GPS Adjacent Band Compatibility Assessment

54th Civil GPS Service Interface Committee
Tampa, FL
September 9, 2014

Karen Van Dyke
U.S. Department of Transportation
OST-Research and Technology
January 13, 2012 National Space-Based Positioning, Navigation, and Timing (PNT) Executive Committee (EXCOM) co-chair letter to National Telecommunications and Information Administration (NTIA) proposed to draft new Global Positioning System (GPS) spectrum interference standards:

- Inform future proposals for non-space, commercial uses in the bands adjacent to the GPS signals.
- Ensure such proposals are implemented without affecting existing and evolving uses of space-based PNT that are vital to economic, public safety, scientific, and national security needs.
DOT GPS Adjacent Band Compatibility Assessment

- Deputy Secretary Tasking to FAA and RITA (OST-R):
  - Collaborate to develop a spectrum protection plan which provides a
    framework to define the processes and assumptions for development of
    GPS spectrum protection criteria on behalf of GPS civil users.

- GPS Adjacent Band Compatibility Assessment will identify
  the processes for:
  - Deriving adjacent-band power limits, as a function of offset frequency,
    necessary to ensure continued operation of all applications of GPS
    services.
  - Determining similar levels for future GPS receivers utilizing modernized
    GPS and interoperable Global Navigation Satellite System (GNSS)
    signals.
Near-Term Focus

- Frequency Bands Adjacent to GPS L1
- Leverage Receiver Categories from TWG
  - Aviation
  - Cellular
  - General Location/Navigation
  - High Precision
  - Timing
  - Networks
  - Space

❖ Develop a set of curves demonstrating the maximum aggregate power level as a function of frequency offset from GPS
Next Steps

- Engage with Industry
  - Public Workshop to be held on Sept. 18th
    DOT/Volpe Center in Cambridge, MA
  - Information available on www.gps.gov

- Effort being worked in conjunction with DOT Extended Pos/Nav Working Group and GPS Directorate with support from Aerospace