L1 Modernization Project (L1C)

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U.S. Geological Survey

Project Objectives

➢ **Obtain feedback from all GPS stakeholders on whether or not, and – if so – how *best* to add, a modernized signal on L1.**

  ▪ **Assess interference to legacy L1 C/A receivers, recognizing that full backwards compatibility is essential.**

➢ **Form recommendations to the IGEB on whether or not, and how, the GPS L1 civil signal should be modernized.**

➢ **The U.S. Government has not yet determined whether a modernized GPS L1 civil signal should be added.**

Technical Considerations

- ➢ **Compatibility with US/Allied security**

- ➢ **Backward compatibility with legacy C/A receivers**

- ➢ **Signal design**

- ➢ **Message options**

- ➢ **Technical trade-offs for user benefits**
  - ▪ **e.g., data rate**

Stakeholder Interviews

➢ **Conducting surveys with domestic and international users**
- ▪ **Technical - interview to be conducted next here**
- ▪ **Non-technical - conducted user interviews**

➢ **Consolidating the survey results**
- ▪ **First interim report recently submitted to IGEB**
- ▪ **Assessing which user groups remain - please contact us at L1C_GPS@USGS.gov to arrange for a full interview with your organization**

L1C Project Interviews Conducted

CGSIC
NAVCEN Booth Activities at ION
JPL
US GPS Industry Council
NASA
NGS/NOAA
U.S. Coast Guard
Thales Navigation
Japan GPS Council Members
University of New Brunswick
Lincoln Laboratory
ITT Aerospace Communications
University of New South Wales

NavWard
University of Calgary
Stanford University
Trimble Navigation
Talk and Poster at IGS Meeting
Talk at CGSIC Meeting
Garmin
NovAtel
Leica
RFMD
SiRF
Rockwell-Collins
IEEE - PLANS 2004 Meeting

Final Steps

➢ **Will conduct second technical meeting**

➢ **Will prepare final IGEB report, including:**
  - **Process descriptions**
  - **Survey results**
  - **Cost-benefit analysis**
  - **Policy recommendations**
  - **Signal design recommendations**