TELUS COMMUNICATIONS COMPANY

Reply Comments for

CONSULTATION on a NEW LICENSING FRAMEWORK and LICENCE RENEWAL PROCESS for the 24, 28 and 38 GHz BANDS

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Executive Summary

1. TELUS appreciates the opportunity to provide its reply comments having reviewed the submissions received by the Department.

2. As the Department notes, while some technology has been deployed today in the 24, 28, and 38 GHz bands, the utilization level is well below that hoped for by the industry. This low degree of utilization is linked to the lack of development of mature technologies supporting these long dormant bands. The technology will continue to mature and evolve to support existing applications such as fixed wireless access service and to potentially play a key role in enabling high density mobile networks (e.g., as fixed service for backhaul). Technology development and maturation in these bands will be accelerated by a licensing framework with the right cost incentives as well as the flexibility to support various business models. The environmental conditions today are not barriers to operator deployments as suggested by other respondents but improvements to the current framework could enhance the development of the consultation bands for broadband applications.

3. To support the Spectrum Policy Framework of Canada (SPFC) core policy objective “to maximize the economic and social benefits that Canadians derive from the use of spectrum”, TELUS reiterates the three key characteristics that should be in place in the licensing framework for the 24, 28 and 38 GHz bands:

   a. Clear and flexible exclusive area-based licensing mechanisms to encourage rapid development and deployment of new technologies;

   b. Few or no restrictions on topology; and

   c. A low fee structure to enable a variety of service models

4. Within the Department’s current licensing framework for the bands, TELUS again strongly supports exclusive area-based licensing elements such as Tier 3 service area licences and grid-based licensed spectrum and believes these should be carried forward as the principal form of licence in the bands. Area-based licensing of these bands, whether Tier 3, Tier 4, or grid based, coupled with exclusive use within the licensed area is critical
to efficient development and deployment of networks in these bands. TELUS notes that our position aligns with both Rogers and Terago, who do not support a requirement for individual radio licenses as the primary framework for licensing FCFS spectrum, irrespective of the consultation bands or the licence application type. TELUS sees no rationale for this unnecessary process overhead on industry and the Department, except perhaps in the future in the most oversubscribed grids, and on an exception basis. In those exceptional cases, TELUS would seek clarification regarding how coordination would work with existing users licensed by area and new users licensed by link.

5. A topology neutral approach to the band would facilitate the widest opportunity for services and operators. Area based licensing on an exclusive basis is also a key enabler of opening the full bands to point-to-multipoint and other topologies. Link based radio licensing complicates opening the full bands to point-to-multipoint and other topologies due to the friction in terms of interference management that it introduces. TELUS strongly recommends exclusive area-based licensing to support operator flexibility and efficiency, except potentially, on an exception basis, to address excess demand in top urban grids.

6. TELUS remains of the view that the licence fees in the bands remain too high, as TELUS expressed in DGRB-004-09 in 2009. TELUS contends that the low level of deployment suggests that the fee structure is still not appropriate for service development today. Lower fees would help enable operators with various business models to make use of the band. TELUS remains of the view (as expressed in SMSE-018-12 in 2013) that the Department should revisit its microwave fee regime in order to better encourage efficient use of spectrum and foster network deployment. TELUS notes that while the Department has suggested it may look at fees, it would be outside of this specific consultation.

7. In summary, TELUS supports all the various forms of exclusive area-based licensing for all parts of the three bands and strongly encourages the Department continue to use such forms of exclusive area-based licensing (such as Tier 3 and 4 service areas and exclusive grid-based licensing) for the bands going forward, rather than adopting the radio licence
based approach proposed in the Consultation. TELUS views exclusive area-based licensing as essential in fostering deployment in the bands.

**TELUS’ Reply to Specific Questions Posed by Industry Canada**

9. **New Licensing Process for Available Spectrum in the 24, 28 and 38 GHz Bands**

8. As previously noted, the Department’s proposals in 1, 3, 4, 5 and 7 (which TELUS has labelled below Q1, Q3, Q4, Q5 and Q7 to distinguish them from our paragraph numbers) seek to migrate the licensing of all new network deployment in the bands down to individual radio links with licences issued on a per-site basis, described by the Department as ‘radio licences’. TELUS notes only MTS marked a general support of the Department’s proposal for FCFS radio licences, but only as applied to unauctioned spectrum. While some other respondents support the Department’s overall intent in releasing more spectrum, there was no clear support of the specific radio licence scheme nor its benefits.

9. TELUS notes also that both Rogers and Terago reject the notion of a radio licence scheme with a very similar rationale as TELUS; i.e., that radio licensing is operationally inefficient and does not foster innovation in these bands. While there is no consistent area licence size for the 24, 28, and 38 GHz bands, the Department could consider Tier 4 service areas for parts of the band. A framework employing exclusive grid based area licensing would also enable highly focused licensing in a geographic domain while still providing operators with frequency exclusivity in a given area to materially simplify deployment and operations. TELUS proposes that the Department implements exclusive grid based licensing in the context of efficiency and fostering innovation in these bands.

10. TELUS notes that several respondents (Wind, Terago, Rogers) have indicated concern with the current licence fee regime for microwave links. Terago further asserts ‘radio licensing into any of these bands will cause unreasonably high fees’, which TELUS echoes as an ongoing concern with the Department’s treatment of fixed microwave radio licences generally, and specifically with the intended treatment of 24, 28, and 38 GHz.
TELUS urges the Department to consider modernizing the fee structure in a timely consultation to facilitate the development of these bands.

**Q1. Industry Canada invites comments on the proposal to licence any available spectrum in the auctioned 24 GHz and 38 GHz bands, specifically 24.25-24.45 GHz, 25.05-25.25 GHz, 38.70-39.10 GHz and 39.40-39.80 GHz, as FCFS radio licences.**

11. TELUS does not support this proposal in its entirety.

12. TELUS reiterates its support for a FCFS process for any available spectrum in the auctioned 24 GHz and 38 GHz bands, noting varying levels of support of FCFS as an acceptable framework in responses from Rogers, Terago, MTS, WIND, and to some extent, MSI. TELUS notes that no respondents offered explicit support for a per-site radio licence scheme, but highlights several rejections of the notion as mentioned in paragraph 9.

13. TELUS supports exclusive area-based licensing to eliminate most inter-operator interference issues.

14. In the most oversubscribed grids, and only on an exception basis, TELUS supports the proposal to license available spectrum as radio licences.

**Q2. Industry Canada invites comments on issuing radio licences based on the SRSP defined channel sizes (SRSP 324.25 and SRSP 338.6).**

15. TELUS reiterates its support for the current channel spacing for 24 and 38 GHz under the existing SRSP. TELUS notes that respondents, Videotron and i-NetLink, support contiguous channel assignments as a means of enabling new capabilities for the development of broadband. TELUS echoes the suggestion for contiguous spectrum and the benefits of developing broadband.
Q3. Industry Canada invites comments on the proposal to licence any new FCFS systems within the 38.6-38.7 GHz, 39.1-39.4 GHz, and 39.8-40 GHz frequency ranges as radio licences.

16. TELUS does not support this proposal in its entirety.

17. TELUS supports an FCFS process for any available spectrum in the non-auctioned 38 GHz band (as is the status quo).

18. As noted, TELUS supports exclusive area-based licensing to eliminate most inter-operator interference issues (as is the status quo).

19. In the most oversubscribed grids, and only on an exception basis, TELUS supports the proposal to license any new FCFS systems in the non-auctioned 38 GHz band as radio licences. TELUS would also seek clarification regarding how coordination would work with existing users licensed by area and new users licensed by link.

Q4. Industry Canada invites comments on the proposal to continue to provide applicable licensees with the opportunity to renew 38 GHz spectrum licences annually (in the bands 38.6-38.7 GHz, 39.1-39.4 GHz, and 39.8-40 GHz). It is proposed that existing radio stations operated by these licensees will require no further radio licences but any new stations or modification of an existing station require a radio licence.

20. TELUS does not support this proposal in its entirety.

21. TELUS supports the annual renewal of eligible spectrum licences in the non-auctioned 38 GHz band (as is the status quo).

22. TELUS supports the proposal that existing radio stations operated by these licensees will require no further radio licences (as is the status quo).

23. TELUS does not support the proposal that new stations or modifications to existing stations in the non-auctioned 38 GHz band require radio licences.
24. As noted, TELUS supports exclusive area-based licensing to eliminate most inter-operator interference issues. New stations or modifications to existing stations within an existing exclusive area-based licence should not require radio licences.

25. New stations in a new licence area should be licensed via exclusive area-based licences, typically grid based licences, or perhaps Tier 4 licences.

26. In the most oversubscribed grids, and only on an exception basis, TELUS supports the proposal to license any new FCFS systems in the non-auctioned 38 GHz band as radio licences. TELUS would also seek clarification regarding how coordination would work with existing users licensed by area and new users licensed by link.

Q5. Industry Canada invites comments on the proposal to issue radio licences for all links in the 28 GHz band (25.25-26.5 GHz and 27.5-28.35 GHz).

27. TELUS does not support this proposal in its entirety.

28. TELUS supports an FCFS process for any available spectrum in the 28 GHz band (as is the status quo).

29. As noted, TELUS supports exclusive grid-based licensing to eliminate most inter-operator interference issues (as is the status quo).

30. In the most oversubscribed grids, and only on an exception basis, TELUS supports the proposal to license the 28 GHz band as radio licences.

Q6. Industry Canada invites comments on the proposal that point-to-point and/or point-to-multipoint use be permitted within the frequency ranges 38.6-38.7 GHz, 39.1-39.4 GHz, and 39.8-40 GHz.

31. TELUS supports this proposal and notes that most respondents have no specific opposition to the frequency ranges being used for point-to-multipoint (PTMP). Only Terago indicates a rejection of PTMP in the 38 GHz band due to ‘the short propagation’ and the ‘limited availability of PTMP radio equipment’ but has no fundamental rejection
of PTMP. TELUS further notes that Terago immediately supports PTMP in the 28 GHz band supported by an area based licensing scheme, and generally supports PTMP and PTP authorizations within the 24, 28, and 38 GHz bands of the consultation. TELUS is encouraged that PTMP is not broadly considered an impediment to existing PTP deployments and is worth further consideration by the Department in the proposed 38 GHz band.

32. As noted, TELUS supports exclusive area-based licensing to eliminate most inter-operator interference issues. With exclusive area-based licensing, licensees should be free to deploy any network topology they desire.

Q7. Industry Canada invites comments on the proposal that the licensing of point-to-multipoint systems be based on a central hub, with the use of one common transmitting frequency and one common receiving frequency. Any additional transmitting and receiving frequencies used by the hub will be issued as separate radio licences.

33. TELUS does not support this proposal.

34. As noted, TELUS supports exclusive area-based licensing to eliminate most inter-operator interference issues.

35. In the most oversubscribed grids, and only on an exception basis, TELUS supports the proposed licensing of point-to-multipoint systems.

10. Renewal of Existing Auctioned 24 and 38 GHz Licences

Q8. Industry Canada invites comments on the proposal to make available new Tier 3 spectrum licences for a 10-year term for the licences in the previously auctioned 24 and 38 GHz bands that have met their conditions of licence and that those that have not met all conditions of licence as set out in the document, would not be eligible under the renewal process.

36. TELUS is supportive of the Department’s intent to improve the development and utilization of these bands while maintaining the integrity of its spectrum policy. TELUS notes that there are respondents, such as MTS, Videotron, Terago, Javelin, and MSI, who
have requested essentially a full extension of their licences, including licence areas where they have demonstrated zero deployment. TELUS reiterates its previous position on supporting flexibility to recognize licensees’ partial deployments on the basis of specific licences; however, that flexibility should not be extended to apply to the licensee’s entire holdings.

37. TELUS rejects Videotron’s notion of a licence extension based upon ‘demonstrating serious intention and real capacity to use the frequencies in question’ [note: our English translation] as contrary and intractable to the Department’s intended spectrum management policy. The Department clearly has already accommodated licensees with a lengthy 5 year extension in March 2009 to account for equipment and technological development. An additional extension is unwarranted at this time where equipment and technological development has enabled the industry to demonstrate deployments in both the FCFS 38 GHz and 24 GHz bands.

38. Secondly, TELUS rejects the notion offered by MTS, Javelin, and to some extent MSI that the expenditure during the auction and the lack of economic opportunity is sufficient justification to further extend the licences. An additional extension is unwarranted at this time where equipment and technological development has enabled the industry to demonstrate deployments in both the FCFS 38 GHz and 24 GHz bands.

39. TELUS supports the proposal to make available new Tier 3 spectrum licences for a 10-year term for the licences in the previously auctioned 24 and 38 GHz bands that have met their conditions of licence.

40. TELUS proposes that those licensees that have not deployed in a licence area would not be eligible in that licence area under the renewal process.

41. TELUS proposes that those that have deployed network in a spectrum licence area but not to the recommended target level and have otherwise met all other conditions of licence, would be eligible under the renewal process for a renewal of a subdivided Tier 3 licence commensurate with the licensee’s deployment level. In other words, TELUS recommends that the Department renew a portion of the licence in recognition of the partial
deployment. Any licences or partial licences that have not met the condition of licence should be returned and opened to a market process by industry participants, with FCFS granting of licences as one potential option.

42. TELUS urges the Department to be proactive in making clear and expedient policy decisions regarding the assessment of conditions of licence as applied to the previously auctioned 24 and 38 GHz bands.

Q9. Industry Canada also invites comments on the proposed conditions of licence for the new spectrum licences as set out in Annex A.

43. With regards to Annex A, TELUS reiterates its position that the condition of licence for research and development is no longer necessary and should be removed.

44. Additionally, TELUS notes that several companies have expressed an indirect objection of the ‘eight links per one million population within a service area be the minimum indicator of usage acceptable to the Department’ as condition of licence when seeking a direct extension. TELUS notes that only Javelin rejects the requirement explicitly (amongst its other objections) as a rationale to have their licences extended.

45. TELUS supports the ‘eight links per one million population’ condition of licence, insomuch as TELUS proposes that licensee should be eligible for partial renewals of subdivided Tier 3 licences in a manner commensurate with the licensee’s deployment level in each Tier 3 licence area.

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