

RMA Issue Backgrounder – Spectrum

This article is the third of a four-part series.

What is spectrum and why does it matter for rural Alberta?

Spectrum refers to the radio waves used to send a signal wirelessly. Spectrum is a finite resource, meaning it can only be used for so much before additional spectrum is required to facilitate growth. Spectrum is used by Wi-Fi routers, television, and radio. In addition to these uses, spectrum is also used to distribute internet in rural areas. While some rural buildings may receive internet from a physical connection, such as fibre to the premises, or via satellite, the majority of rural Alberta is served by spectrum-powered internet.

Spectrum is used by internet service providers (ISPs) to send internet from communications towers to rural buildings. This process is largely the same as the Wi-Fi router in your home sending an internet signal to your phone or computer but on a much larger scale. As spectrum is widely used to bring internet to rural homes and businesses, it is important to understand how it is managed.

How is spectrum regulated?

From a practical perspective, spectrum in Canada is managed by the Government of Canada through the Ministry of [Innovation, Science and Economic Development](#) (ISED). At a high level, the [Spectrum Policy Framework](#) (SPF) guides all federal government decisions made regarding spectrum. The SPF was last revised in 2007 and sets out the policy goal of relying on private ISPs to provide internet service to the greatest extent possible – more on this in the following section.

ISED allocates spectrum to ISPs using a competitive auction process. During this process, ISPs bid on units of spectrum within a specified bandwidth to provide service in a specific area. The geographic areas for each spectrum licence are determined by ISED. Therefore, in each service area, multiple blocks of spectrum are auctioned to ISPs for them to deploy internet on. If ISPs want to expand their service in a given service area, they need to acquire more spectrum in that service area. If they want to expand their service to new areas, they must bid on spectrum in that service area.

You may be wondering why the system that regulates spectrum is of interest to rural municipalities and the RMA. Spectrum regulation is important because it plays a significant role in how ISPs behave and the decisions they make in determining where to make investments.

Current spectrum issues

As mentioned above, spectrum is used for communicating a variety of information types for different uses, such as television, radio, internet, and cellphones. While different bandwidths of spectrum are better suited to some uses, there is competition within bands for different technologies. This is especially true for emerging technologies, like 5G. 5G delivers internet services in a similar manner to traditional fixed wireless technology. However, because of its relatively short range and higher cost to implement, 5G is more likely to be deployed in urban areas where there are more potential customers. As a result, spectrum bandwidths traditionally used to

provide rural wireless internet access are at risk of being made unavailable or inaccessible to rural internet users.

What is the RMA doing regarding advocacy on spectrum?

The RMA is advocating for spectrum policy reform in multiple ways:

- ◆ The RMA is advocating to ISED for a formal consultation on the Spectrum Policy Framework. As mentioned above, the SPF directs the perspective ISED is to use in making spectrum decisions. The current SPF was written in 2007 and is now 15 years old. Given the rapid changes in technology, the RMA is concerned a 15-year-old policy may not be addressing current needs. Additionally, the SPF requires decisions be made that rely on the private sector to the maximum extent possible. RMA members know that this policy has failed rural Alberta, as relying on the private sector to provide internet service has contributed to the current digital divide in internet speeds.
- ◆ ISED seeks to encourage competition amongst ISPs, including providing for tools that allow new entrants into the market. One of these tools is known as the set aside policy. The set aside policy sees small blocks of spectrum protected from open bidding and are only available to be bid on by smaller ISPs. The idea is that smaller ISPs can gain access to spectrum without needing to compete with the big players. One of the conditions of participating in the set aside auctions is for the ISP to already be operating in the region (such as Alberta, in our case). The RMA supports the intent of the set aside policy, however, greater transparency is needed around eligibility and how ISPs prove their eligibility. The RMA is advocating for this increased transparency.
- ◆ The RMA joins the Government of Alberta and other stakeholders in calling for the creation of a “use it or lose it” policy with respect to spectrum. As previously discussed, spectrum is a finite resource necessary for providing internet in rural Alberta. Unfortunately, ISPs will sometimes buy spectrum with no intention of deploying it; rather, they are holding it to resell once it appreciates in value. The RMA is advocating for the creation of a use it or lose it policy that would see deployment requirements accompany the allocation of spectrum to put an end to speculating on spectrum.

Have questions?

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