



**TELUS COMMUNICATIONS COMPANY**

**Reply Comments for**

**CONSULTATION on the TECHNICAL, POLICY and  
LICENSING FRAMEWORK for ADVANCED WIRELESS  
SERVICES in the BANDS  
1755 – 1780 MHz and 2155 – 2180 MHz (AWS-3)**

SLPB-004-14

July 2014

Spectrum Management and Telecommunications

**October 2, 2014**

## Table of Contents

Executive Summary .....	1
TELUS' Reply to Specific Questions Posed by Industry Canada .....	8
Part A – Band Plan and Licensing Framework .....	8
8. Licensing Process and Pro-Competitive Measures .....	8
7.1 Band Plan .....	20
8.1 Eligibility to Bid on Set-Aside Spectrum Licences in Each Tier .....	25
7.2 Tier Sizes .....	26
Part B – Conditions of Licence .....	28
9. Conditions of Licence .....	28
Part C – Auction Format, Process and Rules .....	31
10. Auction Format .....	31
11.1 Affiliated and Associated Entities .....	34
11.3 Rules Prohibiting Collusion .....	34
12. Opening Bids .....	35
13. Auction Process .....	36
15. Licence Renewal Process .....	36
Part D – Other Considerations .....	38
16. Canadian Table of Frequency Allocations .....	38
17. Incumbent Transition Plan .....	38
19. Technical Rules .....	38

## Executive Summary

1. TELUS appreciates the opportunity to provide reply comments.
2. The AWS-3 spectrum that is the subject of the consultation is valuable commercial mobile radio spectrum (CMRS). While TELUS applauds Industry Canada for working to release this spectrum in such a timely manner<sup>1</sup>, as a national Large Wireless Service Provider (LWSP) with the least amount of spectrum, TELUS finds the proposals very challenging to support. In its reply comments TELUS reiterates its recommended changes and describes how they generally complement and/or largely do not interfere with the views of other respondents. TELUS believes it provides a balanced analysis and seeks to work with Industry Canada through well-reasoned and well-backed input to make large improvements via relatively minor modifications. TELUS notes that:
  - a. despite the support among new entrants for the set aside as proposed, none suggests that a slightly smaller 20 MHz set aside would be insufficient.
  - b. despite the support for the band plan as proposed among those without any significant AWS-1 F block licence holdings, none suggests that it would be a problem to locate the set aside away from the AWS-1 F block, or that frequency contiguity for AWS-1 F block licensees is not important.
  - c. despite the support among new entrants for a sealed bid auction, none suggests that an alternate auction format for the unrestricted spectrum would be an issue.
3. AWS-3 is prime new high band commercial mobile radio spectrum that will enjoy excellent synergies (and essentially merge) with the AWS-1 band, the most widely deployed band in North America by number of mobile operators. Canadian mobile subscribers need this spectrum.

---

<sup>1</sup> AWS-1 was released in Canada 2 years after release in the US while MBS was 6 years after the US. AWS-3 is proposed to be less than a year after the US.

4. Industry Canada proposes to essentially gift<sup>2</sup> 60% of the AWS-3 band (taking the fourth operator pool to 26% of all Canadian CMRS<sup>3</sup>) to operating new entrants who serve 5% of Canadian subscribers. Many respondents highlight concerns with this proposal for various reasons. There are those that feel that the set aside should be open to more parties. SaskTel highlights concerns regarding spectrum utilisation in secondary markets. The national LWSPs recommend against a large set aside given their very real customer capacity issues and the disconnect between the size of the fourth operator spectrum pool and fourth operator subscriber base.
5. The operating new entrants all predictably endorse the spectrum gift. There is no policy rationale to be driving the fourth operator spectrum pool to more than a quarter<sup>4</sup> of the CMRS in Canada as Industry Canada is proposing. The only pure play provider, Wind, has repeatedly called for handouts and special treatment, but has not done anything in the marketplace to lay truth to its claim to have a current need for more spectrum, nor has it deployed across its licence areas. Wind has not acquired readily available (i.e., distressed) prime AWS-1 spectrum supported by a vibrant ecosystem but instead supports subsidized AWS-3 spectrum for its LTE overlay, implying it can wait 2 to 3 years for an AWS-3 ecosystem to develop. The other operating new entrants are well capitalised cableco's and have recently purchased prime 700 MHz spectrum at near the reserve price as a result of the 700 MHz cap and CCA auction format. There is no reason why the operating new entrants need privileged access to 30 MHz as opposed to 20 MHz. There is no reason why Wind and all the operating new entrants could not participate and similarly succeed in a Combinatorial Clock Auction (CCA) with an LWSP cap (equivalent to a 20 MHz set aside).
6. There is absolutely no evidence presented that a 20 MHz AWS-3 set aside would not have all the desired policy effects that the proposed 30 MHz set aside is meant to deliver. The

---

<sup>2</sup> By constructing eligibility criteria that will almost certainly result in little or no contention, Industry Canada is essentially proposing to grant the restricted spectrum to operating new entrants in their respective regions. Further, acquiring the 20 year licences at the proposed opening bid levels represents a 70% discount on a free grant and 20 years of licence fees.

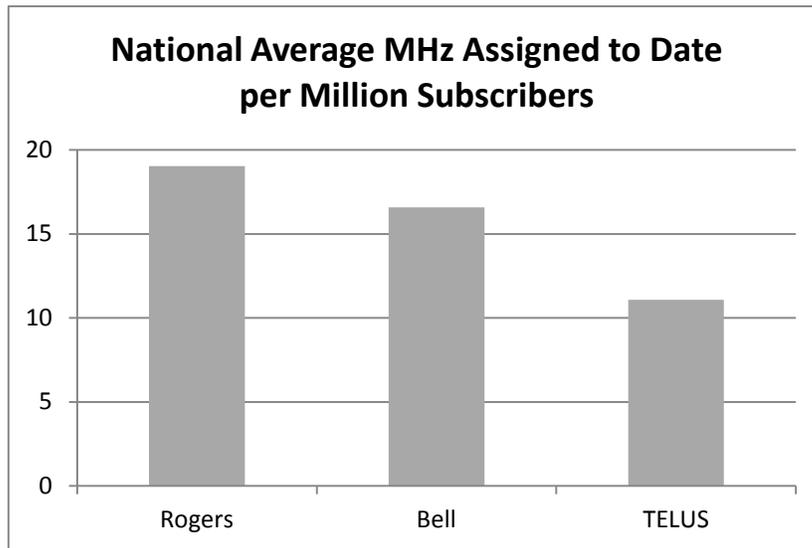
<sup>3</sup> The fourth player spectrum pool nationally as now proposed sits at 160 MHz compared to TELUS currently holding 89 MHz. This is detailed later in this document.

<sup>4</sup> A fourth operator spectrum pool of between 13 and 16% is in line with fourth operator holdings in other jurisdictions per publicly available data

positive impact of reducing the AWS-3 set aside to 20 MHz for LWSPs that can and do consistently demonstrate a pressing need for additional spectrum would be marked. This is a very reasonable ask.

7. By (i) focusing on the fourth carrier spectrum pool (scheduled to rise to over 26% of the assigned CMRS in Canada via the AWS-3 and AWS-4 proposals) and (ii) painting LWSPs with one brush on the basis of the aggregate LWSP spectrum pool, Industry Canada is particularly hurting the customers of LWSPs operating with a spectrum deficit. Figure 0 below shows weighted average national spectrum for the national LWSPs divided by their subscriber bases and clearly shows that Rogers enjoys almost twice the spectrum capacity per subscriber of TELUS. Spectrum capacity per subscriber places an upper limit on average subscriber experienced data speeds. Industry Canada’s policy needs to consider TELUS’ approximately eight million subscribers.

**Figure 0. Current Spectrum Capacity – National LWSPs**



8. As a side note, when Rogers contends in its response that it is in the most need of AWS-3 spectrum, it fails to substantiate it with any facts. Rogers in fact has the most spectrum in every<sup>5</sup> CMRS band but one in Canada. Despite touting its recent MBS spend, Rogers

<sup>5</sup> On a weighted average national basis Rogers has the most MBS, 850, PCS, AWS-1, and BRS spectrum when compared to all other operators in Canada

enjoys an average unit spectrum cost<sup>6</sup> roughly half that of TELUS. Rogers has the lowest average spectrum utilisation rate (i.e., most spare spectrum capacity) of all national LWSPs in Canada. Despite what Rogers claims<sup>7</sup> about TELUS, Rogers is not surpassed for speed in any band as independently reported by PC Mag in their September, 22, 2014 *Fastest Mobile Networks Canada 2014* study<sup>8</sup>. In fact, Rogers has had a 150 Mbps service in market for almost two years over BRS spectrum which TELUS cannot match as it continues to wait for the BRS auction which Industry Canada characterised in 2007 as “imminent”. All just to say, Rogers needs AWS-3 spectrum far less than TELUS. But Rogers needs AWS-3 spectrum more than the new entrants do. See Figure 1 and paragraphs 20 - 29 below which show the stark reality of new entrant spectrum oversupply.

9. The Department has stated that in developing a licensing framework for AWS-3, Industry Canada will be guided by the objectives of the *Telecommunications Act*, the policy objective stated in the Spectrum Policy Framework for Canada (SPFC) to maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum, and the policy objectives outlined in the Department’s 2012 *Policy and Technical Framework*, as follows:

- robust investment and innovation by wireless telecommunications carriers such that Canadians benefit from world-class networks and the latest technologies;
- sustained competition in the wireless telecommunications services market such that consumers and businesses benefit from competitive pricing and choice in service offerings; and

---

<sup>6</sup> Per publicly available data. By unit spectrum cost we mean \$ per MHz-pop.

<sup>7</sup> Rogers para E2 “Rogers cannot match or surpass the speed advantage of Bell and TELUS without additional spectrum” – false per PC Mag study. Rogers para 5 “Rogers in particular will require additional capacity” – false per publicly available MHz per subscriber metrics. Rogers para 7 “Bell and TELUS have contributed a total of 30 MHz of AWS spectrum to their joint 4G network while Rogers was only able to acquire 20 MHz of AWS spectrum because of the set aside rules” - this is factually incorrect regarding the set aside rules (e.g., Rogers did bid for 40 MHz in many markets) and Rogers fails to disclose that it has access to 40 MHz of AWS spectrum via multiple joint 4G networks.

<sup>8</sup> See <http://www.pcmag.com/fastest-mobile-networks-canada/>

- availability of these benefits to Canadians across the country, including those in rural areas, in a timely fashion.
10. With respect to the Department's 2012 *Policy and Technical Framework*, robust investment and innovation is stunted by depriving the LWSPs serving 94% of Canadian mobile subscribers of a decent share<sup>9</sup> of new spectrum releases. With respect to national LWSPs, TELUS is the most adversely affected by these proposals. The proposals could have the unintended effect of reducing TELUS' important role in driving competition in the national wireless market. More generally, it is not clear that the proposals will effectively drive the benefits of investment and competition to Canadians across the country, including those in rural areas, in a timely fashion.
  11. At the highest level, the Telecom Act<sup>10</sup> specifies nine objectives of Canadian telecommunications policy and the sixth objective is "(f) to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective". Industry Canada is clearly not relying on market forces in proposing to assign this highly valuable new AWS-3 spectrum via a competition-less set aside auction, nor is the proposed auction process for the assignment of unrestricted AWS-3 licences efficient and effective because there is no price discovery and no package bidding.
  12. Unless Industry Canada takes TELUS' well-reasoned advice and holds a CCA with five generic blocks and an LWSP cap in order to achieve the same policy objectives as a 20 MHz set aside without the market distortion, this is a tale of two auctions. The landscapes for the proposed auction of set aside and unrestricted AWS-3 spectrum are starkly different. The auction of set aside spectrum is seemingly without competition while the auction of unrestricted spectrum is hyper competitive given there is one licence per region for three to four LWSPs. Industry Canada needs to determine an auction format for each component on its own merits. As TELUS details, a March 2015 sealed bid auction of

---

<sup>9</sup> Industry Canada proposes that LWSPs be able to access 0% of 40 MHz of AWS-4 terrestrial mobile spectrum and only 40% of 50 MHz of AWS-3 spectrum.

<sup>10</sup> See <http://laws.justice.gc.ca/eng/acts/T-3.4/page-2.html#h-6>

restricted spectrum is fine, but the auction of unrestricted spectrum needs to include price discovery at a minimum and need not be held in March 2015.

13. TELUS' recommendations are summarised below.

#### **Band Plan and Licensing Framework**

- TELUS recommends that the restricted spectrum be reduced to 20 MHz from 30 MHz on the basis of overwhelming evidence.
- TELUS recommends that the effect of a 20 MHz set aside be achieved with a 10 MHz LWSP auction cap and a CCA auction of five generic blocks.
- Failing this, TELUS urges Industry Canada to place a 20 MHz set aside away from AWS-1 Block F where AWS-1 F Block licensee contiguity must take precedence. (Recommend placing at US Block J).
- TELUS recommends that the unpaired 15 MHz of AWS-3 at 1695-1710 MHz be auctioned (uncapped) with the balance of the unrestricted spectrum just as it is in the US where they face the same meteorological co-existence issues.

#### **Conditions of Licence**

- TELUS, in general, does not have issue with the conditions of licence.
- TELUS notes that the third SPFC objective of the “availability of these benefits to Canadians across the country, including those in rural areas, in a timely fashion” is not well served by awarding 60% of the spectrum to operating entrants who will remain for the most part focused on urban and suburban markets. TELUS recommends that, with respect to deployment requirements, well defined consequences be established for restricted spectrum that is slated to be acquired by operating entrants at less than one seventh<sup>11</sup> of the 2014 US AWS-3 reserve price.
- TELUS continues to request that the Department issue a decision removing the condition of licence related to R&D on commercial mobile spectrum, regardless of the annual revenue of the licensee.

---

<sup>11</sup> The national average reserve price in the US in \$/MHz-pop for AWS-3 paired spectrum is USD\$0.644/MHz-pop. The current exchange rate is 1.09 CAD per USD.

## **Auction Process**

- TELUS suggests a CCA with five generic blocks and an LWSP cap in order to achieve the same policy objectives as a 20 MHz set aside without the market distortion.
- Failing this, TELUS requests that Industry Canada select the auction format for the restricted (set aside) and unrestricted spectrum separately because they are starkly different auctions
- For the restricted spectrum, TELUS supports a sealed bid auction in March as proposed except that only 20 MHz be restricted and placed at US Block J.
- TELUS recommends licences not acquired in the restricted sealed bid auction be included in a follow up CCA auction of unrestricted spectrum involving 3 or more 10 MHz blocks in each Tier 2 region.

## **Other Considerations**

- TELUS supports the proposed changes to the Canadian Table of Frequency Allocations.
- TELUS supports the proposed incumbent transition plan.
- TELUS supports the proposal to harmonize Canadian technical rules for AWS-3, to the extent feasible, with the U.S. technical rules
- TELUS has no major issues with the proposed technical rules in Annex D.

14. The detail behind TELUS' recommendations and comments follows in the main body of this document.

## TELUS' Reply to Specific Questions Posed by Industry Canada

### Part A – Band Plan and Licensing Framework

15. TELUS has re-ordered the flow of consultation questions in Part A in order to streamline its response. TELUS first addresses the proposed pro-competitive measures before commenting on the proposed band plan. TELUS first addresses the proposed criteria for eligibility to bid on set-aside spectrum licences in each tier, before commenting on the proposed tier sizes.

### 8. Licensing Process and Pro-Competitive Measures

A3 – Industry Canada is seeking comments on its proposals to use an auction mechanism and to implement a pro-competitive measure, namely:

- (a) to set aside 30 MHz in the AWS-3 band for new entrants by restricting the participation of LWSP in this block; and
- (b) to have open bidding (no pro-competitive measures) on the remaining 20 MHz block in the band.

16. TELUS was surprised by the AWS-3 announcement made by the Minister on July 7<sup>th</sup>, 2014, that an important new mainstream band would soon be auctioned off with 60% of it kept out of the hands of the LWSPs and thus not benefit the 94% of Canadian subscribers that the LWSPs currently serve.
17. After the rigorous MBS and BRS policy consultations<sup>12</sup>, Industry Canada was moved, by the substantial evidence put on record, to utilize an auction cap as an effective and fair pro-competitive measure in the MBS and BRS auctions as opposed to a market distorting<sup>13</sup> and unfair mechanism, a set aside.

---

<sup>12</sup> Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum (Gazette Notice SMSE-018-10), November 2010 (<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09949.html>), and Decisions on a Band Plan for Broadband Radio Service (BRS) and Consultation on a Policy and Technical Framework to License Spectrum in the Band 2500-2690 MHz (Gazette Notice SMSE-005-11), February 2011 (<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09992.html>).

<sup>13</sup> As evidenced in Canada's 2008 AWS auction. NERA Economic Consulting, *Regulatory Policy Goals and Spectrum Auction Design: Lessons from the Canadian AWS Auction*, April 17, 2009 ([https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/smse-018-10-telus-submission3.pdf/\\$FILE/smse-018-10-telus-submission3.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/smse-018-10-telus-submission3.pdf/$FILE/smse-018-10-telus-submission3.pdf))

18. In the following paragraphs, TELUS examines the case for pro-competitive measures in the AWS-3 auction and the extent to which they need be applied (if at all), and if so, how.

**Case for Pro-Competitive Measures in AWS-3 Auction and the Extent Thereof**

19. Industry Canada in the consultation paper makes the case for its proposed pro-competitive measures on the following basis (italicized words are direct consultation quotes):
- a. (consultation para 36) *AWS-3 spectrum is adjacent to, and has the same pairing as the AWS-1 spectrum, there will likely be a robust equipment ecosystem, interoperable with the AWS-1 spectrum* [TELUS agrees.]
  - b. (consultation para 36) *AWS-3 spectrum will be highly desirable to all wireless service providers. Demand is likely to exceed supply for these licences [so] Industry Canada proposes to use an auction process to assign spectrum licences in the AWS-3 band. Auctions are a transparent, fair and efficient spectrum assignment mechanism* [TELUS agrees except that “fair” only applies to open auctions and sometimes auctions with caps depending on their structure, but never to auctions with set asides<sup>14</sup>.]
  - c. (consultation para 37) *As noted in the FSAC (Framework for Spectrum Auctions in Canada), there are various measures available in an auction to promote a competitive marketplace if required, notably set-asides and spectrum caps* [TELUS notes that Industry Canada does not entertain or discuss an auction cap for AWS-3 in the consultation other than this one paragraph 37 acknowledgement of the existence and availability of caps as a pro-competitive measure in the FSAC. Industry Canada ignores the significant

---

<sup>14</sup> See TELUS’ comments in response to *Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum (Gazette Notice SMSE-018-10)*, November 2010, [Paragraph 161], ([https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapi/smse-018-10-telus-submission.pdf/\\$FILE/smse-018-10-telus-submission.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapi/smse-018-10-telus-submission.pdf/$FILE/smse-018-10-telus-submission.pdf)) and *Decisions on a Band Plan for Broadband Radio Service (BRS) and Consultation on a Policy and Technical Framework to License Spectrum in the Band 2500-2690 MHz (Gazette Notice SMSE-005-11)*, February 2011 [Paragraphs 74-78] ([https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapi/smse-005-11-telus-comments.pdf/\\$FILE/smse-005-11-telus-comments.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapi/smse-005-11-telus-comments.pdf/$FILE/smse-005-11-telus-comments.pdf))

**MBS and BRS decisions<sup>15</sup> issued one year following publication of the latest revision of the FSAC, wherein an auction cap was deemed the best way forward for MBS and BRS after the distortions introduced in the 2008 AWS-1 auction by a set aside.]**

- d. (consultation para 39) *New entrants would benefit from more spectrum, to (i) support the provision of advanced wireless services, and (ii) to meet the traffic demands of growing subscribership* [TELUS examines the benefit of more spectrum for new entrants in detail below and finds, at best, a limited degree of benefit/need. None of the new entrant respondents detail any need or justification<sup>16</sup> but simply support the proposal for a set aside. Eastlink supports the proposed set aside and describes it as important for the long term health and growth of entrants but provides no data to back this up.]
- e. (consultation para 39) *Characteristics of AWS-3 spectrum that make it particularly useful for the deployment of advanced mobile/broadband networks and services to meet growing consumer demands are (i) large, contiguous block sizes that allow for the provision of robust advanced wireless services; and (ii) an advanced ecosystem, including the 4G LTE standard that is expected to be compatible with the AWS-1 band* [TELUS agrees with this but notes that neither AWS-1 nor AWS-3 bands have large block sizes. Prior to Industry Canada's proposal, all assignments of AWS-1 and proposed assignments of AWS-3 blocks in North America are either 5+5 or 10+10 MHz pairings. Industry Canada's proposed assignment of a 15+15 MHz block, should it prevail, would not afford any specific advantages to an operating entrant that acquires all 15 MHz.]

---

<sup>15</sup> *Policy and Technical Framework: Mobile Broadband Services (MBS) — 700 MHz Band, Broadband Radio Service (BRS) — 2500 MHz Band (Gazette Notice SMSE-002-12)*, March 2012 (<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10121.html>)

<sup>16</sup> Wind vaguely suggests that the proposals maximize the economic and social benefits for Canadians (para 3). Videotron simply calls the set aside a leveling of the playing field. Reminder – the fourth operator pool is now at 160 MHz. TELUS holds 89 MHz.

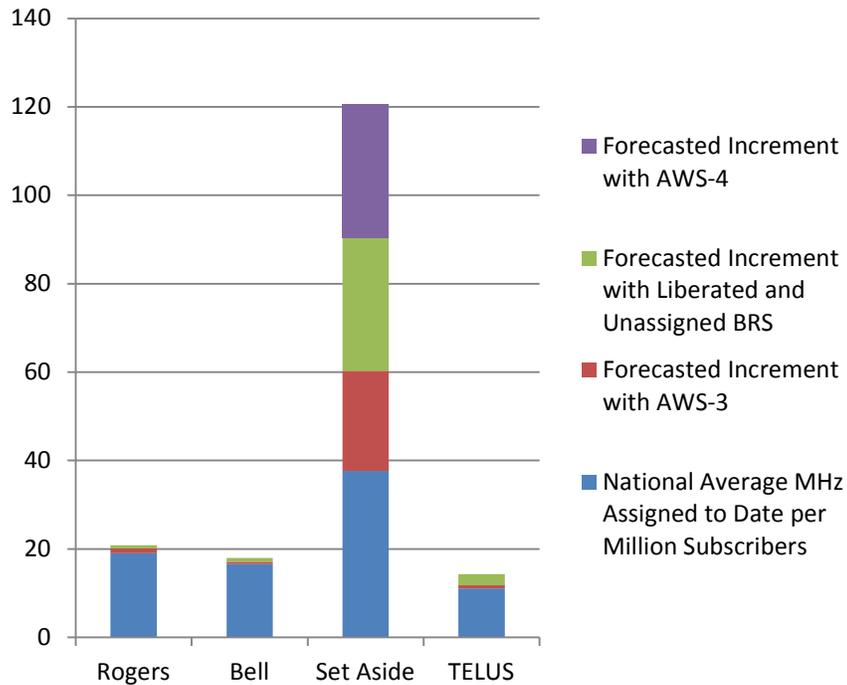
- f. (consultation para 40) *Industry Canada is of the view that this spectrum has the strong potential to be used by new entrants to improve their networks, which will allow them to continue to contribute to a competitive wireless sector [While TELUS details below that the case is weak for pro-competitive measures in the AWS-3 auction, TELUS emphasises that (i) restricted access can be effected with the less distortionary auction cap and that (ii) the proposed 30 MHz set aside is unnecessarily large – a cap or set aside resulting in new entrant access to 20 MHz of AWS-3 would more than adequately meet the entrants’ long term need for additional spectrum. No respondents suggest that a cap would be a problem. No respondents suggest that 20 MHz would not do.]*
  
  - g. (consultation para 41) *It is likely that large wireless service providers (LWSP) have the means and ability to prevent new entrants from acquiring spectrum licences in an open auction [TELUS notes that auction caps can be a less disruptive intervention than set asides while achieving the same Industry Canada goals. Operating entrants suggest foreclosure as an issue but neglect to mention the efficacy of an auction cap as has been specified for the 700 and 2500 MHz auctions.]*
  
  - h. (consultation para 42) *Given the above market and technical considerations, and in light of the Department’s policy objectives, Industry Canada proposes to adopt competitive measures in the form of a 30 MHz spectrum set-aside for the AWS-3 licensing process [TELUS’ analysis below (indicating pro-competitive measures are not required) notwithstanding, TELUS strongly recommends that any pro-competitive measures employed by Industry Canada for the AWS-3 auction involve the restricted access to 20 MHz of AWS-3 spectrum at most rather than 30 MHz. No respondents suggest that this would be a problem.]*
20. All parties would agree that: the AWS-3 band is adjacent to and will be compatible with the AWS-1 band; AWS-3 spectrum is valuable; and expected demand suggests that an

auction is required, as the US has determined. The parties to this consultation are unlikely to all agree that pro-competitive measures are required and if so, what type of measures these should be. TELUS examines the justification and ramifications of Industry Canada's proposal to set aside 30 of 50 MHz of the AWS-3 band in Canada.

**Entrant Need to Meet Traffic Demands of Growing Subscribership (consultation para 39)**

21. On the basis of current and future capacity, there is no pro-competitive justification for restricting the release of AWS-3 spectrum to support regional entrants and/or a consolidated national entrant. Prior to the release of AWS-3 spectrum, regional entrants and/or a consolidated national entrant have restricted access nationally to up to 130 MHz of CMRS that LWSPs are unable to acquire; under the proposed AWS-3 band plan, this restricted access increases to 160 MHz<sup>17</sup>. This is roughly twice the 89 MHz that TELUS holds. This overly generous and unfair assignment of entrant spectrum supports on aggregate roughly 1.4 million subscribers today as compared to TELUS’ 89 MHz which supports over 7.8 million subscribers. TELUS’ spectrum is currently working on average more than ten times harder than the spectrum of the non-LWSPs.

**Figure 1. National Average MHz per Million Subscribers**



<sup>17</sup> 130 MHz is made up of 40 MHz of AWS-1, 10 MHz of MBS, 20 MHz of paired BRS, 20 MHz of paired and or/unpaired BRS and a proposed 40 MHz of MSS ATC spectrum. With AWS-3 as proposed, the figure rises to 160 MHz.

22. Another way of reinforcing this lack of need for spectrum for entrant capacity is to look at spectrum share as compared to subscriber share. As AWS-3 and AWS-4 band plans are proposed, regional entrants and/or a consolidated national entrant would have access to 160+ MHz of commercial mobile radio spectrum (that LWSPs have been unable to acquire) which would represent 26% of the commercial mobile spectrum allocated vs an entrant market share of 5%. Even at a long term entrant market share in the 15% range<sup>18</sup>, entrant spectrum would be nowhere near as utilized as TELUS' spectrum is today. It would be utilized to about one fourth the intensity. At 15% market share, entrant spectrum would be utilized to a level of 25,000 subscribers per national MHz vs TELUS' current utilization of 88,000 subscribers per national MHz. In other words, even in the long term, fourth player / entrant capacity does not justify a 30 MHz AWS-3 set aside<sup>19</sup>.
23. The proof is in the market. If meeting near term “*traffic demands of growing subscribership*” were an issue, then entrants in need would have already acquired distressed AWS-1 assets available for purchase (and whose transfer to LWSPs has been prevented in multiple instances<sup>20</sup>).

#### **Entrant Need to Provision Advanced Wireless Services (consultation para 39)**

24. New entrants have claimed<sup>21</sup> that they need additional spectrum to deploy the latest technology while serving existing customers on existing technology. When one scans the market, this is only the case for a single new entrant, Wind.

---

<sup>18</sup> The average market share of the fourth operator in the key developed markets of the US, UK, France and Italy is 13% (per publicly available 2013/2014 annual reports).

<sup>19</sup> For comparison purposes: Rogers holds 38% of the spectrum and 34% of the subs, Bell holds 27% of the spectrum and 28% of the subs). Essentially, Rogers and the entrants combined are over-provisioned, while Bell is adequately provisioned and TELUS is under-provisioned.

<sup>20</sup> See <http://www.theglobeandmail.com/report-on-business/ottawa-threatens-to-cut-telus-out-of-wireless-auction/article18202648/> and <http://www.theglobeandmail.com/report-on-business/ottawa-puts-shaws-wireless-sale-in-peril/article20084868/>

<sup>21</sup> Anthony Lacavera, comments made at 2014 Canadian Telecom Summit. “The sources of the spectrum are clear: Videotron and Shaw both have unused LTE spectrum in Wind’s operating markets. Mobilicity has deployed its spectrum, but failed to reach critical mass and is now tied up in what has become a lengthy CCAA process. There are future potential sources of spectrum in the upcoming 2500 MHz auction next April, AWS-3, and 600 MHz. The challenge we at Wind face is securing any one of these sources of spectrum at terms and value levels that the business of Wind can support, and within the timeframe that the spectrum is needed to meet LTE demand. (From

25. Videotron has un-deployed MBS spectrum in BC and Alberta, un-deployed MBS and AWS-1 spectrum in Ontario with which to deploy LTE. In Quebec and Ottawa, Videotron has an HSPA network and a 40 MHz 150 Mbps LTE network as well as un-deployed MBS spectrum.
26. Eastlink has AWS-1 and MBS spectrum and has gone directly to an LTE deployment.
27. Mobilicity is in creditor protection and not contemplating expanding to LTE.
28. All of Shaw's spectrum is fallow and available to deploy LTE.
29. Wind is the only solvent new entrant with a current spectrum limitation on deploying LTE. Wind has not acquired distressed AWS-1 spectrum assets in order to deploy LTE. The AWS-3 ecosystem is still some time off, given that the spectrum has not even been auctioned yet in the US. Wind's public approval<sup>22</sup> of the AWS-3 proposals belies Wind's apparent lack of near term need for the deployment of LTE.

---

<https://cartt.ca/article/canadian-telecom-summit-2014-lacavera-hammers-away-conditions-hurting-wind-%E2%80%93-he-searches>), June 17, 2014

<sup>22</sup> Ibid.

## Characterization of Industry Canada’s Proposed Pro-Competitive Measures

30. Industry Canada’s proposed pro-competitive measures provide operating new entrants with restricted access to valuable spectrum.
31. If nothing changes on the industry deployment front before January 30, 2015 and Mobilicity does not bid, then the results can be predicted. They would be as follows:

**Figure 2. Potential Outcome of Restricted Portion of Proposed AWS-3 Auction**

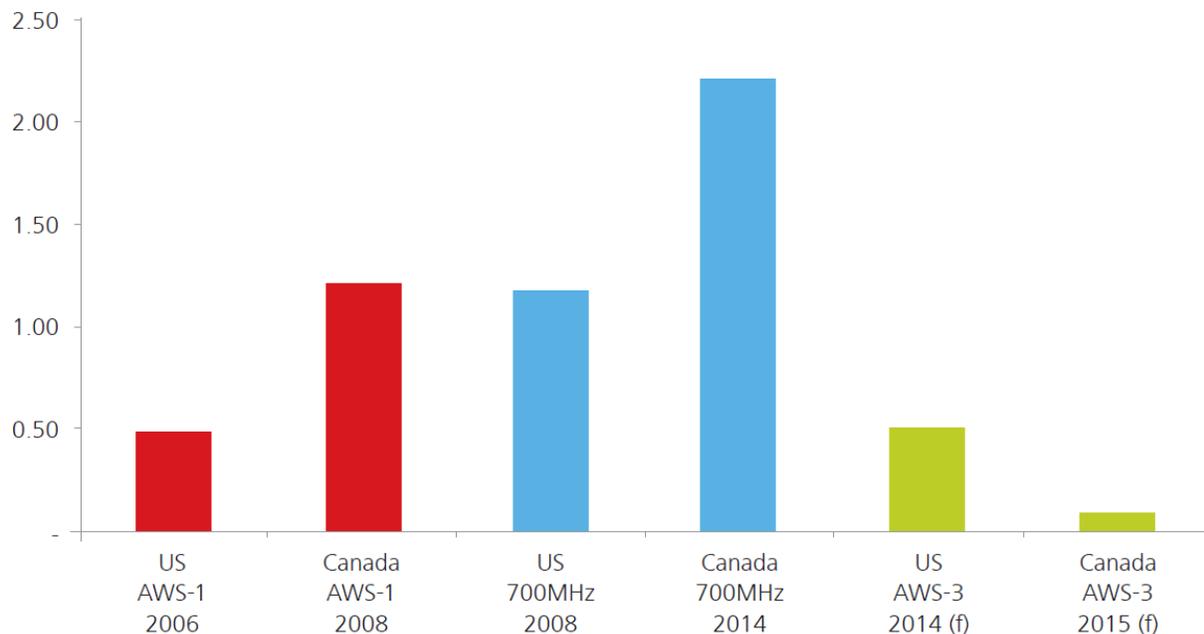
Winner	Geography	Spend at Reserve Price	NPV <sup>23</sup> of fees over term	Spend at US Reserve <sup>24</sup> Price
Videotron	Quebec and Eastern Ontario	\$30.4m	\$98.6m	USD\$191.1m
Wind	Southern Ontario, Alberta and BC	\$56.4m	\$180.9m	USD\$350.5m
Bragg	Atlantic	\$4.1m	\$23.2m	USD\$44.9m
Ice	The North	\$0.2m	\$1.1m	USD\$2.1m
Unsold	Saskatchewan and Manitoba	n/a	n/a	n/a
<b>Total Sold</b>		<b>\$91.1m</b>	<b>\$303.8m</b>	<b>USD\$588.6m</b>

32. Providing operating entrants restricted access to restricted spectrum at the proposed reserve prices would then essentially be, on average, a 70% discount on the actual cost (with standard annual licence fees) of a free grant of spectrum by comparative review and an 85% discount on the US reserve price (despite (i) the 2008 AWS-1 and 2014 MBS auction prices in Canada being several times higher than in the US and (ii) the FCC setting the AWS-3 reserve price above the AWS-1 final price). This disconnect with US reserve pricing is captured in NERA Economic Consulting public report on AWS-3 and Figure 3 below is reproduced from NERA’s report.

<sup>23</sup> Based on the current annual fee rate for CMRS of \$0.03512361 per MHz-pop that would be applicable if the restricted AWS-3 spectrum was directly granted to the operating entrants and a NPV discount rate of 8.5%.

<sup>24</sup> The US has set reserve price for the 50 MHz of paired AWS-3 spectrum of USD\$0.64 per MHz-pop

**Figure 3. AWS-3 reserve prices compared to final prices for AWS-1 and 700 MHz auctions (price per MHz per pop is USD or CND as applicable), NERA Economic Consulting<sup>25</sup>.**



33. TELUS understands that such targeted rules support the Minister’s goal to encourage a consolidated fourth national player. TELUS contends that with several minor adjustments to the proposals, the negative impacts of the proposal on LWSPs can be mitigated and the Minister can achieve more of a win-win auction.

**TELUS’ Proposed Pro-Competitive Measure 1 – Restrict Access to 20 MHz not 30 MHz**

34. TELUS has described above how the proposed new entrant set aside is not justified on the basis of current or future capacity needs. TELUS has pointed out that only one entrant needs additional spectrum to support the deployment of LTE technology and even in this case, the entrant in question has access to adjacent and compatible distressed AWS-1 spectrum that LWSPs have been prevented from acquiring. Further, it is this secondary market AWS-1 spectrum that would provide an immediate solution by way of available

<sup>25</sup> NERA Economic Consulting, *US AWS-3 Spectrum Auction: Back to Basics in Auction Design*, August 18, 2014 ([http://www.nera.com/nera-files/PUB\\_US\\_AWS3\\_Auction\\_0814.pdf](http://www.nera.com/nera-files/PUB_US_AWS3_Auction_0814.pdf))

LTE technology versus AWS-3 spectrum. As such, TELUS believes that pro-competitive measures are not a necessity for the AWS-3 auction.

35. Should Industry Canada determine that pro-competitive measures are still desired, TELUS sees no valid reason not to reduce the restricted spectrum to 20 MHz from the 30 MHz proposed in order to make three 10 MHz blocks available for LWSPs who need (to varying degrees, TELUS having the most pressing need of the three national providers) the capacity relief provided by AWS-3 spectrum. 20 MHz would be more than sufficient to address the entrants' long term capacity needs associated with best case subscriber loading. 20 MHz would be more than sufficient to address the entrants' deployment of new technology. Limiting restricted spectrum to 20 MHz would allow each of the LWSPs to acquire 10 MHz for capacity relief. It is not in the best interest of Industry Canada to sacrifice the needs of established LWSPs currently serving 94% of Canadian subscribers while bolstering new entrants beyond reasonable levels. Restricting access to 30 MHz of AWS-3 spectrum is not supportive of the industry as a whole. Restricting access to 20 MHz of AWS-3 spectrum is much less disruptive to the industry as a whole and would still achieve all the pro-competitive benefits, supporting both operating entrants and LWSPs (capacity relief and technology evolution), that are envisioned with restricting access to 30 MHz.
36. Providing only 20 MHz of unrestricted AWS-3 spectrum is unwarranted as described above, unprecedented<sup>26</sup> and potentially industry damaging<sup>27</sup>.

---

<sup>26</sup> *Framework for Spectrum Auctions in Canada*, Issue 3, March 2011. (<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01626.html>), Pg 5, "In the analysis of the above-noted competition principles, it is appropriate to consider ... the activities of other regulators who deal with the wireless industry and the experience of other countries." Industry Canada has no precedent for the 60% set aside of a prime CMRS band. The FCC is auctioning AWS-3 spectrum with no pro-competitive measures.

<sup>27</sup> Given the drastic and ongoing increase in consumer demand for data services, network degradation will become inevitable if a well-planned and fair regulatory policy does not guide the release of new CMRS. Even if the unrestricted spectrum is auctioned as 5+5 MHz blocks (as TELUS proposes later in our comments), only two LWSPs (at best) will be able to secure AWS-3 spectrum in any given Tier 2 region to support capacity growth. While the inability to secure AWS-3 spectrum will impact all LWSPs, TELUS is most exposed due to our spectrum deficit position. In TELUS' view, the proposed 30 MHz set-aside marks a dangerous shift in Industry Canada's application of "pro-competition policy"; rather than simply using policy as an enabler for entrant expansion and growth, Industry Canada's proposed set-aside is determining *a priori* that one or more national or regional LWSPs will be incapable of investing to support their capacity growth needs.

## **TELUS' Proposed Pro-Competitive Measure 2 – Restrict Access via Auction Cap**

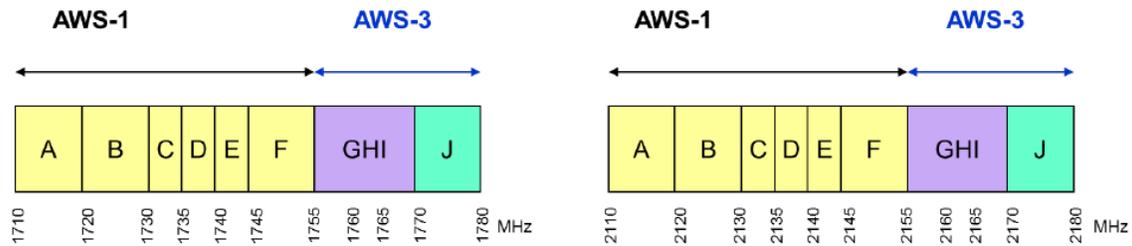
37. On the basis that Industry Canada agrees to restrict access to 20 MHz versus 30 MHz of spectrum as strongly recommended by TELUS for the compelling reasons above, then TELUS contends that a set aside is not required and a less disruptive auction cap mechanism should be employed to restrict access.
38. The FSAC was released in March 2011, just prior to the closure of the voluminous consultation on MBS and BRS policy and in particular, the set aside versus auction cap debate fuelled by the results of the 2008 AWS auction. Industry Canada took an entire year to consume the input and release a decision in March 2012 to use auction caps and not set asides in the (then) upcoming MBS and BRS auctions. The AWS-3 band is no less important to Canadians. There are compelling reasons to continue to use the auction cap approach for AWS-3.
39. In the consultation in paragraph 46, Industry Canada notes that “Industry Canada has pursued policies that have effectively reserved spectrum for new entrants over successive auction frameworks (AWS-1, 700 MHz and the upcoming 2500 MHz auction).” Industry Canada in this statement glosses over the fact that auction caps were deemed the best approach in every auction since the controversial AWS-1 auction with a set-aside.
40. TELUS details its proposed approach using an auction cap in our response to the questions on the band plan and the auction format. While achieving the same spectrum distribution goals as a 20 MHz set aside, a LWSP 10 MHz auction cap would be more fair (i.e., less market distorting). A cap would produce fairer spectrum prices.

## 7.1 Band Plan

A1 - Industry Canada is seeking comments on its proposed band plan shown in Figure 3.

41. Industry Canada has proposed in the consultation the band plan shown below in Figure 3. The proposed band plan has several issues with it that can be easily addressed.

### Consultation Figure 3: Proposed Canadian Band Plan



42. Practically speaking, AWS-1 and AWS-3 spectrum will represent in some years, one homogenous band. Further, regardless of the US band plan / ecosystem containing double blocks A, B, F and J, the AWS-1/AWS-3 ecosystem will support 5+5 MHz sub-blocks/blocks from top to bottom; the small block (5+5 MHz) vs large block (10+10 MHz) dynamic is simply a licensing issue, not a technology issue. As such, the band is the band, simply providing 25 + 25 MHz of expansion capacity to the AWS-1 band. How the underlying five 5 + 5 MHz blocks are parsed up can simply be driven by the desired policy. The US band plan J block, for instance, could be broken into two<sup>28</sup> 5+ 5 MHz J1 and J2 blocks as depicted in Figure 4 on Page 24 of this document.
43. TELUS notes that the consultation paper highlights the existence of 3GPP Band 10 which includes the AWS-1 band plus 30 of the 50 MHz in the AWS-3 band plan. Band 10 was created for the Latin American market where this spectrum sub-range is assigned but, by all accounts, not deployed. Band 10 will not be the North American ecosystem for AWS-1/AWS-3. The 3GPP standards body (in consultation with vendors and US LWSPs) are now only starting down a path defining a new 3GPP Band Specification for the US (and

<sup>28</sup> This would be no different than what Industry Canada did in dividing the US 700 MHz Upper C block in two.

subsequently Canadian) market that will span the entire AWS-1/AWS-3 Bands. Further, the US equipment and device ecosystem that will be leveraged in Canada is mandated<sup>29</sup> to be interoperable so as to avoid, presumably, any potential anti-competitive US carrier behaviour with respect to ecosystem support for only a sub set of the AWS-3 band. As such, there is no reason that the current proposed positioning of the set aside in the band should be seen as important based on the existence of the Latin American 3GPP Band 10 specification.

44. TELUS recommends three simple, independent modifications to the proposed Canadian band plan to (i) rectify a shortcoming related to contiguity, (ii) restrict access to 20 MHz of the AWS-3 band (as justified in the previous section), and (iii) support an auction cap as opposed to a set aside (as justified in the previous section). The modifications or “fixes” are shown in the figure below.
  
45. TELUS also raises one objection. Footnote 5 on page 5 of the consultation states that Industry Canada will not consult at this time on mobile use of the 15 MHz unpaired spectrum (1695-1710 MHz) that is included in the AWS-3 band in the US and being auctioned as part of the AWS-3 auction in the US in November. Industry Canada suggests that one of the reasons is that “there is not an obvious band with which to pair this spectrum in a manner that would be consistent with other bands used for commercial services”. TELUS notes that the 3GPP standards body (in consultation with vendors and US LWSPs) are currently investigating the potential uses of this spectrum as “unpaired uplink”; such use would obviate the concern for identifying a pairing for “consistency.” TELUS would like to see this 15 MHz unpaired AWS-3 spectrum auctioned in Canada (uncapped) with the 50 MHz paired AWS-3 spectrum in order to leverage the US ecosystem for this spectrum. The US faces the same issues related to co-existence with

---

<sup>29</sup> FCC 14-31, Report and Order, GN Docket No. 13-185, *Amendment of the Commission’s Rules with Regard to Commercial Operations in the 1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz Bands*, March 31, 2014. “Mobile and portable stations that operate on any portion of frequencies in the paired 1755-1780 MHz and 2155-2180 MHz band must be capable of operating on all frequencies in the paired 1710-1780 MHz and 2110-2180 MHz band, using the same air interfaces that the equipment utilizes on any frequencies in the paired 1710-1780 MHz and 2110-2180 MHz band.”

meteorological services and TELUS suggests that Canada can manage these. Microwave licensees can be displaced as required and this is not particularly complicated.

**Fix #1 – Update Proposed Band Plan to Support Contiguity**

46. TELUS is disappointed that Industry Canada appears to have not considered contiguity when proposing a Canadian band plan. This is very surprising to TELUS given that special steps were taken in defining the rules for the auctions of both the MBS<sup>30</sup> and BRS<sup>31</sup> bands to prioritize frequency contiguity for all parties to the maximum extent possible and to provide frequency contiguity to incumbents<sup>32</sup> between their existing holdings and newly acquired licences at auction.
47. TELUS would expect that the same consideration of incumbent contiguity be given to AWS-1 incumbents on the AWS-1/AWS-3 band edge, Block F/G. These bands are no less important than MBS and BRS.
48. As such, the proposed AWS-3 set aside is placed in the wrong area of the AWS-3 band. This placement might have made sense, had there been any Band 10 dependencies in Canada, or had the original AWS-1 set aside contained Block F. But given that neither of these is the case and the entire AWS-3 band will be interoperable with the entire AWS-1 band, then the matter of AWS-1 incumbent contiguity must dictate that the restricted spectrum in the AWS-3 band plan must not be placed adjacent to AWS-1 Block F because Block F is held exclusively by LWSPs and notably, TELUS holds 61% of the Block F licences nationally, weighted by population.

---

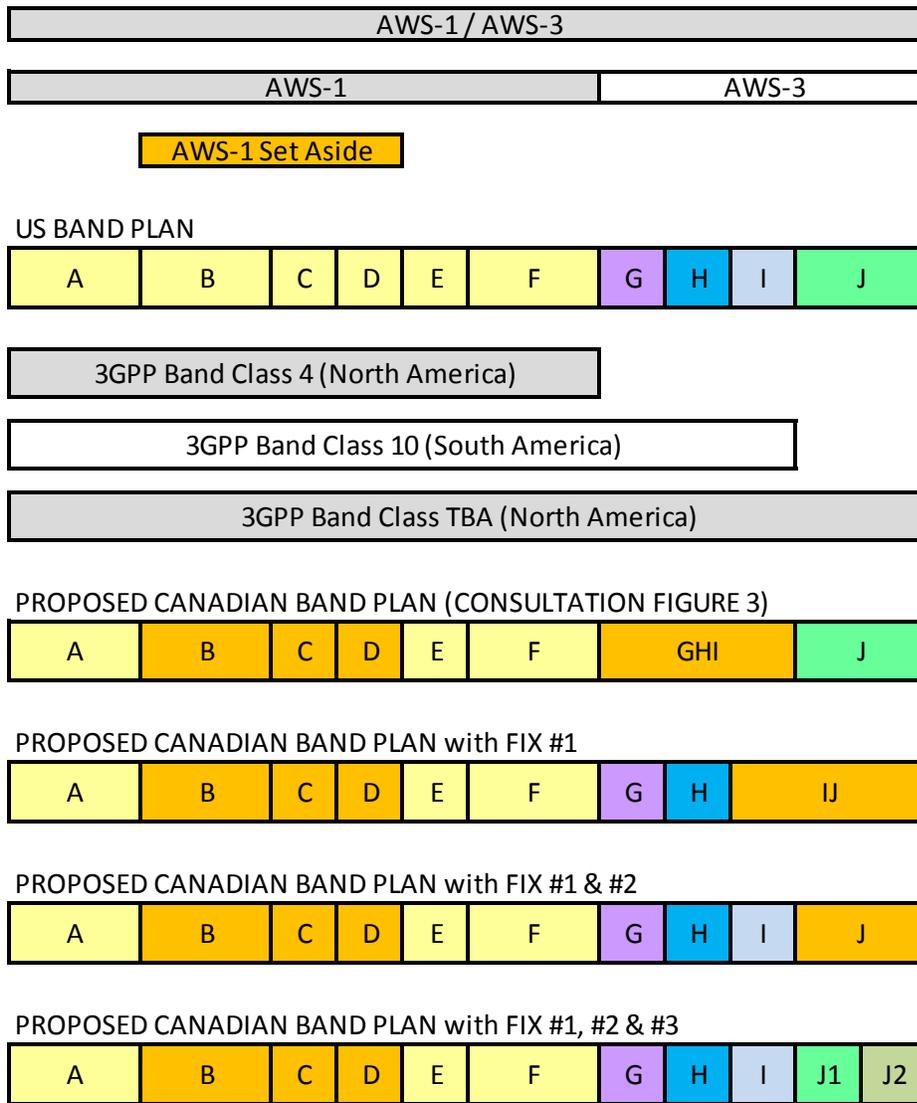
<sup>30</sup> “[A] bidder will automatically be assigned the A and B licences in a given service area if the bidder wins the A licence and one of the B and C licences in the same service area.” *Licensing Framework for Mobile Broadband Services (MBS) — 700 MHz Band (Gazette Notice DGSA-001-13)*, March 2013 [Paragraph 57] (<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10572.html>)

<sup>31</sup> “In order to encourage the efficient use of spectrum, priority will be given to ensuring that licences are assigned as contiguous whenever possible. The contiguity of assigned licences will be determined as follows: (a) a bidder that wins more than one licence in the same product in the auction will be assigned these licences as a contiguous block; (b) a bidder that wins one or more licences in a product where it has an existing licence will have its new licence assigned as contiguous to its existing licence.” *Licensing Framework for Broadband Radio Service (BRS) — 2500 MHz Band (Gazette Notice SLPB-001-14)*, January 2014 [Section 4.1.6 / Paragraphs 126-127] (<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10726.html>)

<sup>32</sup> *Ibid.*

49. TELUS' proposed Fix #1 is to move the set aside away from Block F, ideally to the top of the band.
50. TELUS suggests the restricted spectrum be placed at the high-frequency end of the band to:
- a. Maximize the optionality for F Block holders (which are currently all LWSPs) as the restricted spectrum will go to entrants none of which hold F Block spectrum.
  - b. Maximize the opportunity for LWSPs in general by having all unrestricted AWS-3 spectrum in one contiguous sub band adjacent to Block F.
51. TELUS notes that while there was support from many respondents for the proposed band plan as is, the support was universally based on its harmonisation with the US AWS-3 band plan. Every change that TELUS proposes to the band plan including relocating the set aside to the top of the band, does nothing to diminish the AWS-3 harmonisation between Canada and the US. TELUS' proposals actually improve the harmonisation with the US AWS-3 band plan and the second stage of TELUS' progressive set of proposals is the US band plan. (Figure 4 below: band plan variant labelled "*Proposed Canadian Band Plan with Fix #1 & #2*").
52. All parties to this consultation with more than the odd AWS-1 F block (representing 96% of the AWS-1 F blocks by population called for the set aside to be moved off of the AWS-3 G block. TELUS considers a re-positioning of the AWS-3 set aside (should a set aside in fact prevail) to be a routine correction for Industry Canada given all the focus, in the mobile broadband age, on contiguous blocks.
53. TELUS found it rich that one LWSP, after expounding the benefits of frequency contiguity (wide channels) at length, supported the ill-conceived set aside positioning that eliminates such benefits (presumably because they would not be the main beneficiary).

**Figure 4. TELUS Recommended Alterations to Proposed Canadian Band Plan**



## **Fix #2 – Restrict Access to Only 20 MHz to Strike Appropriate Balance between Entrants and LWSPs**

54. TELUS' proposed Fix #2 is to reduce the size of the restricted spectrum from 30 MHz to 20 MHz as extensively justified above in TELUS' response to the question of pro-competitive measures (paragraphs 15 to 33 above). There is no compelling reason that operating entrants need restricted access to more than 20 MHz and there are many compelling reasons why 20 MHz is not sufficient for Canada's LWSPs.

## **Fix #3 – Implement 10 MHz LWSP Auction Cap as Opposed to (equivalent) 20 MHz Set Aside**

55. TELUS' proposed Fix #3 is simply to reduce the band plan to its simplest form, uniform 5+5 MHz blocks, in order to support an auction of five generic blocks with a 10 MHz LWSP auction cap in order to restrict access to 20 MHz in all service areas except Saskatchewan and Manitoba where there would be restricted access to 10 MHz (given the four existing LWSPs in these markets). Industry Canada could limit auction participation to operating WSPs.
56. Pricing would be much fairer or at least no less fair. Entrants could bid on multiple blocks and would set the market clearing price given that LWSPs would not be able to create clearing in any market on their own given the cap. Such an approach might result in a delay in the AWS-3 auction, but given that the US auction has not occurred and the ecosystem is not anticipated to be fully developed for another two to three years, TELUS does not see this as a critical issue.

### **8.1 Eligibility to Bid on Set-Aside Spectrum Licences in Each Tier**

A4 – Industry Canada is seeking comments on the proposed eligibility criteria to bid on set-aside spectrum licences.
--

57. TELUS has above analysed in detail the need for pro-competitive measures and found that they are not necessary. But if Industry Canada still prefers to restrict access to a portion of the AWS-3 band, and prefers not to use an auction cap despite all the good reasons to, then Industry Canada should only set aside 20 MHz and not 30 MHz.

58. TELUS supports the proposal that only operating entrants meeting certain criteria are eligible to bid on restricted spectrum. TELUS is not opposed to using half the AWS-1 deployment requirements as the measure of eligibility, but notes that this is a low threshold. As several respondents suggest, TELUS agrees that the threshold might well be the full AWS-1 deployment requirements to better align with Industry Canada’s stance on deployment requirements. Industry Canada would not have raised almost 10 billion dollars in the last two auctions if spectrum was not a very scarce resource that must be managed so as to ensure high utilisation.
59. TELUS strongly recommends that the auction of unrestricted AWS-3 spectrum follow the auction of restricted AWS-3 spectrum so that any restricted licences left in the hands of Industry Canada (which there are likely to be) can be made available as part of the auction of unrestricted AWS-3 spectrum. Many respondents make this or very similar suggestions.
60. TELUS notes that while Videotron accepts the operating new entrant criteria as proposed, its network partner Rogers, in Rogers’ paragraphs 56 and 57 expresses a concern for the eligibility of an entrant (such as Videotron presumably) to access the restricted AWS-3 spectrum should it be deemed associated with an LWSP. Wind in its paragraph 14 “urges the Department to carefully consider strong protective measures that would prevent LWSPs from indirectly gaining access to set-aside spectrum and hence defeating the point of such set-aside. In light of Industry Canada’s approval of Rogers’ subordinated access to 20 MHz of AWS-1 set aside spectrum in Ottawa and the provinces of Quebec and Manitoba, TELUS would suggest that Industry Canada should not allow an operating new entrant privileged access to set aside spectrum at the reserve price to then subordinate it to an LWSP.

## 7.2 Tier Sizes

A2 - Industry Canada is seeking comments on its proposal to use Tier 2 licence areas for both the 15 + 15 MHz and 10 + 10 MHz blocks.
---

61. TELUS has above analysed in detail the need for pro-competitive measures and found that they are not necessary. But if Industry Canada still prefers to restrict access to a portion of

the AWS-3 band, and prefers not to use an auction cap despite all the good reasons to, then Industry Canada should only set aside 20 MHz and not 30 MHz.

62. TELUS supports Industry Canada's proposal to use Tier 2 licence areas for unrestricted spectrum. The unrestricted spectrum is expected to be acquired predominantly by LWSPs who all have either provincial or national scope making the use of Tier 2 licence areas the most logical.
63. TELUS does not support the proposal by SaskTel to run the boundary line between two very large tier 2 licences through the city of Lloydminster and notes that Industry Canada agreed in its January 2014 *Licensing Framework for Broadband Radio Service (BRS) — 2500 MHz Band (SLPB-001-14)*.
64. In paragraphs 32 and 33 of the *Licensing Framework for Broadband Radio Service (BRS) — 2500 MHz Band (SLPB-001-14)*, Industry Canada notes, "Redrawing the tier area boundary to follow the provincial border [through Lloydminster] could result in increased interference, reduced spectral efficiency and lower quality of service to subscribers. This goes against the principles of the tier areas and of keeping a contiguous economic area intact. Maintaining the current tier area structure would be consistent with all other spectrum auction processes undertaken since 1999, it would allow existing licensees serving the tier area to make use of their existing infrastructure to overlay the additional spectrum, and it would maintain a single licence area for the majority of the population in Lloydminster." In paragraph 36, Industry Canada concludes, "Industry Canada considers that the rationale for maintaining the deviation around provincial borders for the City of Lloydminster is valid."

## Part B – Conditions of Licence

### 9. Conditions of Licence

B1 – Industry Canada is seeking comments on its proposal to issue spectrum licences in the AWS-3 band with a 20-year licence term and the proposed wording of the condition of licence above.

65. TELUS supports the proposed 20 year licence term and associated COL wording.

B2 – Industry Canada is seeking comments on the proposed condition of licence related to transferability and divisibility and the proposed wording above.

66. TELUS understands that the proposed condition of licence related to transferability and divisibility is based on the requirements set out within *Client Procedures Circular CPC-2-1-23, Licensing Procedure for Spectrum Licences for Terrestrial Services*. TELUS agrees that CPC-2-1-23 sets out the applicable current procedure should a Licensee seek to transfer or divide an AWS-3 spectrum licence.

B3 – Industry Canada is seeking comments on the proposed deployment condition of licence as stated above.

67. TELUS supports the proposed deployment condition of licence as detailed in the consultation but suggests that neither the year 5 Tier 2 deployment requirements nor the year 10 Tier 3 deployment requirements are particularly onerous for an operator to fulfill.

68. TELUS recommends that consequences be established and imposed on those licensees who fail to fulfill the minimum Tier 3 deployment requirements by year ten of the licence as outlined in Table 3 of the consultation. It is proposed that failure to fulfill year 10 deployment requirements result in Industry Canada recalling the licence.

69. Spectrum is a scarce resource and imposing such consequences for failure to meet deployment requirements would help ensure that there is not a repeat of the AWS auction where significant set-aside spectrum holdings are still lying fallow and would be consistent with the Department’s “use it or lose it policy”.

70. While several respondents (Bell, Rogers, Wind, MTS) all supported the deployment requirements, several respondents (Xplornet, PIAC, SaskTel, McNally et al.) recommended more stringent deployment requirements. Only one respondent, Videotron seeks weaker deployment requirements. Videotron's recommendation for a two year extension to the five and ten year deployment requirements is based on the fact that some time will be required for an AWS-3 ecosystem to emerge. Given that the AWS-3 band is a simple extension of the AWS-1 ecosystem, TELUS contends that Videotron's stated concern is overblown and that what it really belies is Videotron's lack of need to hold / deploy this spectrum given (i) its limited subscriber base and significant spectrum portfolio, much of which lies fallow, and (ii) its network partnership. As delineated previously, no new entrant actually needs this AWS-3 spectrum.

#### **Appendix B Proposed COLs for AWS-3**

71. TELUS supports the proposed conditions of licence for *Eligibility, Radio Station Installations, Provision of Technical Information, Compliance with Legislation, Regulations and Other Obligations, Technical Considerations and International and Domestic Coordination, Lawful Interception, Mandatory Antenna Tower and Site Sharing, and Mandatory Roaming.*
72. With regard to the condition of licence Research and Development, TELUS recognizes that it was recently amended as noted in Industry Canada's Guidelines for Compliance with the Radio Authorization Condition of Licence Relating to Research and Development (GL-03). The key aspect of those amendments was that an exemption was granted to any licensee that has less than \$1 billion in annual gross revenues from the provision of wireless services in Canada, averaged over the term of the licence, from the requirement to invest 2 percent of its adjusted gross revenues resulting from the use of this licence, averaged over the term of the licence, in eligible research and development activities related to telecommunications.
73. As filed in its comments related to DGSO-004-12, TELUS has long held the view that the research and development condition of licence is antiquated and no longer necessary. Canada is a world leader in deployment of advanced wireless networks and customers in

Canada are massive consumers of wireless data, with extremely strong smartphone penetration. The benefits from the research and development condition of licence have long ago been realized. As a result, TELUS requests that this condition of licence be removed in its entirety, so that no licensee, no matter how much revenues it earns, is subject to this requirement.

74. With regard to the condition of licence *Annual Report*, TELUS supports the substance of the condition of licence. However, given its comments and recommendation to remove the *Research and Development* condition of licence, TELUS proposes that the *Annual Report* condition of licence be amended to remove the necessity to report on research and development activities.
75. With regard to the condition of licence *Amendments*, while TELUS respects the fact that the Department seeks to explicitly assert its discretion to update conditions of licence, TELUS would hope that in all but the most extreme cases, the Department would first consult licensees and industry before amending conditions of licence.

## Part C – Auction Format, Process and Rules

### 10. Auction Format

C1 – Industry Canada is seeking comments on the proposal to use the sealed-bid auction format for the AWS-3 auction.

76. Industry Canada proposes to use a sealed bid auction because (i) “there are no generic blocks available, so there is little benefit to running a CCA for this spectrum”, (ii) “although both CCA and SMRA formats provide stakeholders with the benefit of price discovery through the multiple rounds, these formats are more complex and time consuming for stakeholders” and (iii) “the use of a sealed-bid format allows the auction to take place in the spring of 2015 and the results to be known prior to the 2500 MHz auction.”
77. In fact, Industry Canada is proposing two distinct auctions and proposing to use the same format for both despite the stark difference between the two. One is by design, non-competitive, while the other, by design is excessively competitive. One, almost by definition would not involve any price discovery, regardless of the auction format and the other desperately requires price discovery to manage the significant exposure and knockout risks.
78. With respect to the auction of restricted AWS-3 spectrum, TELUS finds the proposed sealed bid format reasonable.
- a. The restricted spectrum does not need a CCA or SMRA because price discovery is not required as there would appear to be at most one bidder in each service area assuming that the in-distress Mobicility is unable to participate. Even if Mobicility did manage to participate, a sealed bid format would be adequate for the few service areas where there were two bidders.
  - b. A sealed bid auction for the restricted spectrum allows Industry Canada to get restricted AWS-3 spectrum assigned to operating entrants prior to the BRS

auction in April, 2015. While the AWS-3 equipment and device ecosystem will take some time to develop, this at least provides operating entrants with more information about their spectrum holdings going into the BRS auction.

79. In summary, for the restricted spectrum only, TELUS has extensively justified and as such strongly recommends that Industry Canada auction 20 MHz of spectrum in a single block (US Block J) to eligible operating entrants via a sealed bid auction in March, 2015. In other words, TELUS proposes that Industry Canada modify its proposals such that the restricted spectrum:

- a. be reduced to 20 MHz (critical);
- b. be located at US Block J (or at least not adjacent to Block F);

80. With respect to the auction of unrestricted AWS-3 spectrum, TELUS finds the proposed sealed bid format untenable.

- a. If the unrestricted spectrum is to be assigned as a single large block in each Tier 2 service area as proposed, a sealed bid auction would be very problematic for national LWSPs. Without the benefit of price discovery, the knock out risk<sup>33</sup> and exposure risk<sup>34</sup> in such a format would be unworkably inefficient with three to four strong players in each market each placing a sealed bid for a single licence per service area.
- b. If the unrestricted spectrum is to be assigned as multiple smaller blocks in each Tier 2 service area as TELUS proposes, then there *are* generic blocks and the features of a CCA such as package bidding, generic blocks, and price discovery are very important to LWSP bidders.

81. In summary, for the unrestricted spectrum, TELUS proposes that Industry Canada auction 30 MHz of spectrum in three generic blocks (US Blocks G, H, I) via Tier 2 service areas

---

<sup>33</sup> Knockout risk is the risk of winning no spectrum despite submitting competitive bids.

<sup>34</sup> Exposure Risk in this context is the risk of winning a portion but not all of the service areas in one's business plan.

to all comers via a CCA auction held in the late 2015 timeframe<sup>35</sup>. In other words, TELUS proposes that the unrestricted spectrum:

- a. be increased to 30 MHz (critical);
- b. include all restricted spectrum licences not acquired as part of the March 2015 restricted spectrum sealed bid auction ;
- c. be located at US Blocks G, H, I;
- d. be auctioned as three (or more<sup>36</sup>) generic blocks per Tier 2 licence area;
- e. be auctioned via CCA with guaranteed contiguity for any winner of multiple blocks in a service area and for AWS-1 incumbents holding the adjacent AWS-1 F Block; and
- f. Take place after the BRS auction as soon as is practical for Industry Canada but ideally in Q4 2015. (Presumably, no LWSP would be concerned about not being able to complete the auction of unrestricted AWS-3 spectrum in advance of the BRS auction which has been on the LWSP radar for many years.)

---

<sup>35</sup> Late 2015 is just a suggestion. Any other time that Industry Canada sees fit but presumably by the end of 2016 at the latest would be fine. Industry Canada might want to hold an additional brief follow up consultation for such an auction of unrestricted AWS-3 spectrum.

<sup>36</sup> There might be more than three blocks in a service area where no operating entrant bid on it such as in Saskatchewan or Manitoba where there currently is no operating entrant.

C2 – Industry Canada is seeking comments on its proposal to use a second-price rule for the AWS-3 auction.

82. TELUS supports the proposal to use a second-price rule for the AWS-3 auction.
83. Industry Canada in the consultation paragraph 84 explains, “a second-price rule requires each winning bidder to pay an amount that is sufficient to ensure that no other bidder, or group of bidders, was prepared to pay more than the winning bidder for the licence(s) in question”.

### **11.1 Affiliated and Associated Entities**

C4 – Industry Canada is seeking comments on the proposed Affiliated and Associated Entities rules that would apply to bidders in the AWS-3 auction.

84. TELUS supports the proposed Affiliated and Associated Entities rules that would apply to bidders in the AWS-3 auction.

### **11.3 Rules Prohibiting Collusion**

C5 – Industry Canada is seeking comments on the proposed rules prohibiting collusion that would apply to bidders in the AWS-3 auction.

85. Along with all but one other respondent, TELUS supports the proposed rules prohibiting collusion that would apply to bidders in the AWS-3 auction.
86. Rogers has alleged, in its initial response to this consultation and without a shred of evidence, that TELUS and Bell broke the rules prohibiting collusion in the 700 MHz auction. TELUS vehemently denies this baseless accusation.
87. TELUS confirms that it complied with the rules prohibiting collusion at all times, and that it fulfilled the requirements of its declaration filed as part of the 700 MHz spectrum auction process. That declaration certified that TELUS had not entered into and would not enter into any agreements with any competitor regarding any aspect of the bidding process. There was no agreement whatsoever with Bell in connection with the 700 MHz

spectrum auction. This is borne out by the 700 MHz spectrum results: TELUS ended up paying significantly more for 700 MHz spectrum than it would otherwise have paid, because of bids tendered by Bell.

88. In any event, although Rogers recommends Industry Canada make changes to the rules to make them tighter, Rogers fails to specify what these proposed changes might be.

## 12. Opening Bids

C6 – Industry Canada is seeking comments on the proposed opening bids as presented in Table 4.

89. TELUS notes that the proposed opening bids as presented in Table 4 are substantially lower than the reserve price set for the FCC's November 2014 AWS-3 auction. Several other respondents to the consultation – typically those that are not new entrants - have also noted that the opening bids are very low.
90. If Industry Canada auctions set aside spectrum via sealed bid with second price, then TELUS would support Industry Canada following the several recommendations made to adjust the opening bids upward because in this scenario, given the absence of competition for these blocks, Industry Canada is essentially setting the final price.
91. If Industry Canada accepts TELUS' primary auction format recommendation - a CCA with LWSP cap equivalent to a 20 MHz set aside - then TELUS would support Industry Canada following the several recommendations made to adjust the opening bids upward, but would caution Industry Canada not to take them so high as to eliminate the price discovery phase.
92. If Industry Canada accepts TELUS' fallback recommendation to use a sealed bid format in March 2015 for the operating entrants, but auction the unrestricted spectrum (including any unsold set aside spectrum) at some convenient date with an auction format providing price discovery and package bidding, then again TELUS would support Industry Canada following the several recommendations made to adjust the opening bids upward, but

would caution Industry Canada not to take them so high as to eliminate the price discovery phase of the auction of unrestricted spectrum.

### 13. Auction Process

C7 - Industry Canada is seeking comments on the proposed auction process for the AWS-3 auction.

93. TELUS primary recommendation is to abandon a set aside but achieve the same policy objectives of a 20 MHz set aside by implementing a 10 MHz LWSP cap and a CCA (or other auction involving price discovery and package bidding). The proposed auction process, except for sections 13.8 *Submission of Auction Bids* and 13.9 *Determination of Provisional Licence Winners* would still apply. Except for sections 13.8 *Submission of Auction Bids* and 13.9 *Determination of Provisional Licence Winners*, TELUS supports the proposed auction process as applied to a CCA auction with an auction cap.
94. In the case where Industry Canada maintains a set aside, TELUS supports the elements of the proposed auction process for the AWS-3 auction with the following qualification:
- a. TELUS supports the proposed auction process *as is* for the AWS-3 auction of restricted (set aside) spectrum;
  - b. Except for sections 13.8 *Submission of Auction Bids* and 13.9 *Determination of Provisional Licence Winners*, TELUS supports the proposed auction process *as is* for the AWS-3 auction of unrestricted spectrum. TELUS proposes that bids would be submitted as part of a CCA (or other auction involving both price discovery and package bidding).

### 15. Licence Renewal Process

C8 – Industry Canada is seeking comments on the proposed renewal process for spectrum licences in the AWS-3 band.

95. TELUS supports the proposed renewal process for spectrum licences in the AWS-3 band.
96. Given that AWS-3 spectrum is prime CMRS spectrum, TELUS trusts that Industry Canada will not wait until a year 18 renewal consultation process before acting upon a failure of a licensee to meet the deployment requirements.

## Part D – Other Considerations

### 16. Canadian Table of Frequency Allocations

D1 – Industry Canada is seeking comments on the proposed changes to the Canadian Table of Frequency Allocations for the AWS-3 band.

97. TELUS supports the proposed changes to the Canadian Table of Frequency Allocations for the AWS-3 band as do most respondents.

### 17. Incumbent Transition Plan

D2 – Industry Canada is seeking comments on the proposed transition plan for the existing licensees in the bands 1755-1780 MHz and 2155-2180 MHz.

98. TELUS supports the proposed transition plan for the existing licensees in the bands 1755-1780 MHz and 2155-2180 MHz as do most respondents.

### 19. Technical Rules

D3 – Industry Canada is seeking comments on its proposal to harmonize its technical rules for AWS-3, to the extent feasible, with the U.S. technical rules.

D4 – Industry Canada is seeking comments on the proposed technical rules in Annex D.

99. TELUS supports the proposal to harmonize Canada’s technical rules for AWS-3, to the extent feasible, with the U.S. technical rules as do most respondents.
100. TELUS supports the proposed technical rules in Annex D, with one minor revision and one proposed amendment.
101. Annex D describes “*an out-of-band (OOB) emission limit of  $43 + 10 \log_{10}(P)$  dB at the band edges, 1755 MHz, 1780 MHz, 2155 MHz and 2180 MHz.*” While this specification

seems to follow the intent of aligning with FCC rules, a more accurate requirement would be to require “an out-of-band (OOB) emission limit of  $43 + 10 \log_{10}(P)$  dB **at and beyond** the band edges, 1755 MHz, 1780 MHz, 2155 MHz and 2180 MHz.”

102. Additionally, the technical rule proposal in Annex D does not specify measurement bandwidth for out-of-band emissions. While TELUS expects that these minor technical details will be discussed during the follow-up definition of the RSS/SRSP standards for the band, it would be appropriate again to align both with the U.S. technical rules<sup>37</sup> and with Industry Canada’s RSS-139 for the AWS-1 band<sup>38</sup> by utilizing 1% of emission bandwidth within the first 1 MHz outside the operating frequency block, and 1 MHz bandwidth beyond the first 1 MHz outside the operating frequency block when measuring OOBE.

End of document

---

<sup>37</sup> FCC 14-31, Report and Order, GN Docket No. 13-185, *Amendment of the Commission’s Rules with Regard to Commercial Operations in the 1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz Bands*, March 31, 2014.

<sup>38</sup> RSS-139 — *Advanced Wireless Services Equipment Operating in the Bands 1710–1755 MHz and 2110–2155 MHz*, Issue 2, February 2009. (<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08887.html>)