

Submission to:

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554
United States of America

On:

RM-11681

“Comment Sought to Update the Record on Ligado’s Request That the Commission Initiate a Rulemaking to Allocate the 1675-1680 Mhz Band”

From:

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Description

The Government of Newfoundland and Labrador, Department of Environment and Conservation, in partnership the federal Water Survey of Canada, have been using the Geostationary Operation Environment Satellite Data Collection System (GOES DCS) for 30 years.

The province of Newfoundland and Labrador (NL) is the easternmost province in Canada with an area of 155,000 square miles. In comparison to US states the province ranks fourth in size behind Alaska, Texas and California. The population of about 500,000 is primarily on the coast and the interior is sparsely populated.

In 1986 our remote data collection program via GOES DCS began with a network of 19 stream water level stations. Today's network has grown to 140 stations that measure streamflow, climate, surface and groundwater quality that transmit on an hourly basis. All of these stations have radio transmitters that uplink to the GOES DCS satellite network operated by NOAA.

These stations provide data for many purposes that include public safety, scientific and industry compliance to environmental standards. Examples of these are listed later in this document. We have also been publishing this data on the Internet for 20 years.

GOES DCS

Over the last 30 years the sole access we have to the data transmitted by these stations has been through the NOAA and USGS ground receiving stations. We presently access the data feed from the ground stations over the Internet using the NOAA LRGS Client software. This client feeds data directly into our database system.

The GOES DCS allows organizations to have a single, low cost method with reliable access for the collection of environmental data over very large remote areas.

Advantages include:

1. NOAA sets standards and operating requirements for transmitter units.
2. Standardized transmitter units and antenna assemblies are available from multiple vendors.
3. The transmitter units are low powered which means stations can be located in remote areas.
4. There is a large body of knowledge around the operation and maintenance of this equipment.

We are not aware of any viable alternatives to the use of the GOES DCS network. Investigating and retrofitting our existing station network with new transmitting technology would incur significant costs (equipment, installation and operations) and

take 3 to 5 years to implement. The remote location of many of our stations would complicate this effort even further.

Applications of Data and Implications of Lost GOES DCS Access

1. All of data collected by our network is published on the Internet for public viewing.
 - a. Loss of the data means a loss of government transparency and our commitment to Open Government.
2. Hourly data from the network is used for Flood Forecasting for two communities in the province. The data input into computational models that provide daily forecasts and flood alerts.
 - a. Loss of data creates a risk to public safety as we no longer have input data for our computational models.
3. Data from the network is used to compile a long term archive of streamflow data. This archive is used to compute design criteria for instream structures and such water supply intakes, culverts, bridges and dams.
 - a. Loss of the data impacts public safety as the long term design of critical infrastructure may be compromised. Additional cost for this infrastructure will have to be incurred as structures will have to be over-designed to ensure their long term safety
4. Data from the network is used by hydropower generation facilities to more efficiently manage reservoir operations.
 - a. Loss of data means less efficient management of hydropower facilities leading to reliance on other higher cost electrical generation methods.
5. Data from the network is used by regulators to identify emerging water quality issues at industrial projects.
 - a. Loss of data would impact the ability of the regulator to ensure industrial compliance to environmental regulations on a continuous basis during the construction and operational phase of projects, thus diminishing the opportunity to proactively implement corrective measures.
 - b. Loss of data creates a risk to the environment and potentially public safety, specifically in relation to the long-term monitoring of industrial tailings storage facilities (i.e. leaching of substances into groundwater; dam breaches; etc.).
6. Data from the network is used by non-governmental organizations and the general public to ensure industrial projects are operating within acceptable environmental regulations/guidelines.
 - a. Loss of data would impact the industry's ability to be transparent and accountable for many stakeholders that are monitoring the project.

7. Water level and temperature data from the network is used to more efficiently manage salmon fisheries in the province.
 - a. Loss of data would make it more difficult to properly set the opening and closing dates for angling. Not only does this impact recreational users but also has financial impacts for the tourist/fishing guides and wilderness outfitters industry.

In summary, the availability of real-time water data is essential for the effective management of water.