

# Bidders' Online Training

## 2300 MHz and 3500 MHz Spectrum Auction



Industry  
Canada

Industrie  
Canada

# Legal Disclaimer



**This presentation is for information only. The policies and rules associated with the 2300 MHz and 3500 MHz bands, are set out in their entirety in the document “*Policy and Licensing Procedures for the Auction of Spectrum Licences in the 2300 MHz and 3500 MHz Bands*”, and in any written amendments or supplements that may be issued by the Department.**



# Outline of Presentation



- 2300 MHz and 3500 MHz Licence Details
- Auction Rules and Process
- Important Dates





# ***2300 MHz and 3500 MHz Licence Details***



Industry  
Canada

Industrie  
Canada

This presentation is for information only. The policies and rules associated with the 2300 MHz and 3500 MHz bands, are set out in their entirety in the document *Policy and Licensing Procedures for the Auction of Spectrum Licences in the 2300 MHz and 3500 MHz Bands*, and in any written amendments or supplements that may be issued by the Department.

# 2300 MHz and 3500 MHz Auction



- **Wireless Communication Services (2300 MHz) and Fixed Wireless Access (3500 MHz)**
  - Follows a public consultation
  - Will facilitate the implementation of new and innovative wireless services in urban and rural areas
  - Will use up-to-date safe and efficient encryption and digital signature technology
  - Auction scheduled to start in January 2004



# What is the Objective of the 2300 MHz and 3500 MHz Auction?



- To make spectrum available for the provision of wireless broadband services as a complement to, or in competition with, Digital Subscriber Lines (DSL) and cable modems
- To increase competition in the provision of broadband services to Canadians
- To meet the growing demand for wireless broadband, especially in rural and remote areas where the cost of wired infrastructure may be prohibitive
- To respond to economic and social requirements of users of telecom services



# What Exactly is Being Auctioned?



- 5 spectrum licences in most of the 172 service areas in Canada in the bands
  - 1 licence in the 2300 MHz band - Wireless Communications Services (WCS)
  - 4 licences in the 3500 MHz band - Fixed Wireless Access (FWA)
- Licensees will have the maximum possible flexibility in determining the services they will offer and the technologies they will employ, within the spectrum allocations and policy



# Tier 4 Service Areas



- WCS and FWA licences will be defined geographically by Tier 4 service areas (i.e. smallest of established auction areas)
  - 172 areas in total – covering all of Canada
  - Based on groupings of Statistics Canada's Census Divisions and Subdivisions, with some revisions by the Department
- Revised service areas listed on the Auction Web site

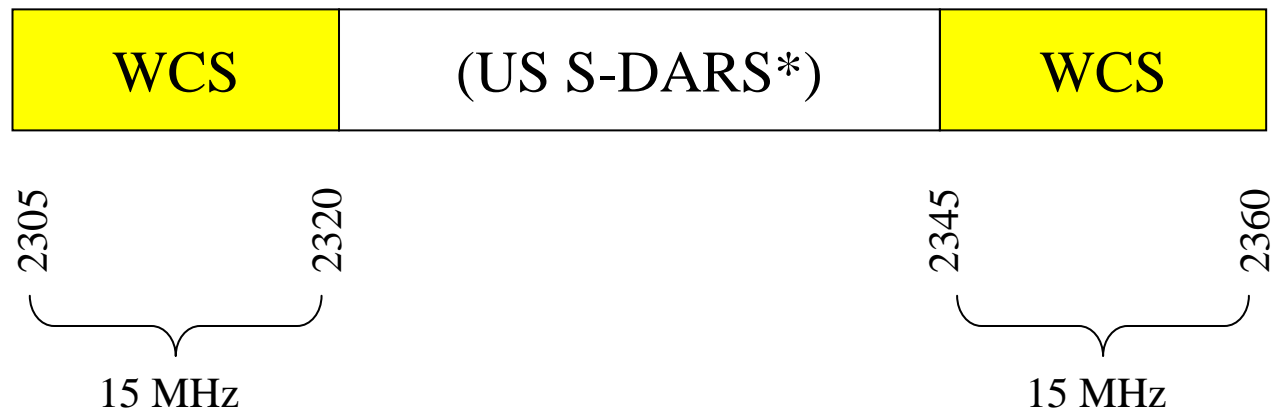




# WCS - Licence Details



- Paired block of 15+15 MHz  
2305-2320 MHz + 2345-2360 MHz



\* Satellite Digital Audio Radio Service



# WCS -

## Licence Details – cont'd



- Available in all areas of Canada
- WCS systems will be licensed under the frequency allocations for fixed and mobile services
- Aligns with the US – cross border arrangement in place



# WCS -

## Technical Considerations



- Licensees may deploy a full range of terminal devices, including broadband point-to-point, although it is anticipated that WCS will be used predominantly for the provision of local broadband access services in fixed, point-to-multipoint configurations
- Technical restrictions will be placed on the mobile service limiting their applications to low mobility or portable terminals to ensure compatibility with other services operating in adjacent spectrum



# WCS - Coordination

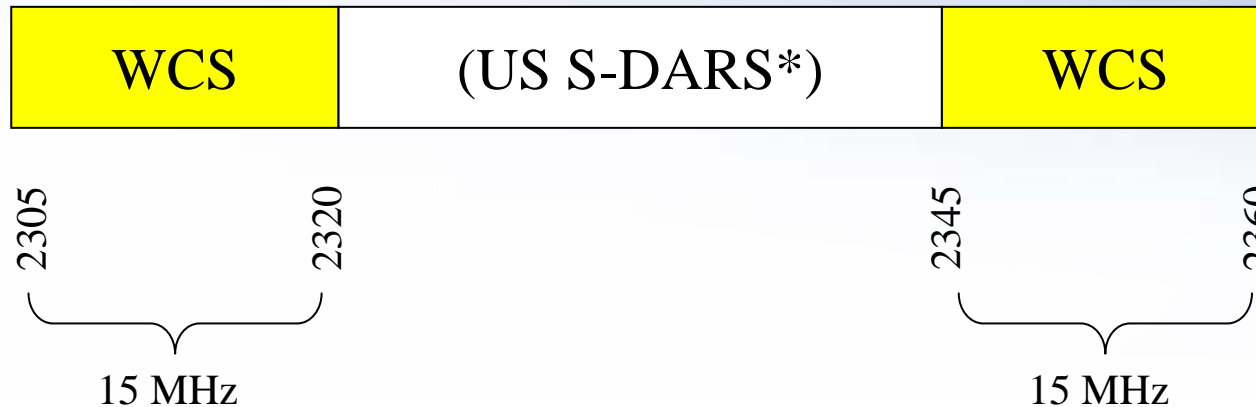


- Frequency coordination may be required between WCS licensees in adjacent service areas
- WCS licensees will be encouraged to enter into mutually beneficial arrangements to foster efficient spectrum use near their common boundaries
- WCS licensees should develop effective arrangements with neighbouring licensees in order to minimize coordination time and resources



# WCS -

## Co-existence with S-DARS



- The 2320-2345 MHz band is used in the U.S. for S-DARS
- The Department has indicated that it will consider making spectrum available for satellite radio applicants wishing to pursue a broadcasting licence from the CRTC using U.S. S-DARS satellite radio
- It is important that applicants bidding for WCS licences take into account the potential operation of satellite radio terrestrial repeaters in the adjacent S-DARS band

# WCS -

## Co-existence with S-DARS – cont'd

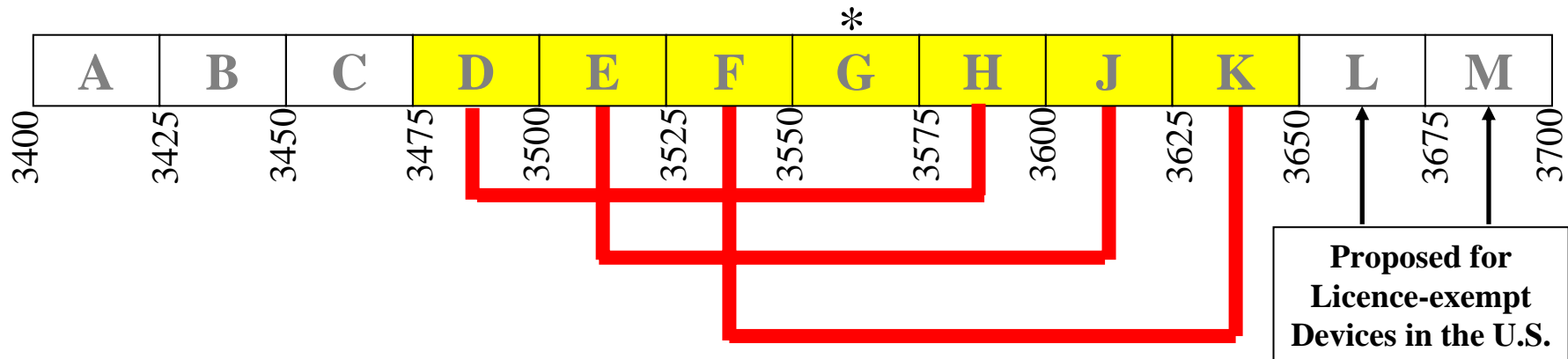


- Canadian WCS licensees are advised to consider employing base station receivers with adequate front-end RF filtering to facilitate compatibility with potential S-DARS terrestrial repeater operation in the adjacent band
  - Limited to the urban environment where S-DARS terrestrial repeaters would be implemented
- Potential WCS licensees are advised to carefully study the U.S. regulatory and operational environment with regard to WCS/S-DARS terrestrial repeater implementations
  - For more details, refer to Section 5.3.2 of the Policy document and any amendments or supplements

# FWA – Licence Details



- 175 MHz available for licensing in most parts of Canada (D-K)
  - 3 pairs of 25+25 MHz blocks
  - 1 single 25 MHz block
  - No blocks available on Vancouver Island (Tiers 4-153, 4-154 and 4-155)



\* One single 25 MHz block

**Available for Licensing**  
**Paired blocks**



Industry  
Canada

Industrie  
Canada

This presentation is for information only. The policies and rules associated with the 2300 MHz and 3500 MHz bands, are set out in their entirety in the document *Policy and Licensing Procedures for the Auction of Spectrum Licences in the 2300 MHz and 3500 MHz Bands*, and in any written amendments or supplements that may be issued by the Department.



# FWA –

## Licence Details – cont'd



- FWA systems will be licensed under the the frequency allocations for fixed services
- Licensees may deploy a full range of FWA applications
  - Point-to-multipoint or point-to-point
  - Including ancillary portable terminals





# FWA – Technical Considerations



- Successful participants of the auction process will be required to coordinate with the incumbent FWA licensees and existing FSS earth stations
- FWA licensees may affect and/or be affected by radiolocation services (radars) operating in parts of the band 3400-3650 MHz, along the Canada-U.S. border and in Canadian coastal waters
  - Specifically in: Halifax, Dartmouth, Vancouver and nearby coastal areas, and communities along the Strait of Georgia (Tiers 4-010, 4-151, 4-156 and 4-157)
  - The Department recommends that FWA operators employ interference mitigation measures should they wish to limit their susceptibility to this interference



# What if I Need Spectrum in those Bands Prior to the Auction?



- The existing First-Come, First-Served process will continue in the FWA band (only), in rural and high-cost serving areas, until 1 month prior to the auction
  - At that point, all licensing activity for new FWA system applications will cease
  - Anyone having received a licence or a written approval-in-principle will be treated as a FWA incumbent licensee for this auction
  - List of incumbent FWA licensees will be published prior to the auction
- WCS spectrum is currently unavailable



# Licence Conditions for WCS and FWA



- Standard conditions of licence would apply
  - Ownership and control
  - Interference management
  - International and domestic coordination
- R&D requirement
  - 2% of adjusted gross revenue, with the exception of small businesses with less than \$5 million in annual gross operating revenues
- Implementation requirement
  - Review progress after 5 years





# ***Auction Rules and Process***



Industry  
Canada

Industrie  
Canada

This presentation is for information only. The policies and rules associated with the 2300 MHz and 3500 MHz bands, are set out in their entirety in the document *Policy and Licensing Procedures for the Auction of Spectrum Licences in the 2300 MHz and 3500 MHz Bands*, and in any written amendments or supplements that may be issued by the Department.

# Who Can Participate in the 2300 MHz and 3500 MHz Auction?



- Open entry
  - However successful bidders must be eligible to become radiocommunication carriers in order to be awarded licences, as described in *Section 10(2) of the Radiocommunication Regulations*
- Successful bidders will be subject to
  - Telecommunication Act
  - Radiocommunication Act
  - Radiocommunication Regulations



# What is Preventing One Bidder from Acquiring All the Licences?



- Spectrum aggregation limit
  - A spectrum limit of 100 MHz will be applied to FWA and WCS blocks for all applicants, per service area
    - During to the auction, this rule will not apply to licensees with current spectrum holdings in the 3500 MHz band
    - However, those current FWA licensees who successfully bid on spectrum by the end of the auction will be required to divest some of their holdings if they exceed the 100 MHz limit
  - Spectrum held by Affiliates and Associated Entities of the licensee is included in this limit
  - Will apply during the auction and for the following 2 years



# Penalty for Exceeding Spectrum Aggregation



- The spectrum aggregation limit will be enforced during the auction, and bidders will incur a penalty for each round in which their new bids and standing high bids, exceed the spectrum aggregation limit of 100 MHz
  - Exception: FCFS FWA spectrum acquired prior to the auction will not count towards the spectrum aggregation limit during the auction
- For each round in which a bidder exceeds the spectrum aggregation limit, the bidder will lose one waiver and will incur a penalty equal to the greater of:
  - 2% of the value of all bids placed in that round on licences in service areas where the limit is exceeded, or
  - \$10,000 for each area where the limit is exceeded





# Penalty for Exceeding Spectrum Aggregation – cont'd



- At the close of the auction, any bidder who is the standing high bidder on licences such that the bidder, in combination with his/her Affiliates and Associated Entities, will exceed the aggregation limit in any service area must forfeit bids on all licences in this service area
  - Exception: forfeiture penalties will not apply to FCFS licence holders who divest some of their holdings to meet the 100 MHz aggregation limit





# Financial Deposit



- Each of the licences has been assigned a specific number of eligibility points that are approximately proportionate to the population covered by the licence
- One eligibility point is approximately equal to 20,000 in population per 25 MHz of spectrum
- Financial deposit equals \$500 per eligibility point for the first 40 points and \$3,000 per eligibility point requested thereafter
- Appendix 7 of Policy document provides the eligibility points for each of the licences
- The Department reserves the right to request additional financial deposits during the auction, depending on the intensity of the bidding activity



# Opening Bids



- The opening bids are \$625 per point for service areas with a population less than 300,000
- The opening bids are \$2,125 per point for service areas with a population of over 300,000
- Appendix 7 of Policy document provides the opening bids for each of the licences



# Tips for Auction Bidders



- Learn the auction rules
- Determine in advance your firm's objectives and values for the licences
- Perform your firm's due diligence on the spectrum being auctioned
- Obtain the financing
- Organize the bidding team
- Make use of the information available
- Run practice sessions and participate in the official mock auction
- Develop contingency plans





# ***Important Dates***



Industry  
Canada

Industrie  
Canada

This presentation is for information only. The policies and rules associated with the 2300 MHz and 3500 MHz bands, are set out in their entirety in the document *Policy and Licensing Procedures for the Auction of Spectrum Licences in the 2300 MHz and 3500 MHz Bands*, and in any written amendments or supplements that may be issued by the Department.

# Key Dates



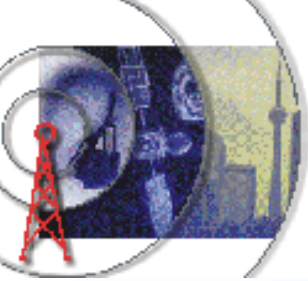
EVENT	TIME FRAMES
Release of <i>Policy and Licensing Procedures for the Auction of Spectrum Licences in the 2300 MHz and 3500 MHz Bands</i>	September 20, 2003
Deadline for receipt of submitted questions	October 17, 2003
Date on which last FWA FCFS applications will be accepted	One month prior to auction
Deadline for receipt of applications to participate in the auction	November 24, 2003
Qualification of bidders	Early December, 2003
Opening day of bidding	Mid-January, 2004
Auction close	Unknown
Submission of ownership and control documentation, and initial payment (20% of high bids / 100% of penalties)	10 business days after the close of the auction
Final payment (80% of high bids)	30 business days after the close of the auction

# Where Can I Get More Information?



- All information and documentation regarding the upcoming 2300 MHz and 3500 MHz auction is available on-line at <http://strategis.gc.ca/spectrumauctions>
- Including the official
  - *Policy and Licensing Procedures for the Auction of Spectrum Licences in the 2300 MHz and 3500 MHz Bands*
  - Amendments and supplements





**Rosamond Bain**  
**Manager, Wireless Networks**  
**Industry Canada**  
**Radiocommunications and Broadcasting**  
**Regulatory Branch**  
**300 Slater, room 1512A**  
**Ottawa (Ontario) K1A 0C8**  
**(613) 990-4736**  
**[spectrum.auctions@ic.gc.ca](mailto:spectrum.auctions@ic.gc.ca)**  
**<http://strategis.gc.ca/spectrumauctions>**



Industry  
Canada

Industrie  
Canada

This presentation is for information only. The policies and rules associated with the 2300 MHz and 3500 MHz bands, are set out in their entirety in the document *Policy and Licensing Procedures for the Auction of Spectrum Licences in the 2300 MHz and 3500 MHz Bands*, and in any written amendments or supplements that may be issued by the Department.