



January 4, 2019

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

Innovation, Science and Economic Development Canada
c/o Senior Director, Spectrum Management Operations Branch
235 Queen Street
Ottawa, Ontario K1A 0H5

Re: *Consultation on Licence Fees for Fixed Point-to-Point Radio Systems Canada Gazette, Part I, November 15, 2018, Notice No. DGSO-001-1817 – Shaw Initial Comments*

1. In connection with Innovation, Science and Economic Development Canada's (the "Department") *Consultation on Licence Fees for Fixed Point-to-Point Radio Systems*, Shaw Communications Inc. ("Shaw") is pleased to provide the attached response.
2. Shaw appreciates the opportunity to provide its comments in this Consultation. If you have any questions regarding our response, please contact Brian Monaco, Manager, Regulatory Counsel, at brian.monaco@sjrb.ca.

Thanks,

Shaw Communications Inc.

A handwritten signature in black ink, appearing to read "Paul Cowling", with a stylized flourish at the end.

Paul Cowling
Vice President, Legal & Regulatory Affairs
Shaw Communications Inc.
Tel: 416.649.5202
Fax: 416.649-5201
Regulatory@sjrb.ca

Comments of Shaw Communications Inc.

Consultation on Licence Fees for Fixed Point-to-Point Radio Systems

***Canada Gazette*, Part I, November 15, 2018, Notice No. DGSO-001-18**

January 4, 2019

I. INTRODUCTION

1. The following constitutes the initial comments of Shaw Communications Inc. (“Shaw”) to Innovation, Science and Economic Development Canada (the “Department”) in connection with the proceeding initiated by *Consultation on Licence Fees for Fixed Point-to-Point Radio Systems*, Notice No. DGSO-001-18 (the “Consultation Document”).
2. As described in our comments in the Department’s *Consultation on the Spectrum Outlook 2018 to 2022*, the current licensing fee calculation methodology for fixed point-to-point licences is outdated and does not encourage efficient use of spectrum, which is a valuable public resource. Also, the current approach, which utilizes DS0 or 64kbps capacity increments, results in enormous licence fees, especially for high capacity links, even when these links are very short. Modern capacity links are many thousands of times higher than 64kbps. The approach therefore penalizes those who use spectrum-efficient technologies. Additionally, as a result of the currently excessive licence fees, microwave technology is not being utilized to its full potential. In many cases, the licence fees exceed the cost of microwave infrastructure, and the fees themselves have become a barrier to more widespread deployment of this technology.
3. Shaw therefore applauds the Department for initiating this proceeding, particularly with the emergence of 5G on the horizon. As acknowledged in the Consultation Document, providers will be required to make significant infrastructure investments, including the installation of higher capacity backhaul equipment to deliver the benefits of 5G to Canadians. To keep pace with demand in the 5G environment, providers will have to deploy short-link, high capacity microwave hops and small cells in thousands of locations. Modernizing the licensing fee calculation methodology will facilitate these investments and promote spectral efficiency.
4. A reduction in licence fees will incent providers to use more microwave point-to-point links and will reduce barriers to network expansion, particularly with respect to areas outside of densely populated urban centers, all to the benefit of consumers. In less densely populated areas where building fibre is more challenging, utilizing microwave links results in faster, more cost-effective network expansion because it requires less infrastructure. As a result there is less work involved to maintain the underlying infrastructure and less risk of infrastructure being damaged by natural disasters. It is

anticipated that, globally, 40% of backhaul connections are expected to utilize microwave technology by 2023.¹ Modernizing the licensing fee calculation methodology will encourage the use of microwave technology by ensuring that spectrum licence fees are not a barrier to its deployment and use. Modernizing the regime will also result in less costs being passed on to consumers, therefore likely ultimately resulting in lower prices for Canadians.

5. In light of the above, Shaw supports the direction that the Department has taken in the Consultation Document. We also support the Department's licence fee guiding principles. In order to further promote the principle of ensuring that the fee model can be adjusted to changing markets and technological advances, we recommend that it be reviewed periodically (for example, every three years). Periodic reviews will be important to ensure that the base rates and applicable frequency ranges continue to be appropriate, as detailed in our responses to the Department's specific questions.
6. Additionally, it is important for the proposed model to be implemented promptly. We strongly recommend that the new model be implemented for fees payable starting in April 2019, rather than April 2020. This would ensure that the benefits of the new model are realized as soon as possible, as providers continue to make significant investments to facilitate the emergence of 5G.

II. RESPONSES TO SPECIFIC QUESTIONS RAISED IN THE CONSULTATION DOCUMENT

7. Set out below are Shaw's responses to the specific questions posed by the Department in the Consultation Document.

1. ISED invites comments on the proposed consumption-based fee model for the radio licence fees under consideration.

8. Subject to our response to Question 2, Shaw supports the proposed consumption-based fee model. Such an approach will ensure that providers are encouraged to use this critical spectrum efficiently. Additionally, the Department's proposal will result in a

¹ Ericsson Microwave Outlook 2018, published December 2018 at page 5 (available online: <https://www.ericsson.com/assets/local/microwave-outlook/documents/ericsson-microwave-outlook-report-2018.pdf>)

reduction in the currently-excessive fees for these licences, which will stimulate network deployment in both urban and rural areas.

9. The need for connectivity is great in densely-populated urban centers. Although multiple transport mechanisms such as fibre are generally available in these areas, a reduction in fees for point-to-point licences would allow for more cost-effective deployments, which will be critical for the roll-out of 5G technologies and for meeting increasing demand for data. In some cases, other transport mechanisms are not readily available, meaning that point-to-point microwave links and small cells will be critical for 5G. Excessive spectrum licence fees would hinder deployment.
10. In rural areas, microwave technology is becoming increasingly crucial for connecting Canadians. As noted, in order to expand coverage in many of these areas, utilizing microwave links is often the only practical option. Encouraging providers to deploy microwave links will result in more cost-effective, efficient, and resilient network expansion, which will in turn will promote connectivity in non-urban centers.
11. Further, Shaw agrees with the Department's assessment of licence fees in other jurisdictions such as the United Kingdom and Australia. We note that in the U.S., however, licence fees are even lower than in these jurisdictions.

2. ISED invites proposals for a fee escalator that takes into account fee predictability for the radio license fees under consideration.

12. Shaw is supportive of a fee escalator that is tied to inflation or a fixed rate that is within the range of typical fluctuations in the consumer price index.
13. In Shaw's view, in order to further promote the principle of ensuring that the fee model can be adjusted to changing markets and technological advances, the Department must review the fee model periodically (for example, every three years), in particular to ensure that the base rates and applicable frequency ranges set out in Table 1 of the Consultation Document continue to be appropriate in light of technological advances.
14. We expect that technological advancements will impact the spectrum bands in which point-to-point links are deployed. It is important that ISED periodically review the fee calculation methodology to ensure that it remains appropriate in light of such technological advancements. For example, as set out in Ericsson's recent Microwave

Outlook Report,² Europe has begun to see some developments in the E band (70-80 GHz), W-band (92-115 GHz) and D-band (130-175 GHz). These bands could be ideal for urban and sub-urban deployments, as deployments in these areas typically involve short hop lengths. Utilizing high-capacity spectrum and wider bandwidth channels would make these deployments more capable of delivering capacity similar to fibre.

Accordingly, the frequency bandwidth of point-to-point links may substantially increase over time. Under the Department's proposed model, the licence fees for these ultra high-frequency bandwidths could be excessively high, which could discourage the use of microwave technology in these ranges and deny Canadians the benefits that would otherwise result. Accordingly, we believe a periodic review of the licence fee calculation methodology every three years would be appropriate, to ensure that the model continues to be appropriate in light of the evolving technology landscape.

3. ISED invites comments on the proposals for minimum fees, short-duration licence fees and prorated fees.

15. Shaw does not have any comments on these specific issues at this time, but we may provide comments in the reply phase.

² *Supra*, note 1 at page 8 - 11