United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Office of the Director
Reston, VA 20192

In Reply Refer To:
Mail Stop 100
GS19000677

JUN **2 1** 2019

The Honorable Ajit Pai
Chairman, Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Mr. Chairman:

The U.S. Geological Survey (USGS) and its partners, including the States of Washington, Oregon, and California, are developing a west coast earthquake early warning (EEW) system known as ShakeAlert. I am writing to request FCC consideration for rule changes to support ShakeAlert EEW.

The ShakeAlert EEW system detects significant earthquakes sufficiently fast such that alerts can reach many people seconds to several tens of seconds before shaking arrives. A key public component of ShakeAlert is delivery of alerts to cell phone users via Wireless Emergency (WEA) messages. To be effective to the public, these messages must be uniquely identifiable and transmitted with the smallest possible delay. Specifically, we are requesting clarification and rule changes to cellular phone alerts that support the unique needs of the EEW. We are requesting: (1) alert geofencing be optional and determined by the alert originator, so that ShakeAlert has a route to bypass geofencing, (2) cell carriers optimize WEA delivery within their systems, ideally to achieve latencies of 5 seconds or less as needed for ShakeAlert, and (3) WEA support a unique alert attention sound for the EEW system.

The USGS seeks clarification of the new FCC requirement that WEA alerts be delivered with an overshoot of no more than 0.1 mile (DA/FCC #: FCC-18-4). The USGS would like to understand if this rule is mandatory for all alerts, even if the originator does not require it. If this is the case, the device-based geofencing (DBGF) approach being implemented by Commercial Mobile Service Providers (CMSPs) to comply with this rule will introduce significant delay in the presentation of EEW alerts by the WEA, rendering them much less effective and possibly useless. This negative impact on EEW capability seems to be an unintended consequence of the new rule.

The USGS requests a rule change to allow an alert originator to include in the message an indication that geofencing should not be used in which case the alert area would be handled by the CMSPs as they had before the new 0.1-mile rule was enacted. In the absence of this

indicator, device-based geofencing would be applied. We further request a waiver exempting EEW messages sent by the USGS from the requirement of device-based geofencing until such a general exemption is allowed under FCC rules. The USGS is cooperating closely with the California Governor's Office of Emergency Services and other emergency managers and recognizes the important advancement that geofencing provides for overall alert and warning; this request is specific to ShakeAlert as an exemption to that process and should in no way interfere with any other WEA alerts where geofencing is necessary.

The USGS also requests for WEA delivery to be optimized within cell carrier systems, ideally to achieve latencies of 5 seconds or less as needed for ShakeAlert. Finally, the USGS requests that the WEA be modified to support a unique alert attention sound for ShakeAlert. All WEA alerts make the same sound; users cannot distinguish between Amber, weather, or ShakeAlert without finding their phone, waking it up, and reading the message. This will consume most or all of the warning time of most ShakeAlerts. Therefore, a unique ShakeAlert warning alert sound is needed but is not supported under current FCC rules.

Thank you for your consideration of these requests. The USGS looks forward to working with the FCC to find mutually agreeable solutions that will enable WEA to serve as an effective and timely mechanism for disseminating EEW alerts.

Cecily Wolfe, USGS, Associate Coordinator for Earthquake Hazards, would be happy to talk with your staff and/or answer questions. She may be reached at 703-648-6714 or cwolfe@usgs.gov.

Sincerely,

Jim Reilly
Director