TELUS COMMUNICATIONS COMPANY

Reply Comments for

CONSULTATION on RENEWAL PROCESS FOR 2300 MHz and 3500 MHz LICENCES

DGSO-006-12
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Spectrum Management and Telecommunications

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Executive Summary

1. TELUS appreciates the opportunity to provide its reply comments.

2. Having reviewed the 38 submissions in the initial round of comments, TELUS believes that the decisions to directly flow from this consultation will be straightforward for the Department, but that more complicated and impactful decisions remain to be addressed within the context of an upcoming 3500 MHz mobile transition consultation process.

3. The Department has been careful to ask in each section whether there are additional matters to be considered and there has been much commentary provided. Decisions around a future 3500 MHz reallocation and mobile band plan are at the top of the list for upcoming consideration.

4. The decisions to directly flow from this consultation at a high level seem clear to TELUS:

   a. The proposed wording updates to the deployment requirements and term COLs are broadly supported with minor comments and should be put through.

   b. The proposal (almost universally panned\(^\text{1}\) by the industry) to allow fixed links not servicing an end user directly as means to satisfy deployment requirements for either WCS or FWA spectrum should not be implemented.

   c. Both the WCS and FWA bands should have their terms extended to December, 2017 for very different reasons;

      i. WCS so that renewals will be decided at December 2017 based on a third and final deployment requirements extension that follows the new US WCS deployment requirements;

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\(^\text{1}\) 2 of 38 respondents supported this proposal for the WCS band and 4 of 38 for the FWA band. One party did not object to the proposal.
ii. FWA so that licensees are free to put the band to any or no use during an FWA phase out period while a mobile transition consultation and reallocation process takes place.

5. The WCS and FWA spectrum bands were auctioned together by the Department in 2004 (and the leftovers subsequently). Their renewal consultations arise at the same time and the Department has combined them in one consultation. However, as the consultation acknowledges and as the RABC submission to DGSO-006-12 explains, WCS and FWA are markedly different bands. WCS is a small band of 30 MHz, FWA is a large band of 175 MHz. WCS is mobile spectrum, albeit currently with technical restrictions\(^2\) due to the adjacent SDARS licences. FWA is fixed spectrum.

6. For various reasons, neither band has developed as the Department originally envisioned. Deployment levels in Canada are extremely low as detailed in the consultation paper\(^3\). At the end of 2012, there is more clarity on where these two distinct bands are going. Both bands have future potential as mobile broadband spectrum, albeit on scales of a different order of magnitude and via markedly different paths.

7. WCS now looks to have good potential to be a limited (i.e., one carrier per market) ecosystem in Canada, leveraging a forecasted AT&T equipment and device ecosystem. For this to happen, the Department would have to relax a technical restriction on mobile transmit in the 2305-2315 / 2350 – 2360 portion of the WCS band as has been done in the US by the FCC in coordination with AT&T SDARS stakeholders. As noted in the consultation, the Department is already updating the technical rules for WCS, and harmonization with the FCC rules is a possibility that is being considered.\(^4\) Since the consultation paper was written, the FCC has issued a new decision\(^5\) paving the way for the WCS band to be used for 10+10 mobile LTE in the US and in turn, increasing the

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\(^2\) There is a restriction on mobile transmit currently in the WCS band as noted in IC Consultation para 34.

\(^3\) See IC Consultation, para. 40 and Table 2 – Deployment for licences in the 2300 MHz band as of July 2011 for WCS, where it is identified that 97.7% of licence areas have no deployment and para. 53 and Table 3 – Deployment for licences in the 3500 MHz band as of July 2011, where it is identified that 74.1% of licence areas have no deployment.

\(^4\) IC Consultation, para. 37.

\(^5\) FCC 12-130, Order on Reconsideration, October 17, 2012, WT Docket No. 07-293, Amendment of Part 27 of the Commission’s Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz band.
likelihood that Canada will follow. This approach for Canada is supported by AT&T\(^6\) and the SDARS stakeholders\(^7\) who came to the terms on how mobile broadband and SDARS could coexist in the US. This approach is supported in this consultation by Canadian WCS mobile spectrum licensees holding 162 of the 172 licences.

8. TELUS notes that the Department has recently informally reported the WCS band as 20\(^8\) MHz of its 548 MHz of current and planned spectrum by 2014\(^9\). The RABC notes that synergies with 3GPP TDD profiles deployed in Asia should be considered, but TELUS is of the view that alignment with the US makes the most sense for Canadian WCS spectrum.

9. FWA, on the other hand, requires a fundamental reallocation to mobile service just as a fundamental reallocation was required in the transition of the 2500 MHz band to mobile\(^10\).

"The addition of mobile services constitutes a fundamental reallocation. The added regulatory flexibility to permit mobile services, together with the greater spectrum efficiencies associated with mobile technologies and the increased value associated with mobile spectrum, constitute a significant material change."

10. 3400 – 3600 MHz was first identified for mobile at WRC07\(^11\). Both the Department in the consultation and the RABC submission essentially note that there is no clear path forward at present for Canada and, at the appropriate time in the future\(^12\), a mobile

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\(^6\) AT&T para. 6 and 7.
\(^7\) Sirius XM participated in developing the RABC response during which they provided written input in strong support of Canada following the US solution for WCS.
\(^8\) This 20 MHz presumably being the 2305-2315 / 2350 – 2360 portion of the WCS band.
\(^11\) WRC-07 allocated the band 3400-3600 MHz to the Mobile, except Aeronautical Mobile, Service on a primary basis in a number of countries in Region 1 subject to provisions of RR 5.430A.
\(^12\) Inukshuk in their paragraphs E6 and 25 suggest that the consultation should be initiated by early 2014 providing one more year for developments in other jurisdictions to progress. The RABC calls for a consultation “in the near future”. TELUS is open to any schedule the Department prefers but is not convinced that the industry will be able to provide decisive input on band plan preferences by early 2014.
transition consultation process\textsuperscript{13} is required. The Department and the RABC also note that developments in various sub ranges of the band 3400 – 3800 MHz are progressing steadily by regulators and industry actors motivated to achieve long term commercial mobile spectrum release targets and exploit opportunities to further the trend toward increasing global harmonization. In the consultation, the Department has now provided advance notification that changes to the existing allocation and band plan for FWA may be considered in the next two to three years.\textsuperscript{14}

11. While TELUS has a general bias toward harmonization with the US, the recent FCC NPRM and Order\textsuperscript{15} on the 3550 – 3650 MHz band in the US supports the development of a US mobile broadband ecosystem that relies on access to only 40\% of the US population and potentially leaves the use of 75 MHz of Canadian spectrum (3475 – 3550 MHz) undefined. On the other hand, current and emerging European and Asian band plans do not align well with the current Canadian allocation either. TELUS therefore cannot predict whether a mobile equipment ecosystem suitable for Canada’s 3500 MHz band will emerge by December 2017 but December 2017 is a reasonable “stake in the ground” at this juncture for a 3500 MHz band mobile transition date certain. TELUS notes that the Department has recently informally reported that the 3500 MHz band could represent 100-175 MHz of the extra 400-600 MHz of future mobile spectrum that the Department reports is needed in Canada by 2022\textsuperscript{16}.

12. Of this 100 – 175 MHz of potential extra future mobile spectrum, not surprisingly the vast majority is again held as fixed licences by the parties currently\textsuperscript{17} associated as

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\textsuperscript{13} The RABC submission’s concluding sentence is on FWA spectrum and notes that the RABC is “fully aligned with what is described in the Consultation that ‘Changes may include review of, and possibly revision to, the spectrum utilization policy, the band plan and the authorized frequencies. A consultation process will precede any such changes’. TELUS also concurs. TELUS notes that Inukshuk’s suggestions that the mobile allocation be added outside of the consultation process and that essentially there be no review of the authorized frequencies are unsupportable.
\textsuperscript{14} IC Consultation, para. 52.
\textsuperscript{17} In paragraph 46 of its reply comments to the Consultation on a Licensing Framework for Broadband Radio Services (BRS) – 2500 MHz Band (DGSO-004-12), Rogers states that it will not share 2500 MHz spectrum with Bell and that they and Bell are already implementing each of their shares of the Inukshuk BRS spectrum independently.
\end{flushleft}
Inukshuk. Other than on the issue of relaxed deployment requirements, TELUS broadly supports the same decisions in this consultation as Inukshuk. Beyond this consultation TELUS also appears aligned with Inukshuk on the path forward for the 2300 MHz band. TELUS and Inukshuk are diametrically opposed, however, when it comes to the steps recommended to effect the mobile transition of the 3500 MHz band.

13. Inukshuk would have the Department believe that their FWA spectrum holdings should simply be authorized for mobile as soon as possible (and apparently without consultation). Inukshuk provides no justification for this other than the hyperbole that they developed the 2500 MHz band in Canada and therefore should somehow also be granted a 3500 MHz mobile windfall. Inukshuk’s hollow statements are examined in the body of this reply comment document. TELUS’ view is that given the higher value and better use of the band for mobile, all FWA spectrum licences (notably purchased for less than a third of a cent) should be returned and not be “turned to gold” in whole or in part. The vast majority of these licences have been warehoused now for nearly a decade. The entire band should be recalled and reallocated via auction. This is in the interest of competition in the mobile industry and in the interest of the Canadian taxpayer. Along with the determination of a new mobile band plan for the 3500 MHz band, this is the key outcome of the upcoming mobile transition consultation process.

14. TELUS recognizes that there are a few cases of operators deploying fixed services in the 3500 MHz band in Canada in compliance with the deployment requirements. TELUS submits that mobile broadband represents a higher value and better use and a fundamental reallocation of spectrum to a new service is required. It will presumably be about 5 years before mobile broadband systems in the 3500 MHz band are deployed in

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18 TELUS does not support the Department’s proposal that deployments of fixed links not servicing an end user directly be considered as an alternate method to meet WCS and FWA spectrum deployment licence conditions, whereas Inukshuk does support the proposal.
19 Inukshuk submission para. E7, 52 and 53.
20 Inukshuk submission para. 52.
21 This is the average price per MHz-pop paid in 2004 for a ten (or perhaps soon 13 year) licence. In other words, the price paid for this spectrum for 10-13 years is less than one tenth of the price of the fees paid on mobile spectrum annually (or a 1:130 ratio).
22 Just as the Department wrote of the 2500 MHz band in its 2006 policy decision DGTP-002-06, “There is an overriding policy need to accommodate the introduction of new services, such as mobile and broadband Internet access and to encourage the most efficient use of the spectrum.”
urban Canada and much longer until they reach rural and remote areas where they would then need to displace existing fixed service deployments. A 3500 MHz band mobile transition policy would need provisions for relocating displaced rural and remote fixed service operators.

15. It is within this context above that TELUS makes the following specific recommendations which are more fully detailed and justified in the body of this reply document. In summary:

a. TELUS supports the spectrum deployment COL wording proposed for both WCS and FWA with two minor administrative recommendations.

b. TELUS rejects fixed links not servicing an end user directly as means to satisfy deployment requirements for either WCS or FWA (and as such the Department need not determine whether 15 or some other number of links per million pops is the appropriate metric. It is not applicable in TELUS’ view).

c. TELUS supports, for 2300 MHz, an extension to December 2017 for all licensees because, as the Department has identified, there is a likelihood of a material mobile LTE ecosystem emerging in this band\(^{23}\). Given the developments in the US since the consultation was released, that likelihood has increased. The development of a new AT&T driven mobile LTE ecosystem would presumably support deployment in Canada by a December 2017 deadline. This is an aggressive but achievable date in TELUS’ view.

d. TELUS supports, for 3500 MHz, an extension to December 2017 so that current licensees will not be forced to make temporary fixed service deployments in order to secure temporary renewals while the Department takes the industry through a mobile transition of the FWA band. The entire FWA band should expire and be recalled on December 31, 2017 (or some later date as appropriate) and re-auctioned as a new mobile band based on a to-be-determined-by-consultation new

\(^{23}\) IC Consultation, para. 39. As noted above, TELUS believes that technical harmonization with the US is the most practical solution.
3GPP compatible mobile band plan and ecosystem. Until such time as a mobile transition is completed, deployment requirements in the FWA band are not fruitful.

e. TELUS agrees with the proposed change to add “high” to the expectation of renewal in the Licence Term COL for both WCS and FWA. However, per this same COL, a transition to mobile for the FWA band clearly represents a situation where “a fundamental reallocation of spectrum to a new service is required” and as such FWA licences should not be converted into mobile spectrum licences. FWA spectrum should be liberated and reallocated via auction.

16. Further detail behind TELUS’ recommendations and comments is provided in the main body of this document.
4.3.3. Proposed Changes to the Current Deployment Requirement

(1) Industry Canada seeks comments of the proposed wording of the condition of licence related to deployment. Comments are also sought on the following proposals that:

A. deployments of fixed links not servicing an end user directly should be considered as an alternative method to meet WCS and FWA spectrum deployment licence conditions; and

B. when a requirement is considered for fixed links not servicing an end user directly, it should be set at 15 links per million population, per Tier 4 area at the end of the licence term.

When proposing an alternative deployment requirement for either WCS or FWA, provide a rationale for each band.

17. The Department has proposed that the following condition apply to the current licence term upon the release of the decision. The proposed wording of the condition of licence is as follows:

The licensee must demonstrate to Industry Canada that its spectrum is being put to use at a level acceptable to the Department by the end of the licence term. Licensees must demonstrate coverage at the level indicated on Industry Canada’s Spectrum Management and Telecommunications website: Tier 4 Deployment Requirements for 2300 and 3500 MHz Licences, http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10287.html.

18. In its initial comments TELUS supported the proposed updated wording to the COL for WCS and FWA spectrum licences, but noted two practical limitations. First, TELUS noted that the COL implies that the deployment requirements for 2300 and 3500 MHz licences will always be synchronized in the future. TELUS requested that the COL be redrafted so that the deployment requirement reference is band specific, to take into account that the deployment requirements for each spectrum band might evolve independently.

19. In addition, TELUS noted that the Department is proposing to place a website URL (Universal Resource Locator) in the COL related to deployment. Because URLs are subject to change, TELUS stated that it is not necessarily practical to include such
references in a COL. Therefore, TELUS requests that that the website URL reference be replaced with a reference to two separate schedules in the published 2300 and 3500 MHz renewal decision document.

20. It does not appear that any other party specifically commented on these two issues with the COL as presently drafted. Having said that, TELUS is of the view that these issues require the Department to modify the COL so that the language contained therein is practical and remains relevant throughout the licence term.

1A. Proposed Alternative Method to meet WCS and FWA Deployment Requirements

21. TELUS, like almost all respondents to this consultation, does not support the Department’s proposal that deployments of fixed links not servicing an end user directly be considered as an alternate method to meet WCS and FWA spectrum deployment licence conditions.

22. Deployments of fixed links not servicing an end user directly are typically relays and backhaul. Considering the Department’s mobile broadband spectrum release goals as we enter the year 2013\textsuperscript{24}, relays and backhaul are not an efficient or effective use of these bands. It is expected that there will be far more important use of these bands in the near-future. In TELUS’ view, the Department’s proposal to permit deployments of fixed links not servicing an end user directly as an alternative method to meet WCS and FWA spectrum deployment licence conditions would only serve to drive suboptimal use of these two bands both identified to help achieve the Department’s mobile broadband spectrum release plan. The Department has and continues to support the industry’s need for backhaul and point to point spectrum via other more suitable bands such as 6, 8, 11, 15, 18, 23, and 38 GHz. The method\textsuperscript{25} taken up by the FCC in the 2300 MHz band is now anachronistic because events have superseded this decision and Canada should now move forward.


\textsuperscript{25} IC Consultation para. 22.
23. Extensions to deployment deadlines are a far better way to manage the slow pace of development in these bands versus watering down the purpose of the deployment COL. That is, if the Department believes that there are legitimate reasons for a lack of deployment, then TELUS recommends the Department relax the required deployment schedule by lengthening the current licence terms and associated deployment deadlines, as opposed to allowing for inefficient usage of spectrum to enable operators to artificially meet deployment requirements. Minimising the licence holding costs of companies who are primarily speculating on the value of the spectrum with little intention of putting it to use has little or no merit, particularly when the Department is looking for 400-600 MHz more mobile spectrum by 2022. TELUS provides additional details on its position, per band, below.

1A.i WCS

24. WCS spectrum is anticipated to soon support mobile LTE in Canada. Canadians would want to see WCS spectrum put to use to provide mobile broadband services and the Department wants to see transition to mobile broadband spectrum in order to achieve its mobile spectrum release goals. WCS spectrum should be deployed to the recently established\(^{26}\) population coverage levels by the end of a third and final extension to December 2017 (or such other date as the Department may determine) or such WCS spectrum should be forfeited and re-auctioned.

25. Allowing non-end user links as a way to satisfy deployment requirements would mean that some licensees might deploy links simply for the purpose of achieving the renewal of their licences. TELUS’ proposed approach would mean that licensees could use WCS spectrum for links until December 2017 as they saw fit but, by December 2017, they would also have to meet the population coverage based deployment requirements or forfeit their licences and relocate their links.

\(^{26}\) As per the March 29, 2012 letter from the Department to all 2300 and 3500 MHz licensees.
26. TELUS notes that only two\(^{27}\) parties supported the Department’s proposal that deployments of fixed links not servicing an end user directly be considered as an alternate method to meet WCS spectrum deployment licence conditions. One of these two parties, Inukshuk, has significant unused holdings in the WCS band and has explicitly stated\(^{28}\) that it will do whatever required in the way of deployment to hang on to its licences. Inukshuk’s support for this proposal appears geared to obtaining an option for an inexpensive method to secure the renewal of its WCS licences, should it not be interested in deploying an end user service in the required deployment timeframe.

1A.ii FWA

27. Beyond select remote and rural deployments, FWA spectrum to date has done little that it was conceived to and must be re-farmed for transition to support mobile broadband to make significant progress in addressing the Department’s mobile spectrum release goals. Encouraging the investment in a patchwork of links that would need to be relocated or turned down is not efficient. TELUS notes that on the other hand, until a mobile transition is completed, FWA licensees are free to pursue the implementation of relays and backhaul in the FWA band that has a positive business case in the short term (i.e., prior to the pending mobile transition.)

28. TELUS notes that only four\(^{29}\) parties supported the Department’s proposal that deployments of fixed links not servicing an end user directly be considered as an alternate method to meet FWA spectrum deployment licence conditions. One of these parties, Inukshuk, has extensive unused holdings in the FWA band and has explicitly stated\(^{30}\) that it will do whatever required in the way of deployment to hang on to its licences. Inukshuk’s support for this proposal appears geared to obtaining an option for an inexpensive method to secure the renewal of its FWA licences, should it not be interested in deploying an end user service in the required deployment timeframe.

\(^{27}\) Inukshuk and ABC Allen. Note that a third party, Quebecor, “does not object” to the proposal but does not explicitly support the proposal.

\(^{28}\) Inukshuk submission para. E4.

\(^{29}\) Inukshuk, ABC Allen, CINTEK and Axia. Note that a fifth party, Quebecor, “does not object” to the proposal but does not explicitly support the proposal.

\(^{30}\) Inukshuk submission para. E4.
29. TELUS calls for, at the appropriate juncture, a consultation on the mobile transition of the 3500 MHz band in Canada and submits that (i) the band must be liberated and re-allocated; (ii) licensees must be given notice of the anticipated mobile transition and their future obligation to shut down or relocate their fixed services if displaced; and (iii) the spectrum must be converted to Tier 2 (or at the smallest, Tier 3) licences.

1B. Formula defining Proposed Alternative Method to meet WCS and FWA Deployment Requirements

30. As stated, TELUS does not support the proposed alternative method to meet WCS and FWA deployment requirements as it would legitimize the suboptimal use of these bands and facilitate spectrum speculation both of which would be incompatible with the objective of maximizing the availability of mobile spectrum. The environment in which the FCC implemented an alternative method to meet WCS deployment requirements does not exist today. Link counts are not appropriate for either WCS or FWA bands which are both anticipated to become prime mobile spectrum bands as described above. Therefore TELUS has no comment on whether the specific link metric of “15 links per million pops” is appropriate. In TELUS’ view, because fixed links should not be used at all to satisfy deployment requirements, this question is “not applicable”.

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31 That is, once larger jurisdictions than Canada such the US and the EU have made decisions that can be assessed for potential leverage in the Canadian market.
7. Renewal Options and Considerations

31. Industry Canada invites comments on the options for renewal in the 2300 MHz and 3500 MHz bands.

(2) For the 2300 MHz band, which of the two options is preferred?

32. TELUS supports Option 1, an extension of the term for all WCS licensees, as justified in the following pages.

33. For the reasons noted in the following pages, TELUS does not support Option 2, a renewal of WCS licences at the end of the original term.

34. TELUS notes that four of the five Canadian WCS licensees who responded to this portion of the consultation (representing almost the entire WCS band) supported an extension, Option 1.

35. Another 13 parties who do not hold WCS licences either support or do not object to Option 1, a WCS extension. MTS supports Option 1, a WCS extension. Eleven respondents support Option 1 for the WCS band to allow time to deploy LTE by December 2017. Xplornet suggests a renewal but if there is to be an extension recommends an extension to December 2016.

36. Only one WCS licensee, Chatham Internet Access, holding a single WCS licence in Sarnia opposes Option 1, an extension. Only two other parties called for a renewal at the original term end with no extension and these parties do not hold WCS licences.

37. In other words, only three of 38 respondents to the consultation were fully opposed to Option 1, a WCS extension to December 2017 and these three parties together represent one WCS licence covering 126,423 pops. In contrast, 17 parties representing almost the

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32 Under this option, any renewal would be contingent on the licensee being in compliance with all conditions of licence, including deployment requirements.
33 Inukshuk, Nextwave, Yourlink, and TELUS.
34 Airenet, Andrews Wireless, Axia, CTC, Genesis, GL Mobile, High Speed Crow, Netago, PRIS, Routcom, Silo Wireless. Note that these parties supported a WCS renewal as well.
35 Quebecor and Blurr Wireless.
entire WCS band support an extension, Option 1. Given this industry input, coupled with TELUS’ detailed arguments following, TELUS believes that the Department must decide on Option 1 for WCS spectrum, an extension of the term.

38. Within Option 1, not a single respondent supported a fixed term extension to the various original terms of the licensees. Every party that supported an extension supported an extension to a single common date.

(3) For the 3500 MHz band, which of the two options is preferred?

39. TELUS supports Option 1, an extension of the term for all FWA licensees, as justified in the following pages.

40. For the reasons noted in the following pages, TELUS does not support Option 2, a renewal of FWA licences36 at the end of the original term.

41. TELUS notes that five37 of the ten38 Canadian FWA licensees who responded to this portion of the consultation (representing the lion’s share of the FWA band) support Option 1, an extension.

42. Four39 of the ten Canadian FWA licensees who responded to this portion of the consultation (representing a mere 8 of the 677 FWA licences) do not support Option 1, an extension. The last Canadian FWA licensee of the ten, Xplornet, calls for a renewal but if there is to be an extension, recommends an extension to December 2016.

43. Ciel Satellite supports an extension. Axia supports an extension of the deployment requirements to December 2017 for licensees that file a deployment plan with the Department at renewal at the end of the original licence term.

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36 Under this option, any renewal would be contingent on the licensee being in compliance with all conditions of licence, including deployment requirements.
37 Inukshuk, TELUS, TBayTel, ABC Allen and Cintek.
38 Inukshuk, TELUS, SaskTel, TBayTel, Xplornet, Chatham Internet Access, Netago, Ccroute, ABC Allen and Cintek by TELUS’ determination. There may license transfers or corporate name changes that TELUS is not yet aware of.
39 SaskTel, Chatham Internet Access, Ccroute and Netago (a sublicensee).
44. Fourteen parties who are not FWA licensees call for a renewal process at the original term and the return of all unused spectrum. While TELUS has some sympathy for this view, TELUS is concerned, as it stated in its initial comments and as confirmed by the initial comments of Inukshuk that major FWA licensees faced with a renewal at the original term will purposefully endeavour to meet the FWA deployment requirements in order to retain their spectrum.

45. In other words, TELUS believes that the several parties that called for a renewal in order to get access to unused spectrum would find that a renewal process would not realize their intended effect because the predominant licensee in the band, Inukshuk, makes it clear that they will take measures (however temporary given their stated future mobile intentions\textsuperscript{40}) to come into compliance with deployment requirements in order to renew their licenses. What is required is a total recall of the band and a reallocation of new mobile spectrum. Simultaneously, the Department needs to consider where to find spectrum for rural and remote fixed broadband services. As part of this consideration, the Department would also be able to request and weigh proposals to determine what mechanisms should be put in place to allow for equitable displacement of existing FWA operators. Given this, coupled with TELUS’ detailed arguments following, TELUS believes that the Department must decide on Option 1 for FWA spectrum, an extension.

46. Note that with FWA as with WCS, not a single respondent supported a fixed term extension to the various original terms of the licensees. Every party that supported an extension supported an extension to a single common date.

\textsuperscript{40} Inukshuk submission paragraph E2.
In responding to the following questions, provide supporting rationale for each band separately.

(4) For Option 1 (detailed in section 7.1 of this consultation):

A. Should licence terms be extended?
   a. If so, should they be extended by the same length for all licensees?
      i. Is three years an appropriate extension?
   b. Or, should the licence terms be extended to a fixed date for all licensees?
      i. Would December 2017 be an appropriate extension date?

B. Should the deployment requirement also be extended to the end of the proposed term?

C. In considering an extension of the licence term, do you expect equipment in the 2300 MHz band to become available soon enough to achieve the deployment requirements by December 2017?

D. In considering an extension of the licence term, do you expect LTE equipment in the 3500 MHz band to become available soon enough to achieve the deployment requirements by December 2017?

E. Are there any additional considerations that should be taken into account by Industry Canada?

(5) For Option 2 (detailed in section 7.2 of this consultation):

A. Given the potential upcoming changes, is 10 years an appropriate term for new licences issued through the renewal process?

B. Should deployment requirements apply to new licences under the renewal process? If so, what should the deployment requirements be?

C. Are there any additional matters that should be considered by Industry Canada when issuing a new licence for a new term?

(6) Are there any other options for the licence renewal process that Industry Canada should consider?
Summary TELUS Recommendation for WCS Licences

47. TELUS supports Option 1, an extension of the term for all WCS licensees.

48. TELUS supports an extension to a single date for all WCS licensees.

49. December 31, 2017 is a reasonable WCS extension date but TELUS would not be concerned if the extension date was pushed back somewhat beyond December 31, 2017 based on industry feedback in this consultation as long as it was no later than December 31, 2018. The extension date should not be sooner than December 31, 2017.

50. The WCS term extension should also include a third and final extension of the deployment requirements to the term extension date (i.e., December 31, 2017 or such other date that the Department may set for the extension.)

51. TELUS does not support Option 2, a renewal at the end of the original term for WCS licences.

52. However, TELUS supports a WCS renewal at the end of the extended term, at which point, TELUS would support a 10 year, 20 year or indefinite renewal.

53. TELUS would advocate that deployment requirements apply to new WCS licences under the eventual December 2017 based renewal process and that these requirements be set at a level at least as high as the coverage levels required for renewal.

Rationale for TELUS Recommendation for WCS Licences

54. WCS spectrum now looks to have good potential to be a limited (i.e., one carrier per market) ecosystem in Canada, leveraging a forecasted AT&T equipment and device ecosystem. For this to happen, the Department would have to relax a technical restriction on mobile transmit in the 2305-2315 / 2350 – 2360 portion of the WCS band as has been done in the US by the FCC in coordination with AT&T SDARS stakeholders. As noted in the consultation, the Department is already updating the technical rules for WCS, and
harmonization with the FCC rules is a possibility that is being considered. Since the consultation paper was written, the FCC has issued a new decision paving the way for the WCS band to be used for 10+10 mobile LTE in the US and in turn, increasing the likelihood that Canada will follow. This approach for Canada is supported by AT&T and the SDARS stakeholders who came to the terms on how mobile broadband and SDARS could coexist in the US. This approach is supported in this consultation by Canadian WCS mobile spectrum licensees holding 162 of the 172 licences.

TELUS notes that the Department has recently informally reported the WCS band as 20 MHz of its 548 MHz of current and planned spectrum by 2014. The RABC notes that synergies with 3GPP TDD profiles deployed in Asia should be considered, but TELUS is of the view that alignment with the US makes the most sense for Canadian WCS spectrum.

TELUS supports, for 2300 MHz, an extension to December 2017 for all licensees because, as the Department has identified, there is a likelihood of a material mobile LTE ecosystem emerging in this band. Given the developments in the US since the consultation was released, that likelihood has increased. The development of a new AT&T driven mobile LTE ecosystem would presumably support deployment in Canada by a December 2017 deadline. This is an aggressive but achievable date in TELUS’ view.

The WCS band in North America, unlike 2300 MHz spectrum elsewhere in the world is situated on either side of SDARS licences. Furthermore, WCS spectrum is licensed in Canada as a single 15+15 MHz paired block (with presumably 10+10 usable for mobile

41 IC Consultation, para. 37.
42 FCC 12-130, Order on Reconsideration, October 17, 2012, WT Docket No. 07-293, Amendment of Part 27 of the Commission’s Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz band.
43 AT&T para. 6 and 7.
44 Sirius XM participated in developing the RABC response during which they provided written input in strong support of Canada following the US solution for WCS.
45 This 20 MHz presumably being the 2305-2315 / 2350 – 2360 portion of the WCS band.
47 IC Consultation, para. 39. As noted above, TELUS believes that technical harmonization with the US is the most practical solution.
LTE, technical rules permitting). Thus WCS is a one carrier per market band with very limited ecosystem synergies (being North American only and generally only one carrier in the US as well.) WCS spectrum is therefore not a major contributor to mobile broadband capacity in Canada but WCS does constitute 20 MHz of the 548 MHz of mobile broadband spectrum that Department plans to have in market by 2014.

58. WCS has a mobile allocation and every invested North American stakeholder, i.e., every US and Canadian WCS and SDARS licensee, supports Canada following the US with respect to the WCS band.

59. While some note that Asian TDD technology could have been or could still be deployed in the WCS band in Canada, the SDARS encumbrance and the resulting technical restrictions in this band are the reasons why deployment has lagged in the US and in Canada. These issues have now been resolved in the US. A third and final extension of the WCS deployment requirements to December 2017 in line with these US developments is justified.

Summary TELUS Recommendation for FWA Licences

60. TELUS supports Option 1, an extension of the term for all FWA licensees.

61. TELUS supports an extension to a single date for all FWA licensees.

62. December 31, 2017 is a reasonable FWA extension date but TELUS would not be concerned if the extension date had to be pushed back in the future based on the pace of developments in other jurisdiction(s) that the Department, advised by industry, may seek to align with. The extension date should not be sooner than December 31, 2017.

63. The FWA term extension should also include a third extension of the deployment requirements to the term extension date (i.e., December 31, 2017 or such other date that the Department may set for the extension.) For reasons that we will make clear, this is largely a moot point.

64. TELUS does not support Option 2, a renewal at the end of the original term for FWA licences.
65. Further, TELUS does not support a renewal at the end of the extended term for FWA licences either. FWA spectrum requires a fundamental reallocation and must be liberated and re-auctioned as mobile spectrum. The entire FWA band should expire and be recalled on December 31, 2017 (or some later date as appropriate) and re-auctioned as a new mobile spectrum band based on a to-be-determined-by-consultation new 3GPP compatible mobile band plan and ecosystem.

66. Deployment requirements for FWA spectrum to be liberated and re-allocated as mobile spectrum should be determined as part of the mobile transition consultation process.

Rationale for TELUS Recommendation for FWA Licences

67. FWA spectrum requires a fundamental reallocation to mobile service just as a fundamental reallocation was required in the transition of the 2500 MHz band to mobile.

“The addition of mobile services constitutes a fundamental reallocation. The added regulatory flexibility to permit mobile services, together with the greater spectrum efficiencies associated with mobile technologies and the increased value associated with mobile spectrum, constitute a significant material change.”

68. 3400 – 3600 MHz was first identified for mobile at WRC07. Both the Department in the consultation and the RABC submission essentially note that there is no clear path forward at present for Canada and, at the appropriate time in the future, a mobile transition consultation process is required. The Department and the RABC also note

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48 Except for any temporary grandfathering of fixed service deployments until required to be displaced by mobile implementations in the 3500 MHz band.
50 WRC-07 allocated the band 3400-3600 MHz to the Mobile, except Aeronautical Mobile, Service on a primary basis in a number of countries in Region 1 subject to provisions of RR 5.430A.
51 Inukshuk in their paragraphs E6 and 25 suggest that the consultation should be initiated by early 2014 providing one more year for developments in other jurisdictions to progress. The RABC calls for a consultation “in the near future”. TELUS is open to any schedule the Department prefers but is not convinced that the industry will be able to provide decisive input on band plan preferences by early 2014.
52 The RABC submission’s concluding sentence is on FWA spectrum and notes that the RABC is “fully aligned with what is described in the Consultation that ‘Changes may include review of, and possibly revision to, the spectrum utilization policy, the band plan and the authorized frequencies. A consultation process will precede any such changes’. TELUS also concurs. TELUS notes that Inukshuk’s suggestions that the mobile allocation
that developments in various sub ranges of the band 3400 – 3800 MHz are progressing steadily by regulators and industry actors motivated to achieve long term commercial mobile spectrum release targets and exploit opportunities to further the trend toward increasing global harmonization. In the consultation, the Department has now provided advance notification that changes to the existing allocation and band plan for FWA may be considered in the next two to three years.53

69. While TELUS has a general bias toward harmonization with the US, the recent FCC NPRM and Order54 on the 3550 – 3650 MHz band in the US supports the development of a US mobile broadband ecosystem that relies on access to only 40% of the US population and potentially leaves the use of 75 MHz of Canadian spectrum (3475 – 3550 MHz) undefined. On the other hand, current and emerging European and Asian band plans do not align well with the current Canadian allocation either. TELUS therefore cannot predict whether a mobile equipment ecosystem suitable for Canada’s 3500 MHz band will emerge by December 2017 but December 2017 is a reasonable “stake in the ground” at this juncture for a 3500 MHz band mobile transition date certain. TELUS notes that the Department has recently informally reported that the 3500 MHz band could represent 100-175 MHz of the extra 400-600 MHz of future mobile spectrum that the Department reports is needed in Canada by 202255.

70. Of this 100 – 175 MHz of potential extra future mobile spectrum, not surprisingly the vast majority is again held as fixed licences by the parties currently56 associated as Inukshuk. Other than on the issue of relaxed57 deployment requirements, TELUS broadly supports the same decisions in this consultation as Inukshuk. Beyond this

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53 IC Consultation, para. 52.
56 In paragraph 46 of its reply comments to the Consultation on a Licensing Framework for Broadband Radio Services (BRS) – 2500 MHz Band (DGSO-004-12), Rogers states that it will not share 2500 MHz spectrum with Bell and that they and Bell are already implementing each of their shares of the Inukshuk BRS spectrum independently.
57 TELUS does not support the Department’s proposal that deployments of fixed links not servicing an end user directly be considered as an alternate method to meet WCS and FWA spectrum deployment licence conditions, whereas Inukshuk does support the proposal.
consultation TELUS also appears aligned with Inukshuk on the path forward for the 2300 MHz band. TELUS and Inukshuk are diametrically opposed, however, when it comes to the steps recommended to effect the mobile transition of the 3500 MHz band.

71. Inukshuk would have the Department believe\(^58\) that their FWA spectrum holdings should simply be authorized for mobile as soon as possible (and apparently without consultation\(^59\)). Inukshuk provides no justification for this other than the hyperbole that they developed the 2500 MHz band in Canada and therefore should somehow also be granted a 3500 MHz mobile windfall. Inukshuk’s hollow statements are examined in the body of this reply comment document. TELUS’ view is that given the higher value and better use of the band for mobile, all FWA spectrum licences (notably purchased for less than a third of a cent\(^60\)) should be returned and not be “turned to gold” in whole or in part. The vast majority of these licences have been warehoused now for nearly a decade. The entire band should be recalled and reallocated via auction. This is in the interest of competition in the mobile industry and in the interest of the Canadian taxpayer. Along with the determination of a new mobile band plan for the 3500 MHz band, this is the key outcome of the upcoming mobile transition consultation process.

72. TELUS recognizes that there are a few cases of operators deploying fixed services in the 3500 MHz band in Canada in compliance with the deployment requirements. TELUS submits that mobile broadband represents a higher value and better use\(^61\) and a fundamental reallocation of spectrum to a new service is required. It will presumably be about 5 years before mobile broadband systems in the 3500 MHz band are deployed in urban Canada and much longer until they reach rural and remote areas where they would then need to displace existing fixed service deployments. A 3500 MHz band mobile transition policy would need provisions for relocating displaced rural and remote fixed service operators.

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\(^{58}\) Inukshuk submission para. E7, 52 and 53.

\(^{59}\) Inukshuk submission para. 52.

\(^{60}\) This is the average price per MHz-pop paid in 2004 for a ten (or perhaps soon 13 year) licence. In other words, the price paid for this spectrum for 10-13 years is less than one tenth of the price of the fees paid on mobile spectrum annually (or a 1:130 ratio).

\(^{61}\) Just as the Department wrote of the 2500 MHz band in its 2006 policy decision DGTP-002-06, “There is an overriding policy need to accommodate the introduction of new services, such as mobile and broadband Internet access and to encourage the most efficient use of the spectrum.”
TELUS supports, for 3500 MHz, an extension to December 2017 so that current licensees will not be forced to make temporary fixed service deployments in order to secure temporary renewals while the Department takes the industry through a mobile transition of the FWA band. The entire FWA band should expire and be recalled on December 31, 2017 (or some later date as appropriate) and re-auctioned as a new mobile band based on a to-be-determined-by-consultation new 3GPP compatible mobile band plan and ecosystem. Until such time as a mobile transition is completed, deployment requirements in the FWA band are not fruitful.

At the present time, FWA spectrum in Canada is not well aligned with any other market / ecosystem. While Canada typically aligns with the US, in the case of the 3500 MHz band, the US military has used and continues to use most of the 3500 MHz band in the US. Further the band is authorized only as fixed spectrum in Canada, despite recently becoming considered of good potential for mobile broadband driven by ongoing rapid growth in mobile broadband consumption.

The transition of FWA spectrum to mobile broadband spectrum in Canada represents a fundamental reallocation to a new service. While some who purchased and have warehoused FWA licences may differ, TELUS (and presumably the Canadian taxpayer) believe that the mobile transition of this essentially fallow spectrum should involve all licences being recalled and reallocated. FWA licensing should be gracefully wound down and a fundamentally new service authorized over a new band plan that the Department and Industry define through a mobile transition consultation process.

TELUS highlights the context in February 2004 when the initial (and main) 3500 MHz Fixed Wireless Access spectrum auction took place:

a. 2500 MHz spectrum had been recently identified at WRC03 for future conversion to mobile but the Department had not yet released its consultation on the mobile conversion of 2500 MHz spectrum which came out in April 2004. 2500 MHz spectrum, let alone 3500 MHz spectrum, was still considered too high a frequency in practical terms for existing cell densities. At the time of the WCS / FWA auction in Canada, there was no visibility to the 2006 2500 MHz Policy which
provided incumbent fixed service licence holders with a mobile conversion windfall.

b. A 55 MHz aggregate spectrum cap regime was in place at the time of the auction in Canada which suggests (with all then current Canadian operators at or near the cap) that no mobile operator was bidding for FWA with view that it would become mobile spectrum.

c. At the time of the WCS / FWA auction in Canada, there was no visibility to a future 3500 MHz mobile conversion which was first identified by the WRC in 2007.

d. At the time of the WCS / FWA auction in Canada, there was no visibility to Apple successfully disrupting the commercial mobile data business model in 2007 and the rapid acceleration in the densification of mobile networks, leading to the new found efficacy of 3500 MHz for small cell mobile network applications for mobile operators desperately requiring more capacity.

77. This is the environment in which bidders bought at auction, largely uncontested, 3.6 billion MHz-pops of FWA spectrum for only $10.7M or $0.003 per MHz-pop (less than a third of a cent per MHz-pop). Over half (348 of 676) of the FWA licences at auction went unsold (i.e., there was only speculative demand). The auction quickly ended in 20 rounds. The licences that did sell went at or near the reserve price.

78. Anything but a full recall of the 3500 MHz band for a fundamental reallocation to mobile service would be a detriment to the industry and only serve to benefit Bell and Rogers, the two prime beneficiaries of the 2500 MHz mobile transition policy.

79. When the Department converts the 3500 MHz band to mobile, there should not be a windfall for 3500 MHz fixed service licensees who, with several exceptions, have done nothing material with their 3500 MHz licences. The entire 3500 MHz band needs to be recalled, re-banded and re-auctioned to create a level playing field in this newly important mobile band and to get a fair return for the taxpayer. TELUS submits this as an incumbent 3500 MHz FWA licensee holding 124 FWA licences.
Inukshuk holds 282 FWA licences and takes the opposite view. Inukshuk instead calls\textsuperscript{62} for the Department to immediately authorize their fixed service spectrum for mobile use. Inukshuk does not however provide any rationale for this request other than indirectly via their introductory remarks suggesting that they in fact developed the 2500 MHz band in Canada and will develop the 3500 MHz band. Inukshuk’s record in doing absolutely nothing for nine years to develop the 3500 MHz band speaks for itself. Inukshuk’s claims to have developed the 2500 MHz band are hyperbole.

Inukshuk was not rewarded with its substantial 2500 MHz mobile spectrum windfall because, as it implies, it had developed the 2500 MHz band with its minimally promoted and temporary\textsuperscript{63} portable Internet service. Instead, Inukshuk’s implementation of its minimally promoted and temporary portable Internet service appears to have been a negotiated condition of the mobile windfall it received. The Approval Letter to Bell Canada and Rogers Communications Inc. Regarding Licence Transfer to Inukshuk Wireless Partnership\textsuperscript{64} and the Gazette Notice No. DGTP-002-06 — Policy Provisions for the Band 2500-2690 MHz to Facilitate Future Mobile Service\textsuperscript{65} were issued by the Department on the same day, March 30, 2006.

The situation in the case of the 3500 MHz mobile transition is vastly different. In the case of the 2500 MHz band, Bell and Rogers had acquired spectrum that had remained fallow in the hands of entrepreneurs and start-ups for years and agreed to put it to use and deliver service in small communities in exchange for a mobile windfall.

In the case of the FWA band, however, Inukshuk has sat on its 3500 MHz spectrum for nine years and has essentially said\textsuperscript{66} “if we have to build a fixed network to preserve our licences we will (just give us 12 months), but please just convert us to mobile directly and we will eventually build out a state of the art mobile service on 3500 MHz

\textsuperscript{62} Inukshuk submission para. E7, 52 and 53.
\textsuperscript{63} Inukshuk’s portable Internet service was built out by 2009 so as to minimally meet the coverage component of the deployment requirements and then a shutdown notice was issued in 2011 to the few customers on the service.
\textsuperscript{64} See URL: \url{http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/mcs-inukshuk-partship.pdf/$FILE/mcs-inukshuk-partship.pdf}
\textsuperscript{65} See URL: \url{http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08551.html}
\textsuperscript{66} Inukshuk submission para. E7, 52 and 53.
spectrum.” TELUS would suggest that the Department respond that Canada does not need another temporary fixed service network built to secure renewals, a fundamental reallocation is required and that unlike the 2500 MHz band, the Department will be providing no spectrum retention to incumbent licensees. Incumbent FWA licensees are free to operate fixed services on their FWA spectrum until at least December 2017 and thereafter as long as they are not interfering with a new mobile network in the re-farmed and re-auctioned band.

84. TELUS calls for, at the appropriate juncture, a consultation on the mobile transition of the 3500 MHz band in Canada and submits that (i) the band must be liberated and re-allocated; (ii) licensees must be given notice of the anticipated mobile transition and their future obligation to shut down or relocate their fixed services if displaced; and (iii) the spectrum must be converted to Tier 2 (or at the smallest, Tier 3) licences.

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67 That is, once larger jurisdictions than Canada such the US and the EU have made decisions that can be assessed for potential leverage in the Canadian market.
8. Proposed Changes to the Licence Term Condition of Licence

Industry Canada invites comments on the proposed wording of the condition of licence related to the licence term (detailed in section 8 of this consultation).

86. Industry Canada is proposing to update the licence term condition of licence for both WCS and FWA licences in line with the updated Auction Framework which was revised in March, 2011.

87. TELUS supports the proposed updated wording of this condition of licence (i.e., the addition of the word “high” before “expectation to renew licences” in the licence term COL for both bands.

This licence will expire on the date indicated above, with a high expectation to renew licences for subsequent terms unless a breach of licence condition occurs; a fundamental reallocation of spectrum to a new service is required, or, an overriding policy need arises. (Note added emphasis.)

The process for issuing licences after this term and any issues relating to renewal will be determined by the Minister of Industry following a public consultation.

88. However, with respect to FWA licences, and as noted and justified in the preceding sections, per this very COL, a transition to mobile for the FWA band clearly represents a situation where “a fundamental reallocation of spectrum to a new service is required” and as such FWA licences should not be converted into mobile spectrum licences. FWA spectrum should be liberated and reallocated via auction. TELUS recommends that the entire FWA band should expire and be recalled on December 31, 2017 (or some later date as appropriate) for re-banding and re-auction as a new mobile band based on a to-be-determined-by-consultation new 3GPP compatible mobile band plan and ecosystem.

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