



June 29, 2017

Via Email: spectrumoperations-operationsduspectre.ic@canada.ca

Manager, Spectrum Operations
Innovation, Science and Economic Development Canada
300 Slater Street
Ottawa, Ontario
K1A 0L8

Re: Notice concerning an application (the "TSSI Application") received from TerreStar Solutions Inc. ("TSSI") for a Tier 1 spectrum licence for the use of 1695-1710 MHz frequency band and 1910-1915/1995-2000 MHz in the PCS H block

1. Shaw Communications Inc. ("Shaw") is in receipt of the above-referenced Notice published May 25, 2017 (the "Notice") concerning TSSI's Application for a Tier 1 spectrum licence, with some discrete restrictions, in the 1695-1710 MHz frequency band and in the PCS H block 1910-1915 MHz/1995-2000 MHz frequencies (the "requested spectrum" or "requested frequencies").
2. In the short time allotted for public comment, Shaw has not had a meaningful opportunity to study the technical, commercial, spectrum policy and licensing issues that arise from the TSSI Application. In Shaw's view, interested parties should be provided with the opportunity to consider these issues in more detail and with evidence that goes beyond TSSI's predictions.
3. In the limited time that it has had to study the TSSI Application, Shaw's comments below focus on two main points:
 - (a) First, it is critical that the Department follow its normal practices and procedures for the licensing of commercial mobile spectrum. Demand for commercial mobile spectrum exceeds supply. The TSSI-requested spectrum should not be summarily granted to TSSI on the basis of the TSSI Application; and
 - (b) In the alternative, should the Department proceed with the licensing of the TSSI-requested spectrum, certain minimum restrictions and conditions must be attached to the licensing of this spectrum to TSSI.

A. Public Consultation and Procedural Considerations

4. The Department has established procedures for public consultation on a broad range of issues prior to allocating or releasing spectrum in Canada. According to the Department's established procedures, the Department normally issues a document for public consultation that sets out all relevant considerations as well as its preliminary views in relation to the policy, technical and licensing considerations that apply to a given spectrum band or sub-band, including the policy objectives sought to be achieved through the proposed framework, band plan considerations in light of domestic, continental and global developments, spectrum policy considerations in light of other allocations in the affected frequency bands, licensing approach, licence service areas, conditions of licence, licence term, licence transferability, deployment requirements, licence fees and technical rules.
5. In Shaw's view, it is important for the Department to follow its established procedures in relation to any new commercial mobile spectrum bands, given the demand for commercial mobile spectrum, particularly from Shaw and other new entrants that face a significant shortfall in their spectrum holdings relative to incumbents. This is also important for the Government's Innovation Agenda, which is predicated on facilities-based investment in both fixed and wireless broadband networks and reliance on competitive market forces to promote digital adoption and the affordability of connectivity services.
6. The TSSI Application gives rise to a number of interrelated policy and technical issues that are not addressed in the Notice or, for that matter, in the Application itself. For example, Shaw notes that TSSI's request for use of 1695-1700 MHz for fixed terrestrial and mobile terrestrial services is incompatible with the Canadian Table of Frequency Allocations. The 5 MHz at 1695-1700 MHz are currently allocated to the meteorological aids and meteorological satellite (space-to-earth) service, with no allocation for fixed or mobile terrestrial services. Prior to releasing this spectrum to any party for fixed or mobile terrestrial services, the Department would have to amend the Table. This is not something that should occur without proper notice of the relevant considerations and a public consultation process.
7. Shaw further notes that in its Application, TSSI appears to have overlooked the fact that its requested AWS-2 frequencies, namely 1995-2000 MHz, are paired with the 1915-1920 MHz

frequencies.¹ TSSI has not requested the 1915-1920 MHz frequencies in its Application. Regardless of whether these frequencies were intentionally omitted or not, this again points to the fact that the TSSI Application cannot be dealt with summarily as proposed by TSSI given the implications of TSSI's requests on affected bands.

8. Importantly, the Department has in the past identified a number of issues in relation to the specific TSSI-requested AWS-2 frequencies. Furthermore, it has indicated that it would engage in a public consultation process prior to proceeding to license these frequencies² to address possible interference concerns and technical issues.³
9. Moreover, in Canada, the Department determined that the 2000-2020 MHz and 2180-2200 MHz spectrum would be used to provide Mobile Satellite Services ("MSS") throughout Canada. This was why these frequencies were awarded in 2014-2015 to TSSI in the absence of a competitive process. Accordingly, if TSSI fails to demonstrate that it is offering MSS throughout Canada by 2020, it will be in breach of its mobile terrestrial AWS-4 conditions of licence.
10. Throughout the TSSI Application, TSSI refers to its plans to provide fixed terrestrial services and mobile terrestrial services but is silent as to MSS.⁴ Given the particular conditions attached to TSSI's Tier 1 AWS-4 licence, questions arise regarding the compatibility of the requests contained in the TSSI Application with its existing AWS-4 conditions of licence.
11. For example, questions arise as to whether the Application currently before the Department is part of an overall plan to convert the 2000-2020 MHz/2180-2200 MHz that TSSI currently holds

¹ In the proceeding initiated by *Consultation on Spectrum for Advanced Wireless Services and Review of the Mobile Spectrum Cap Policy*, October 2003, Notice No. DGTP-007-03, the Department asked for comments on the interest and need to designate the bands 1910-1920 MHz and 1990-2000 MHz for the extension of the band 1850-1990 MHz for PCS or AWS. In the document entitled *Consultation on a Framework to Auction Spectrum in the 2 GHz Range including Advanced Wireless Services*, February 2007, Notice No. DGTP-002-07 under heading 2.2 re Bands 1910-1920 MHz and 1990-2000 MHz, page 8, the Department designated the bands 1910-1920 MHz and 1990-2000 MHz for licensed PCS service. A first paired block of 5+5 MHz (1910-1915/1990-1995 MHz) was made available at the same time as the AWS-1 frequencies. However, the Department determined that it would hold the second pair (1915-1920 MHz/1995-2000 MHz) in reserve to ensure compatibility with adjacent services, such as the MSS.

² DGTP-002-07 under heading 2.2 re Bands 1910-1920 MHz and 1990-2000 MHz, page 8. The Department again reiterated the need to engage in public consultation prior to the release of AWS-2 spectrum in *Commercial Mobile Spectrum Outlook*, March 7, 2013 under heading 4.2.3 re Advanced Wireless Spectrum 2 (AWS-2) and Other Bands Near 2 GHz, pages 27-29.

³ See DGTP-002-07, *supra*.

⁴ For example, see TSSI Application, paragraph 6.

to mobile terrestrial use to the exclusion of MSS. If this is the case, then there is no longer any basis for licensing TSSI, which, as noted above, was based on the policy of mandatory provision of MSS in the 2000-2020 MHz and 2180-2200 MHz frequency band. Indeed, such a fundamental reversal of the spectrum policy for the 2000-2020 MHz/2180-2200 MHz may very well be warranted, but it cannot take place without public consultation. In particular, the Department must consult on whether it is appropriate to reverse or modify its policy in relation to the provision of MSS and if so, whether it remains appropriate for TSSI to remain the hand-picked licensee in this band.

12. Leaving aside the foregoing policy and technical considerations, which are not addressed in the TSSI Application, TSSI's claims of urgency and need have not been supported with any evidence and should be denied. In its Application, TSSI claims that it requires the requested frequencies in order to provide fixed terrestrial services in rural and remote areas in the short term and mobile terrestrial services in the medium to long-term. However, TSSI has not demonstrated that this need could not be addressed through other spectral resources that may be available either on a licensed or unlicensed basis.
13. With regards to the alleged need to be licensed in the requested AWS-2 frequencies in order to provide mobile terrestrial services, TSSI suggests that the Department should approve the TSSI Application in order to align with the United States. In a similar vein, TSSI alleges that the licensing of the requested AWS-2 frequencies to any other party would have disastrous consequences for TSSI. However, there does not appear to be any evidence in the Application to support these assertions.
14. Shaw acknowledges that it is important for Canada's spectrum management policies to align as much as possible with the United States, unless circumstances warrant otherwise, and as long as such alignment is consistent with Canada's policy objectives. In the present instance, TSSI's request for additional frequencies on the basis of a desire to harmonize with the United States is less compelling given the non-deployment of long-held spectrum by both TSSI and its counterpart in the United States. The US licensee has no deployment plans.⁵ There is no device ecosystem

⁵ S. Moritz, R. Shields and G. Smith, Bloomberg News, 15 April 2017, online < <http://www.sltrib.com/home/5179523-155/dish-network-spent-62b-on-wireless?fullpage=1> >. See also T. Lachapelle, Bloomberg, 2 June 2017, online < <https://www.bloombergquint.com/gadfly/2017/06/01/dish-network-investors-are-on-ergen-s-road-to-who-knows-where> >.

on the horizon given the uncertainty surrounding the US licensee's failure to deploy. As a result, TSSI's claims based on urgency have not been supported and should be rejected.

15. TSSI's claims are not credible and it has ignored or failed to address the spectrum policy and technical issues that arise from its Application. The Department has not consulted on the foregoing spectrum policy and technical issues, or any of the other issues related to the TSSI Application. The Notice dated May 25, 2017 accompanying the publication of the TSSI Application cannot take the place of the Department's established practices and procedures. In the current environment of rampant speculation concerning the intentions of the US licensee, and given potential global developments in the band and device ecosystems to serve the band, the appropriate course is for the Department to reject TSSI's Application. Instead, the Department should, at an appropriate juncture, issue a proper consultation document that examines all of the foregoing issues.

B. Licensing Considerations

16. As stated above, Shaw is opposed on procedural and policy grounds to the licensing of additional mobile terrestrial spectrum to TSSI at this time in the form requested by TSSI. However, we summarize below our initial views on two essential aspects of the appropriate licensing framework should the Department proceed to licence the TSSI-requested additional frequencies.
17. In the market today, there are new competitors, such as Shaw, that are operating, investing and innovating, but have an urgent need for more spectral resources, especially given the concentration of spectral resources in the hands of the incumbents. Additionally, technological innovation has enabled, and will continue to enable, different uses of spectrum. The Department's recent launch of a consultation on millimetre wave spectrum to support 5G is just one example of the evolution in the connectivity ecosystem.⁶
18. In the current, increasingly dynamic, market for mobile terrestrial services, it is inappropriate for the Department to release the TSSI-requested additional frequencies to TSSI without due process. As noted above, mobile terrestrial spectrum is high-value spectrum for which demand exceeds supply. There was a specific policy rationale for licensing the AWS-4 spectrum to TSSI in the absence of a competitive process, namely the requirement that the licensee of this spectrum

⁶ *Consultation on Releasing Millimetre Wave Spectrum to Support 5G*, June 2017, Notice No. SLPB-001-17.

provide MSS as a condition of the terrestrial licence. However, TSSI's actions to date and the Application raise serious questions as to TSSI's intentions to fulfill the Department's policy objectives for the 2000-2020 MHz/2180-2200 MHz band. As stated above, Shaw believes that there are grounds to open a consultation on this issue but at a minimum, the Department should not further complicate the situation by issuing yet more spectrum to TSSI until such time as TSSI has demonstrated that it can and will provide MSS throughout Canada in accordance with its AWS-4 licence conditions.

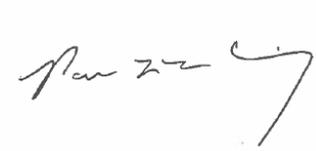
19. Second, TSSI has been licensed to provide MSS service in the AWS-4 frequency band since December 23, 2009 and since March 2010 to provide mobile terrestrial services. TSSI has been in possession of spectrum licenses for many years, but has failed to identify how many customers it serves with that spectrum, its capacity utilization and limitations. To Shaw's knowledge, no services have been launched by TSSI. Yet, TSSI is asking that all of Band 70 be allocated to it in a single Tier 1 national licence. Indeed, it is not at all clear why TSSI immediately requires a Tier 1 national licence when it acknowledges that its plans are to use the requested additional frequencies for fixed terrestrial service in rural and remote regions of the country.
20. The Department has robust policies to prevent and discourage hoarding of, and speculation in, spectrum licenses through gradual accumulations of unused spectrum over periods of time. This is contrary to the public interest in maximizing the economic and social benefits flowing from spectral resources to Canadians, which is one of the Department's core mandates.⁷ Appropriate management of spectral resources is essential to the success of the Federal Government's Innovation Agenda and to bringing more affordable, high-quality wireless services to Canadians.
21. Thus, in order to discourage spectrum warehousing, and in light of the ongoing significant concentration of spectral resources in the hands of the wireless incumbents, TSSI should not be allowed, under any circumstances, to transfer any licence for the TSSI-requested additional frequencies to an incumbent for a period of at least five (5) years from the date of the licence's issuance.

⁷ Of particular note, the overall objective of ISED's spectrum management program is to "maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum resource" (<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09444.html#a2.1>)

C. Conclusion

22. Shaw appreciates the opportunity to provide its preliminary thoughts on the Notice concerning the TSSI Application. Shaw submits that the Department should return the Application to TSSI and hold the TSSI-requested frequencies in reserve until such time as the Department is ready to hold a proper consultation process. Shaw remains interested and would participate with more fulsome comments in light of actual future developments in the AWS-4 band and Band 66 and Band 70 generally.

Yours truly,

A handwritten signature in black ink, appearing to read "Paul Cowling", written in a cursive style.

Paul Cowling
Vice President, Legal and Regulatory Affairs

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