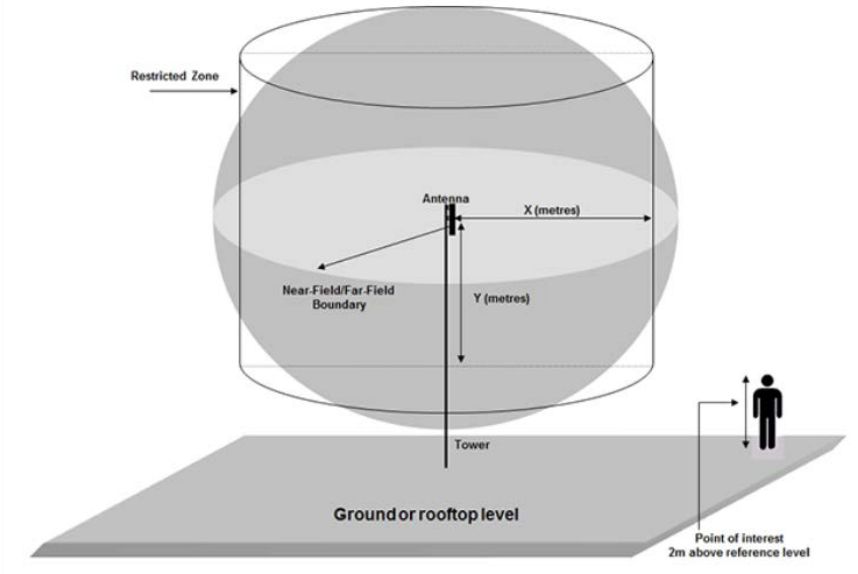


Image from TN-261

ISED Reporting Safety Code 6

Radiation Level Calculation

- These calculations are normally conducted by an engineer, but that is not a requirement of ISED.
- Calculations must take into account all antenna systems on a site. This includes VHF/UHF systems, broadcast systems, cellular systems, and any other radiocommunication systems.
- If there are many operators on a site, it may not be practical to gather all antenna information, due to inaccuracies in the SMS database and difficulty getting information from other operators. In this case, calculations will not be possible.
- Some guidance on conducting these calculations is provided in the [Technical Guidelines](#) from Health Canada
- Further guidance can be found from [FCC OET Bulletin No. 65](#).
- If the calculated exposure level is $< 50\%$, then measurements are not necessary at that site.

ISED Reporting Safety Code 6

Measurements

- Measurements are normally conducted by an engineer, but that is not a requirement of ISED.
- Measurements require specialized equipment that can measure across all bands.

ISED Reporting Safety Code 6

YourCompany has
31-40 sites total

	A	B	C	D	E	F	G	H	
1	Safety Code 6 Industry Reporting Program - Telecommunications Carriers								
2	Primary Licence Holder Name:		YourCompany						
3	Subordinate Licensees :		None						
4	Account Number:		4023456789						
5	Audit Year:		2021						
6	Total Number of Sites:		4						
7									
8									
9	Site Name	Street Address (or Legal Land Description)	City/Town	Province	Latitude (degree/min/sec)	Longitude (degree/min/sec)	Type of Site	Operators on Site (company name)	Analysis or Simulation
11	Enid's Gas Station	11 Main Street	Happy Valley	MB	53 34 30.7 N	98 31 22.2 W	Rooftop	YourCompany	Calculation
12	Beedle's Farm	234 Old Farm Road	Mosquito Pond	MB	52 58 54.6 N	98 53 55.6 W	Tower < 10m	YourCompany	Calculation
13	Rock Candy Mountain	Nearby Mosquito Pond	Mosquito Pond	MB	52 34 34.0 N	97 42 05.5 W	Tower 10-15m	YourCompany	Calculation
14	Horse Lake	6789 Lonely Highway	Muskeg Flats	MB	50 32 02.4 N	98 22 52.7 W	Tower 15-25m	YourCompany	Calculation
15	Worst-Case Scenario	N/A	N/A	N/A	N/A	N/A	Tower > 25m	N/A	Calculation
16									

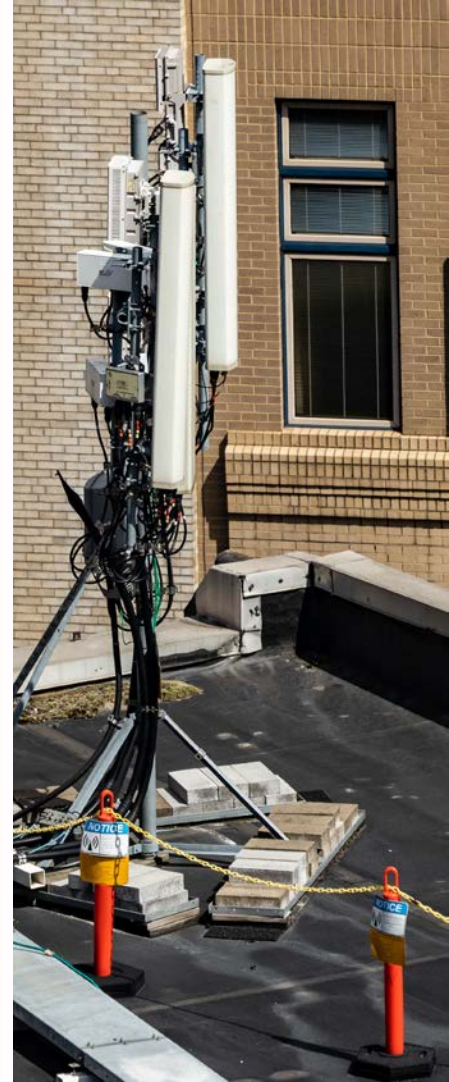
ISED may request a single worst-case analysis of a large tower site.

	I	J	K	L	M	N
7						
8						
9	Analysis Type (Measurements or Simulations/Calculations)	Date of Analysis	Company Conducting Analysis	% of SC6 Limits for Uncontrolled Environments	Description of Access Control Mechanisms	Comments
10						
11	Calculations	2021-09-15	ConsultCo	2.20%	Privately owned rooftop	
12	Calculations	2021-09-15	ConsultCo	<1%	Private property	
13	Calculations	2021-09-15	ConsultCo	<1%	Remote mountaintop site, anti-climb shield	
14	Calculations	2021-09-15	ConsultCo	<1%	Private property, fenced compound	
15	Calculations	2021-09-15	ConsultCo	<1%	N/A	

ISED Reporting Safety Code 6

Controlled vs Uncontrolled Environments

- Note, the public exposure is calculated based on the SC6 limit for uncontrolled environments. There is a different (higher) limit for controlled environments.
- Safety Code 6 guidelines were developed with large cellular and broadcast operators in mind. The requirements are not always clear for WISP sites.
- In controlled environments, workers who have access to SC6 training can take measures to mitigate their exposure.
- Measures might include
 - Limiting the time of exposure
 - Wearing protective gear
 - Using an RF monitor



ISED Reporting

Safety Code 6

Safety Considerations

- For your operational use, you may want to get a personal RF monitor that workers can use while they climb towers. They can be had for ~\$1,500. They may not measure across all bands.
- Radio and TV broadcasting sites, and heavily congested cell sites, are of concern.
- Workers should not position themselves in front of antennas. It may be possible to reduce the power levels of other systems on the tower during work.



ISED Reporting Broadband Maps

- This is not a required report
- Broadband mapping data is displayed publicly at the [National Broadband Service Availability Map](#)
- This data is used to determine areas that are eligible for funding by ISED, as well as other funding bodies. If your 50 Mbps coverage is not shown, another company may receive funding to overbuild your network.
- You can update your coverage through ISED's [broadband network feedback](#) website.
- The feedback consists of a form (ISED-ISDE3708E, link on feedback website), along with coverage files (may be .kmz or another format) attached to the form.
- Form is submitted to ic.broadband-largebande.ic@canada.ca










Area Information Layer Selector

Area ID :MB49851000

Estimated population: 501+
Estimated households: 501+

Internet service providers operating in this area:

-  DSL
 - [Bell MTS](#)
-  Coaxial Cable
 - [Westman Communications](#)
-  Fixed Wireless
 - [RFNow](#)
 - [Xplornet](#)
-  Satellite
 - [Xplornet](#)
-  Mobile Wireless
 - [Bell MTS](#)
 - [Bell](#)
 - [Rogers](#)
 - [Telus](#)
-  Fibre to the home
 - [Bell MTS](#)
 - [RFNow](#)
-  High capacity transport services
 - [Bell MTS](#)
 - [Bell](#)
 - [Telus](#)
 - [Westman Communications](#)
 - [Manitoba Hydro Telecom](#)

Screenshot from ISED website

ISED Reporting

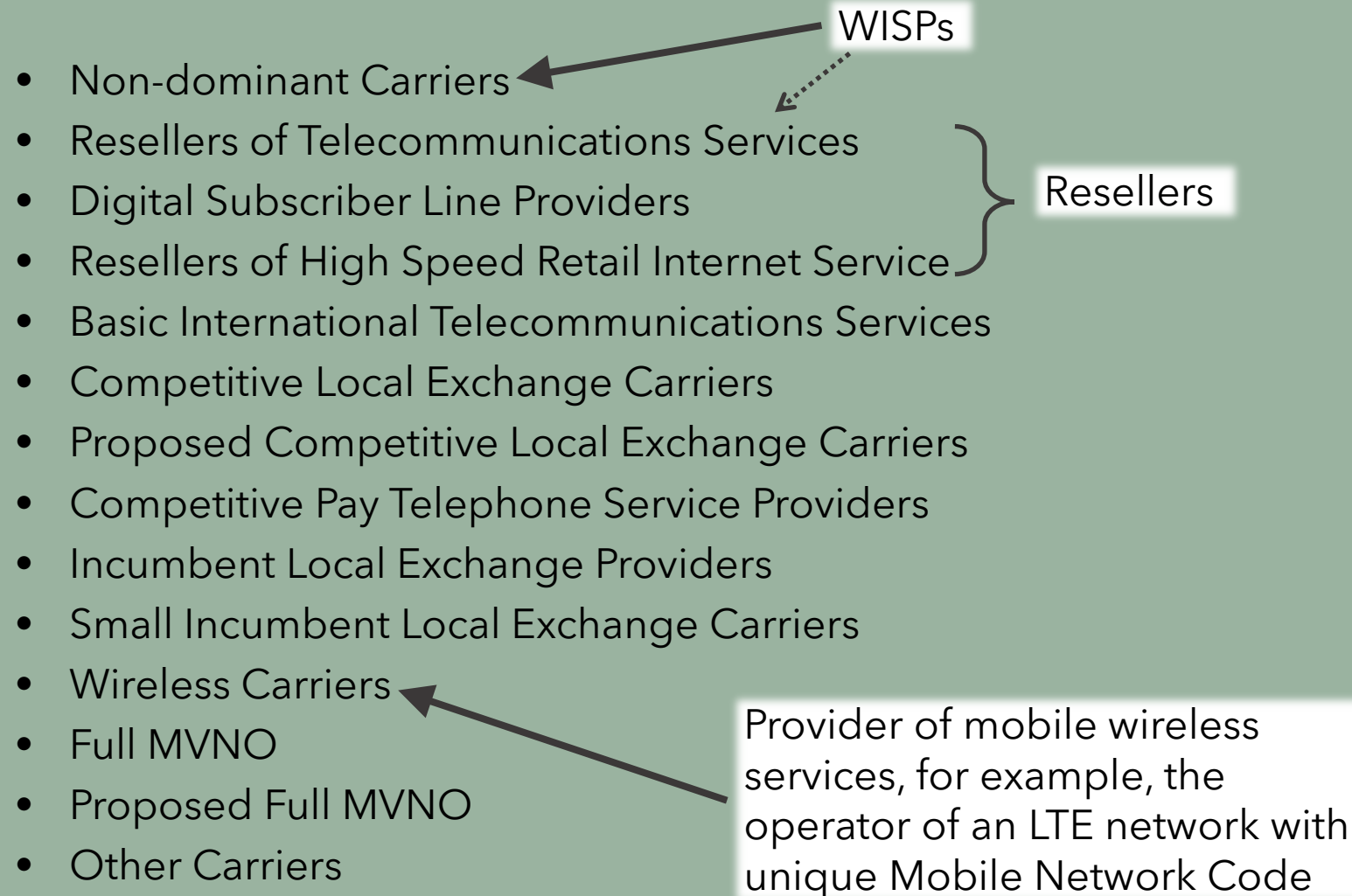
New Tower Construction Requirements

- If you are building a new tower or antenna supporting structure, you must comply with ISED's requirements in [CPC-2-0-03](#)
- If the land use authority (municipality, county, First Nation, etc.) has a consultation process, you must follow that process. For example, an industrial area may have specific zoning laws that permit communications towers with no consultation.
- If the land use authority has no consultation process, you must use the process outlined in CPC-2-0-03. This includes requirements for public notification and public comment periods.
- Towers under 15m are excluded from the default process, but you should undertake consultation if the tower is highly visible or prominent.



CRTC Reporting

Registered Telecommunications Providers



CRTC Reporting

Registered Telecommunications Providers

- [Register](#) as a telecommunications provider with the CRTC
- Once you're registered, you will complete annual reports online through the [Data Collection System](#) (DCS)
- Reports may include information relating to:
 - Financial statements
 - Service offerings
 - Customer counts
 - Coverage mapping (already prepared for ISED broadband maps)

CRTC Reporting Benefits

- CRTC [Communications Monitoring Report](#) is published annually
- All data is aggregated and anonymized
- Datasets are available
- Data can influence policy



Communications
Monitoring Report



Image: CRTC website

BITS Licence

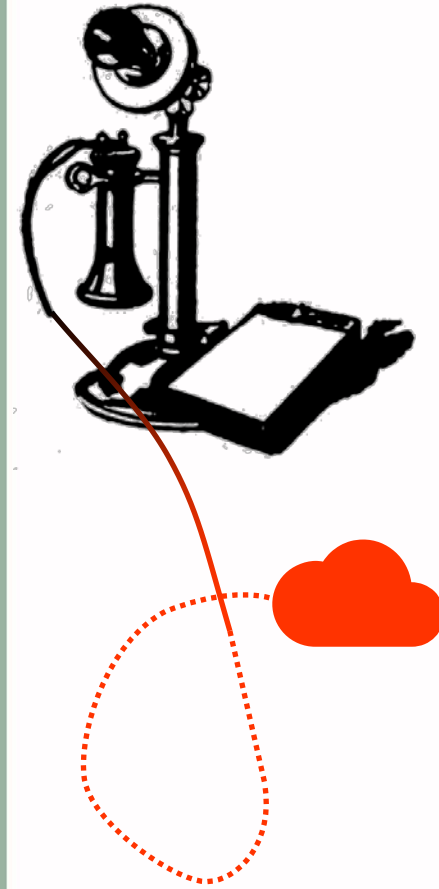
Basic International Telecommunications Services

- Basic International Telecommunications Services (BITS) licenses are required to carry telecommunications traffic between Canada and any other country.
- Internet traffic crosses international borders, so all ISPs must [apply for a BITS license](#), through the DCS.
- Applications for BITS licenses are posted on the Commission's website and open for public comments for a period of 30 days.
- 10-year license term



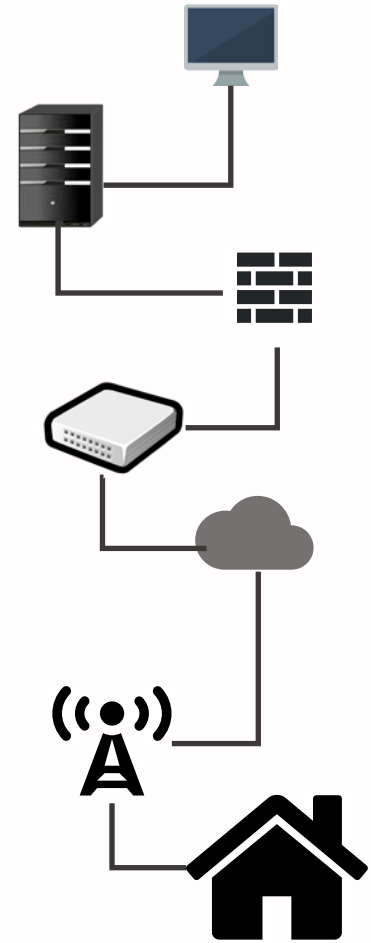
VoIP Requirements

- There are [obligations associated with providing VoIP services](#).
- Provide customers with written notification describing the limitations of 9-1-1 emergency service over VoIP services.
- Service contract should include appropriate limitations of liability with respect to VoIP 9-1-1 service.
- Provide stickers on VoIP devices/handsets to remind the customer of 9-1-1 service limitations and customer's responsibilities.
- Service provider must submit samples of the above materials and other information (such as how 9-1-1 limitations are described in marketing materials related to VoIP services) to the CRTC in order to receive approval.



Canadian Centre for Cyber Security

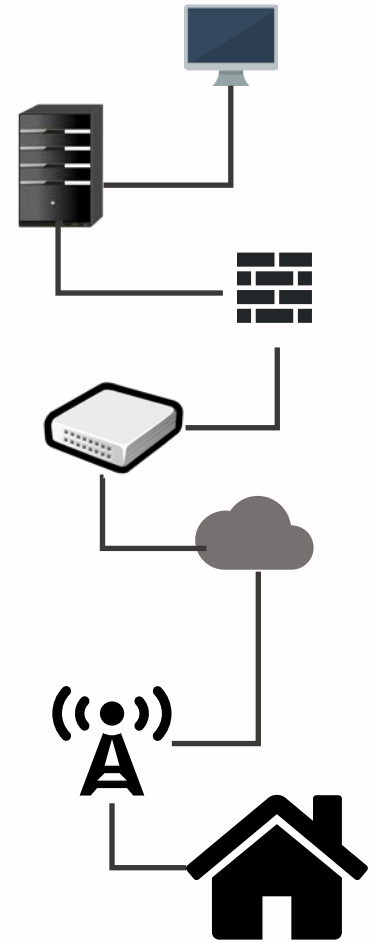
- No requirement to register or report for most WISPs
- Information and Communication Technology is one of Canada's Critical Infrastructure Sectors
- Participation in [Security Review Program](#) for ISPs that have deployed designated equipment in an LTE network. Equipment from Canadian or US manufacturers is not designated.
- Contact the [Cyber Centre](#) for more information.



Canadian Centre for Cyber Security

Network Security Plan

- Network Diagram
- Cyber-Centre [Security Audit Program](#) provides good ideas for a Network Security Plan
- [Canadian Security Telecommunications Advisory Committee \(CSTAC\)](#) Best Practices
 - Design and Architecture Considerations
 - Control and Monitoring
 - Incident Response Plan
 - and more...
- CCCS will provide you with advice and guidance to improve your network security



Workplace Health and Safety Program

- Engagement may be triggered by a federal funding award
- Telecommunications companies are federally regulated, and are supposed to have a [workplace safety program](#) in place
- Program requires that certain documentation must be in place
- Program requires that employees receive certain training
- Program requires that your company have a workplace health and safety committee
- Program requires that various forms and processes be in place
- Provincial workplace insurance requirements still apply to your business



Thank You

Enjoy the conference



Brenda Bouchette
bjbouchette@tacitlaw.com
778-946-6990