

SaskTel Comments:

Canada Gazette Notice DGTP-001-10

Extension to the Comment Period:
Consultation on the Spectrum Allocations
and Spectrum Utilization Policies
for the Frequency Range
1435-1525 MHz (L Band)

March 12, 2010

INTRODUCTION

Saskatchewan Telecommunications (“SaskTel” or “the Company”) is pleased to provide this response to Gazette Notice DGTP-001-10 which extended the comment period for Gazette Notice DGTP-010-09 “*Consultation on the Spectrum Allocations and Spectrum Utilization Policies for the Frequency Range 1435-1525 MHz (L Band)*”, dated December 11, 2009 (“the Consultation”).

SaskTel commends Industry Canada (“the Department”) for providing an opportunity for the telecommunications industry to submit comments on the proposals and questions raised in the Consultation. The issues and questions raised involve proposals to:

- delete the mobile satellite allocation in the band 1518-1525 MHz,
- delete the digital audio broadcasting (DAB) allotment plan,
- introduce aeronautical mobile telemetry (AMT) in the 1492-1525 MHz range to meet short term requirements of the aerospace industry in the vicinity of Mirabel and Downsview airports, and
- introduce flexible use licensing, allowing fixed, mobile, or broadcasting services in the spectrum currently designated for subscriber radio systems (SRS) and DAB.
- Questions are also raised on the best ways to protect the existing SRS radio systems in this band, and allow for the potential growth of these SRS systems in rural areas.

SaskTel currently utilizes the 1435-1525 MHz L band spectrum to provide basic voice services to isolated rural communities in northern Saskatchewan using SR Telecom SR100 and SR500 SRS equipment. The SR100 and SR500 were designed to provide voice and basic data services to rural areas economically, and these systems continue to provide lifeline service to these communities.

SaskTel foresees very little growth potential for these SRS systems. Although we have no plans to install new central stations, there may be some movement or addition of individual subscriber stations on a case by case basis. SaskTel is looking at plans to

recover and replace the SRS equipment, but replacement options are costly, and funding and budget options to replace the SRS systems are limited. Therefore, SaskTel foresees the SRS systems remaining in operation for at least the next 5 years, and perhaps longer.

SaskTel has worked with the RABC on this Gazette notice to develop the RABC response, and SaskTel supports the RABC response to this Gazette notice. Several issues raised in this consultation are of key importance to SaskTel, and this document will provide further clarification of SaskTel's position on these issues.

Below SaskTel offers our responses to the specific questions raised by the Department in the consultation. The numbering of the document corresponds to the numbering of the consultation paper.

SASKTEL RESPONSE TO THE CONSULTATION ON THE SPECTRUM ALLOCATIONS AND SPECTRUM UTILIZATION POLICIES FOR THE FREQUENCY RANGE 1435-1525 MHz (L BAND)

3.2 Proposed Spectrum Utilization and Transition Policy Provisions

3.2.1 AMT

Item 1

The Department proposes to designate the band 1492-1525 MHz for aeronautical mobile telemetry.

The Department seeks comments on this proposal, and on the potential locations of AMT test areas, and particularly whether they would be across Canada or only in certain areas.

The Department also seeks comments on whether other portions of the range 1452-1525 MHz could be used for AMT.

SaskTel would recommend to the Department that any designation for AMT in the 1492-1525 MHz band be limited to areas where AMT operations are being proposed, and not across the entire country.

SaskTel respectfully requests the Department to consider the large number of existing SRS radio systems operating in remote areas across the country when designating parts of the L band to AMT systems. The majority of these SRS systems are being used to

provide telephone access facilities in high cost rural and remote regions of the country. Alternative technologies for replacing SRS systems include fibre facilities, or microwave backhaul in the 6 GHz range or higher. In many cases, the replacement microwave links will require reinforcement or replacement of existing radio towers to support the higher frequency link.

SaskTel recommends to the Department that the existing SRS radio systems in this spectrum be “grandfathered”, whereby existing operations can continue to operate, without the need for costly equipment replacement. This allows service providers such as SaskTel to continue to provide basic but essential lifeline services to remote communities. SaskTel further recommends that incremental growth of SRS systems, e.g. subscriber station additions or movement, be allowed on a case by case basis.

Assuming the Department provides sufficient protection to existing SRS systems, SaskTel has no objections to designating the 1492-1525 MHz band for AMT operations, in the proposed AMT testing areas only. It is the understanding of SaskTel that the proposed L band AMT operations would be limited to test areas within a 320 km radius of Mirabel and Downsview airports. SaskTel suggests that any AMT designation made by the Department in the L band be limited to areas within a 320 km radius of Downsview and Mirabel. This will eliminate any harmful impacts to SaskTel SRS systems.

Any harmful impacts to SRS systems licensed to other operators in or near the 320 km radius AMT test regions must be resolved between the SRS operator, the Department, and the AMT user.

SaskTel is also of the understanding that the Department of National Defence (DND) will not be using the L band for their AMT operations. If at some future date the DND does begin to use the L band for AMT operation, and if these operations occur in or near northern Saskatchewan, SaskTel has concerns that harmful interference may impact our existing SRS systems.

3.2.2 N-MCS for AMR

Item 2

The Department proposes to rescind the designation for narrowband multipoint communications systems (N-MCS) in the band 1493.5-1496.5 MHz

The Department seeks comments on the above proposal.

SaskTel has no objections to the proposal to rescind the designation for narrowband multipoint communications systems (N-MCS) in the band 1493.5-1496.5 MHz.

3.2.3 Treatment of Incumbent SRS

Item 3

The Department proposes the following transition policy for SRS in the band 1492-1525 MHz:

- ***SRS which may cause or be subject to harmful interference from existing or planned AMT systems will be subject to a transition policy.***
- ***The transition policy would provide a five-year notification period during which SRS are protected and may operate as licensed. Five years after receiving such notification, these systems may continue to operate on a no interference, no protection basis. Notification would be issued on an “as required basis.”***

The Department seeks comments on the above proposal.

As noted in the consultation, SRS systems provide essential telephony services to rural and remote communities. As such, SaskTel believes it is very important that SRS systems be “grandfathered”, and therefore be protected and allowed to operate for the remainder of their lifetime, wherever possible.

SaskTel believes that further studies and, if possible, field and/or flight testing should be done to determine the extent of the potential interference problems between the existing SRS systems and the proposed AMT operation, and the number of SRS systems that are adversely affected. The actual number of affected systems may be less than that predicted from the Department’s initial studies. In addition, the levels of harmful interference could be further reduced through the use of various interference mitigation measures, on a case by case basis.

Furthermore, the vast majority of SRS systems are located outside of the potential AMT interference zones around Mirabel and Downsview airports. These systems will not be impacted at all by the AMT proposals.

SaskTel concurs with the Department, and recommends that the transition policy and notification only be applied, on an “as required basis”, to SRS systems which may cause, or be subject to harmful interference from existing or planned AMT systems. Notification of displacement should be used as a last resort measure only; after all other options to mitigate potential interference have been pursued. As noted above, the vast majority of

existing SRS systems across the Canada will not be affected by the introduction of AMT systems.

SaskTel agrees with the proposed five year notification and protection period. The five year protection period is essential because these SRS systems are providing basic lifeline telephony services to rural, and in some cases isolated communities.

SaskTel also agrees with the Department's proposal to allow SRS operators to continue to operate their SRS systems after the five year notification period expires. This gives the SRS operator more flexibility and more options (including if necessary accepting any potential interference from AMT operations) to continue providing telephony services to these remote communities.

Economical options to replace the SRS systems are not apparent at this time. Communities currently being served with SRS systems typically have very small population counts, making it very difficult to justify the business case for SRS replacement. Current replacement options require either fibre or microwave backhaul. TDD based SRS equipment is not readily available, and therefore would not be an acceptable replacement alternative. Fibre plowing can be very expensive, and new microwave links in the 6 GHz or higher fixed bands will likely require tower reinforcement or tower replacement to handle the increased tower loading.

4. Proposals for the Band 1452-1492 MHz

4.2 Proposals for a Spectrum Utilization Policy for the Band 1452-1492 MHz

Item 4

The Department proposes to rescind the DAB Allotment Plan for the band 1452-1492 MHz, including all associated channels to FM and AM stations across the full band 1452-1492 MHz.

The Department seeks comments on this proposal.

SaskTel agrees with the proposal to rescind the DAB Allotment Plan for the band 1452-1492 MHz, including all associated channels to FM and AM stations across the full band 1452-1492 MHz.

Item 5

The Department proposes to adopt a spectrum utilization policy allowing for flexible use of the spectrum to support a variety of services and technologies for subscription broadcasting, multimedia, fixed and mobile broadband applications.

The Department seeks comments on this proposal.

SaskTel concurs that flexible use of this spectrum is highly desirable to support the proposed variety of services, including subscription broadcasting, multimedia, fixed, and mobile broadband applications. This flexibility is required to ensure the spectrum is developed for the maximum benefit of Canadians. This desired licensing flexibility can only be achieved with a spectrum utilization policy that supports all of these services, as well as by making appropriate changes to the *Canadian Table of Frequency Allocations* to ensure all proposed services have a primary allocation in the table.

SaskTel has concerns however that conditions imposed by international ITU footnotes 5.343 and 5.345, as well as agreements made between Canada and the United States of America (USA) regarding US AMT operations, could result in restrictions to flexible licence holders, or restrictions to particular services and applications, perhaps to the point where the spectrum cannot be used for the proposed service. For example, ITU footnote 5.343, which gives priority to AMT operations over “other uses by the mobile service”, could severely impact the viability of any mobile service in Canada, depending on the extent of US AMT operations across the country. The role of ITU footnote 5.343, as well as of agreements made between Canada and the USA, and any resulting restrictions on mobile services, must be clarified by the Department.

ITU footnote 5.345 restricts broadcasting services in this spectrum to digital audio broadcasting only. It is not clear how licensees could be allowed to broadcast new and innovative multimedia services, i.e. video services, and still meet the requirements of footnote 5.345.

SaskTel strongly agrees that a further public consultation on the policy and licensing framework for the 1452-1492 MHz band is necessary to clarify how the flexible licensing framework will be implemented, and how the proposed services (fixed, mobile, and broadcasting) can be flexibly deployed within the conditions and restrictions imposed by International footnotes, agreements, and regulations.

5. Proposals for the Band 1435-1452 MHz

5.1 Considerations

5.1.1 Unpaired SRS Spectrum

Item 6

The Department seeks comments on a suitable band plan and technical criteria (including the need for guard bands) that can facilitate planning the use of this band.

At this point SaskTel does not see an L band TDD SRS technology as a viable alternative to existing FDD SRS systems. Availability of TDD equipment for this band is limited, and the proposed spectrum for the replacement TDD systems is relatively small (17 MHz). SaskTel is not pursuing a TDD based SRS solution to replace existing SRS systems, but is instead looking at other options using fibre and higher capacity microwave backhaul in other spectrum bands to provide service to these communities. Utilizing fibre and higher capacity microwave backhaul has the advantage of allowing SaskTel to improve the service to these communities by offering higher bandwidth data services.

Therefore, SaskTel does not feel it is appropriate to develop a band plan to support TDD based SRS systems in this spectrum. It would be more appropriate to plan for the implementation of broadband wireless technologies based on 5 MHz channels, in tandem with planning for future services in the 1452-1492 MHz band.

5.2 Proposal for a Spectrum Utilization Policy for the Band 1435-1452 MHz

Item 7

The Department seeks comments on the following:

- 1. Should the designation to SRS be maintained;***
- 2. Should the spectrum utilization allow for flexible use of the spectrum, for both fixed and mobile, and for both narrowband and broadband services;***
- 3. Should the spectrum be available only in rural areas, using the first-come, first-served licensing mechanism, and reviewed for use in urban areas in a few years, or should the spectrum be made available in urban areas immediately;***
- 4. If the spectrum is to be made available in urban areas immediately, what service and applications should be considered for a spectrum utilization policy?***

As an incumbent SRS operator, SaskTel has no plans to further develop our existing SRS systems. However, as noted previously in this document, SaskTel recommends that the Department “grandfather” existing SRS deployments, allowing them to continue

to operate on a protected basis for the foreseeable future. SaskTel further requests that incremental growth i.e. subscriber station additions or moves, be included under the grandfathering provisions to allow for unforeseen growth.

SaskTel requires the SRS designation to be maintained for this spectrum, to support the grandfathering of existing SRS systems, with the understanding that no new SRS central stations are anticipated to be deployed. With the relatively high replacement costs and low subscriber density in the communities presently served with SRS systems, it may be a number of years before the SRS systems are retired.

As long as existing SRS systems are adequately protected from interference, and can be allowed to continue to operate on a protected basis, SaskTel believes that this spectrum can be made available immediately in both urban and rural areas to support flexible uses, for both fixed and mobile applications.

It is not clear to SaskTel what is meant by “narrowband” and “broadband” services in Item 7, question 2 of the consultation. Clearly the future industry trends for wireless data services are for higher and higher data rates. SaskTel sees no need for “narrowband” services, or band planning to support that. The industry is trending toward RF channel spacing based on 5 MHz channels, or multiples of 5 MHz (e.g. 10, 15, 20 MHz). SaskTel believes that the band plan should be based on 5 MHz, or multiples of 5 MHz channels. Provision could be allowed for operators to be licensed for bandwidths less than 5 MHz if they so desire, as long as the 5 MHz overall channel spacing is maintained throughout the band.

Item 8

Should the spectrum be reserved only for rural areas, the Department seeks comments on a suitable definition of rural and urban areas for the application of the spectrum utilization policy for the band 1435-1452 MHz.

Provided that provisions can be made to protect existing SRS stations on a site by site basis from interference, i.e. grandfather SRS systems, the spectrum can be made available for licensing for general flexible use in both urban and rural areas. SaskTel does not see the need for a definition of rural and urban areas to apply to this spectrum.

Item 9

Considering the characteristics of the new equipment for SRS, the Department seeks comments on a suitable band plan for implementation of TDD technologies.

As previously stated in response to Item 6 above, SaskTel does not see an L band TDD SRS technology as a viable alternative to existing FDD SRS systems. Therefore we do not see the need to develop a band plan to support TDD based SRS systems in this spectrum. A more appropriate band plan would be one that supports future broadband services, which are likely to involve FDD duplexing.

6. General Questions Related to the Band 1435-1525 MHz

Item 10

The Department is seeking comments on the spectrum requirements of each application (AMT, SRS, and flexible use), the band plan and band division, and any issue that may impact the economic and social benefits that Canadians could derive from the use of this band. In particular, the Department seeks comments on how the different policy proposals could affect the cost of operation, the cost to subscribers, or competition.

In addition, the Department is planning or has already initiated various other consultation initiatives. As a result, the Department seeks guidance as to the timing to implement the outcomes of this consultation, including additional consultation exercises that may be required concerning licensing approaches, etc.

As SaskTel has noted above, SRS applications are used by the Company to provide essential voice and basic data services to isolated rural communities in northern Saskatchewan economically. Loss of this service would require SaskTel to implement new, more costly solutions or to abandon these communities. Either of these options would obviously have very adverse effects on the economic and/or social wellbeing of the residents. There are no other service providers able or willing to provide service to these remote areas. Therefore it is critical that the existing SRS systems be allowed to continue to operate.

SaskTel sees potential benefits in allowing fully flexible licensing for the entire 1435-1492 MHz band. The L band spectrum is just beginning to be developed in other countries, with the goal in most cases being the delivery of new multimedia services. It is quite early to predict exactly how the band will develop. Therefore, it would not be wise to restrict any particular service or application at this time. Having flexible licensing allows licensees to take advantage of whatever technologies and services are developed for this band, and allow for the most efficient and beneficial use of the spectrum.

Furthermore, SaskTel suggests that the Department plan and develop policies for the two band portions (1435-1452 and 1452-1492 MHz) together to achieve the most efficient overall utilization of the spectrum. Recognizing that broadcasting is only allocated in the 1452-1492 MHz band, there are still efficiencies that could be gained by planning these two bands together.

7. Proposed Changes to the Canadian Table of Frequency Allocations

7.1 Proposed Changes to the Canadian Table of Frequency Allocations for the Band 1492-1525 MHz

7.1.1 MSS

Item 11

The Department proposes to remove allocation entry for the mobile-satellite service from the Canadian Table of Frequency Allocations in the bands 1518-1525 MHz and associated footnotes 5.348, 5.348B, 5.351A and C31, as outlined in Annex 1. Also, the Department proposes to adopt international footnote 5.343 next to the mobile allocation.

The Department seeks comments on these proposals.

SaskTel agrees with the Department's proposals.

7.1.2 AMT

Item 12

The Department proposes to merge the two sub-bands 1492-1518 MHz and 1518-1525 MHz, and to adopt international footnote 5.343 next to the mobile allocation.

The Department seeks comments on these proposals.

SaskTel agrees with the Department's proposals.

7.2 Proposed Changes to the Canadian Table of Frequency Allocations for the Band 1452-1492 MHz

7.2.1 Broadcasting-Satellite Service (BSS)

Item 13

The Department proposes to remove the allocation entry of broadcasting-satellite service (BSS) from the Canadian Table of Frequency Allocations in the band 1452-1492 MHz and suppress associated footnotes 5.208B, C28 and C40, as outlined in Annex 1.

Comments are sought on this proposal.

SaskTel agrees with the Department's proposal.

7.2.2 Mobile Service

Item 14

The Department proposes to elevate the status of mobile service to co-primary with broadcasting and fixed services in the band 1452-1492 MHz, as outlined in Annex 1.

The Department seeks comments on this proposal.

SaskTel agrees with the Department's proposal. Raising the mobile service to co-primary status will allow for planning and full flexibility in what new and innovative services could be deployed by licensees in this band.

7.2.3 DAB

Item 15

The Department proposes to suppress Canadian footnotes C29 and C30 to reflect the co-primary nature of all allocations in the band 1452-1492, as outlined in Annex 1.

Comments are sought on this proposal.

SaskTel agrees with the Department's proposal.

As mentioned in our response to Item 3 above, SaskTel has recommended to the Department that existing SRS systems providing essential telephony services in rural areas be grandfathered. SaskTel suggests that the measures taken to ensure the existing SRS systems are protected from interference, on a site by site basis, include measures to ensure that new systems (fixed, mobile, and/or broadcasting) in the band 1452-1492 MHz are deployed in such a manner that they will not receive harmful interference from existing SRS systems.

7.3 Proposed Changes to the Canadian Table of Frequency Allocations for the Band 1435-1452 MHz

Item 16

The Department proposes to add international footnote 5.343 for the frequency range 1429-1452 MHz.

Comments are sought on this proposal.

SaskTel agrees with the Department's proposal to add international footnote 5.343 to the frequency range 1429-1452 MHz.

As mentioned in our response to Item 5 above, SaskTel has concerns regarding the impact of ITU international footnote 5.343 on future deployment of mobile services in this spectrum. It would appear that AMT operations would have priority over other mobile services in the band. In particular, the location and extent of US based AMT operations could adversely affect any mobile services deployed in the vicinity of the US border, possibly to the point where such deployment is not viable. SaskTel requests that the Department provide clarification on how a mobile service could be deployed with the uncertainty created by ITU footnote 5.343 and US AMT operations in this band.

CONCLUSION

SaskTel is pleased to have had the opportunity to provide comments to Gazette Notice DGTP-010-09 consultation on the 1435-1525 MHz L band. There are many complex issues and questions for the Department to consider regarding the future development of this spectrum, allowing for the deployment of new and innovative broadband wireless services for Canadians, while protecting incumbent users such as SaskTel who are providing essential telephony services with SRS systems in rural and isolated areas of Saskatchewan.

The Company has provided comments on the proposed designation of spectrum for AMT to meet the needs of the aerospace industry, on required policies to protect existing SRS systems, and on proposals to introduce new flexible licensing allowing new fixed, mobile, and broadcast uses of this spectrum. SaskTel has also provided comments on proposed changes to the spectrum utilization policies, band plan, and proposed changes to the *Table of Frequency Allocations*, for this band.

SaskTel trusts that the comments provided in response to the consultation can provide the Department the advice and direction needed to establish policies that will see the L band spectrum developed to the maximum benefit of all Canadians.