



Innovation, Science and
Economic Development Canada

Innovation, Sciences et
Développement économique Canada

Canada

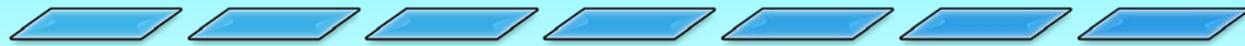
Canada Spectrum Program Updates

British Columbia Broadband Conference

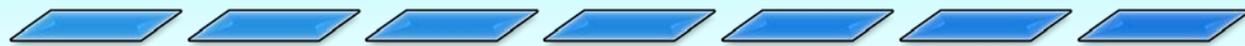
April 30, 2019

Agenda

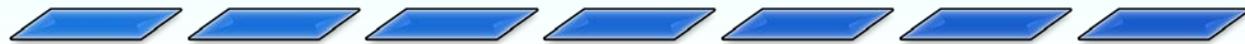
Spectrum Program's Framework



What we have done



What we are doing



What's next



Operational considerations



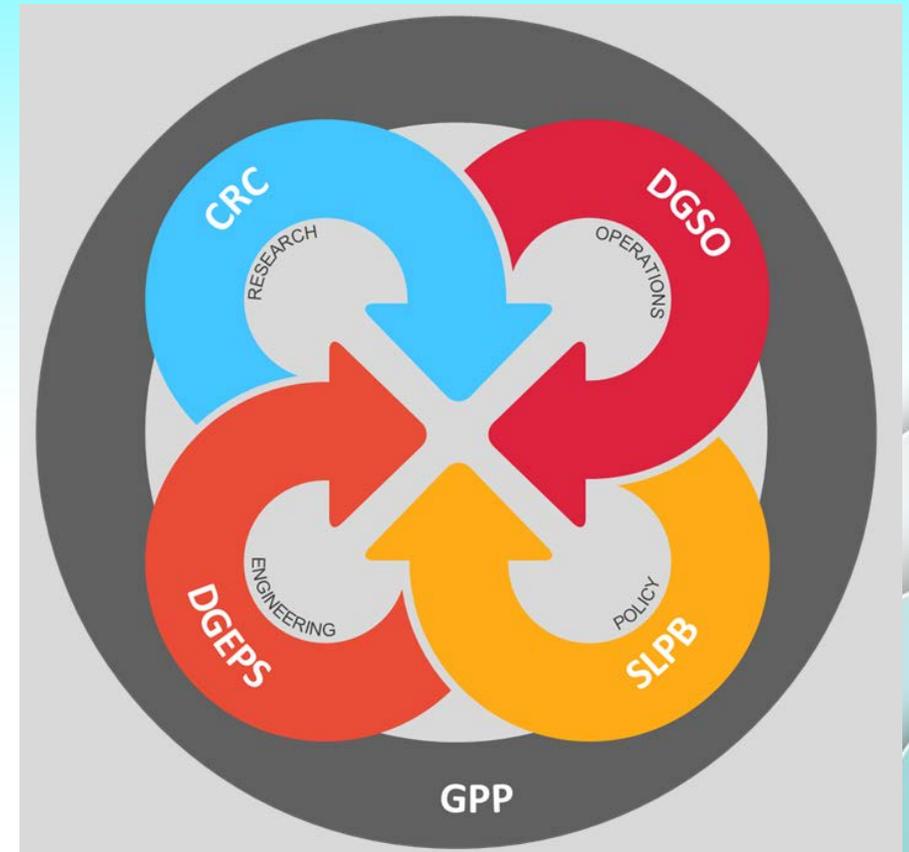
Spectrum Program's Framework

Spectrum Program Vision

- Spectrum available to everyone and everything, anytime and anywhere

Mission Statement

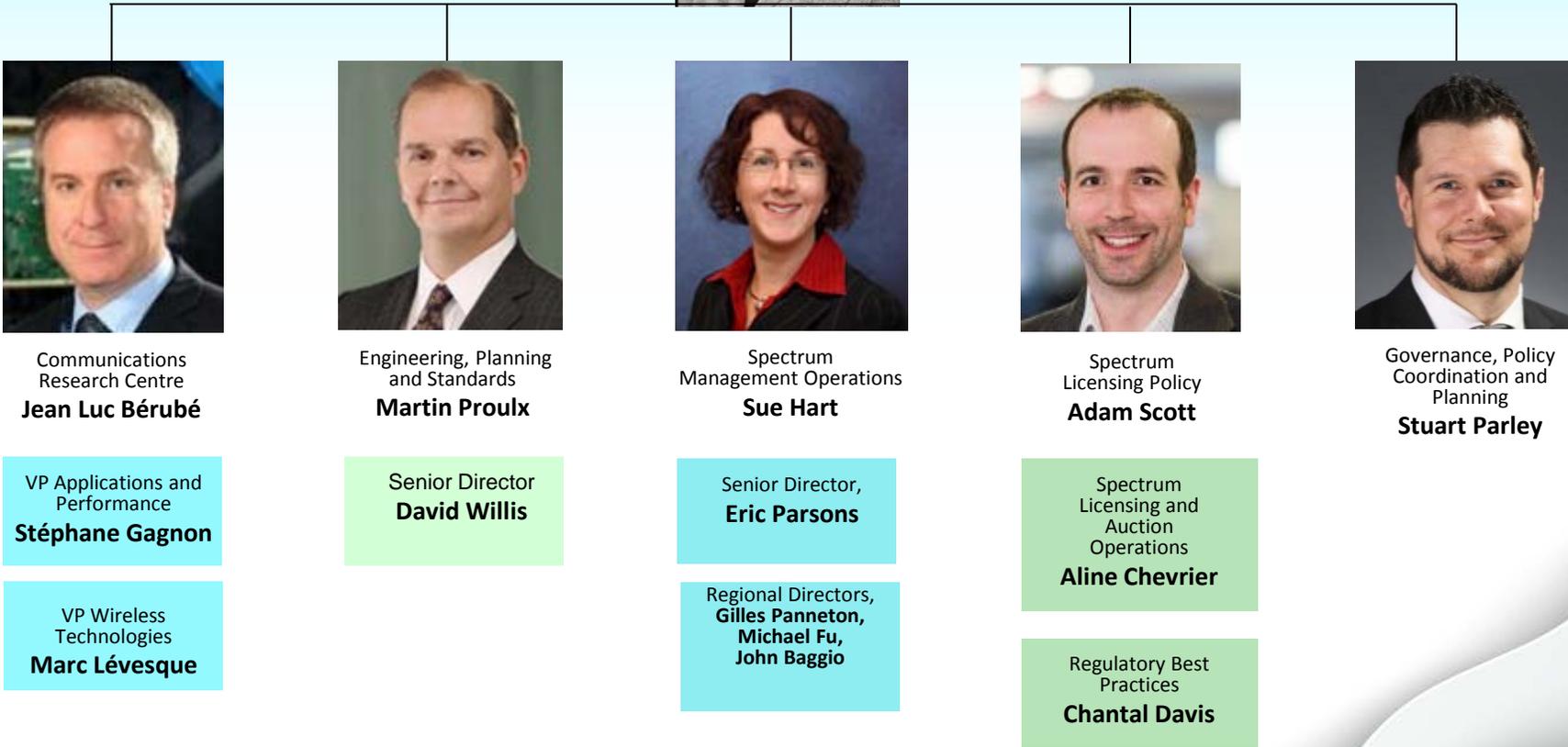
- We manage spectrum so that wireless works for Canadians



Spectrum and Telecommunications Sector



Fiona Gilfillan
ADM, STS



Communications Research Centre
Jean Luc Bérubé

VP Applications and Performance
Stéphane Gagnon

VP Wireless Technologies
Marc Lévesque



Engineering, Planning and Standards
Martin Proulx

Senior Director
David Willis



Spectrum Management Operations
Sue Hart

Senior Director,
Eric Parsons

Regional Directors,
Gilles Panneton, Michael Fu, John Baggio



Spectrum Licensing Policy
Adam Scott

Spectrum Licensing and Auction Operations
Aline Chevrier

Regulatory Best Practices
Chantal Davis



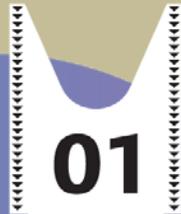
Governance, Policy Coordination and Planning
Stuart Parley

Various licensing methods

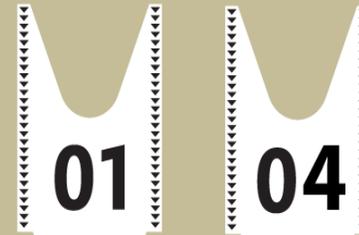
Auction



First
Come,
First
Served



All Come,
All Served



Licence-
exempt



What we've done (government initiatives)

Rural connectivity is a priority for the Government and for ISED

Established a Minister for Rural Economic Development

CRTC to increasingly focus on competition



What we've done (ISED initiatives)

Variety of
Licensing
Frameworks



Developmental
licensing
playbook



Relaxed
Technical
Rules



Secondary
Markets
Enabling
Activity



Spectrum accessible through simplified licensing processes

- Licenced Spectrum Options:
 - Wireless Broadband Services (3650-3700 MHz) **All Come All Served**
 - Higher Power and Outdoor RLAN (5150-5250 MHz) **All Come All Served**
- **Licence-Exempt** Spectrum Options:
 - Common Licence-Exempt Bands
 - TV White Space Spectrum
- Developmental Licensing



Common Licence-Exempt Bands

Licence-Exempt Bands

902 - 928 MHz

2450 - 2483.5 MHz

5250 - 5350 MHz

5470 - 5600 MHz

5650 - 5850 MHz

24.05 - 24.25 GHz

Provisos for use

No protection, no interference basis

Must adhere to specifications for licence exemption

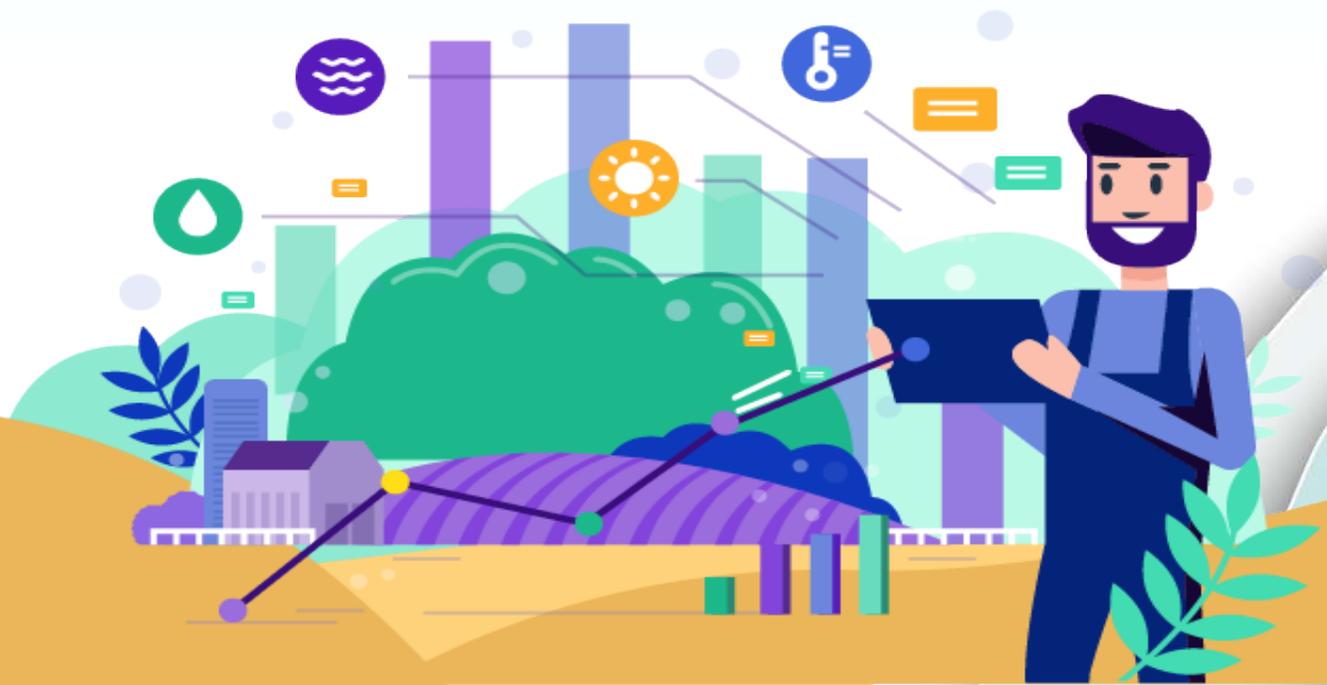
- Radio Standards Specification 210
- Radio Standards Specification 247

What we're doing...Giving Providers the Tools They Need

Giving Providers the Tools They Need

- Spectrum Releases - making more spectrum available
- Consulting on smaller licensing areas (Tier 5 service areas)
- Examining point-to-point licence fee structure for modernized usage (backhaul fees)

We have lots of tools -
and we are building more



What's next...

- \$5B-\$6B strategy for universal high-speed internet by 2030
- \$199M to modernize spectrum management
- Reaching out to Rural Wireless Internet Service Providers to better understand challenges regarding rural spectrum access, with a specific focus on the secondary market

graeme.parker@canada.ca

Spectrum Licence Conditions

- Important licence conditions:
 - Mandatory antenna tower and site sharing
 - Document: CPC-2-0-17, Conditions of Licence for Mandatory Roaming and Antenna Tower
 - Should be factored in for any expansion plans
 - Document: CPC 2-0-03, Radiocommunication and Broadcasting Antenna Systems

Submission of Technical Information

- Site-specific data must be uploaded regularly
- Applies to spectrum licences
- Must submit relevant technical information
 - Annex B of CPC-2-1-23
- Uploaded to publically accessible database
- Technical information submissions are a condition of licence



Safety Code 6 (SC6)

- Safety Code 6

Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz establishes limits for human exposure to RF fields

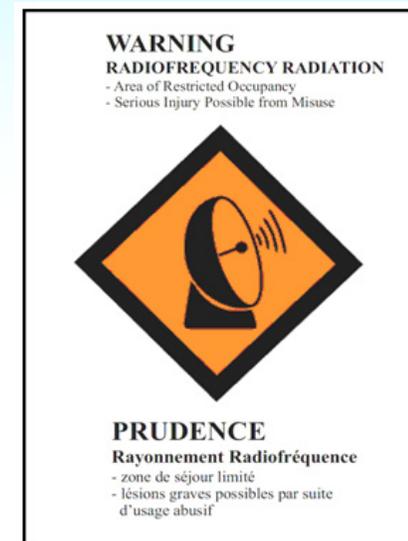
- Development of SC6 is the responsibility of Health Canada
- ISED adopted SC6 for the purpose of protecting the general public

RF Safety Website on ISED webpage

<https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11467.html>

Compliance with Safety Code 6

- ISED verifies compliance of installations with SC6 through its Compliance Program:
 - **Industry Reporting Program:**
 - Service Providers
 - Broadcasters
 - **Site Audits**
 - **Scans at street level**



Non-compliance with SC6 can result in enforcement actions

Industry Reporting Program

Operators responsibilities:

- Ensure their antenna installations comply with the UE limits of SC6 at all times including the consideration of nearby transmitters
- No access by the general public to any area where the RF emission levels exceed the UE limits
- Implement proper access controls and signage (CPC-2-0-20)
- Provide and retain copies of detailed compliance information for individual installations
- Provide SC6 compliance report at ISED's request

Working with ISED in Western Canada

District	City	Contact
Coastal BC	Victoria	Jeff.stanhope@canada.ca (250) 363-3597
	Surrey	Arthur.Lo@canada.ca Russ.hamilton@canada.ca (604) 586-2521
Interior BC & Yukon	Kelowna	Mike.Amyotte@canada.ca (250) 470-5026
	Prince George	Brad.Davis@canada.ca (250) 561-5291
Southern Alberta	Calgary	Bernie.Ries@canada.ca (800) 267-9401
Central & Northern Alberta	Edmonton	Allidina.Badruddin@canada.ca Steven.Seltenrich@canada.ca (800) 461-2646
Saskatchewan, NWT	Saskatoon	Ron.Hamelin@canada.ca (877) 783-7757
	Regina	Gerald.Fortier@canada.ca (877) 510-7875
Manitoba	Winnipeg	Allan.Pawluk@canada.ca (800) 665-3421

Departmental contact information can also be found online through Radio Information Circular, RIC-66 at:
<https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01742.html>

Additional information can be found in the following documents:

- Developmental Licence Playbook <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11373.html>
- Radiofrequency Energy and Safety <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11467.html>
- [CPC-2-1-23](#) - Licensing Procedure for Spectrum Licences for Terrestrial Services
- [CPC-2-0-17](#) - Conditions of Licence for Mandatory Roaming and Antenna Tower
- [CPC-2-0-03](#) - Radiocommunication and Broadcasting Antenna Systems
- [CPC-2-0-20](#) - Radio Frequency (RF) Fields - Signs and Access Control
- [GL-01](#)- Guidelines for the Measurement of Radio Frequency Fields at Frequencies From 3 kHz to 300 GHz
- [GL-08](#)- Guidelines for the Preparation of Radio Frequency (RF) Exposure Compliance Reports for Radiocommunication and Broadcasting Antenna Systems
- [TN-261](#)- Safety Code 6 (SC6) Radio Frequency Exposure Compliance Evaluation Template (Uncontrolled Environment Exposure Limits)
- [Safety Code 6](#) - Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz (2015)
- Technical Guide for Interpretation and Compliance Assessment of Health Canada's Radiofrequency Exposure Guidelines (2015) (To obtain an electronic copy of this document, please contact: ccrpb-pcrpcc@hc-sc.gc.ca)

Questions?

