

CANADA GAZETTE NOTICE NO. SLPB-003-17

**CONSULTATION ON A LICENSING FRAMEWORK FOR RESIDUAL
SPECTRUM LICENCES IN THE 700 MHZ, 2500 MHZ, 2300 MHZ,
PCS AND 1670-1675 MHZ BANDS**

**PUBLISHED IN THE *CANADA GAZETTE, PART I*
ON 15 JULY 2017**

**COMMENTS
OF
BELL MOBILITY INC.**

15 AUGUST 2017

Table of Contents

	<u>Page</u>
1.0 INTRODUCTION.....	3
2.0 BAND PLAN AND AVAILABLE LICENCES.....	4
3.0 COMPETITIVE MEASURES	5
4.0 CONDITIONS OF LICENCE.....	7
4.1 Access to Licenced Spectrum on an Opportunistic Basis.....	7
4.2 Licence Terms	8
4.3 Deployment Levels	9
4.4 Conditions Of Licence.....	9
4.4.1 Lawful Interception	9
4.4.2 Research and Development	9
4.4.3 Mandatory Roaming	13
4.4.4 Annual Reporting.....	14
5.0 AUCTION FORMAT AND RULES	15
6.0 BIDDER PARTICIPATION.....	17
7.0 AUCTION PROCESS.....	18
8.0 POST-AUCTION LICENSING PROCESS.....	18

1.0 INTRODUCTION

1. In Canada Gazette Notice No. SLPB-003-17, *Consultation on a Licensing Framework for Residual Spectrum Licences in the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz Bands*, (the Notice), Innovation, Science and Economic Development Canada (ISED) seeks comments on all aspects related to the licensing of the above noted spectrum. ISED is proposing to auction unassigned licences in the 700 MHz band, 2500 MHz band, the 1910-1915/1990-1995 MHz band (PCS G Block), 1670-1675 MHz band (I Block), as well as returned licences in the 2300 MHz band. These licences represent unassigned/returned spectrum from spectrum auctions that have been held since 2008. As a result, in our view, there are no other licences that should be made available in this licensing process.

2. However, the I Block is included as part of this licensing process. To our knowledge, an equipment ecosystem for I Block has not yet developed anywhere in the world and the band remains undefined by 3GPP. With no viable equipment ecosystem being developed in the near future, we recommend that the I Block licences should be excluded from this licensing process.

3. We have limited insight into the likely timeframe in which equipment capable of providing access to licensed spectrum on an opportunistic basis will become commercially available. However, we note that there are fundamental spectrum management, policy, financial, security and service quality risks that ISED should consider before mandating such a change. To mitigate these risks, when the relevant technology has matured to the point where it can be deployed on a commercial basis, we recommend that ISED first conduct extensive trials with Greenfield spectrum before consulting with licensees on the prospect of deploying the capability for spectrum that is already in use. As a matter of policy, we question the fairness of allowing opportunistic use of spectrum that has been previously licensed and obtained through competitive auctions.

4. We do not agree with the use of interventionist measures in spectrum auctions due to the inefficient distortions to the final allocation that can arise. With the conclusion of the 2500 MHz spectrum auction, ISED has achieved its objective of getting a substantial amount of commercial mobile spectrum in the hands of new competitors. It is now time for ISED to return to a light-handed regulatory approach which has a greater reliance on market forces and thus, ISED should remove the spectrum aggregation limits with respect to the 700 MHz and 2500 MHz spectrum licences.

5. With respect to the 700 MHz licences, we oppose the proposal to reduce the opening bids by 50%. Rather than reducing the opening bid prices for this spectrum and reducing the return Canadians will receive from the licensing of this spectrum, ISED should simply remove the spectrum aggregation limits. We also oppose the proposal to reduce the opening bid prices for the I Block by half based on the uncertainty of the equipment ecosystem and to account for the 10 year licence term. Finally, if ISED maintains the spectrum aggregation limit with respect to the 2500 MHz licences, then there is likely going to be limited competition for these licences which will artificially lower both demand and prices paid for these spectrum licences. To ensure that Canadians receive an appropriate return for the licensing of this spectrum and to minimize the distortions that arise from keeping prices artificially low, the proposed opening bid prices should be increased 1.5 to 2 times.

6. With regard to the proposed conditions of licence (CoLs) set out in Annex A of the Notice, we recommend eliminating the condition related to research and development (R&D) expenditures for several reasons, as explained in section 4.4 of our Comments. We also recommend eliminating the condition on mandatory roaming because recent initiatives by the Canadian Radio-television and Telecommunications Commission (the Commission) make this CoL duplicative as it relates to national carriers and is at odds with the findings of the Commission as it relates to non-national carriers. It is therefore, unnecessary as it relates to non-national carriers and inconsistent with the principles of the *Telecommunications Act* as it relates to national carriers. Finally, we recommend changes to the annual reporting CoL which will ease the regulatory burden on licensees and ISED alike.

2.0 BAND PLAN AND AVAILABLE LICENCES

Q1. ISED is seeking comments on the choice of licences being made available through this licensing process:

- a. are there other licences that should be made available in this licensing process; and**
- b. are there any of these licences that should not be included in this licensing process?**

7. As indicated in the Notice, the *Framework for Spectrum Auctions in Canada* (FSAC) states that "should a licence not receive a bid during the auction, Industry Canada may make this licence available at a later date", and that "available licences, including any licences that were forfeited after the close of the auction, may be offered in a subsequent re-auction or

through an alternative process (such as a first-come, first-served process)."¹ ISED is proposing to auction unassigned licences in the 700 MHz band, 2500 MHz band, the 1910-1915/1990-1995 MHz band (PCS G Block), 1670-1675 MHz band (I Block), as well as returned licences in the 2300 MHz band. These licences represent unassigned/returned spectrum from spectrum auctions that have been held since 2008. As a result, in our view, there are no other licences that should be made available in this licensing process.

8. However, the I Block is included as part of this licensing process. To our knowledge, an equipment ecosystem for I Block has not yet developed anywhere in the world and the band remains undefined by 3GPP.² It is possible that the development and deployment of 5G could make I Block spectrum commercially attractive but the prospect and timing of this occurring is uncertain. With no viable equipment ecosystem being developed in the near future, we recommend that the I Block licences should not be included in this licensing process. Licencing spectrum that cannot be deployed in the near term will simply create additional administrative burdens in the future when it comes time to review the deployment requirements within the first eight years of the initial issuance of the licence.

9. While we do not believe that it is appropriate for ISED to licence the I Block at this time, ISED can always licence this spectrum through a residual auction at a future date. For example, ISED could consider another residual auction consultation with respect to the I Block in five years. If, at the end of five years, ISED concludes that the ecosystem remains undeveloped, it could postpone the licensing of the I Block in additional five-year increments until such time as the direction and schedule for technology and standards development is reasonably clear.

3.0 COMPETITIVE MEASURES

Q2. ISED is seeking comments on its proposals to:

- a. maintain the spectrum aggregation limits on the 700 MHz licences;**
- b. maintain the spectrum aggregation limits on the 2500 MHz licences including newly available 2585-2595 MHz licences; and**
- c. not impose competitive measures on other licences issued through this licensing process.**

¹ <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01626.html>.

² 3GPP is the 3rd Generation Partnership Project, a mobile communications industry collaboration that organizes and manages the development of mobile communications standards.

10. We do not agree with the use of interventionist measures in spectrum auctions due to the inefficient distortions to the final allocation that can arise. With the conclusion of the 2500 MHz spectrum auction, ISED has achieved its objective of getting a substantial amount of commercial mobile spectrum in the hands of new competitors.

11. Wireless service providers such as Eastlink, Videotron, Shaw, and SaskTel have now secured both low-band (700 MHz) and higher-band spectrum (AWS-1, AWS-3 and 2500 MHz). These providers are all well established and well capitalized wireless service providers that are able to offer a bundle of services that include mobile, Internet, home phone and television services. They are no longer "new entrants" and they certainly do not require regulatory protection and subsidized spectrum. It is now time for ISED to return to the intent and spirit of Industry Canada's *Spectrum Policy Framework for Canada's* enabling guidelines (a) and (d) which state that market forces should be relied upon to the maximum extent feasible, and regulatory measures, where required, should be minimally intrusive, efficient and effective, respectively.³ Market forces, in short, will ensure that those willing and able to put the spectrum to its best use will bid for and acquire it. A market based approach to spectrum allocations will also ensure that the government garners the highest possible value for the spectrum it administers on behalf of Canadians.

12. As a result, we support the proposal to not impose competitive measures on the PCS G Block licences, I Block licences (if this spectrum is auctioned at this time), and the 2300 MHz licences issued through this licensing process. However, we do not support the proposal to maintain the spectrum caps on the 700 MHz and 2500 MHz licences in this auction process. Similar to the AWS-3 licences and consistent with the northern licences in the 2500 MHz band where the spectrum aggregation limit does not apply, all interested parties should be permitted to bid on the 700 MHz licences in this auction process. Moreover, this will be the third attempt at licensing these 700 MHz licences. Rather than reducing the opening bid prices for this spectrum and reducing the return Canadians will receive from the licensing of this spectrum, ISED should simply remove the spectrum aggregation limits with respect to the 700 MHz spectrum licences for the service areas of Yukon, Nunavut and Northwest Territories. Again, removing spectrum aggregation limits will make the spectrum available to the widest range of bidders and in so doing maximize the value received for it.

³ Industry Canada, *Spectrum Policy Framework for Canada*, June 2007, available at <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08776.html#s44>.

13. We also do not support the proposal to maintain the spectrum aggregation limits on the 2500 MHz licences including newly available 2585-2595 MHz licences. With the aggregation limit in place, there will be limited competition for the 2500 MHz licences being offered as part of this licensing process which will keep the price paid for this spectrum artificially low.

4.0 CONDITIONS OF LICENCE

Q3. ISED is seeking comments on:

- a. the likely timeframe for availability of equipment capable of providing access to licensed spectrum on an opportunistic basis;**
- b. licence terms;**
- c. the proposal to apply deployment levels to each of the licences as described in annex F; and**
- d. the proposed conditions of licence as outlined in annexes A through F.**

4.1 Access to Licenced Spectrum on an Opportunistic Basis

14. At this time, we have limited insight into the likely timeframe in which equipment capable of providing access to licensed spectrum on an opportunistic basis will become commercially available. As explained in the Notice, accessing licensed spectrum on an opportunistic basis relies on the development of dynamic spectrum access and cognitive radio capabilities. These capabilities are not commercially available at this time and, based on our understanding of the state of R&D in this area; it appears unlikely that these capabilities will be commercially viable for at least the next five years.

15. Beyond the technological viability of opportunistic spectrum access, without any details concerning the potential technologies, applications and associated business cases that could be employed, any policy decision on this issue could have negative unintended consequences. It could also undermine the value of spectrum auctioned or otherwise licensed by ISED in the future as it could be possible for service providers to use spectrum without participating in an ISED auction or alternative licensing process. At this early stage of the underlying technologies' development, opportunistic spectrum access could also introduce new risks to both the quality of service provided to Canadians and the security/privacy of wireless networks in Canada.

16. As opportunistic spectrum access capabilities mature, ISED should consider exploring such access only for Greenfield spectrum. Clearly identifying opportunistic spectrum access as a CoL before spectrum is initially licensed provides potential licensees with the opportunity to factor this condition into their business cases and set their auction participation strategies

accordingly. It would be patently unfair for ISED to impose an opportunistic access requirement on existing licensees, after an auction has occurred. Companies who invest millions or, in some cases, billions of dollars deploying spectrum must clearly understand all of their rights and obligations upfront.

17. After the concept is proven with Greenfield spectrum and the technologies and business cases are understood, then ISED should initiate a comprehensive consultation to examine the implications on the Canadian spectrum management system of implementing such a fundamental change for spectrum that has already been licensed. Addressing the issue in a comprehensive manner rather than in the context of a particular spectrum band or renewal process would allow for a more robust evaluation of the opportunity and avoid unintended consequences. One important consideration that the consultation would need to address is the lead time that licence holders would require to adapt/transform their networks and operating systems to this fundamental new spectrum management principle.

18. From a process perspective, mandating opportunistic access to spectrum represents a fundamental shift in spectrum policy and should, therefore, be considered on a stand-alone basis. A fulsome, subject-specific consultation would be a more appropriate approach to consider the benefits and risks of this emerging capability. However, even after a fulsome consultation, opportunistic access should only be used where it is clearly identified in the terms of the initial auction. The requirement cannot be added in the middle of a licence term.

4.2 Licence Terms

19. The Notice indicates that the decision to allow licence terms up to 20 years as part of the FSAC "was based on the recognition that licence terms in excess of 10 years would create greater incentive to invest in the telecommunications industry and for the industry itself to further invest in the development of network infrastructure, technologies and innovation."⁴ We agree. Thus, we support the proposal of 20 year licence terms for the 700 MHz, 2500 MHz, 2300 MHz, and PCS spectrum bands in this licensing process.

20. As indicated above, we do not recommend auctioning the I Block as part of this licensing process due to the lack of an equipment ecosystem. However, if ISED proceeds with auctioning the I Block at this time, then we support licence terms of 10 or even 20 years, since this will

⁴ Notice, paragraph 21.

provide an opportunity for the I Block ecosystem to develop to the point where licensees could effectively deploy the spectrum. ISED could impose a five-year checkpoint to review the status of the I Block ecosystem and adjust the deployment targets at that time if appropriate. This approach would provide certainty for the industry in the current situation where the technologies and standards are uncertain.

4.3 Deployment Levels

21. We do not oppose the proposal to apply deployment levels to each of the licences as described in Annex F of the Notice. However, if ISED proceeds with auctioning the I Block as part of this licensing process, then we recommend that deployment requirements for the I Block be reviewed and adjusted after five years depending on the status of the development of the I Block ecosystem.

4.4 Conditions of Licence

22. We note that the CoLs related to licence term and deployment criteria are addressed above. We have reviewed the remaining proposed CoLs in the Annexes of the Notice and offer the following additional inputs. To be clear, we are proposing that the following changes to the CoLs apply to all spectrum licences and not just the residual spectrum licences.

4.4.1 Lawful Interception

23. We do not object to the proposed CoL on lawful interception, however, this condition could be impacted by Bill C-59, *An Act respecting national security matters*⁵, introduced by the Government on 20 June 2017. If Bill C-59 is enacted, it is likely that the lawful interception CoLs pertaining to all spectrum, will become moot and should be removed. However, to the extent that the lawful interception CoL remains, it should be limited to capabilities determined in industry standards and included in commercially available equipment.

4.4.2 Research and Development

24. Licensees with \$1 billion or more in annual gross operating revenues from the provision of wireless service in Canada must invest, as a minimum, 2% of their wireless revenues in eligible R&D activities related to telecommunications. Eligible R&D activities are those that

⁵ <http://www.justice.gc.ca/eng/csj-sjc/pl/charte-charte/ns-sn.html>.

meet the definition of scientific research and experimental development (SR&ED) adopted in the *Income Tax Act*.⁶ Licensees with less than \$1 billion in annual revenues are exempt from the R&D expenditure requirement.

25. The proposed R&D condition suffers from a number of weaknesses which, when considered in aggregate, lead to the conclusion that it should be eliminated.

- i) It imposes a regulatory disadvantage in the form of a constraint on the operating flexibility of wireless licensees with limited, if any, evidence that it benefits Canadians or the Canadian wireless industry. In our view, licensees will undertake an appropriate amount of innovation activities (including SR&ED qualifying R&D expenditures) to compete effectively and, therefore, a CoL that mandates a prescribed revenue percentage to be spent on R&D activities is unnecessary.
- ii) The condition inappropriately targets a subset of licensees for this regulatory disadvantage. As the CoL calculates the R&D spending obligation on a percentage of revenue basis, it would not asymmetrically harm smaller providers. Therefore, if the CoL is maintained, there is no valid reason to limit its application to only the largest licensees.
- iii) The 2% spending minimum is out of date. It was imposed on regional carriers in 1991 (26 years ago)⁷ when the wireless industry was in its infancy and industry revenues were less than 1/20th of current levels.⁸ A technology-based industry in an early stage of development, as wireless was in 1991, would be expected to spend a significantly higher portion of its revenues on R&D than a large, well-established industry, as wireless is today. Therefore, if 2% was appropriate 26 years ago, it no longer remains so. In fact, given the large size and success

⁶ The Notice, Annexes A, B, C, D, and E.

⁷ Canada Gazette Notice No. DGRB-001-09, page 9. Note that the R&D expenditure CoL applied to Rogers Cantel beginning in 1983.

⁸ This is a conservative estimate based on available information. Canada's wireless revenue in 2015 (\$22.5B) is reported in the Commission's *Communications Monitoring Report 2016*, page 282, Table 5.5.1. Wireless revenue for 1991 was not readily available. However, the OECD's *Communications Outlook 1996* (found at: <https://books.google.ca/books?id=BJDWAqAAQBAJ&pg=PA222&lpg=PA222&dq=oced+communications+outlook&source=bl&ots=npEI0ukrc&sig=ZquNPFOZye43jvahl0IRWd1oaN0&hl=en&sa=X&ved=0ahUKEwjUoOXZ1YPVAhXL6oMKHSyCCj8Q6AEIUDAI#v=onepage&q=oced%20communications%20outlook&f=false>) provides 1993 data for Canada's annual revenue per cellular subscriber (US\$682, p. 57) and year end subscribers (1.3 million, p. 75). The product of these data result in annual revenues of US\$887M which converts to CDN\$1.1 billion using the US/Canada exchange rate from 1993 (\$1.29, p. 249). If data from 1991 and 2016 were available and used to calculate this figure, the prevailing trends in the data indicate that the revenue variance would be considerably larger.

of today's wireless industry, it is inappropriate for ISED to mandate any percentage of revenues to be spent on this particular activity.

- iv) The annual reporting requirement related to R&D spending, which provides evidence of compliance with this CoL, is a related but additional regulatory burden. It is an example of one regulation giving rise to another regulation.
- v) The condition inappropriately mixes spectrum management regulation and industrial development policy.⁹ As the Government has shown in recent years with various innovation and broadband deployment programs, it has other incentive-based, rather than penalty-based, policy tools at its disposal to encourage desired behaviours from industry participants. In our view, incentive-based policy tools are more consistent with a modern regulatory framework for a successful industry like wireless than penalty-based tools.
- vi) The financial resources required to satisfy the R&D CoL, i.e., spending that meets the definition of SR&ED adopted in the *Income Tax Act*, could potentially be more productively spent on other activities. For example, it may be more productive for a licensee to spend an equivalent amount of money to: hire or train new personnel, deploy new and/or improved network capabilities, introduce new wireless applications or services, undertake R&D activities that do not align with the definition in the *Income Tax Act*, or fund consumer promotions (such as handset subsidies) that encourage wireless adoption. In a competitive wireless marketplace like Canada's, these investment decisions are best left to the discretion of each competitor rather than the Government.
- vii) In recent years, the Canada Revenue Agency (CRA) has changed the eligibility rules for SR&ED spending for purposes unrelated to the R&D CoL. For example, investments in capital related to R&D activities, such as lab hardware and software, are no longer eligible expenditures under CRA's SR&ED rules. The net effect of these rule changes on licensees' R&D expenditure CoLs is to disallow a significant amount of wireless carriers' spending on R&D simply because the activities do not qualify for SR&ED credits. This is an unintended consequence of using a regulatory scheme designed for one purpose (awarding tax credits) for

⁹ This issue was raised in a 2006 OECD report entitled "Telecommunication Regulatory Institutional Structures and Responsibilities" (see: <http://www.oecd.org/internet/broadband/35954786.pdf>) which ISED highlighted in section 6.1 of Canada Gazette No. DGRB-001-09, *Consultation on revisions to the framework for spectrum auctions in Canada* (see: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09371.html#DGRB00109.06>).

another purpose entirely (satisfying a spectrum CoL).

- viii) The quality of Canada's wireless services is among the highest in the world – and has been for many years. In fact, the Minister of ISED recently observed that "Canada has some of the world's most advanced and efficient telecom networks" and "virtually all Canadians are covered by the latest wireless technologies".¹⁰ In consideration of this, it is unnecessary for the Government to mandate R&D investments. The CoL is attempting to fix a problem that does not exist.
- ix) The R&D expenditure CoL ignores the large role played by network equipment manufacturers, handset equipment manufacturers and application developers in the R&D of wireless services. These stakeholders work closely with carriers to research and develop new and innovative wireless capabilities but this work is completely unrecognized by the CoL.

26. In summary, as a legacy CoL that was initiated more than 26 years ago, the R&D spending requirement is both unnecessary and out-of-step with today's modern wireless industry. We recommend that ISED eliminate the CoL from all spectrum licence conditions, including those for the spectrum licences being licenced as part of this residual auction process. By doing so, ISED will provide licensees with greater operating flexibility to address consumers' needs and will be regulating in a manner consistent with the Government's policy to rely on market forces to the maximum extent feasible.¹¹

27. If ISED does not immediately eliminate the R&D spending condition, it should, at a minimum, make two changes to the requirement. First, as noted above, given the scalable nature of a revenue-based regulatory obligation, ISED should eliminate the revenue exemption threshold to broaden its applicability and make this regulatory requirement symmetrical among all licensees. Second, the 2% spending requirement should be significantly lowered (e.g., to 1%) in recognition of the changes that the CRA has made to the SR&ED eligibility rules in

¹⁰ Speaking Points of the Honourable Navdeep Bains, PC, MP, Minister of ISED, at the 2017 Canadian Telecom Summit, 5 June 2017, available at https://www.canada.ca/en/innovation-science-economic-development/news/2017/06/2017_canadian_telecomsummit.html?=&wbdisable=true.

¹¹ The "Enabling Guidelines" in ISED's *Spectrum Policy Framework for Canada* notes that "Market forces should be relied upon to the maximum extent feasible" (see: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08776.html#s44>). In addition, the Government's *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives, SOR/2006-355*, states that "the Commission should (i) rely on market forces to the maximum extent feasible as the means of achieving the telecommunications policy objectives, and (ii) when relying on regulation, use measures that are efficient and proportionate to their purpose and that interfere with the operation of competitive market forces to the minimum extent necessary to meet the policy objectives".

recent years and the fact that wireless revenues have increased on a massive scale since the spending level was originally put in place.

4.4.3 Mandatory Roaming

28. ISED first made the provision of wholesale roaming services to wireless carriers mandatory in 2008.¹² At that time, the Commission had forborne from regulating both retail and wholesale mobile wireless services for many years and was showing no signs of reversing that decision.

29. In TRP 2015-177¹³, the Commission determined that it would mandate the provision, and regulate the rates, of GSM-based wholesale roaming services provided by Bell Mobility, Rogers and Telus to all other wireless carriers. In that same policy, the Commission concluded that it would be inconsistent with the objectives of the *Telecommunications Act* to mandate the provision, or regulate the rates, of other wholesale roaming services or the GSM-based wholesale roaming services provided to Bell Mobility, Rogers and Telus. In other words, in TRP 2015-177, the Commission established that the roaming requirements contained in ISED's CPC-2-0-17 as they relate to Bell Mobility, Telus, and Rogers were unnecessary. Further, the Commission created a regulatory regime for roaming provided to non-national carriers which makes ISED's requirements redundant.

30. In consideration of the Commission's investigation into the competitiveness of wholesale roaming markets in Canada, and its decision to only regulate the GSM-based wholesale roaming services provided by Bell Mobility, Rogers and Telus to non-national carriers, the proposed CoL on mandatory roaming is clearly unnecessary and should be removed.

31. In addition, the mandatory roaming CoL that requires national wireless carriers to provide roaming to other national wireless carriers is at odds with the principles of facilities-based competition and creating incentives to invest in network infrastructure. Specifically, the mandatory roaming CoL creates an opportunity for network arbitrage whereby one carrier can make the strategic decision not to invest in or upgrade its own network in favour of roaming on one or more of its competitors' networks.

¹² See CPC-2-0-17, *Conditions of Licence for Mandatory Roaming and Antenna Tower and Site Sharing and to Prohibit Exclusive Site Arrangements*, paragraph 7, <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09081.html>.

¹³ Telecom Regulatory Policy CRTC 2015-177, *Regulatory Framework for wholesale mobile wireless services*, paragraph 128.

32. The fact that wholesale roaming rates are commercially negotiated but subject to mandatory arbitration in the event of a dispute effectively means that the rates do not reflect true market value. The rates are, instead, subject to downward pressure because: a) the provision of wholesale roaming services is mandatory; and b) the rates imposed in arbitration typically reflect historic rates.

33. To the extent that ISED's regulation of wholesale roaming services may result in different and/or conflicting commercial outcomes for wireless carriers than the Commission's wholesale roaming regulations, then ISED's proposed CoL on mandatory roaming introduces unnecessary regulatory uncertainty for all market participants.

34. In consideration of the above factors, we recommend the removal of the proposed mandatory roaming CoL for the licences in question, as well as all other spectrum licences.

4.4.4 Annual Reporting

35. The proposed CoLs require licensees to submit an annual report which provides spectrum deployment, financial and other information. We appreciate that ISED must monitor spectrum licensees to fulfill its mandate and that licensee-specific information may be an important element of the monitoring exercise. However, the effort required by licensees to prepare the annual reports is significant and it is uncertain that the value that ISED receives from these reports is commensurate with the effort that licensees expend in their preparation. For example, we estimate that our annual ISED report, which addresses all of our licenced spectrum, requires approximately 200 hours to prepare. We therefore recommend that ISED reduce the regulatory burden on licensees related to annual reporting.

36. One way in which the annual reporting regulatory burden on licensees and ISED alike can be lowered is by reducing the frequency with which the data is collected. For example, information could be collected every five years for 20-year licences and once every two or three years for shorter licence terms. In addition, ISED should consider streamlining the scope and/or amount of information requested in the reports to only those data that are essential to ISED's monitoring activities.

37. As an alternative to regularly scheduled data collection, ISED could modify the CoL such that licensees are required to provide information on ISED's request, with appropriate notice.

For example, ISED could issue a request for information three months in advance of its due date and customize the request to ISED's particular needs for the licences in question. Under this model, the expectation is that only a subset of the current data would be collected and it would be collected on an as-needed basis only (i.e., less frequently than the current annual schedule).

5.0 AUCTION FORMAT AND RULES

Q4. ISED is seeking comments on its proposals:

- a. to use the sealed-bid auction format for the auction of residual licences, and**
- b. on the timelines set out in the *Proposed Table of Key Dates*.**

38. The primary objective of auctions is efficiency, or assigning the spectrum to those that value it the most. We submit that the most efficient auction design maximizes openness (which we define as transparency and the discovery of information about valuations¹⁴) and minimizes administrative burden (which we define by complexity and resource costs from both ISED's perspective and the bidders¹⁵). By its very design, sealed-bid auctions are not open. There is no opportunity for the price discovery process that occurs in ascending-bid auction formats such as combinatorial clock (CCA) and simultaneous multiple-round ascending auctions (SMRA).

39. The efficiency benefits of price/value discovery that occur through open bidding (i.e. not sealed-bid), was recognized by ISED when it noted that "both CCA and SMRA formats provide stakeholders with the benefit of price discovery through the multiple rounds."¹⁶ The efficiency benefits of open, ascending-bid auctions are identified by Peter Cramton, a leading spectrum auction design expert:

An essential advantage of open bidding is that the bidding process reveals information about valuations. This information promotes the efficient assignment of licences, since bidders can condition their bids on more information. Moreover, to the extent that bidder values are affiliated, it raises auction revenues ... since the winner's curse is reduced. Bidders are able to bid more aggressively in an open auction, since they have better information about the item's value.¹⁷

¹⁴ Cramton, P., (2002), "Spectrum Auctions" *Handbook of Telecommunications Economics*, Vol. 1, Cave, Majumdar and Vogelsang, (eds.), Elsevier, 605-639, page 609, notes that information about valuations promotes the efficient assignment of licences.

¹⁵ The more complex and resource intensive the auction format, the less straightforward and transparent the auction will be, and the more likely that bidders will make mistakes and/or develop inefficient bidding strategies.

¹⁶ Notice, paragraph 29.

¹⁷ Cramton, P., (1997) "The FCC Spectrum Auctions: An Early Assessment," *Journal of Economics and Management Strategy*, 6(3): 431-495, at page 435.

40. For the above-noted reasons, we believe that ISED should, as a general rule, adopt auction formats that allow for ascending-bids. However, we understand the administrative burden that ISED is seeking to avoid in this particular situation which only offers a limited number of licences in each spectrum band. As a result, for this particular auction process, we do not object to the proposal of using a sealed-bid auction format for the auction of residual licences in the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz bands.

41. Finally, we have no comment on the timelines proposed in the *Proposed Table of Key Dates*.

Q5. ISED is seeking comments on its proposal to include package bidding for 2500 MHz licences in the sealed bid auction format.

42. In this particular auction process, with respect to the 2500 MHz licences, we do not object to the proposal allowing for package bidding within the 15 pre-defined "Groups" of licences. We also do not object to ISED's proposal not to make package bidding available for any other spectrum bands offered in this auction.

Q6. ISED is seeking comments on its proposal to use a second-price rule for this auction and the Vickrey price determination mechanism.

43. A key objective of spectrum auctions is to ensure that Canadians receive a fair return for the use of valuable spectrum. The Notice touches on this consideration by noting that "under a first-price rule, the bidder has a strong incentive to bid less than its true value, which can lead to inefficient outcomes."¹⁸ In general, in second-price auctions it is a dominant strategy to bid truthfully and as a result, the allocations will be efficient.¹⁹ This result is noted in the Notice: "bidders, knowing that they will only be required to pay the minimum amount necessary to win their licence or package, will have the incentive to bid truthfully during the auction."²⁰ Therefore, we support the proposed use of the second-price rule for this particular auction process.

Q7. ISED is seeking comments on the proposed opening bids as presented in tables 7, 8, 9 and 10.

44. With respect to the 700 MHz licences, we oppose the proposal to reduce the opening bids by 50%. Rather than reducing the opening bid prices for this spectrum and reducing the

¹⁸ Notice, paragraph 38.

¹⁹ Krishna, V. (2010). *Auction Theory*, 2nd Edition, Academic Press, pages 188 and 189.

²⁰ Notice, paragraph 38.

return Canadians will receive from the licensing of this spectrum, ISED should simply remove the spectrum aggregation limits with respect to the 700 MHz spectrum licences for the service areas of Yukon, Nunavut and Northwest Territories.

45. We also oppose the proposal to reduce the opening bid prices for the I Block by half based on the uncertainty of the equipment ecosystem and to account for the 10 year licence term. As we noted above, we believe that the equipment ecosystem uncertainty is more appropriately addressed by postponing the auction for these licences.

46. If ISED maintains the spectrum aggregation limit with respect to the 2500 MHz licences, then there is likely going to be limited competition for these licences. As noted above, this artificially lowers the demand for these spectrum licences which lowers the price paid. To ensure that Canadians receive an appropriate return for the licencing of this spectrum and to minimize the distortions that arise from keeping prices artificially low, the proposed opening bid prices should be increased 1.5 to 2 times, bringing the opening bid prices closer to what Xplornet paid in the first 2500 MHz auction which was \$0.116 per MHz-pop.²¹

47. Finally, we have no comment on the opening bid prices for the 2300 MHz spectrum licences or the PCS G Block licences.

6.0 BIDDER PARTICIPATION

Q8. ISED is seeking comments on its proposed rules regarding Affiliated and Associated Entities, which would apply to applicants and bidders in the upcoming auction of residual spectrum licences.

48. We have no comment on the proposed Affiliated and Associated Entities rules that would apply to the bidders as part of this particular auction process.

Q9. ISED is seeking comments on the rules prohibiting collusion and other communication rules, which would apply to bidders in the upcoming auction of residual spectrum licences.

49. We have no comment on the proposed rules prohibiting collusion that would apply to bidders as part of this particular auction process.

²¹ <http://www.lya.com/index.php/2015/05/12/canadian-2500-mhz-auction-results/>.

7.0 AUCTION PROCESS

Q10. ISED is seeking comments on:

- a. the proposed auction process for the auction of residual licences;**
- b. the proposed use of Canada Post's ePost Connect services for auction applications, associated documentation and bid forms; and**
- c. section 8.12, the proposal to auction some or all of the frequency bands separately. Please include any preferences on the order of the bands**

50. We support the proposed auction process for the auction of the residual licences in this particular licensing process, but request that ISED provide training and/or a preliminary test of Canada Post's ePost Connect services for auction applications, associated documentation and bid forms. Given the importance and sensitivity of the information being provided, bidders should be given an opportunity to achieve the necessary comfort that comes from testing this new system prior to the actual filing dates.

51. We acknowledge that there is benefit in knowing if you are the winning bidder for a particular licence in a particular area before making bids on the next set of licences. However, given the lack of significant overlap of geographic areas across the spectrum licences being auctioned as part of this process, this benefit is likely small and we recommend that the frequency bands proposed in this consultation should be auctioned in a single round and not separately. This will enhance the efficiency of the auction process.

8.0 POST-AUCTION LICENSING PROCESS

Q11. ISED is seeking comments on the proposed renewal process.

52. We have no comment on the proposed renewal process.

53. We appreciate the opportunity to provide these comments.

*** End of Document ***