



Montreal, August 11th, 2017

(by email: ic.spectrumauctions-encheresdsuspectre.ic@canada.ca)

Senior Director
Spectrum Licensing and Policy Branch
Innovation, Science and Economic Development Canada
235 Queen Street
6th floor, East Tower
Ottawa, Ontario
K1A 0H5

**RE: Consultation on a Licensing Framework for Residual Spectrum Licences in the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz Bands
(Canada Gazette, Part I, Gazette Notice SLPB-003-17, posted on July 6, 2017)**

Dear Sir / Madam,

1. Ecotel Inc. ("Ecotel") is pleased to submit these comments to Canada's Minister of Innovation, Science and Economic Development in response to the Consultation on a Licensing Framework for Residual Spectrum Licences in the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz Bands.
2. Ecotel is a Canadian infrastructure based Mobile Network Operator (MNO) that is fully registered with the ITU, GSMA and CRTC bodies.
3. Ecotel's primary mission is to design, deploy and operate highly secured private LTE cellular networks targeted to mission critical and specialized industrial applications for the Oil, Mining and Utilities markets.
4. Autonomous Truck control system, PLC and SCADA Services, Sensors/Flow meters, real time monitoring and Trucks Collision avoidance systems are just a few of these mission critical applications which benefit from the superior and advanced robustness, security, reliability and performance provided by the LTE wireless technology.
5. In addition to our industrial focus, Ecotel also deploys and operates costs effective LTE cellular networks aimed at providing Data & Voice mobility services to remote & rural communities or enterprises.

ECOTEL

877-376-3776

MONTRÉAL - 2570 Letourneux, suite 3, Montréal, QC, H1V2P4

info@eco-tel.co

www.eco-tel.co

6. Ecotel is the licensee of PCS spectrum in the Province of Québec, and is currently deploying private LTE solution for industrial applications and will shortly offer public LTE coverage in unserved rural areas.
7. Ecotel is continuously seeking access to new spectrum and, in addition to existing spectrum licenses owned, Ecotel also negotiates spectrum subordination agreements with other carriers in different locations in Canada though so far with mixed success as detailed later in this submission.
8. As such, Ecotel is very pleased with the proposition to make available residual spectrum.
9. Below are specific answers from Ecotel to ISED's questions as per the Consultation on a Licensing Framework for Residual Spectrum Licences in the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz Bands.

Q1 — ISED is seeking comments on the choice of licences being made available through this licensing process:

a) are there other licences that should be made available in this licensing process; and

b) are there any of these licences that should not be included in this licensing process?

10. Ecotel is pleased with the choice of licenses being made available and will be an active player in the upcoming spectrum auctions if licensing areas are based on tier-4, as explained in our comments below.
11. For Q1 a), Ecotel do not believe other bands should be included in this licensing process at this time, though ISED should assess how 850 extended cellular band (3GPP band 26) formerly used by Telus iDEN services, could be eventually made available to carriers in specific areas through a subsequent process.
12. For Q1 b), There is already an important ecosystem that supports 700, 2500 and PCS bands. Solutions exist today, ready for deployment that Ecotel can use to provide services to mobile, IoT and industrial customers located in remote areas in Canada. These bands could be deployed in the short term. In the case of WCS 2300, there is an ecosystem currently developing and mainly triggered by AT&T in USA. Several device providers already support band 30 including Apple, Blackberry, HTC, Huawei, LG, Samsung and ZTE.

13. However, to our knowledge, there is no equipment ecosystem for the I-block 1670-1675. This block was proposed at 3GPP by Ligado several years ago to be combined with L-band but the project is on-hold since 2014. As a result, Ecotel believes the Department should not auction the I-block licenses until such time there is clarity on the ecosystem and the band plan.

Q2 — ISED is seeking comments on its proposals to:

- a) maintain the spectrum aggregation limits on the 700 MHz licences;**
- b) maintain the spectrum aggregation limits on the 2500 MHz licences including newly available 2585-2595 MHz licences; and**
- c) not impose competitive measures on other licences issued through this licensing process.**

14. Ecotel believes that maintaining spectrum aggregation limits will allow new players to enter the market and to offer innovative services among other things in the fields of remote and rural connectivity, fixed-wireless, internet of things and private industrial application networks. The residual spectrum has been unallocated for several years in some cases. Having new players with the opportunity to bid on these licenses at a fair price will certainly help putting the spectrum to the service of the Canadian population.

15. In addition to this, Ecotel requests that auctioned spectrum uses tier-4 licensing areas instead of tier-2 or tier-3, as explained in the next sections of our submission.

16. Ecotel supports the proposed rules related to spectrum aggregation with some additions. More specifically:

- a. For Q2 a), Ecotel agrees with the spectrum aggregation limits on the 700 MHz licenses.
- b. For Q2 b), Ecotel agrees with the spectrum aggregation limits on the 2500 MHz licenses including newly available 2585-2595 MHz licenses and requests that each tier-3 license area be divided into tier-4 areas.
- c. Ecotel believes additional measures should be added for PCS including splitting each tier-2 license into tier-4 licenses and reserving the PCS spectrum for new players that were not present during 2008 auctions since no Incumbents and New Entrants were interested in those licenses.

Q3 — ISED is seeking comments on:

- a) the likely timeframe for availability of equipment capable of providing access to licensed spectrum on an opportunistic basis;**
- b) licence terms;**
- c) the proposal to apply deployment levels to each of the licences as described in annex F; and**
- d) the proposed conditions of licence as outlined in annexes A through F.**

17. For Q3 a), Ecotel does not currently deploy such solutions as cognitive radios or dynamic spectrum access. Dynamic spectrum access is often not compatible with private networks not connected to a centralized database.

18. For Q3 b), Ecotel agrees with proposed terms.

19. For Q3 c), Ecotel noticed that section 12 of Appendix A refers to HSPA coverage as of March 2012 when it comes to rural deployment requirements. We are not sure how these requirements apply compared against Appendix F, but if the Department decides to keep them, the deployment conditions in Appendix A should rather refer to any existing mobile coverage whatever technology is used and as of today, not 2012.

20. Ecotel believes residual spectrum licenses should be auctioned on a per tier-4 basis. Ecotel understands that for a complete new spectrum auction, managing bid packages on a national basis with tier-4 licenses would certainly be very cumbersome, though AWS3 auctions in US have used with success licenses areas on the basis of the 734 Cellular Market Areas. However, with the limited amount of proposed residual spectrum, Ecotel believes using tier-4 license areas would be achievable in a sealed-bid process.

21. Tier-4 license areas would allow Ecotel and other small carriers to focus on specific markets where they want to offer service and not have to take an entire tier-2 or tier-3 to do so.

22. A good example of this is license area 3-44 Edmonton that comprises 7 tier-4 license areas with 4-141 Edmonton being the largest with 1.2 M population. Ecotel for instance would certainly be interested in the smaller tier-4 areas within 3-44 but not necessarily 4-141 Edmonton.

23. As it is today, Ecotel could never bid on a license area such as 3-44 because the cost of getting such a license with deployment conditions would never fit within Ecotel's business plan.

24. The same issue also applies for other tier-3 license areas that include bigger markets, denser population areas and, generally speaking because of that, where LTE networks are already deployed.
25. Of course, a tier-2 license area becomes even worse than a tier-3 license area in that regards for Ecotel.
26. Having tier-4 license areas would encourage smaller and potential niche carriers to obtain the spectrum they need in specific remote areas while letting the densest markets to bigger carriers where their business plans better suits the type of requirements for such bigger markets. It is clearly not Ecotel's interest to deploy and cover population in areas well served by other carriers.
27. As it is proposed for the moment, Ecotel would not be in a position to bid on tier-2 and tier-3 license areas. Should the Department decide to keep tier-2 and tier-3 license areas for the proposed residual spectrum, Ecotel strongly recommends that at minimum the Department include new deployment conditions per tier-4 license area and mandate subordination.
28. As per Appendix F, it is presently proposed that the 2500 band have tier-3 deployment conditions, and PCS-G and I-block have tier-2 deployment conditions. Ecotel is in disagreement with such deployment levels.
29. Ecotel believes that implementing new deployment license conditions on the basis of tier-4 would be an incentive for carriers to either deploy, enter into agreement for subordination or transfer parts or the entirety of a tier-4 license area for which they have no business plans or that would be too far away for them to efficiently support.
30. In addition to this, Ecotel is of the view that ISED should start contemplating additional license conditions to facilitate or mandate subordination agreements in locations where licensed spectrum is not put to use and even though the deployment condition within a license area is reached. In addition to our recommendations above, this would allow other entities to take advantage of the unused spectrum and offer LTE services to remote public and industrial customers.
31. Today, subordination arrangements are sometimes possible. In fact Ecotel was successful in implementing such arrangements with Rogers for specific remote locations in Quebec, Labrador and Nunavut.
32. However, this long process is not business-as-usual type of arrangements, not to say difficult or impossible with certain carriers. Ecotel made several other requests for subordination or transfer to incumbents and new entrants, only to receive denials.

33. We recently made requests to Bell and Wind (now Shaw) to have access through subordination or transfer PCS spectrum in Quebec that we know has never been used in the specific locations we are contemplating. This was refused without justification for Bell and we never received an answer from Wind.
34. We made other requests to other carriers that were also refused or left without answers.
35. Facing the difficulties of having access to spectrum in remote regions that we know remains unused and sometimes has never been put to use and will not be put to use in a foreseeable future, we believe spectrum subordination and spectrum transfer should be incentivized through the right license conditions or even mandated.
36. And one cannot assume that parties interested in serving unserved areas and that would like to access spectrum in order to offer services can participate in spectrum auctions with tier-2 and tier-3 licenses since these licenses extend way outside the specific regions they want to cover and current deployment levels would obliged them to cover urban markets that are not part of their business plans and that are served by Incumbents and New Entrants. If auctions were based on tier-4 license areas this would certainly be another story for Ecotel.
37. For Q3 d) Ecotel does not have other comments on the other proposed license conditions.

Q4 — ISED is seeking comments on its proposals:

- a) to use the sealed-bid auction format for the auction of residual licences, and
b) on the timelines set out in the Proposed Table of Key Dates***

38. For Q4 a), Ecotel agrees with the proposed auction format. We believe sealed-bid is the simplest and fastest way to put the residual spectrum to use for Canadians. CCA and SMRA auction formats are way too complex and time consuming when it comes to allocate the proposed residual spectrum.
39. For Q4 b), Ecotel also believes that the residual spectrum must be allocated as soon as possible and agrees with the proposed timelines.

Q5 — ISED is seeking comments on its proposal to include package bidding for 2500 MHz licences in the sealed bid auction format

40. Ecotel is comfortable with package bidding in general but disagrees with the proposed packages.

41. As mentioned earlier, Ecotel requests that license areas for residual spectrum auction be on the basis of tier-4 instead of tier-2 and tier-3.
42. We understand that by doing that, the number of bidding possibilities would increase. However this would be the only possibility for small carriers to bid on the spectrum they need to offer services in remote areas.
43. As a result of having additional possibilities in packages due to tier-4 licenses areas, license grouping should be reviewed to better reflect regional boundaries, for example per tier-3 grouping instead of tier-2 as proposed, when the number of possible bidding scenarios becomes too high. This would certainly be the case for the 2500 FDD licenses that are all within one group as per current proposition.
44. An additional result of having tier-4 licenses areas is that not only 2500 FDD and TDD would have bidding packages, but also PCS-G.

Q6 — ISED is seeking comments on its proposal to use a second-price rule for this auction and the Vickrey price determination mechanism

45. Ecotel agrees with the proposed mechanisms.

Q7 — ISED is seeking comments on the proposed opening bids as presented in tables 7, 8, 9 and 10

46. As discussed in previous paragraphs of the present submission, licenses should be offered on the basis of tier-4 areas, which, as a consequence would lower the entry price for Ecotel for license areas of interest. A quick internal analysis showed that the minimum bid price for Ecotel with tier-2 and tier-3 licenses would be more than 4 times what it would be with tier-4 licenses because of the implicit obligation with tier-2 and tier-3 licenses to bid on big markets which does not suit Ecotel's business plans.
47. Ecotel would then need to pay way more for markets that we do not need, and then seek to resell those specific markets after winning the licenses. This would be inefficient and create a financial risk Ecotel would not be in a position to take. As a result, Ecotel could not bid on the vast majority of the proposed licenses in 2500 and all of PCS-G licenses if tier-2 and tier-3 areas are kept.
48. As a consequence of using tier-4 licensing, opening bids for tier-4 areas would be accordingly adjusted and Ecotel would be in agreement with such an approach.

Q8 — ISED is seeking comments on its proposed rules regarding Affiliated and Associated Entities, which would apply to applicants and bidders in the upcoming auction of residual spectrum licences

49. Ecotel agrees with proposed rules regarding Affiliated and Associated Entities.

Q9 — ISED is seeking comments on the rules prohibiting collusion and other communication rules, which would apply to bidders in the upcoming auction of residual spectrum licences

50. Ecotel agrees with proposed rules.

Q10 — ISED is seeking comments on:

- a) the proposed auction process for the auction of residual licences;**
- b) the proposed use of Canada Post's ePost Connect services for auction applications, associated documentation and bid forms; and**
- c) section 8.12, the proposal to auction some or all of the frequency bands separately. Please include any preferences on the order of the bands.**

51. For Q10 a) and b), Ecotel agrees with the proposed auction process.

52. For Q10 c), Ecotel notes that in some cases, the same license area is present in more than one and that, as a result, there could be conflicting interest or difficult choices to make between one band or another.

53. For example, several licenses are showing up both in 2500 FDD and 2500 TDD. Or in 700, 2300 and 2500 TDD. Or with PCS G. In order for a bidder to get at least some spectrum in specific geographical areas, and assuming this bidder does not have a preference on one band over another, the bidder would have to bid at the same time on all bands covering the specific geographical area with a potential to win more than what is required and leading to inefficiencies in the distribution of spectrum between carriers.

54. In order to avoid this situation, Ecotel proposes to have 3 separate rounds of auctions. The first round would include 700, 2500 FDD and PCS-G bands. The second round would include 2300 only. Third round would include 2500 TDD only. As discussed previously, we do not believe I-block should be auctioned now.

55. Should ISED determine that having 3 rounds would be too long of a process, then Ecotel would propose at minimum 2 rounds as follows: The first round would include

700, 2500 FDD and PCS-G bands. The second round would include 2500 TDD and 2300.

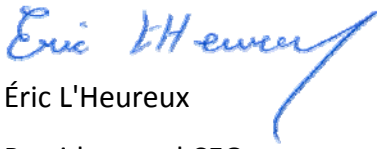
Q11 — ISED is seeking comments on the proposed renewal process.

56. Any unassigned spectrum after this upcoming residual spectrum auction should be made available on a first come, first served rule with the proper license fees regime.

57. Ecotel agrees with the remainder of proposed renewal process.

58. Ecotel thanks the Department for the opportunity to provide these comments.

Yours truly,



Éric L'Heureux

President and CEO