

Reply Comments
of
TELUS Communications Company
To
Canada Gazette, Part I

Decisions on a Band Plan for Broadband
Radio Service (BRS) and
Consultation on a Policy and Technical Framework to
Licence Spectrum in the Band
2500-2690 MHz

SMSE-005-11

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Executive Summary

1. As TELUS highlighted in its comments dated April 19, 2011, since the release of DGTP-002-06 — *Policy Provisions for the Band 2500-2690 MHz to Facilitate Future Mobile Service, March 30, 2006 (DGTP-002-06)* it has been the stated policy and intent of the Department to claw back one third of the spectrum held by fixed service MCS and MDS licence holders and to subsequently auction that spectrum and unassigned spectrum for mobile services. The band incumbents currently occupy the vast majority of the remaining spectrum and are able to transition to mobile at their convenience.
2. Nonetheless three¹ of the four band incumbent respondents failed to acknowledge the claw back policy or its intents as they declared their strong need to re-acquire the clawed back spectrum in the subsequent upcoming auction. That clearly was not the intent of the Department in DGTP-002-06. There is clearly no policy rationale that would justify allowing band incumbents that literally control all the 2500-2690 MHz spectrum to re-acquire the clawed back spectrum in a subsequent auction to pre-claw back levels.
3. In order to ensure that entry is permitted in this band as intended by the Department and based on the recommendations of other parties in their comments, TELUS is modifying its opening round position to support a spectrum cap of 40 MHz total FDD / TDD spectrum in the band for all bidders, including incumbents.
4. TELUS maintains as it did in its original submission that if the Department were to set a band cap², it must apply to all participants. In other words, if band entrants were to be capped, incumbents could not further exceed such a cap, recognizing that some band incumbents may already be grandfathered³ at a higher level as a result of the 2006 policy.
5. The 2500 MHz auction policy is the first chance for the Department to facilitate entry into this band now held almost exclusively by Rogers and Bell⁴. The challenge for the Department will be to balance a reliance on market forces in the auctioning of the unassigned portions of this band with the intent of the 2006 policy of clawing back for

¹ Rogers, SaskTel and SSI in their submissions in paragraphs 7, 17 and 32 respectively.

² TELUS maintained in its original submission that if band incumbents were allowed to bid in the 2500 MHz auction, then they must be capped at no more than 60 MHz and band entrants must be capped at no less than 40 MHz.

³ In this respect, for clarity, TELUS is not proposing that what by policy has already been grandfathered be clawed back further.

⁴ TELUS supported the 2006 policy at the time and still does today. The context of the 2006 decision was that Bell and Rogers were seeking approval for the Inukshuk License Transfer involving 98 MHz of near national and fallow MCS spectrum earmarked for mobile conversion. The 2006 policy had the effect of creating significant synergies in the consolidation of MCS and MDS licences in any region and hence laid the ground work for the Inukshuk acquisitions of very small operators Look Communications, Craig Wireless, and YourLink.

entry by re-farming and auctioning a portion of the allocated spectrum in the band for new entrants (including TELUS who has demonstrated an immediate need for access to it.) All parties have provided evidence of the importance of the 2500 MHz band. For its part, TELUS has described at length the state of competition in the wireless industry in Canada and hence the need (or lack thereof) for intervention in its initial response and reply comments to the 700 MHz consultation (SMSE-018-10) and does not repeat them here, other than to reiterate that mobile data usage continues to grow exponentially and strain TELUS' network in particular as the evidence shows.

6. TELUS believes that its proposals meet the various policy goals set by the Department, both in 2006 and subsequent decisions, and provide band entrants with an opportunity to acquire sufficient 2500 MHz spectrum, while also providing an opportunity for band incumbents to round out their dominant grandfathered 2500 MHz holdings to the same level as band entrants in the auction. TELUS' proposals are minimally intrusive and will ensure that all participants will have a reasonable opportunity to acquire sufficient spectrum in order to satisfy existing and foreseeable demand.
7. Reflecting upon the 15 submissions in response to SMSE-005-11, TELUS now maintains that a 40 MHz cap is in fact the best measure to deal with the unique situation whereby one party holds 95% of all spectrum allocated to date in the band.
8. TELUS believes that a band cap represents the fairest tool to allocate the clawback and residual 2500 MHz spectrum given the vast new mobile holdings the fixed service licence holders automatically gained upon the transition to mobile. TELUS believes that there should be a band cap and it should be 40 MHz and should apply to both paired (FDD) and unpaired (TDD) spectrum in combination. While current BRS licence holders holdings would be grandfathered above this cap in some locations prior to auction, all⁵ band incumbents would be otherwise subject⁶ to this 40 MHz combined FDD / TDD aggregation limit.
9. TELUS supports a band cap as opposed to a set aside to address the unique situation in the 2500 MHz band in terms of the grandfathered and granted mobile spectrum of Inukshuk and SaskTel. A band cap, as opposed to a set aside, does not enable the asymmetrical gaming opportunities that in large part led in the 2008 AWS set aside

⁵ The only exception would be that TELUS has no issue with a unique treatment and solution in Nunavut given the unique circumstances faced by SSI.

⁶ This would have the effect of limiting SaskTel to bidding outside of Saskatchewan and would have the effect of potentially allowing the parties to a dissolved Inukshuk JV to be able to add 10 MHz in Regions A & C on top of their individual 32.5 MHz holdings.

auction⁷ to a world record auction length and the first ever, for Canada, incidence of spectrum prices being higher (three times higher in fact) than equivalent U.S. spectrum.

10. TELUS submits that the Department should organize and implement the auction of the spectrum in the 2500 MHz band as follows:
 - a. The Department should set a band cap of 40 MHz (of FDD and/or TDD combined) that applies to all participants nationally, with the exception that some band incumbents will already be grandfathered at a higher level as a result of the 2006 policy.
 - b. FDD spectrum at auction should be uniformly licensed in blocks of 5+5 MHz to maximize bidder flexibility.
 - c. TDD spectrum should be auctioned in blocks of 10 MHz⁸.
 - d. Nationally, all or most of the six paired 5 + 5 MHz blocks in the national clawback band should be auctioned at the Tier 2 level.
 - e. In the applicable parts of Regions A & C, namely Alberta, Manitoba and Atlantic Canada, all or most of the additional four paired 5 + 5 MHz blocks and the two unpaired 10 MHz blocks should be auctioned at the Tier 2 level.
 - f. In the non-applicable parts of Regions A & C, namely BC, Southern Ontario and Southern Quebec, the additional four paired 5 + 5 MHz blocks and the two unpaired 10 MHz blocks must necessarily be auctioned at the Tier 3 level.
 - g. The auction of BRS spectrum should take place either before or concurrently with the 700 MHz auction and both auctions should take place as soon as the Department is able to hold them, preferably in the first half of 2012.

⁷ If the Department *ever* implemented another set aside, the spectrum should be auctioned in two separate auctions that should be run in quick succession and not in parallel with cross bidding.

⁸ The “outer” 10 MHz TDD block would include a 5MHz guard band (i.e., restricted spectrum).

3. Spectrum Packaging for Licensing

3.2 Block Sizes

1-1 Should the block sizes be uniform in size?

a. If uniform size is preferred, what size should be considered?

b. If a mix of block sizes is preferred, what combinations and arrangements should be considered?

Paired (FDD) Spectrum Blocks

11. TELUS remains of the belief that the paired spectrum blocks should be of uniform size and that the size should be 5 MHz + 5 MHz. As the Department notes in the Consultation document the recently developed technologies for the 2500 MHz band are based on bandwidths that are multiples of 5 MHz. By choosing a basic block of 5 MHz + 5 MHz the Department is maximizing the number of blocks on offer and allowing buyers the maximum flexibility. Those parties seeking larger blocks can seek to aggregate blocks as required by their respective business plans.
12. Table 1 shows, in Region B covering 63% of Canada, the number of blocks at auction for the various paired block sizes proposed and the number of respondents supporting each block size. Of course the number of blocks represents the maximum number of winners.

Table 1 – Summary of Proposed FDD Block Sizes

FDD	Number of blocks in Region B	Respondents supporting	
5 + 5 MHz	6	8	TELUS, Bell, Rogers, SaskTel, SSI, Niagara Networks, Huawei, RABC
10 + 10 MHz	3	5	MTS, Videotron, Shaw, Eastlink, Barrett
15 + 15 MHz	2	1	Public Mobile
30 + 30 MHz	1	1	RIM

13. TELUS notes that more than half of the respondents to the consultation (8 of 15) proposed 5 + 5 MHz blocks while 5 respondents proposed 10 + 10 MHz blocks⁹. One party suggested 15 + 15 MHz blocks¹⁰ and one party suggested 30 + 30 MHz blocks¹¹. Given such response data, it would appear that the Department should look at either 5 + 5 MHz blocks or 10 + 10 MHz blocks which are supported by 13 of 15 respondents. TELUS recommends 5 + 5 MHz blocks as providing more flexibility and potentially more spectrum winners.

Unpaired (TDD) Spectrum Blocks

14. TELUS also remains of the belief that the unpaired spectrum blocks should be of uniform size and that the size should be 10 MHz (or 15 MHz in the case where the block includes a 5 MHz piece of the “restricted bands”¹².)
15. TDD spectrum is only available at auction in Regions A & C covering 37% of Canada. Table 2 shows the number of blocks at auction for the various TDD block sizes proposed and the number of respondents supporting each block size.

Table 2 – Summary of Proposed TDD Block Sizes

TDD	Maximum number of winners in Region A & C	Respondents supporting	
5 MHz	4	3	Rogers, SaskTel, Niagara Networks
10 MHz	2	7	TELUS, Bell, MTS, SSI, Barrett, Huawei, RABC
20 MHz	1	4	Videotron, Public Mobile, Shaw, Eastlink

⁹ Videotron noted that Ofcom was proposing 10 + 10 MHz blocks for its 140 MHz of virgin FDD spectrum that it was auctioning. Given there is only 60 MHz of FDD spectrum available in 60% of Canada, the Ofcom comparison is not directly applicable because of the significant difference in quantity of spectrum available at auction.

¹⁰ Public Mobile proposed 15 + 15 MHz blocks which, as part of its 50 MHz cap, resulted, in Region B, in a 30 MHz FDD cap.

¹¹ RIM’s proposal is presumably geared to supporting ultra high bandwidth devices but effectively results in one winner in Region B.

¹² TELUS believes that given the Department’s Decision 1-5 in section 1.9 of SMSE-005-11, the “restricted bands” at 2570-2575 MHz and 2615-2620 MHz, wherever currently unlicensed (i.e., in Regions A and C), should be auctioned as part of the adjacent TDD blocks above 2575 MHz and below 2615 MHz respectively. TELUS agrees with the Department’s decision that operation in these 5 MHz “restricted bands” be subject to the constraints described in Decision 1-5 of section 1.9 and that these “restricted band” (i.e., guard band) portions of the band plan should be assigned to TDD operators. As long as TDD operation does not inhibit FDD applications within the FDD portion of the band, then TDD systems should be permitted to operate within the restricted (guard) band. Evolution of technology may allow improved radio isolation or commercial deployment of low power indoor solutions to maximize utilization of the TDD spectrum in these restricted bands.

16. TELUS notes that half of the respondents to this item in the consultation (7 of 14) proposed 10 MHz blocks while 4 respondents proposed 20 MHz blocks. Three parties suggested 5 MHz blocks. Given such response data, it would appear that the Department should look at either 10 MHz blocks or 20 MHz blocks which are supported by 11 of 14 respondents. TELUS recommends 10 MHz blocks as providing the best “bidding fit” with TELUS’ recommendation of 5 + 5 MHz FDD blocks.
17. TELUS notes there is a connection between the FDD and the TDD block sizes when it comes to band caps. If there was a band cap and if it applied to FDD and TDD spectrum in combination, it would help the bid mechanics if the sum of the pairs equalled the TDD block size such that they were substitutes at auction. In other words, an FDD block size of 5 + 5 MHz would work well with a TDD block size of 10 MHz in the case of a combined cap. A 10 + 10 MHz FDD block size would work well with a 20 MHz TDD block.

1-2 In the specific geographic regions discussed above and shown in Appendix A, which block size option(s) should be adopted and why is this option(s) preferred over the other options? Should the combinations and arrangements of block sizes be the same or different in different areas? Provide supporting rationale.

Provide comments separately for paired and unpaired spectrum blocks.

18. TELUS recommends that for all paired spectrum nationally, the Department adopt the basic building block outlined above, i.e., 5 MHz + 5 MHz. The technologies developed for this band are built on 5 MHz increments. This block size provides bidders the most flexibility at auction.
19. TELUS recommends that for unpaired (TDD) spectrum the Department adopt the block sizes outlined above, i.e., 10 MHz blocks in Regions A & C¹³. (There is no TDD at auction in Region B.) 10 MHz TDD blocks fit well at auction with 5 + 5 MHz FDD blocks.

¹³ Since there is only 25 MHz of TDD available for auction in Regions A and C, then this results in one “central” 10 MHz block of TDD spectrum and one “outer” block of 10 MHz plus 5 MHz of restricted spectrum (i.e., 15 MHz) in each of Regions A and C. Specifically in Region A, there would be one block covering 2595 – 2605 MHz (the central block of 10 MHz) and 2605 – 2620 MHz (the outer block which includes 5 MHz of restricted spectrum). Specifically in Region C, there would be one block covering 2570 – 2585 MHz (the outer block which includes 5 MHz of restricted spectrum) and 2585 – 2595 MHz (the central block of 10 MHz)

3.3 Tier Sizes for BRS Spectrum

2-1 *The Department seeks comments on whether the licensing of 2500 MHz spectrum should be based on uniform tier sizes across all spectrum blocks, or on a mixture of tier sizes.*

20. TELUS remains of the belief that the Department should implement Tier 2 service areas for much of the spectrum but TELUS recognizes that the Department must implement some Tier 3 service areas¹⁴ in at least BC, Southern Ontario and Southern Quebec due to the nature of the incumbent holdings.
21. Table 3 shows the number of service areas that would be implemented at auction for the various tiering schemes proposed and the number of respondents supporting each general proposal type.

Table 3 – Summary of Proposed Tier Sizes

	Number of Service Areas	Respondents supporting	
Mostly Tier 2, Some Tier 3	59 or less	5	TELUS, MTS, Videotron, Public Mobile, Shaw
All Tier 3	59	5	Rogers, Bell, SaskTel, Eastlink, RABC
Some Tier 2, Some Tier 3, Some Tier 4	Up to 172	1	Niagara Networks
All Tier 4	172	1	SSi
Other	172 Custom	1	Barrett

22. TELUS notes that over three quarters of the respondents to this item in the consultation (10 of 13) proposed a mix of Tier 2 and 3 service areas or all Tier 3 services areas. Three parties suggested implementations involving Tier 4 service areas¹⁵ and one of these parties¹⁶ also recommended subdividing Tier 4 service areas. Given these responses, it would appear that the Department should look at either a mix of Tier 2 and 3 service areas or all Tier 3 services areas as these two options were supported by 10 of 13

¹⁴ Unassigned spectrum must necessarily be packaged at the Tier 3 level within any Tier 2 service area with less than all the Tier 3 licences allocated. This is the case in BC, Southern Ontario and Southern Quebec.

¹⁵ The Department in DGSO-001-10 Section 5.2 announced its decision to convert eligible licence holders and in some cases licence applicants, at a Tier 3 level. Thus in TELUS' view, the Department has de facto rejected Tier 4 as an appropriate tier for the 2500 MHz band as it transitions to mobile use.

¹⁶ Barrett suggested that the Department subdivide Tier 4 service areas and create more service areas in Canada.

respondents. TELUS has no issue with either a mix of Tier 2 and 3 service areas or all Tier 3 services areas but recommends a mix of Tier 2 and 3 service areas to support the stated preference of a majority of the band entrants that this residual auction is directed toward. TELUS does not support Tier 4 service areas nor subdivided Tier 4 service areas for the auction of residual 2500 MHz spectrum.

23. Tier 2 licences are desirable for the following reasons:
 - a. they recognize that many bidders (TELUS, MTS, Shaw, Videotron, Public Mobile, etc.) are looking to build on their existing Tier 2 licences while minimizing licence aggregation risk;
 - b. they ensure that bidders interested in an entire Tier 2 area get contiguous spectrum versus potentially piecemeal frequency blocks; and
 - c. MCS spectrum, the asset that has given Inukshuk near national mobile spectrum coverage in the 2500 MHz band, was and is licensed on a Tier 2 basis.
24. TELUS' position on tiering has evolved somewhat since TELUS' initial submission. Tiering has been a significant factor in U.S. SMRA auctions in terms of price differences between equivalent spectrum tiered differently. More sophisticated auction formats claim to allow the band plan to essentially be developed by the bidders based on the auction's optimization algorithms. In the absence of any certainty over specific auction formats, an all Tier 3 approach would provide the best block substitutability¹⁷ (ease of shifting blocks). A predominantly Tier 2 approach would minimize aggregation risk for parties seeking Tier 2 blocks.
25. As such, TELUS is now of the view that the Department should not as TELUS initially proposed auction spectrum in generally equal parts at Tier 2 and Tier 3. The Department should either (i) auction spectrum predominantly at Tier 2 wherever Tier 2 service areas are possible¹⁸ and at Tier 3 only where necessary (in order to minimize aggregation risk) or (ii) simply auction all spectrum in Tier 3 service areas (in order to minimize block switching risk).
26. Approach (i) is TELUS' recommendation and approach (ii) is TELUS' fallback position. TELUS notes that approach (i) above was recommended by Videotron as well as presumably MTS and Shaw who both proposed that all spectrum be auctioned at the Tier

¹⁷ versus the case of being committed one way or another to a Tier 2 or the equivalent Tier 3's – whereby a bidder typically has to use a withdrawal to switch bid plans

¹⁸ Tier 2 service areas are possible in the entire national clawback band and throughout Alberta, Manitoba and Atlantic Canada.

2 level (without noting that some spectrum must be auctioned at the Tier 3 level given the nature of incumbent holdings.)

2-2 Based on your answer above, if a uniform tier size is preferred, what tier size should be adopted? If a mixture of tiers is preferred, please indicate the proposed tier(s) for each spectrum block.

Provide supporting arguments for your responses to the above questions.

27. As outlined above in approach (i) which is slightly updated from TELUS' proposal in its initial comments, TELUS proposes using Tier 2 blocks wherever feasible and Tier 3 blocks wherever necessary. Specifically this entails that:
- a. nationally, all or most of the six paired 5 + 5 MHz blocks in the national clawback band should be auctioned at the Tier 2 level;
 - b. in the applicable parts of Regions A & C, namely Alberta, Manitoba and Atlantic Canada, all or most of the additional four paired 5 + 5 MHz blocks and the two unpaired 10 MHz blocks should be auctioned at the Tier 2 level; and
 - c. in the non-applicable parts of Regions A & C, namely BC, Southern Ontario and Southern Quebec, the additional four paired 5 + 5 MHz blocks and the two unpaired 10 MHz blocks must necessarily be auctioned at the Tier 3 level.

4. Promoting Competition

3-1 If the Department determines that there is a need for measures to promote competition in the wireless services market, which of the above mechanisms would be most appropriate in the 2500 MHz band and why should this mechanism be considered over the other? Comments should also indicate if further restrictions should apply.

28. TELUS described at length the state of competition in the wireless industry in Canada and hence the need (or lack thereof) for intervention in its initial response and reply comments to the 700 MHz consultation (SMSE-018-10).
29. In its response to this consultation, TELUS submitted empirical evidence of spectrum need in the Canadian industry demonstrating that TELUS needs more than three times the spectrum of the party next most in need. Through the 700 consultation rounds and the first round of this consultation, no party has challenged this empirical evidence or, more importantly, the resulting conclusions.
30. For clarity, TELUS repeats its needs analysis summary table below. Table 4 indicates how much additional spectrum each operator would need (both in terms of total MHz-pops and in terms of average spectrum depth across their existing spectrum footprints in MHz) in order to achieve at year end 2015 the same spectrum utilization ratio as Canadian spectrum leader Rogers (i.e., 24 customers per 10,000 MHz-pops)¹⁹. This table does not suggest that Rogers does not need additional spectrum, but simply how much each other operator would need²⁰ to catch up to Rogers on a subscriber per MHz-pop basis.

¹⁹ The full analysis that builds up to the data in Table 4 can be found in TELUS' reply comments to SMSE-018-10 paragraphs 75 – 101 found at: [http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/smse-018-10-telus-reply.pdf/\\$FILE/smse-018-10-telus-reply.pdf](http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/smse-018-10-telus-reply.pdf/$FILE/smse-018-10-telus-reply.pdf)

²⁰ Operators in Canada have far less spectrum than Rogers with 150 MHz nationally and more than 4.5 billion MHz-pops. TELUS determined what additional spectrum each operator in Canada would need to reach the same amount of spectrum per customer as Rogers. We looked at this at year end 2010, year end 2012 and year end 2015 based on TD Newcrest operator subscriber forecasts (only year end 2015 shown in Table 4). Table 4 shows that based on a policy appropriate needs analysis basis, on the basis that Rogers has enough spectrum through 2015, then no 2008 entrant needs more than about 10 MHz more spectrum from both the 700 and 2500 MHz auctions to see them through the next five years while TELUS needs 60 MHz.

Table 4 – Year End 2015 Spectrum Need, quantity and average depth across spectrum footprint

Operator	Year End 2015 Spectrum Need to achieve Rogers’ Utilization	
	Quantity Needed (millions of MHz-pops)	Average Depth Needed across spectrum footprint (MHz)
TELUS	1830	61
Bell	492	18
Wind	227	10
Mobilicity	169	10
MTS	133	119
Shaw	113	12
SaskTel	94	97
Videotron	82	6
EastLink	49	10
Rogers	0	0
Public Mobile	-27	-2

31. Despite the various statements of other parties to this consultation in support of their claims to need 2500 MHz spectrum, there is a dearth of evidence to support these claims.
- a. Rogers suggests that it needs to unilaterally support using 2500 MHz spectrum 40 + 40 MHz channels for LTE- Advanced at some time in the future and therefore should be able to bid for and win 40 MHz of the 60 MHz of spectrum that was clawed back in Region B and implies therefore that the entire balance of the industry should survive, in Region B, on the remaining 20 MHz. Clearly this is unreasonable and contrary to the policy pronouncements for the band.
 - b. Shaw who has not yet launched service years after acquiring its AWS spectrum, suggests that 2500 spectrum should be used to “level the playing field” between mobile incumbents and 2008 entrants. While Shaw ignores the reality of TELUS’ demonstrated need, they inadvertently reinforce the lack of need for high band for capacity on the part of 2008 entrants when they note that 2008 entrants have only 1 - 2% market share but 15% spectrum share. Shaw also conveniently ignores the vast difference in holdings between TELUS and Rogers / Bell by focusing on the aggregate 85% of all mobile spectrum allocated to date being in the hands of Rogers, Bell and TELUS and glossing over the fact that Rogers and

Bell in sum hold 70% of all mobile spectrum allocated and TELUS holds only 15%, despite supporting a customer base of the same order of magnitude. Shaw also alludes to “the significant ESMR holdings of TELUS” without, obviously, doing any due diligence²¹.

- c. Many 2008 entrants in their submission continue to call spectrum a barrier to entry when they all now have spectrum. While 700 MHz spectrum could perhaps be construed as a barrier to entry in lower density regions, 2500 MHz spectrum could only be called a barrier to *capacity* and is certainly not a barrier to entry for 2008 entrants. None of the 2008 entrants try to make the futile case that they are capacity constrained. Shaw (in their paragraph 8) claims that their QSI report suggests that the pressure on spectrum resources is not just on incumbents. However, the referenced QSI report appears to make no such claim, let alone try to justify it.
 - d. MTS repeatedly notes in their submission the need for more competition in Manitoba, especially in rural areas in Manitoba. This is wholly inconsistent with their actions in terms of denying TELUS roaming for its Winnipeg customers in rural Manitoba on anything approaching commercial terms. MTS claims that ensuring that they secure more spectrum in Manitoba will somehow increase the level of competition in Manitoba. MTS of course fails to demonstrate this unique proposition.
32. The 2008 AWS set aside has resulted in the competitive entry the government sought. 2500 MHz auction policy can only have the effect of enhancing the competitive dynamic vis a vis the 2008 entrants *if* any of the 2008 entrants were or were soon to be spectrum constrained. Conversely, 2500 MHz auction policy has little or no effect on the competitive dynamic in the industry if the 2008 entrants are not spectrum constrained.
33. 2008 entrants have not demonstrated any short-term requirement for high band capacity beyond current their AWS holdings²². Capacity constraints would be even less of concern for 2008 entrants if consolidation amongst them occurs as predicted. In fact some in-market 2008 entrants did not even file first round comments in this proceeding.
34. Given the above, including TELUS’ demonstrable near term need for significant additional spectrum to manage the mobile data demands of its 7 million customers, TELUS submits

²¹ See TELUS’ reply comments to SMSE-018-10 paragraph 67b found at: [http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/smse-018-10-telus-reply.pdf/\\$FILE/smse-018-10-telus-reply.pdf](http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/smse-018-10-telus-reply.pdf/$FILE/smse-018-10-telus-reply.pdf)

²² The evidence demonstrates that no 2008 entrant needs more than about 10 MHz from the 700 and 2500 MHz auctions through 2015, while TELUS requires 60 MHz.

that the Department need not take any specific measures to favour some band entrants over others.

35. But the Department must take specific measures to ensure that the 2500 MHz band is not re-monopolized by band incumbents. The Department must do this while ensuring that band entrants are not disadvantaged. TELUS maintains as it did in its original submission that if the Department sets a band cap²³, it must apply to all participants. In other words, if band entrants were to be capped, incumbents could not further exceed such a cap, recognizing that some band incumbents may already be grandfathered²⁴ at a higher level as a result of the 2006 policy.
36. TELUS remains of the strong opinion that the net effect of the decisions in DGTP-002-06, DGSO-001-10, and SMSE-005-11 is that no band entrant shall be capped below 40 MHz. After deciding in SMSE-005-11 that fixed service licence holders should be granted 40 MHz²⁵ of FDD in both the MCS and MDS portions of the band (and thus 80 MHz of FDD for Inukshuk in the majority of the country), it would be patently unfair of the Department to proceed to cap band entrants at auction below what these fixed service licence holders (some holding licences for only a few months before conversion) were granted as a mobile windfall.
37. Reflecting upon the 15 submissions in response to SMSE-005-11, TELUS now maintains that a 40 MHz cap is in fact the best measure to deal with the unique situation in the 2500 MHz leftovers auction whereby one party holds 95% of the spectrum allocated to date in the band. Before elaborating, we present in Table 5 below, a summary of the band caps proposed.

²³ TELUS maintained in its original submission that if band incumbents were allowed to participate in the 2500 MHz leftovers auction, then they must be capped at no more than 60 MHz and band entrants must be capped at no less than 40 MHz.

²⁴ In this respect, for clarity, TELUS is not proposing that what by policy has already been grandfathered be clawed back further.

²⁵ Especially since the policy outlined in DGTP-002-06 decreed that they were to be granted exactly 33 MHz of FDD spectrum.

Table 5 – Summary of Proposed Band Caps

Cap	Minimum number of winners		Respondents supporting	
	Region B	Region A & C		
30 MHz Combined	2	4	1	Barrett
40 MHz Combined	2	3	2	MTS, Shaw
40 MHz FDD	2	3	1	Videotron
40 MHz to 60 MHz	1 - 2	2 – 3	1	TELUS
50 MHz Combined	2	3	1	Public Mobile
No Cap	1	1	4	Rogers, Bell, SaskTel, SSI

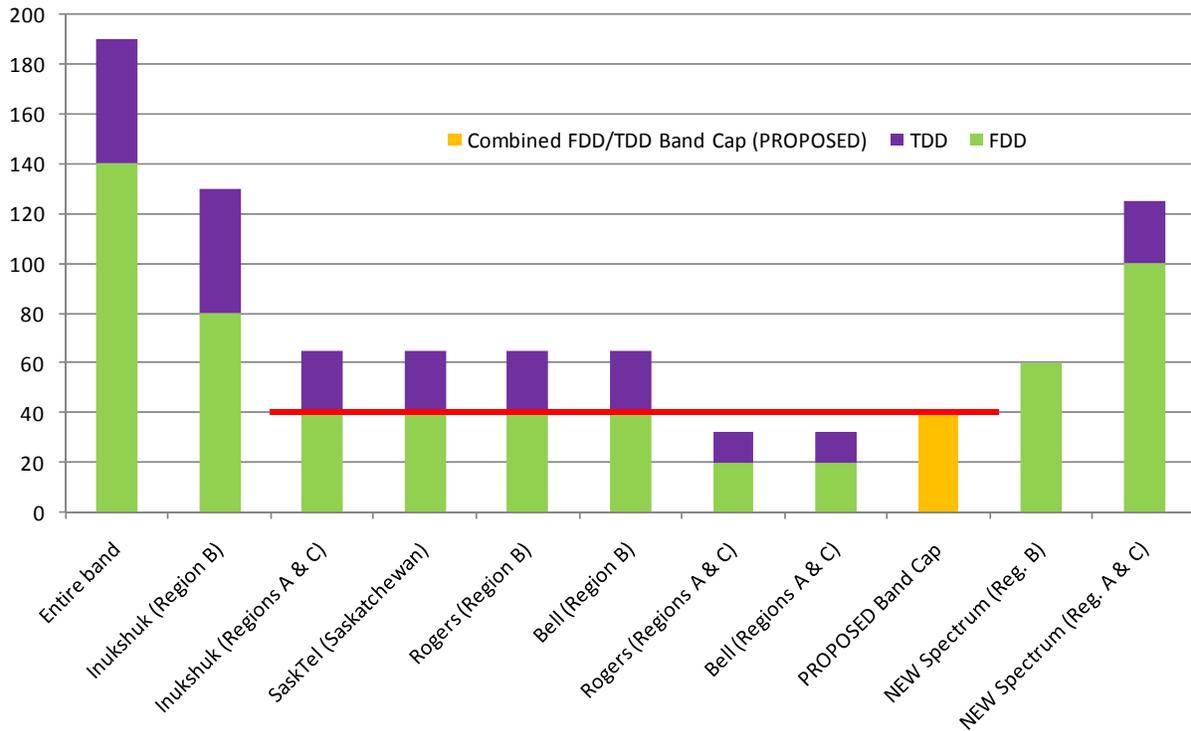
38. Three parties called for intervention other than band caps.
- a. Barrett called for a rural set aside using non-standard service areas on top of the band cap it proposed.
 - b. Eastlink advocated for Bell and Rogers to be barred from the auction and for 67% of all spectrum to be set aside for operators with less than 10% market share – essentially squeezing out TELUS from effectively bidding, even though TELUS has relied on the 2500 MHz policy of 2006, has no spectrum in the band, and has provided clear evidence of a capacity need. We note that Eastlink advocates for such a set aside even though it has yet to deploy any spectrum acquired in 2008.
 - c. Niagara Networks called for an open auction after barring Rogers, Bell and TELUS from the auction. In the case of TELUS, Niagara Networks does not want TELUS to bid because they allege that TELUS may share any spectrum TELUS acquires with Bell. TELUS notes that Bell has had spectrum in this band since 2005 and owns this spectrum jointly with Rogers, not TELUS and has deployed network assets in this band jointly with Rogers, not TELUS. Niagara Networks’ rationale for barring TELUS is based on some fictional view of the facts and law. Without belabouring the point, Bell and TELUS are **not** affiliates (which would be exceedingly obvious to even the most casual observer) nor do they have any agreement with respect to acquiring either 700 or 2500 MHz spectrum, nor do Bell and TELUS have any agreement with respect to post-auction market structure for either 700 or 2500 MHz spectrum.
39. TELUS notes that several respondents that meet the 2008 definition of a new entrant admitted to the Department that a set aside was not appropriate. Only two respondents,

neither operating facilities in the mobile industry, Eastlink and Niagara Networks, suggested in the initial round of comments that a wide scale set aside was needed. Several 2008 entrants did not submit comments in the initial round. TELUS concludes from this that the 2008 entrants have no real and immediate need for 2500 MHz spectrum (other than for regulatory gaming purposes) and therefore TELUS strongly recommends that the Department reject any set aside given the distortions that they cause and have caused. In the event that the Department were to consider a set aside, it should not consider implementing one that would serve to exclude TELUS.

40. While TELUS appreciates Barrett's intent to ensure reasonable access to spectrum at auction via a band cap, TELUS does not support Barrett's call for a 30 MHz combined (FDD & TDD) band cap because it structurally advantages Rogers, Bell and SaskTel who were granted 40 MHz of FDD spectrum and 25 MHz of TDD spectrum. For this reason, TELUS cannot support a band cap of less than 40 MHz. MTS and Shaw recommend a 40 MHz combined band cap and TELUS supports such a cap.
41. Videotron advocates a 40 MHz FDD cap. Because in most of the auction (Region B) there is only FDD spectrum available, Videotron's proposal is precisely equivalent to the MTS and Shaw proposals of a 40 MHz combined band cap. However, in Regions A & C, the two proposals would have a different effect. Videotron's proposal acts like a 60 MHz combined cap. TELUS has some sympathy for this view and held this view within our realm of possibilities in our initial response, but on balance TELUS now believes that a 40 MHz combined band cap is better for the industry in terms of more winners.
42. While Public Mobile advocates a 50 MHz combined cap, this is misleading in the critical Region B covering 63% of Canada. Because Public calls for 15 + 15 blocks in the national clawback band, i.e., two 30 MHz FDD lots at auction in Region B, Public appears to actually be advocating a 30 MHz FDD cap in Region B because buying both the two 15 + 15 MHz blocks would put a bidder offside at 60 MHz. For the same reasons as discussed above regarding Barrett's suggested 30 MHz cap, TELUS cannot support Public's suggested cap because it structurally advantages Rogers, Bell and SaskTel.
43. Figure 1 below provides a chart view of the pertinent numbers to consider in developing a band cap for the 2500 MHz band. For completeness, the chart below includes a view of Bell and Rogers separately from Inukshuk to account for the possibility that the Inukshuk JV splits up.²⁶

²⁶ Rogers' submission implies an Inukshuk break up is a possibility when it repeatedly alludes to its separate share of the Inukshuk spectrum assets. Further, Rogers and Bell individually filed an initial response to SMSE-005-11 but Inukshuk did not, despite its past practice of doing so and vested interest in doing so.

Figure 1 – Summary of Holdings and Spectrum for Auction (MHz)



44. The Department should not implement any framework that deliberately or otherwise advantages one or more parties at the expense of others. A poorly designed band cap, or worst of all a set aside could very easily do this with grave consequences. For its part, TELUS strongly urges the Department, through whatever measures it implements, to not inadvertently bar TELUS from seeking to acquire the spectrum it demonstrably needs. TELUS' record of service provision and investment has earned it the right to have the same opportunity to enter this band as other operators.

4.1 Spectrum Aggregation Limits and Spectrum Set-Asides

In light of your response above, and recognizing that pending decisions on block sizes and tier sizes could influence your response:

3-2 (a) If the Department were to implement spectrum aggregation limits (caps), should a cap apply to the 2500 MHz band?

45. TELUS does not believe that the Department should implement spectrum aggregation limits generally across all mobile bands but rather, in general, rely on market forces and an open auction process to allocate this scarce resource. However, given the extremely

unique ownership structure for the 2500 MHz band in Canada, TELUS believes that a 2500 MHz band cap represents the fairest tool to allocate the 2500 MHz clawback and residual bands given the vast new mobile holdings the incumbent fixed service licence holders automatically gained upon the transition to mobile.

**3-2 (b) If a cap is necessary:
What should be the size of the cap and should this be specific to either the paired and/or unpaired spectrum bands?**

46. TELUS' position on the specifics of a band cap in the 2500 MHz band has changed slightly since the initial submission. TELUS has refined its band cap view. Where initially TELUS postulated a band cap in the range of 40 – 60 MHz but not with the FDD and TDD combined, TELUS now specifically recommends a band cap of 40 MHz of FDD / TDD combined.
47. TELUS would oppose any cap that applied to TELUS that was less than 40 MHz. It would provide an unjustified advantage to incumbent fixed service licence holders who already hold at least 40 MHz of FDD spectrum.
48. TELUS believes that a band cap represents the fairest tool to allocate the residual 2500 MHz spectrum given the vast new mobile holdings of the fixed service licence holders. TELUS believes that there should be a band cap and it should be 40 MHz and should apply to both paired and unpaired spectrum in combination. While current BRS licence holders holdings would be grandfathered prior to auction, all²⁷ band incumbents would be subject²⁸ to this 40 MHz combined FDD / TDD aggregation limit.

Should bidders and their affiliates or associates share the cap?

49. If there were a cap imposed in the 2500 MHz band spectrum auction then bidders and their affiliates or associates should share the cap in terms of the cumulative amount of 2500 MHz spectrum they can own. This is consistent with Industry Canada's spectrum auction practice in all other past spectrum auctions conducted by the Department.
50. Specifically, TELUS thinks it is reasonable to ensure any cap applies to all companies under the same corporate umbrella and all companies that identify themselves as "associated

²⁷ The only exception would be that TELUS has no issue with a unique treatment and solution in Nunavut given the unique circumstances faced by SSi.

²⁸ This would have the effect of limiting SaskTel to bidding outside of Saskatchewan and would have the effect of potentially allowing the parties to a dissolved Inukshuk JV to be able to add 10 MHz in Regions A & C on top of their individual 32.5 MHz holdings.

entities” for the purposes of bidding in the 2500 MHz auction such as, for example, those parties joined in a legal joint venture with joint ownership of 2500 MHz spectrum. The issue is whether the cumulative amount of spectrum held by associated entities would exceed the band cap.

51. In those instances where a prospective bidder may have a roaming agreement or other network access arrangement with another prospective bidder, we submit that this in and of itself should not be considered an “association” for the purposes of the 2500 MHz auction. Indeed, Industry Canada has mandated roaming arrangements among cellular, PCS and AWS licensees and that was certainly not required with a view to disqualifying separate participation by those licensees in future spectrum auctions. Simply because roaming or other network access arrangements may currently exist between prospective bidders in connection with networks operating on spectrum that has already been licensed does not mean that those arrangements extend to 2500 MHz spectrum. In the past, Industry Canada has defined “associated entities” clearly in the context of spectrum to be auctioned; relating to the acquisition of the licences being auctioned or relating to the post-auction market structure for the licences being auctioned. Industry Canada should assume that each prospective bidder can participate separately in the 2500 MHz auction unless any such bidder declares associated entity status pursuant to the auction rules. The operation of the cap and the definition of “associated entities” should not seek to prohibit roaming or other network access arrangements that reduce costs and speed up deployment of services to consumers. Rather the cap and the definition of “associated entities” should operate to prohibit evasion and avoidance of the policy rationale that is the foundation for imposing the cap in the first place.

How long should the cap remain in effect?

52. TELUS believes that for grandfathered incumbent fixed service licence holders, any cap should remain in effect for some significant amount of time, and at a minimum two years. Further the Department must review any subsequent acquisition in order to prevent any re-monopolization of the band after the auction of returned and unassigned spectrum.
53. Given the limited amount of spectrum available to band entrants in the 2500 MHz spectrum auction, band entrants should be able to consolidate at any time after the end of the spectrum auction. In other words, since no entrant will hold as much as has been grandfathered to band incumbents, any cap on band entrants at auction should be dissolved after the auction ends.

If the Department were to implement a set-aside in the 2500 MHz auction:

Who should be entitled to bid in the set-aside block(s), and should the entitled bidders be restricted to bidding on the set-aside only?

54. A clawback is a set aside by definition since the intent of the clawback is to facilitate band entry. As discussed below, TELUS now advocates a cap rather than any set aside.
55. TELUS supports a band cap as opposed to a set aside to address the unique situation in the 2500 MHz band in terms of the grandfathered and granted mobile spectrum of Inukshuk and SaskTel. A band cap does not enable the asymmetrical gaming opportunities that led in the 2008 AWS set aside auction²⁹ to a world record auction length and the first ever, for Canada, incidence of spectrum prices being higher (three times higher in fact) than equivalent U.S. spectrum. In the case of a band cap, questions like “should the entitled bidders be restricted to bidding on the set-aside only?” are not required.

How much spectrum should be set-aside and which block(s) should be set-aside?

56. TELUS supports a band cap as opposed to a set aside and therefore no blocks should be set aside.

If the set-aside were to include multiple blocks of spectrum, should these blocks be contiguous?

57. TELUS supports a band cap as opposed to a set aside to address the unique situation in the 2500 MHz band in terms of the grandfathered and granted mobile spectrum of predominantly Inukshuk and SaskTel. A band cap does not enable the asymmetrical gaming opportunities that a set aside does.

What restrictions should be put in place to ensure that policy objectives are met (for example, should trading of the set-aside be restricted for a given time period?)

58. TELUS supports a band cap as opposed to a set aside to address the unique situation in the 2500 MHz band in terms of the grandfathered and granted mobile spectrum of Inukshuk and SaskTel. A band cap does not enable the asymmetrical gaming opportunities that a set aside does.

²⁹ If the Department ever implemented another set aside, the spectrum should be auctioned in two separate auctions that should be run in quick succession and not in parallel with cross bidding.

3-3 Are there other mechanisms that should be considered in the 2500 MHz band to promote competition? If so, how should such mechanisms be applied in this band?

59. TELUS has no other mechanisms to suggest at this time other than a reliance on market forces to the greatest extent possible.

3-4 The Government of Canada has undertaken a consultation on potential changes to the foreign investment restrictions that apply to the telecommunications sector. How would the adoption of any of the proposed changes affect your responses to the questions above? Please provide supporting evidence and rational for all responses.

60. TELUS reiterates that it believes in open markets and fully supports the symmetrical opening up of the Canadian telecom market to unlimited foreign direct investment (FDI). If this were to happen it would not change any arguments in TELUS's response.

61. An asymmetrical relaxation of limits on FDI would advantage entrants and disadvantage incumbents, would benefit foreign shareholders at the expense of Canadian shareholders, and would incent spectrum licence trafficking without actually delivering most of the suggested benefits of scale, etc. associated with truly opening up the Canadian market fully. An asymmetrical approach ignores the digital divide and the great need for capital investment in rural broadband as entrants are fully supported by the current regulatory regime to simply "cream skim" in urban markets. It would also cost jobs and R&D funding by Canadian owned incumbents due to the likelihood that larger foreign entrants could erode their market in a preferential fashion. TELUS supports real FDI reform intended to deliver the benefits of liberalization to all Canadians, not measures to enrich one small class of foreign shareholder.

4.2 Promoting Service Deployment in Rural Areas

4-1 *Comments are sought on specific measures that could be adopted within the 2500 MHz spectrum auction process to ensure further deployment of BRS in rural and remote areas (e.g. roll-out conditions, tier structures, etc.).*

62. TELUS reiterates that Canada’s broadband footprint continues to grow but the economics of providing broadband service in unserved and underserved rural and remote areas are still very poor given the limited scale achievable due to the very limited number of potential subscribers in any given area.
63. While there will be applications for BRS spectrum in rural and remote areas, they will be somewhat limited and secondary to the application of, for instance, 700 MHz spectrum, a band for which TELUS recommends aggressive roll-out conditions.
64. TELUS remains of the belief that the Department should implement the same standard roll-out conditions for BRS spectrum as those used by the Department for other high band mobile spectrum such as PCS and AWS spectrum – coverage of 50% of the pops in a given licence area within 5 years of licence issue – in order to promote service deployment in rural areas.
65. Table 6 shows the various measures proposed and the number of respondents supporting each general proposal type of the 9 respondents who addressed this question.

Table 6 – Summary of Proposed Measures to Promote Rural Service Deployment

Measures to Promote Rural Deployment	Respondents supporting	
Rural Set Aside + Roll-out Conditions: 50% within 3 Years	1	Barrett
Rural Resale + Roll-out Conditions: Unspecified % within 5 Years	1	SaskTel
Roll-out Conditions: 50% within 5 Years	3	TELUS, Videotron, Rogers
No Specific Measures	2	MTS, Bell
Subsidies	2	SSi, Shaw

66. TELUS notes that a majority of respondents proposing measures to promote rural service deployment called for roll-out conditions and of these, all but one respondent called for the same 5 year requirement used for similar PCS and AWS spectrum.

67. SSi and Shaw recommended subsidies to promote rural service deployment. TELUS contends that any such subsidies should be dealt with at the industry level by the Department or CRTC and not specifically as part of 2500 MHz band policy.
68. TELUS does not support rural resale as proposed by SaskTel, nor does TELUS support mandated resale in general. Mandated resale serves to diminish the incentive to compete on a facilities-based basis and in itself would do nothing to promote rural service deployment.
69. Moreover resale is a mechanism that has been introduced primarily in the wireline market where fixed capacity can be expanded by the addition of more cable or fibre facilities. That is not the case in the context of spectrum where increasing the number of providers using spectrum where it is not possible to equally expand supply will only lead to spectrum exhaust and quality problems, even in rural areas.
70. TELUS has recommended a mix of Tier 2 and 3 licences for the auction of 2500 MHz spectrum. It is important that the Department not chop up rural service areas too finely as this creates a risk of national or provincial providers not having full coverage. It is also spectrally inefficient as the requirements for guard bands, or special coordination procedures, along coverage borders between operators would increase exponentially if the Department used Tier 4 service areas. TELUS notes that the Department chose not to transition MDS site licences to BRS licences at the Tier 4 level for similar reasons. TELUS does not support Tier 4 service areas (or modified Tier 4 service areas) and does not support a rural set aside.

5. Auction Timing

5-1. The Department is considering three options to proceed with the 700 MHz and 2500 MHz bands auction processes:

Option 1: to conduct an auction for licences in the 700 MHz band first, followed by an auction for licences in the 2500 MHz band approximately one year later;

Option 2: to conduct an auction for licences in the 2500 MHz band first, followed by an auction for licences in the 700 MHz band approximately one year later;

Option 3: to conduct one combined auction for licences in both the 700 MHz and 2500 MHz bands, which would be six months later than the first auction in the case of separate auctions.

Industry Canada is seeking views on the merits or disadvantages of proceeding with each of the various options stated above. The Department seeks to understand the magnitude of interdependencies between the two bands from a business/operational perspective.

Specifically, comments are sought as to the extent spectrum in these bands is interchangeable or complementary from both a technological and a strategic perspective. In addition, views on the business and financial capabilities of participating in a joint auction for both bands are sought. Comments should include the rationale for selecting one option rather than another.

71. In TELUS' response to the present consultation TELUS outlined in detail why we consider that the 2500 MHz spectrum auction should be held first but also called for the Department to move expeditiously to bring both the 700 MHz and 2.5 GHz bands to market. If a combined spectrum auction is the faster way forward then TELUS recommends that a combined auction be held as soon as the Department is able to hold it, preferably in the first half of 2012.
72. TELUS notes that there is near industry-wide support for the Department to accelerate the auction timing given the capacity issues both being experienced and forecasted. While much of this support was expressed in the 700 MHz SMSE-018-10 consultation the rationale applies to both bands due to their complementary nature, the one required more for coverage and the other more for capacity. TELUS further notes that of the four parties commenting on the timing issue in the Response phase of this consultation all four supported a combined auction.
73. TELUS is puzzled as to the rationale for waiting a year between auctions if separate auctions are held. This is much too long. If the delay is a matter of logistics then this reinforces the combined auction approach. If the delay is due to any other reason, then TELUS submits that those reasons need to be re-examined with a view to accelerating the process. There is nothing to be gained from an arbitrary delay in putting the spectrum in both bands into use in the provision of 4G broadband services to Canadians.

Conclusion

74. TELUS submits that the Department should organize and implement the auction of the spectrum in the 2500 MHz band as follows:
- a. The Department should set a band cap of 40 MHz (of FDD and/or TDD combined) that applies to all participants nationally, with the exception that some band incumbents will already be grandfathered at a higher level as a result of the 2006 policy.
 - b. FDD spectrum at auction should be uniformly licensed in blocks of 5+5 MHz to maximize bidder flexibility.
 - c. TDD spectrum should be auctioned in blocks of 10 MHz³⁰.
 - d. Nationally, all or most of the six paired 5 + 5 MHz blocks in the national clawback band should be auctioned at the Tier 2 level.
 - e. In the applicable parts of Regions A & C, namely Alberta, Manitoba and Atlantic Canada, all or most of the additional four paired 5 + 5 MHz blocks and the two unpaired 10 MHz blocks should be auctioned at the Tier 2 level.
 - f. In the non-applicable parts of Regions A & C, namely BC, Southern Ontario and Southern Quebec, the additional four paired 5 + 5 MHz blocks and the two unpaired 10 MHz blocks must necessarily be auctioned at the Tier 3 level.
 - g. The auction of BRS spectrum should take place either before or concurrently with the 700 MHz auction and both auctions should take place as soon as the Department is able to hold them, preferably in the first half of 2012.

³⁰ The “outer” 10 MHz TDD block would include a 5MHz guard band (i.e., restricted spectrum).