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Information for Policymakers from the National Coordination Office for Space-Based Positioning, Navigation, and Timing (PNT)

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FCC Tells Congress More Testing Needed on LightSquared Interference to GPS Users

On September 15, FCC chief engineer Julius Knapp assured the House Armed Services Committee, Strategic Forces Subcommittee, that the FCC will not allow the LightSquared 4G wireless network to operate until concerns about GPS interference are resolved through further testing. Senior leaders from the Air Force, DoD, National Telecommunications and Information Administration (NTIA), and National Coordination Office for Space-Based PNT testified that more tests are necessary to evaluate LightSquared's June 30 proposal to use only the lower portion of its assigned spectrum. In a public notice issued prior to the hearing, the FCC agreed, stating that "additional targeted testing is needed." The testimony and FCC public notice are available online at www.pnt.gov/interference/lightsquared.

Science Committee Highlights GPS Interference Concerns of Scientific and High-Precision Users

On September 8, the House Science, Space, and Technology Committee held a hearing on the potential impacts of the LightSquared network on federal science activities. The National Coordination Office, NOAA, NASA, DOT, and USGS warned that LightSquared interference to GPS could disrupt a broad range of agency operations, especially those requiring high-precision equipment. Testing has shown that such equipment can fail under LightSquared's original and modified spectrum plans.

LightSquared also testified before the committee, stating it is working hard to address the GPS concerns. The company offered to help develop new filters to mitigate interference, even though it faults the GPS industry for producing receivers that look into LightSquared's spectrum.

The next day, NTIA sent a letter to DoD and DOT asking them to work with LightSquared to test consumer GPS gear under LightSquared's modified plan by November 30. High-precision equipment will be tested at a later date, pending the development of filters. To view the hearing testimony and NTIA letter, visit www.pnt.gov/interference/lightsquared.

Application Spotlight: Hurricane Forecasting

GPS technology contributes to U.S. hurricane forecasts and warnings. During hurricanes, NOAA and the Air Force dispatch "hurricane hunter" aircraft that release sensors into storm walls to measure their intensity and direction. These small devices rely on GPS for positioning data.

The U.S.-Taiwan COSMIC satellite system uses a technique called GPS radio occultation to collect global soundings of atmospheric temperature, pressure, and water vapor. COSMIC data has been shown to improve hurricane intensity forecasts by about 8% and hurricane track forecasts by about 25%.

The National Weather Service's track predictions for Hurricane Irene allowed emergency managers to determine that evacuations would not be needed in Florida and Georgia, saving residents costly expenses.

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HERBERT C. HOOVER BUILDING, ROOM 6822 · 14TH & CONSTITUTION AVE., NW · WASHINGTON, D.C. 20230