



U.S. International GNSS Policy and Cooperation

Civil GPS Service Interface Committee Session Munich Satellite Summit

*Office of Space and Advanced Technology
U.S. Department of State*

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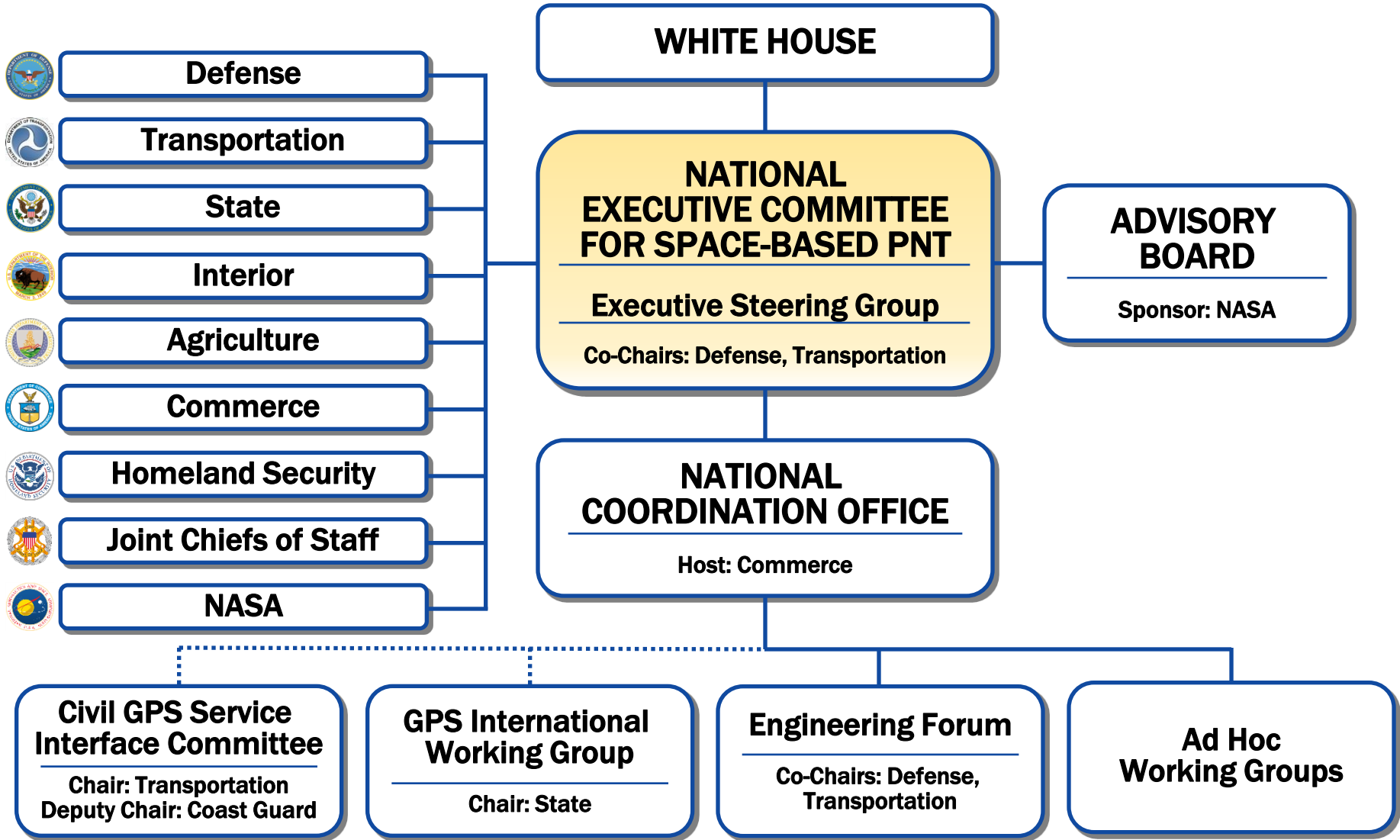
U.S. National Space Policy

Space-Based PNT Guideline: Maintain leadership in the service, provision, and use of GNSS

- Provide civil GPS services, free of direct user charges
 - Available on a continuous, worldwide basis
 - Maintain constellation consistent with published performance standards and interface specifications
 - Foreign PNT services may be used to complement services from GPS
- Encourage global *compatibility* and *interoperability* with GPS
- Promote *transparency* in civil service provision
- Enable market access to industry
- Support international activities to detect and mitigate harmful interference



National Space-Based PNT Organization





U.S. Objectives in Working with Other GNSS Service Providers

- Ensure **compatibility** — ability of U.S. and non-U.S. space-based PNT services to be used separately or together without interfering with each individual service or signal
 - Radio frequency compatibility
 - Spectral separation between M-code and other signals
- Achieve **interoperability** – ability of civil U.S. and non-U.S. space-based PNT services to be used together to provide the user better capabilities than would be achieved by relying solely on one service or signal
- Promote fair competition in the global marketplace

Pursue through Bilateral and Multilateral Cooperation



U.S. Federal Communications Commission (FCC) Part 25 Rules

- FCC Part 25 rules require licensing of non-Federal* receive-only Earth stations (receivers) operating with Non-U.S. Licensed Space Stations (satellites)
- National Telecommunications and Information Administration (NTIA) (on behalf of the Executive Branch) outlined criteria it will apply in considering whether to recommend waiver of the FCC rules
- Process for considering a waiver request from a foreign government is initiated through a consultation with the U.S. Department of State

To date the FCC has not approved licensing or waiver of its Part 25 rule to allow use of multi-GNSS receivers in the U.S.



FCC Part 25 Rule Evaluation Criteria & EU Waiver Request

- Considerations (criteria):
 1. Grant of a waiver is in the public interest
 2. System complies with United Nations Space Debris Mitigation guidelines
 3. Grant of a waiver is consistent with U.S. international trade and other treaty obligations
 4. Waiver request is limited to receive-only RNSS (which includes positioning) and standard time and frequency satellite services
 5. Operation of the RNSS signals offered by the foreign RNSS system has been found compatible with U.S. government systems operating in the specified RNSS frequency bands
- EU Waiver Request Submitted in 2013
 - NTIA submitted the EC's request to the FCC and recommended granting the request
 - FCC issued a public notice, **06 January 2017** inviting interested parties to comment on the waiver request - initial comment period closed 21 February
 - Deadline for Reply Comments is **23 March 2017**



GNSS Interference and Spectrum Protection: A Multilateral Effort

- Core Area of Focus of the International Committee on GNSS (ICG)
 - Primarily discussed within the Working Group on Systems, Signals and Services (WG-S)
 - Subgroup on Compatibility and Spectrum Protection established in 2010
 - Task Force on Interference Detection and Mitigation (IDM) established in 2013
- Recent and Near Future Activities in the ICG
 - Two Seminars on Spectrum Protection (2015 and 2016)
 - Presentation to the UN Committee on the Peaceful Uses of Outer Space (COPUOS) Science and Technical Subcommittee on the importance of GNSS Spectrum Protection and IDM (February 2017)
 - Reporting by COPUOS member States on national efforts to promote GNSS spectrum protection and IDM capabilities
 - 6th IDM Workshop will take place 09 May 2017 as part of the Baska Conference in Croatia – All are welcome to participate!



Space Service Volume Cooperation Through the ICG

- U.S. working with all GNSS Providers, through the ICG, to create an interoperable Space Service Volume (SSV) that can be used for real-time navigation
 - Significantly improves real-time navigation performance
 - GNSS timing reduces need for expensive on-board clocks
 - Supports increased satellite autonomy
- Recommendations adopted by the ICG include:
 - Development of an SSV booklet by GNSS Providers
 - Outreach effort on SSV initiative

***Session 11: INTEROPERABLE GNSS SPACE SERVICE
VOLUME – Will further discuss the work taking
place in the ICG***