

ISED Spectrum Update

June 27 2024

Summary of recent spectrum activities



Licence-exempt spectrum

- 6 GHz band (low-power, standard-power **with AFC system**) / TVWS (with **TVWS database**)
- 60 GHz band, Above 95 GHz band

Increasing rural, remote, and Indigenous access

- 3900-3980 MHz –**Non-competitive local licensing framework** aimed at private networks and early access window for WBS licensees
- Various commercial mobile bands - **Access Licensing Framework** to license unused spectrum
- Consultation on a policy, licensing and technical framework for **Supplemental Mobile Coverage by Satellite**, June 2024

Auctions

- Announced the residual auction for 600 MHz, 2300 MHz, 3500 MHz and 3800 MHz
- Completed 3800 MHz (2023), 3500 MHz (2021), and 600 MHz (2019) auctions
- Completed auction of residual 600 MHz, 2500 MHz, and 3500 MHz licences (2023)

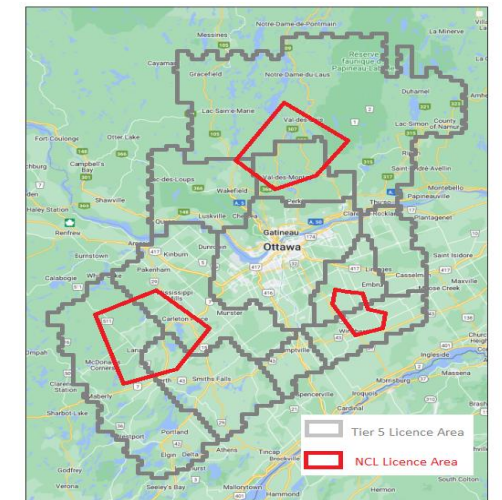
Database-driven spectrum sharing update



- Database-driven spectrum sharing model primarily for licence-exempt spectrum use in bands with other incumbent services
- TVWS
 - Database administrators: PHNX technologies and RED Technologies
 - Close to 300 stations deployed across Canada
- 6 GHz (5925-7125 MHz)
 - 1200 MHz of spectrum for low-power indoor only use
 - Several hundred low-power device models certified
 - 950 MHz of spectrum for standard power use with AFC systems
 - AFC system administrators
 - Approved: Qualcomm as of August 2023
 - Applications in progress: Commscope, Wi-Fi Alliance, Federated Wireless
 - Some standard power device models certified recently

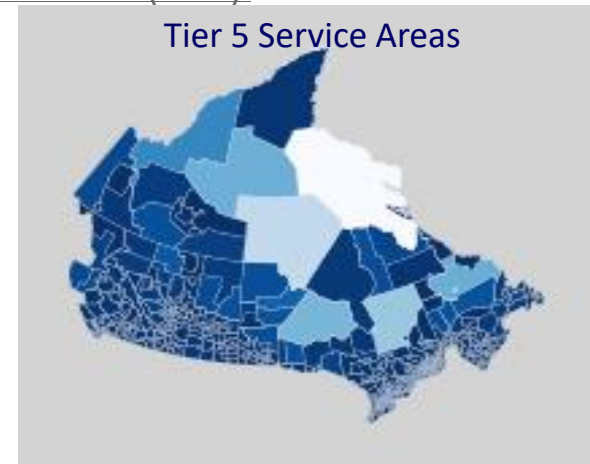
Automated spectrum management for local licensing

- Decision on Non-competitive local (NCL) licensing framework (Published May 2023)
- New first-come, first-served area-based automated spectrum licensing process
 - First NCL licences will be in 3900 MHz (3900-3980 MHz)
 - WBS applicants will have the first chance to acquire licences through the Early access window (closed April 19th), following the issuance of licences, next step will be ISED opening licensing to all eligible applicants
 - Attractive licensed spectrum option for private networks
 - mmWave spectrum NCL licensing next
- Automation of licensing to support large numbers of licences over small areas and for shorter periods
- About the 3900 MHz NCL licences:
 - *Licence Term*: 1 year or monthly
 - *Spectrum limit*: 20 MHz restriction for 3900 MHz per licensee in any given licence area
 - *Licence area*: Custom vector-based licences available in all areas that can accommodate a mix of services and that are scalable for larger service areas
 - *Licence area limit per licence type*: Low Power = 15 km², Medium Power = 75 to 165 km² – *multiple licences can be combined to cover larger areas*
 - *Deployment requirement*: 1 station per licence area
 - *Fees*: Annual fee, based on MHz per km² (\$1.80 in metro/urban, \$0.45 in rural and \$0.01 in remote Tier 5 areas)
 - *Eligibility Requirements*: an entity, or affiliate of that entity, with 100,000 or more retail mobile phone subscribers is ineligible to hold a licence in 3940-3980 MHz



Access licensing for areas with unused spectrum

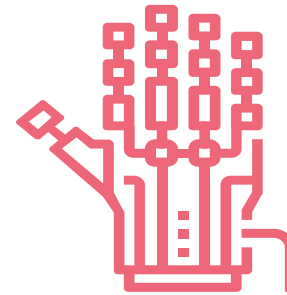
- Decision on New Access Licensing Framework, Changes to Subordinate Licensing and White Space to Support Rural and Remote Deployment (Published Jan 2024)
- New supplementary licensing process for areas with unused commercial mobile auctioned spectrum
 - Focusing on areas with unused spectrum in 3 bands first – Cellular, PCS, and 900 MHz
 - Mainly available in rural, remote, Indigenous communities
 - Indigenous applicants will have the first chance to acquire licences through the Indigenous Priority Window (IPW) – *comments on the IPW due July 30th*
- About the access spectrum licences in Cell and PCS bands:
 - *Licence Term: 3 years*
 - *Licence area: Tier 5 service area – only rural and remote areas available*
 - *Deployment Requirement: 1 station/10k population @ 3 years*
 - *Fees: Annual fee, \$0.04212822 MHz/population of licence area*
- About the access radio licences in 900 MHz bands:
 - *Licence Term: 1 year*
 - *Licence area: Site licensed*
 - *Eligibility: Radiocommunication users (e.g. utilities, communities, private networks)*
 - *Fees: Annual fee, same as land mobile radio fees*



What's next...

Licensing:

- Residual auction
- Early access to NCLL in 3900 MHz followed by open access
- Indigenous priority window followed by open access to Access licensing



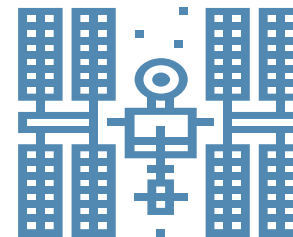
Potential consultations/decisions:

- NCLL in mmWave and mmWave auction
- Supplemental mobile coverage with satellites
- Review of the transfer policy



Future considerations:

- 6G
- Network resilience and redundancy
- Environmental sustainability for wireless networks





THANK YOU