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DGSO-007-14
December 2014

Spectrum Management and Telecommunications

Decisions Regarding Policy Changes in the 3500 MHz Band (3475-3650 MHz) and a New Licensing Process

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1. Intent

1. Through the release of this document, the Department announces the decisions resulting from the consultation process undertaken in [DGSO-003-14 — Consultation on Policy Changes in the 3500 MHz Band \(3475-3650 MHz\) and a New Licensing Process in Rural Areas](#) (the consultation).

2. Mandate

2. The Minister of Industry, through the [Department of Industry Act](#), the [Radiocommunication Act](#) and the [Radiocommunication Regulations](#), with due regard to the objectives of the [Telecommunications Act](#), is responsible for spectrum management in Canada. As such, the Minister is responsible for developing goals and national policies for spectrum resources use and for ensuring effective management of the radio frequency spectrum resource.

3. Background

3. The Government of Canada is committed to ensuring that Canadians benefit from the availability of advanced, competitively priced telecommunications services in all regions of the country. In its [Economic Action Plan 2014](#), the Government reaffirmed its commitment to extend and enhance broadband Internet services in rural and northern communities.

4. In November 2013, the Department published DGSO-004-13, [Decisions Concerning the Renewal of 2300 MHz and 3500 MHz Licences](#) (hereafter referred to as the renewal decision). The renewal decision indicated that the Department would launch a further consultation regarding certain aspects of the 3475-3650 MHz portion of the band (3500 MHz band).¹

5. Further, through the [Commercial Mobile Spectrum Outlook](#), the Department identified a number of bands, including the 3500 MHz band, that could potentially be allocated to commercial mobile services by 2017.

6. To address the demand for spectrum in the 3500 MHz band by both fixed and mobile services, the Department launched the consultation in August 2014 to seek comments on a number of proposals to enable both services to operate in this band: (a) a new classification of Tier 4 service areas² to differentiate between urban and rural areas; (b) a new licensing process to be used for fixed wireless access (FWA) licences; (c) a fundamental reallocation of the 3500 MHz band to introduce mobile services; and (d) a transition policy.

7. Through the consultation, respondents shared their suggestions and concerns regarding the proposals put forth. Comments were received from a total of 201 respondents; an additional 52 reply

¹ The band 3475–3650 MHz is allocated to various radiocommunication services, including the fixed service, the radiolocation service, the fixed-satellite service and the amateur service. Under the fixed service allocation, fixed wireless access (FWA) is the predominant use of the 3500 MHz band, providing broadband service (e.g. Internet to the home).

² Licences in the 3500 MHz band were issued on a Tier 4 basis. Tier 4 areas are predefined in the document [Service Areas for Competitive Licensing](#). There are 172 Tier 4 areas across Canada.

comments were submitted. All comments received in response to the consultation are available on the Department's website at <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10883.html>.

4. Introduction of Mobile Services

8. In the consultation, the Department sought comments on its proposal to fundamentally reallocate the 3500 MHz band to introduce mobile services and to make the associated modifications to the *Canadian Table of Frequency Allocations* (CTFA).

9. The Department also proposed a geographically differentiated policy: in urban areas, the use of the spectrum would be for mobile services; and in rural areas, it would remain for fixed services. To facilitate this proposal, the consultation further proposed to classify existing Tier 4 service areas containing a population centre of 30,000 or more as urban; all others would be classified as rural.³

10. The proposed fundamental reallocation would result in a change to the conditions of existing licences, whereby licensees would no longer have a high expectation of renewal.

Summary of Comments

11. The majority of respondents agreed that consumers have increasingly demanded extended coverage, faster data transmission rates and more advanced, data-intensive mobile applications. Many acknowledged that there is demand for additional mobile capacity in large urban areas and that the 3500 MHz band is well suited to meet this demand. Many suggested, however, that Canadians living in rural areas could also benefit, economically and socially, from mobile services.

12. Québecor noted that a fundamental reallocation is inevitable given the international developments to designate this band for mobile services and the need for additional spectrum by service providers to meet the increasing demand for mobile services. Bell Canada, Inukshuk Wireless Partnership and Rogers Communications Partnership (Bell/Inukshuk/Rogers) agreed with adding a mobile service allocation to the band but noted that adding a mobile allocation is not a fundamental reallocation of the band.

13. Most respondents opposed the methodology proposed by the Department to differentiate urban and rural areas for the purpose of implementing mobile services in urban areas and fixed services in rural areas. Respondents noted that many rural communities fall within the proposed definition of an urban area. They were concerned that customers in these rural communities would lose service as a result of existing licensees not being able to retain their fixed licences to provide Internet service. The Government of Alberta highlighted that many rural Alberta Internet Service Providers (ISPs) who would be impacted by the proposals, had previously received broadband funding from the Department to serve these same communities. In its reply comments, MTS Inc. (MTS) noted that many providers and local

³ This approach used Statistics Canada's definitions for population centres to classify each tier. See Statistics Canada's Census Dictionary definitions (<http://www12.statcan.gc.ca/census-recensement/2011/ref/dict/geo049a-eng.cfm>).

governments in rural communities were under the false assumption that the Department's proposal would take away spectrum from fixed wireless providers in favour of mobile services.

14. Alternative approaches were suggested by some of the respondents, including ABC Communications, who suggested designating only large centres such as Montréal and Toronto as urban or using an average population density of 100 persons/km² as the metric. The British Columbia Broadband Association and CanWISP both proposed using a population of 500,000 instead of 30,000 when determining if an area is urban or rural. In contrast, MTS proposed that urban areas should also include major highway routes. In its reply comments, the Canadian Network Operators Consortium (CNOOC) noted that respondents' proposals would only serve to favour the interests of mobile or fixed wireless providers. SaskTel noted that, based on the comments received, it is likely not possible to find an appropriate balance that allows Tier 4 service areas to be designated as urban or rural to everyone's satisfaction, based solely on population centres or population densities.

15. Bell/Inukshuk/Rogers also highlighted the similarities between the 3500 MHz and 2500 MHz bands in terms of their evolution and lack of a global equipment ecosystem. It added that given that fixed and mobile services use the same underlying technology, there is no need to differentiate between fixed and mobile allocations in the 3500 MHz band. Instead, it proposed that the policy should allow for the flexible use of the 3500 MHz band by both fixed and mobile services regardless of the area, adding that this could facilitate an increase in the deployment of services as it did in the 2500 MHz band.

16. Respondents from the satellite and broadcasting industries opposed adding mobile services to the band, citing a potential increase for interference. Ciel Satellite noted that this reallocation should not be considered without first completing all of the necessary consultations and technical studies to ensure that the introduction of mobile services will not cause harmful interference to existing services operating in the conventional C-bands.⁴ Bell/Inukshuk/Rogers indicated that there are ways of mitigating interference, highlighting that the International Telecommunications Union has studied mitigation and sharing techniques and has not raised any serious concerns in this regard. Furthermore, Bell/Inukshuk/Rogers noted that it has deployed⁵ extensively across the country with very few issues of interference with satellite operators.

17. Although the consultation did not seek comments on specifics regarding a new 3500 MHz band plan, some respondents, including members of the Radio Advisory Board of Canada, cautioned the Department in making any major licensing decisions in advance of defining a band plan. Others recommended that the future band plan align with international developments and current technologies, for example, an unpaired, time division duplex (TDD) based band plan.

⁴ Ciel referenced the bands 3700–4200 MHz and 5925–6425 MHz.

⁵ Bell/Inukshuk/Rogers noted that their deployment was based on Time-Division Long-Term Evolution (TD-LTE) technology.

Discussion

18. As discussed in the consultation, the Department recognizes that spectrum resources must be available to commercial mobile service providers to ensure that Canadians continue to benefit from advanced wireless services. Internationally, it is recognized that additional spectrum is needed to meet the increasing demand for mobile services and many countries have been looking at the 3500 MHz band as an option for commercial mobile broadband services. In the [Commercial Mobile Spectrum Outlook](#), the Department identified a number of bands, including the 3500 MHz band, that could potentially be allocated to commercial mobile services by 2017.

19. In response to comments regarding the establishment of a new band plan, as stated in the consultation, the Department recognizes the benefit of a band plan that is globally harmonized to the extent possible, as it provides for economies of scale and a more robust equipment ecosystem. A key driver of the change, and a consideration when developing the new band plan, will be to increase the overall spectrum efficiency. Given that a mobile equipment ecosystem is not yet fully available, it is premature for Canada to adopt a new band plan at this time. The Department continues to closely monitor international developments regarding a new band plan and will launch a public consultation in the future to seek comments on the most appropriate approach for Canada. However, the Department considers that certain policy decisions can be determined now to provide clarity to all stakeholders.

20. The characteristics of the 3500 MHz spectrum are such that it is well suited to address capacity constraints from the increasing demand for commercial mobile spectrum in urban communities. The 3500 MHz band is also well suited to meet the needs for fixed wireless broadband services in rural areas, as it is currently used today. However, the Department agrees with respondents who noted that there are economic and social benefits of introducing mobile services in the 3500 MHz band in all areas of the country, and that finding an appropriate balance to meet the competing interests in this band based on population centres or population densities is challenging.

21. Further, as noted by many of the respondents, the underlying technology used for mobile and fixed services in the 3500 MHz band is beginning to converge, and is often the same. Restricting the services throughout the band based on geography, as proposed, limits the licensees' flexibility to offer the services that best meet their individual business cases and needs of the community.

22. Accordingly, the Department has decided to adopt a policy of permitting flexible use throughout all licence areas in the 3500 MHz band (i.e. mobile and/or fixed services will be allowed). This will enable the continuation of existing fixed wireless broadband services, while addressing the growing demand for commercial mobile broadband services, benefitting all Canadians. Furthermore, a policy to allow flexible use throughout the band removes the need to geographically distinguish between urban and rural areas for the purposes of implementing mobile or fixed services. For further clarity, there will be no geographical differentiation with respect to the use of the spectrum in the 3500 MHz band.

23. Although the policy decision is being made now to allow flexible use throughout the band, it should be noted that this change will only be implemented after the technical and licensing frameworks for the new band plan are developed. Until that time, all licences will remain fixed-only licences (i.e. under the fixed service) and licensees will, therefore, only be permitted to deploy fixed stations.

24. Given the above, the Department's policy intent is to ensure that existing service providers in the 3500 MHz band can continue to provide fixed wireless broadband services while also laying the groundwork to permit the use of mobile services in the future when a new band plan has been finalized.

25. Consequently, a co-primary allocation to the mobile service in the 3500 MHz band will be added to the *Canadian Table of Frequency Allocations*. This modification constitutes a fundamental reallocation of the 3500 MHz band.⁶

26. Annex A outlines the modifications to the *Canadian Table of Frequency Allocations*, including the following changes to the Canadian domestic footnotes:⁷

- C15, which provides priority to radiolocation over the fixed service in the band 3450-3500 MHz, will be extended to ensure that radiolocation also has priority over mobile service;
- C20, which states that the fixed-satellite earth stations will be located in areas so as not to constrain the implementation of fixed wireless access systems, will be extended to also cover mobile services; and
- C18, which designates the band 3450–3650 MHz for fixed wireless access applications, will be suppressed.

27. C18B, a new footnote originally proposed in the consultation, which indicated that the use of the spectrum in certain areas by the mobile and fixed services would be subject to specific spectrum utilization policies, is no longer needed.

28. In order to allow Canada to take into consideration all international developments to the extent possible, technical rules for mobile service operations will only be drafted when a new band plan has been established. A future consultation on these technical rules will provide an opportunity to address the concerns expressed with respect to potential interference into adjacent bands, including the C-band.

Decision

- 1. The Department is fundamentally reallocating the 3500 MHz band to allow mobile services throughout the band.**
- 2. The Department is not establishing a geographically differentiated spectrum utilization policy with respect to the use of the spectrum for mobile and fixed services. Consequently, the Department will not establish a rural or urban classification of Tier 4 service areas.**
- 3. The *Canadian Table of Frequency Allocations* will be amended as outlined in Annex A.**

⁶ The treatment of existing licensees in the band based on this fundamental reallocation is addressed in the subsequent section of this decision.

⁷ The modifications to the CTFA as noted in Annex A will be reflected in the next update of the CTFA.

4. A new flexible use band plan and licensing framework will be developed after future consultations. Until such time, all licences in the 3500 MHz band will remain fixed-only licences.

5. Treatment of Existing Licensees in the 3500 MHz Band

29. The 3500 MHz band has the following incumbent licensees:

- (i) Amateur stations;
- (ii) Radiolocation systems;⁸
- (iii) Fixed satellite service (FSS) earth stations;⁹
- (iv) Fixed point-to-point systems;¹⁰
- (v) FWA first-come, first-served licences (1998 licensing process); and
- (vi) FWA auctioned spectrum licences (three auctions held between 2004 and 2009).

30. The consultation proposed no changes to the treatment of certain existing licensees. Operators of amateur stations (i) would continue to have access to the 3475-3500 MHz range, on a secondary basis, and would be required to protect FWA systems and other stations of primary services from interference. Existing radiolocation systems and FSS earth stations (ii and iii) operating within rural areas would continue to be protected as per the existing policy and technical rules and would not be subject to displacement. Existing policies and rules would also continue to apply to new authorizations for FSS earth stations.

31. With respect to existing fixed point-to-point systems (iv), the consultation proposed to modify the current notification period such that those affecting the implementation of new FWA systems in rural Tier 4 areas would now be afforded a notification period of six months in recognition that these licensees were notified of a potential displacement more than ten years ago.

⁸ FWA licensees may affect and/or be affected by radiolocation services (radars) operating in parts of the band 3400-3650 MHz in Canada, along the Canada–United States border and in Canadian coastal waters. These radiolocation systems include terrestrial, airborne and ship-based systems. In Canada, government radiolocation systems use the band 3400-3500 MHz. Government of Canada radiolocation facilities consist primarily of ship-based radar systems operating near Canada’s East and West coasts.

⁹ Some authorizations of earth stations that use foreign satellites to provide international overseas traffic have included the range 3500-3700 MHz. These earth stations are limited in number and are located in isolated areas, away from urban centres. Furthermore, according to Canadian Footnote C20: “In the band 3 500-3 650 MHz, the fixed-satellite earth-stations will be located in areas so as not to constrain the implementation of fixed wireless access systems.”

¹⁰ To accommodate FWA, the Department imposed a moratorium on the licensing of point-to-point systems in the band 3500-3650 MHz. Existing point-to-point systems were subject to the transition policy defined in Appendix 3 of *Policy and Licensing Procedures for the Auction of Spectrum Licences in the 2300 MHz and 3500 MHz Bands* (<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf06013.html>).

32. Based on the proposal that the 3500 MHz band be fundamentally reallocated to include mobile services, the consultation proposed that current FWA systems (v and vi) in urban areas may be subject to displacement and sought comments on two transition options: (a) displacement of existing licensees within a minimum of one year of the release of the licensing framework and new band plan, or (b) displacement of existing licensees only if, and as required, subject to a one-year notice by the Department.

Summary of Comments

33. The majority of respondents disagreed with the need to displace existing licensees in urban areas, stating that it would result in the loss of wireless broadband services to rural Canadians.¹¹ A few respondents (TELUS Communications Company, Québecor, Eastlink and MTS), on the other hand, supported the proposal to displace existing FWA licensees.

34. If displacement is required, all respondents preferred that licensees be transitioned only if and as required, noting that this approach would have the least impact on rural residents. However, TELUS added that a fixed date for transition should be considered in a few of the bigger urban markets like Toronto and Montréal; Québecor agreed.

35. A few respondents (Bell/Inukshuk/Rogers and Xplornet) expressed concerns with their inability to hold onto their current licences. Bell/Inukshuk/Rogers further proposed that licensees meeting licence conditions should be allowed to keep two-thirds of their existing spectrum for mobile use. In response, CNOC, Eastlink, Québecor and TELUS opposed the idea to allow incumbent licensees to maintain a part of their holdings as it is an unjustifiable windfall.

36. Regarding the proposal to modify the current notification period for existing point-to-point fixed stations to six months, the majority of respondents agreed that six months was an appropriate amount of time. Some respondents (ABC Communications, Ontario's Ministry of Economic Development, TELUS, YourLink Inc.) suggested that case-by-case flexibility or a longer notification period of one or three years would be more appropriate due to harsh winter climates and the remoteness of some installations.

Discussion

37. Consistent with the policy decision to allow flexible use in the band, the Department considers that it is in the best interest of Canadians to allow the continuation of existing fixed wireless broadband services within the band across Canada. Furthermore, there are new developments in more efficient technologies, as well as international developments and potential changes to the existing band plan, such that the Department considers that the 3500 MHz band can accommodate the demands for both mobile and fixed services.

¹¹ These comments related to Canadians in rural communities that were geographically located in the proposed urban licensing areas but that fell outside of the main city of that licensing area.

38. Accordingly, the Department considers that it is important to accommodate the continued operation of fixed wireless broadband services in order to provide certainty to both FWA licensees and Canadians accessing these services. Although the band is being fundamentally reallocated, the Department has decided that any new licensing framework in this band will include provisions to ensure the continued operation of fixed wireless broadband services.

39. These provisions will include a measure to allow all existing FWA licensees, who would be eligible for renewal, to be eligible for a new spectrum licence under the 3500 MHz band flexible use policy, facilitating their ability to provide services. Detailed technology and economic impact analyses are required in order to determine the exact amount of spectrum that will be needed for this purpose. This discussion will be the subject of a future consultation, where licensees can provide additional information and comments.

40. In that future consultation, the Department will take into consideration the efficient use of the band, the need to provide spectrum for existing licensees to meet the demand for wireless broadband services and the opportunity for all potential stakeholders to acquire spectrum under the flexible use policy.

41. No changes are required to existing spectrum holdings until a new band plan and licensing framework is established. As per the renewal decision, existing licences will continue to be renewed if the licensees meet all the conditions of licence. However, as noted in the consultation, all FWA spectrum licences within the 3500 MHz band will be subject to an eventual transition to a new band plan and relevant technical rules when they are established, to facilitate the introduction of commercial mobile services.¹²

42. With respect to the proposal to modify the current notification period for existing point-to-point fixed stations (iv in paragraph 29) to six months, the Department considers that given that licensees were notified of a potential displacement more than 10 years ago, a six-month notification is adequate for the remaining licences.

Decision

- 5. As part of the fundamental reallocation and following further consultation, all FWA systems will be subject to an eventual transition to a new flexible use band plan and other relevant technical rules.**
- 6. Any new licensing framework will include a measure to allow existing FWA licensees, who are in compliance with all existing licence conditions, to have a high expectation of spectrum licences under the 3500 MHz flexible use policy, facilitating their ability to provide services. The details and the licensing framework for current and future users will be the subject of a future consultation.**

¹² Licensees are reminded that all costs associated with transitioning to a new band will remain the responsibility of the current licensees.

7. Existing point-to-point fixed stations, affected by the implementation of FWA systems, will be afforded a notification period of six months.

6. Licensing Process for Returned Licences

43. The renewal decision set out the process to be used and conditions of licence that would be applicable to 3500 MHz spectrum licences as they reached the end of their 10-year term. The renewal decision indicated that licensees will be eligible to be issued a new one-year spectrum licence where all conditions of licence for the current 3500 MHz licences have been met.

44. The consultation sought comments on the licensing process to be used for any newly available 3500 MHz spectrum licences (i.e. the spectrum returned due to non-compliance). The Department proposed to make available spectrum licences in tier areas with population centres of less than 30,000 people, through a first-come, first-served (FCFS) process. In addition, it proposed to issue these licences as annual spectrum licences, defined on a grid-cell basis¹³ and authorized only for the amount of spectrum required to operate. Expansion of the coverage would be permitted upon approval of an application, noting that such an approval may be limited by other deployments in the area.

Summary of Comments

45. Most respondents agreed with the use of a FCFS process to issue licences in rural areas; however, RhiCom Networks preferred that an auction process be used. Although not part of the consultation, many respondents commented that the one-year renewal term outlined in the renewal decision would create uncertainty, making it difficult to attract additional capital; therefore, licensees would be discouraged from investing in deployment. Respondents suggested longer terms of five or ten years.

46. Although some agreed with grid-cell licensing, others preferred maintaining the larger Tier 4 service areas noting that additional coordination would be required and that there are increased technical complexities associated with using smaller grid cells, furthering the potential for interference. In its reply comments, CNOC noted that although some of the respondents were concerned with the potential for additional interference with the use of grid cells, any such issues could be managed with the proper band plan and technical requirements.

47. CanWISP, the British Columbia Broadband Association and many existing rural ISPs noted that existing FWA licensees that meet their conditions of licence should be given priority access to any additional spectrum made available given that they had invested a significant amount of capital to deploy their networks.

¹³ The basic building block for defining service areas is called the spectrum grid cell, a six-sided polygon (hexagon) with an area of 25 km². The consultation proposed that the service area would be defined by a grouping of grid cells that is aligned with the service provider's coverage area.

Discussion

Renewal Process for Existing Licences

48. As set out in the renewal decision, all existing licensees will be eligible for a new one-year licence at the end of the licence term as long as all conditions of licence had been met, including deployment. Although many respondents would prefer the certainty of a longer licence term, the Department considers that one-year renewals will allow the flexibility to adapt to any new band plan in the future. A future consultation would also explore the appropriate licensing framework, including assessing whether a longer licence term is appropriate. However, existing licensees are provided the certainty of ongoing renewals as long as they continue to meet their conditions of licence, subject to any future consultation.

49. The Department would also like to provide certainty to existing 3500 MHz licensees whose deployment condition of licence has been partially met and services are being provided to Canadians. Where all other conditions of licence have been met at renewal, existing licensees will be given the opportunity to apply for new fixed service licences *for their existing coverage* to allow them to continue to offer service. In all areas of Canada, these licences will be defined on a grid-cell basis and be issued for a one-year term.

Process for Issuing New 3500 MHz Spectrum Licences

50. Deployment in the 3500 MHz band has increased substantially since the “use it or lose it” policy¹⁴ was established in the renewal decision, to the benefit of Canadians. Based on licence renewals to date, the Department expects up to 100 licences to become available. The Department considers that there is an opportunity for the spectrum associated with these returned licences to be made available in a timely manner to further benefit Canadians. The Department intends to issue these licences by using a fast-track licensing approach that does not require complex rules or competitive bidding.

51. As the vast majority of available licences are expected to be in areas where the largest population centre is less than 30,000 people and where the demand for spectrum is not expected to exceed supply, the Department considers that a fast-track licensing process for these areas, based on a FCFS process, is most appropriate. It also notes that using a FCFS process was supported by most respondents. Given that these areas have small population centres typically separated by sufficient geographic distances, there is likely to be only a single service provider interested in any specific licence. Therefore, the Department does not believe that there is a requirement for priority access to existing licensees.

52. The remaining available licences will be relicensed after a new band plan is established and decisions are made about the licensing framework, both of which will be the subject of a future consultation.¹⁵

¹⁴ In the renewal decision, the Department decided that licences that had not met all their conditions of licence, including the deployment requirement, would not be renewed. This has been referred to as the “use it or lose it” policy.

¹⁵ In the consultation, the Department only requested comments on the licensing process in areas with a population centre of 30,000 people or less.

53. With respect to the size of the licence area, the Department notes that much of the interest in FWA lies in deploying fixed wireless broadband services in smaller communities. The Department considers that making spectrum available for licensing in smaller, user-defined areas is well suited for this purpose. Licences can be obtained for the operating area that matches each licensee's coverage area. Therefore, within a Tier 4 service area, there is potential for multiple service providers to obtain licences, thus maximizing the number of communities that can be served and the efficient use of the spectrum. Accordingly, the Department considers that grid cell-based licensing provides the best opportunity for additional services to Canadians.

54. In response to concerns raised regarding the increased potential for interference and additional coordination that might be required amongst FWA licensees, the Department considers that this can be mitigated by requiring those applying for a licence to submit an application to the Department indicating the services that they intend to provide along with a coverage map outlining the grid cells required for the implementation as well as for interference mitigation and coordination purposes.

55. In addition, licensees will continue to be required to input their site and technical data in the Department's [site upload database](#) which is used for frequency coordination and mitigating interference. As with spectrum in other bands, as licensees deploy their networks they can use the Department's database to determine where other licensees have deployed and will thus be able to take the necessary steps to coordinate spectrum usage and mitigate interference.

56. Consistent with the treatment of existing licensees, new licences will be issued with a one-year term and licensees are provided the certainty of ongoing renewals if they continue to meet their conditions of licence, subject to any future consultation.

Decision

- 8. Where all conditions of licence for the current FWA spectrum licences have been met upon expiry, existing licensees will be eligible to be issued a new spectrum licence with a one-year term for their entire licensed area (tier or grid).**
- 9. Where the deployment condition of licence has been *partially met* and services are being provided, and all other conditions of licence for the current FWA auctioned spectrum licences have been met upon expiry, existing licensees will be eligible to apply for licences *for their existing coverage area* defined on a grid-cell basis to allow them to continue to offer services.**
- 10. Returned spectrum licences in service areas listed in Annex B will be made available on a first-come, first-served basis and be issued for a one-year term, defined on a grid-cell basis and authorized only for the amount of spectrum required to operate.**
 - a. Spectrum licences will be issued based on user-defined coverage areas using grid cells within that area. Licensees will be required to submit an application to the Department indicating the services that they intend to provide along with a coverage map outlining the grid cells required for the implementation of these services.**

11. A future consultation will be launched to determine the appropriate licensing framework for returned spectrum licences in service areas not listed in Annex B.

7. Conditions of Licence for Existing and New FCFS FWA Licences

57. The consultation invited comments on the conditions of licence applicable to all existing and new FCFS FWA licences. In particular, the consultation highlighted:

- a. A deployment condition that would require that the licensee deploy services within six months of the issuance of the licence;
- b. Annual licence fees that would be applicable now and in the future;
- c. An ongoing requirement to comply with technical standards;
- d. A notification that transition to a new band plan and other relevant technical rules may be required.

Summary of Comments

58. A number of comments were received on the conditions of licence, including the licence term and proposed transition policy. These issues have been addressed in the sections above.

59. MTS., SaskTel and TELUS supported the proposed conditions of licence. Xplornet commented that imposing new licence terms prior to determining a band plan is premature.

60. Although some of the respondents agreed with the proposed six-month deployment condition, the majority indicated that six months is insufficient, particularly given some unforeseeable challenges faced by licensees, such as adverse weather conditions and lengthy approval processes.

61. On the issue of fees, four respondents (CNOC, CanWISP, Seaside Wireless Communications and Xplornet) provided comments on this condition. They suggested that the fees needed to be reasonably set to ensure a viable business case for deployment, and that they needed to be based on the Department's [Guide for Calculating Radio Licence Fees](#).

Discussion

62. Frequency spectrum is a scarce resource and it is in the best interest of Canadians that it is put to use and not acquired for speculative purposes. Taking into consideration that equipment is currently available to provide fixed wireless broadband services in the 3500 MHz band, the Department considers that a deployment condition is required to ensure that licensed spectrum is used to provide services to Canadians as soon as possible. However, the Department notes that respondents provided concrete examples that support the need for a longer deployment period. Accordingly, the Department has decided to extend the deployment requirement to one year.

63. With respect to fees, the Department notes that fees are established through consultation with stakeholders and the establishment of fee orders under the [Radiocommunication Act](#). Currently, the only existing fee order that applies to this band is with respect to grid-cell licences in the 3400 MHz to

3550 MHz range. A fee review consultation, that will include fees for all 3500 MHz spectrum licences, may be launched in the future.

Decision

12. The conditions of licence in Annex C will apply to all spectrum licences (new and existing FCFS FWA licences) in the 3500 MHz band, and will include a requirement to put the spectrum to use within one year.

8. Next Steps

64. Along with the release of this decision, the Department is also publishing a separate list of licences to be made available on a first-come, first-served basis. The list, along with details regarding the application process, is available on the Department's [website](http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10918.html) at: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10918.html>. A new list will be published periodically as additional licences become available. After each publication, the Department will accept applications for these licences. Interested parties are encouraged to sign up for the Department's RSS feeds in order to stay informed regarding this process as well as other spectrum-related announcements.

65. Until a new band plan is finalized, existing FWA licensees will continue to be eligible for the renewal of FWA licences as set out in the renewal decision with conditions of licence as set out in Annex C of the current decision. Licences will continue to be issued only for fixed services.

66. A future consultation will be held after further international and technological developments, addressing a new band plan and licensing framework. The consultation will include provisions to allow existing licensees to be able to continue to provide services within the new band plan as discussed above.

9. Obtaining Copies

67. All spectrum-related documents referred to in this paper are available on the Department's Spectrum Management and Telecommunications [website](http://www.ic.gc.ca/spectrum) at <http://www.ic.gc.ca/spectrum>.

**Annex A – Changes to the *Canadian Table of Frequency Allocations*
for the 3500 MHz Band**

3 450 - 3 500 3 475	<p>FIXED C18 RADIOLOCATION 5.433 Amateur</p> <p>MOD C15</p>
3 475 - 3 500	<p>FIXED C18 <u>MOBILE</u> RADIOLOCATION 5.433 Amateur</p> <p>MOD C15</p>
3 500 - 3 650	<p>FIXED C18 FIXED-SATELLITE (space-to-Earth) <u>MOBILE</u></p> <p>MOD C20</p>

MOD C15 (CAN-0314) ~~In the band 3 450-3 500 MHz,~~ In certain locations in Canada the radiolocation service has priority over the fixed service in the 3450-3500 MHz band, and over the mobile service in the 3475-3500 MHz band. The Department will identify through spectrum policy the general area of radiolocation system operation.

SUP C18 (CAN-03) The band 3 450-3 650 MHz is designated for fixed wireless access applications under the fixed service allocation.

Reason: The issue of designations will be addressed in the appropriate decision or policy paper. Otherwise, C18 will need to be modified to take into account mobile applications.

MOD C20 (CAN-03) In the band 3 500-3 650 MHz, the fixed-satellite earth stations will be located in areas so as not to constrain the implementation of fixed wireless access and mobile systems.

Annex B – Service Areas for First-Come, First-Served Licensing

Tier 4 service areas that may be offered through a first-come, first-served licensing process if spectrum licences become available:

Tier	Service Area Name
4-002	Placentia
4-003	Gander/Grand Falls/Windsor
4-004	Corner Brook/Stephenville
4-005	Labrador
4-007	Summerside
4-008	Yarmouth
4-009	Bridgewater/Kentville
4-011	Truro
4-012	Amherst
4-013	Antigonish/New Glasgow
4-016	St. Stephen
4-019	Miramichi/Bathurst
4-020	Grand Falls
4-021	Edmundston
4-022	Campbellton
4-023	Matane
4-024	Mont-Joli
4-026	Rivière-du-Loup
4-027	La Malbaie
4-029	Montmagny
4-031	Sainte-Marie
4-032	Saint-Georges
4-033	Lac-Mégantic
4-034	Thetford Mines
4-035	Plessisville
4-036	La Tuque
4-038	Louiseville
4-039	Asbestos
4-041	Coaticook
4-043	Windsor
4-045	Cowansville
4-046	Farnham
4-052	Sainte-Agathe-des-Monts
4-053	Hawkesbury
4-054	Mont-Laurier/Maniwaki
4-056	Pembroke
4-057	Arnrior/Renfrew
4-058	Rouyn-Noranda
4-059	Notre-Dame-du-Nord

4-060	La Sarre
4-061	Amos
4-062	Val-d'Or
4-063	Roberval/Saint-Félicien
4-064	Baie-Comeau
4-065	Port-Cartier/Sept-Îles
4-066	Chibougamau
4-068	Brockville
4-069	Gananoque
4-071	Napanee
4-073	Cobourg
4-075	Lindsay
4-076	Minden
4-080	Fergus
4-081	Kincardine
4-082	Listowel/Goderich
4-083	Fort Erie
4-085	Haldimand/Dunnville
4-091	Wallaceburg
4-093	Strathroy
4-096	Gravenhurst/Bracebridge
4-098	Parry Sound
4-099	Elliot Lake
4-101	Kirkland Lake
4-103	Kapuskasing
4-104	Kenora/Sioux Lookout
4-105	Iron Bridge
4-107	Marathon
4-109	Fort Frances
4-110	Steinbach
4-112	Lac du Bonnet
4-113	Morden/Winkler
4-115	Portage la Prairie
4-116	Dauphin
4-117	Creighton/Flin Flon
4-118	Thompson
4-119	Estevan
4-120	Weyburn
4-122	Swift Current
4-123	Yorkton
4-126	Watrous

4-127	Battleford
4-129	Lloydminster
4-130	Northern Saskatchewan
4-133	Stettler/Oyen/Wainwright
4-134	High River
4-135	Strathmore
4-138	Wetaskiwin/Ponoka
4-139	Camrose
4-140	Vegreville
4-142	Edson/Hinton
4-143	Bonnyville
4-144	Whitecourt
4-145	Barrhead
4-147	Peace River
4-149	East Kootenay
4-150	West Kootenay
4-153	Hope
4-157	Powell River
4-158	Squamish/Whistler
4-159	Merritt
4-161	Ashcroft
4-162	Salmon Arm
4-163	Golden
4-164	Williams Lake
4-165	Quesnel/Red Bluff
4-166	Skeena
4-168	Smithers
4-169	Dawson Creek
4-170	Yukon
4-171	Nunavut
4-172	Northwest Territories

Annex C – Conditions of Licence

The following conditions will apply to all new and existing FCFS FWA licences in the band 3475-3650 MHz, in Tier 4 service areas.

It should be noted that all licences are subject to the relevant provisions in the [Radiocommunication Act](#) and the [Radiocommunication Regulations](#), as amended from time to time. For example, the Minister continues to have the power to amend the terms and conditions of spectrum licences (paragraph 5(1)(b) of the *Radiocommunication Act*).

It should also be noted that, under this proposal, each time a licensee applies for a licence it will be required to submit an application to the Department indicating the services that it intends to provide along with a coverage map outlining the grid cells required for the implementation of these services. Once approved, the appropriate fee will be calculated according to grid-cell usage based on [DGRB-008-99 — Radio Authorization Fees for Fixed Wireless Access Systems in Rural Areas in the Frequency Range 3400-3550 MHz](#) and must be paid prior to issuance of the licence.

1. Licence Term

The licence will expire on the date indicated on the licence. The term of this licence will not exceed 1 year.

2. Licence Fees

The licensee must pay the applicable annual licence fee on or before March 31 of each year for the subsequent year (April 1 to March 31).

3. Eligibility Criteria

The licensee must conform to eligibility criteria as set out in subsection 9(1) of the [Radiocommunication Regulations](#).

4. Displacement

The licensees must adhere to any transition policy that may be established with respect to a new band plan and other relevant technical rules, if and when they are established to facilitate the introduction of flexible use (both mobile and fixed services) in the 3500 MHz band.

5. Radio Station Installations

The licensee must comply with Client Procedures Circular CPC-2-0-03, [Radiocommunication and Broadcasting Antenna Systems](#), as amended from time to time.

6. Provision of Technical Information

The licensee must provide Industry Canada with, and maintain, up-to-date technical information on a particular station or network in accordance with the definitions, criteria, frequency and timelines specified in Client Procedures Circular CPC-2-1-23, [Licensing Procedure for Spectrum Licences for Terrestrial Services](#), as amended from time to time.

7. Compliance With Legislation, Regulations and Other Obligations

The licensee is subject to, and must comply with, the [Radiocommunication Act](#) and the [Radiocommunication Regulations](#), as amended from time to time. The licensee must use the assigned spectrum in accordance with the *Canadian Table of Frequency Allocations* and the spectrum policies applicable to this band, as amended from time to time. The licence is issued on condition that all representations made in relation to obtaining this licence are all true and complete in every respect.

8. Technical Considerations, and International and Domestic Coordination

The licensee must comply on an ongoing basis with the technical aspects of the appropriate Radio Standards Specifications (RSS) and Standard Radio System Plans (SRSP), as amended from time to time. Where applicable, the licensee must use its best efforts to enter into mutually acceptable agreements with other parties to facilitate the reasonable and timely development of their respective systems, and to coordinate with other licensed users in Canada and internationally.

The licensee must comply with the obligations arising from current and future frequency coordination agreements established between Canada and other countries and shall be required to provide information or take actions to implement these obligations as indicated in the applicable SRSP. Although frequency assignments are not subject to site licensing, the licensee may be required through the appropriate SRSP to furnish all necessary technical data for each relevant site.

9. Lawful Interception

The licensee operating as telecommunication common carrier using the spectrum for voice telephony systems must, from the inception of service, provide for and maintain lawful interception capabilities as authorized by law. The requirements for lawful interception capabilities are provided in the Solicitor General's Enforcement Standards for Lawful Interception of Telecommunications (Rev. Nov. 95). These standards may be amended from time to time.

The licensee may request the Minister of Industry to forbear from enforcing certain assistance capability requirements for a limited period of time. The Minister, following consultation with Public Safety Canada, may exercise the power to forbear from enforcing a requirement or requirements where, in the opinion of the Minister, the requirement is not reasonably achievable. Requests for forbearance must include specific details and dates indicating when compliance to the requirement can be expected.

10. Implementation of Spectrum Usage

The licensee must deploy the system(s) and provide the services described in its application within twelve months of the issuance of this licence and maintain such coverage and service delivery throughout any subsequent licence terms.

The licensee must provide information regarding its deployment and service delivery at the request of Industry Canada.

Failure to maintain deployment or provide reports is a breach of these conditions and may result in suspension or revocation of this licence or other enforcement action under the [Radiocommunication Act](#).

11. Mandatory Antenna Tower and Site Sharing

The licensee operating as telecommunication common carrier must comply with the mandatory antenna tower and site sharing requirements set out in Client Procedures Circular CPC-2-0-17, [Conditions of Licence for Mandatory Roaming and Antenna Tower and Site Sharing and to Prohibit Exclusive Site Arrangements](#), as amended from time to time.

12. Amendments

The Minister of Industry retains the discretion to amend these terms and conditions of licence at any time.