



June 20, 2019

Marlene H. Dortch, FCC Secretary
Office of the Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: Allocation and Service Rules for the 1675-1680 MHz Band;
Comments on WT Docket No. 19-116

Dear Secretary Dortch:

The National Hydrologic Warning Council (NHWC)¹ recognizes the need to improve and expand wireless broadband speed and coverage in the U.S., however, the NHWC is very concerned about interference between new terrestrial mobile services, and federal and non-federal earth stations (current and future) if the 1675-1680 MHz spectrum band is shared. Reliable, accurate, and timely hydrological and meteorological data is imperative for early flood warnings, emergency management, operational hydrologic models, water supply management, reservoir operations, and public safety.

Below are NHWC's responses to specific questions in the subject document applicable to our organization.

1. How to ensure non-federal earth stations continue to have access to the data transmitted from the GOES-N and GOES-R satellites? (Paragraph 14)

The methods for non-federal earth stations would most likely be the same as for federal earth stations. Work with the technical experts to:

- determine how to best allocate or share the radio band and minimize interference
- determine how to mitigate any interference from cellular broadband signals around all earth stations (protection zones); we understand that fixed or mobile cellular broadband signals will be much stronger than the data signals from the GOES satellites
- require a "prove-it-will-work" period to make refinements and demonstrate effective operation
- require a clear and fair process to resolve spectrum use conflicts when they arise between the new wireless service companies and affected federal and non-federal agencies, and private hydrologic safety related businesses

¹ NHWC membership includes approximately 80 local, state, regional, and federal agencies, and flood warning system support companies, representing over 30 million people in some of our nation's most populous and flood prone areas. The NHWC is a trusted authority in public safety with a reputation of helping communities recognize flood threats and other water-related hazards in time to take appropriate measures to protect lives and property. Federal agency members had no direct role in producing this letter.



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Timely Hydrologic

Information

Protects Lives,

Property, and

the Environment

2. Which non-federal entities operate receive earth stations in the band? (Paragraph 19)

The NHWC leadership identified six non-federal entities with earth stations in 2017 which share the 1675-1680 MHz spectrum band. The list includes state agencies, river authorities, and a regional water district. There are likely many more. We recommend the FCC identify existing and planned non-federal earth stations and maintain a list. The method described in paragraph 19 is a good start.

Please note the majority of non-federal entities, both public and private, depend on federal agencies, such as the National Oceanic and Atmospheric Administration, United States Geological Survey, U.S. Army Corps of Engineers, and U.S. Bureau of Reclamation, for data collected at earth stations they operate.

3. What other options exist for non-federal users to access the data from NOAA satellites? (Paragraph 20)

No other options exist for non-federal users to access raw field data aside from the federal and non-federal sources. The original gage data is relayed directly in near-real time from the gage stations, via GOES, to the user with an earth station. We are not aware of another source in space to receive the 401-403 MHz uplinks from throughout the entire visible hemisphere and relay them to users.

4. Is a content delivery system operated over the internet an acceptable alternative? (Paragraph 20)

No. Based on NHWC member experience during extreme weather events across the U.S. when access to the data is most critical when access to the data is most critical, the internet has proven vulnerable to interruptions and slow-downs. There are issues with transferring readable data over the internet between federal and non-federal agencies, contractors, and the public during high volume events. The transmission of raw field data from over 20,000 rainfall, water stage, and other sensors by the GOES satellites down to the earth stations is the most reliable and critical link in the communication chain. Approximately 8 million hydrological and meteorological observations are transmitted via GOES satellites every day.

5. Would such a system increase the total number of users with reliable access to NOAA satellite data? (Paragraph 20)

No. The data being transmitted via GOES satellites is "raw" and not readily usable. Sophisticated equipment, software, and knowledge are required to translate the data stream into a usable form.



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6. Emergency Managers Weather Information Network (Paragraph 9)

Local and state emergency managers across the U.S. rely on the Emergency Managers Weather Information Network (EMWIN) for official communications during all emergencies, not just weather and flood related. Interruptions in this flow of information would be problematic and detrimental to public safety.

Across the nation, federal and non-federal agencies work together in collecting, sharing, and analyzing hydrological and meteorological data to reduce loss of life, injuries, property damage, school and business closures, and flood recovery costs. Without this time sensitive information, it would not be possible to fulfill critical mission functions related to floods, hurricanes, droughts, dam and levee operations, tsunamis and other hydrologic hazards.

Thank you for the opportunity to provide comments on this important issue on behalf of the hydrologic warning community and the millions of citizens we serve.

Sincerely,

A handwritten signature in blue ink that reads "Steve Fitzgerald". The signature is written in a cursive, flowing style.

Steve Fitzgerald, P.E.
President, National Hydrologic Warning Council