

**MEMORANDUM OF AGREEMENT
BETWEEN THE DEPARTMENT OF DEFENSE
AND THE
DEPARTMENT OF TRANSPORTATION
FOR
CIVIL USE OF THE GLOBAL POSITIONING SYSTEM**

1. PURPOSE

This Memorandum of Agreement (MOA) establishes policies and procedures to ensure an effective working relationship between the Department of Defense (DOD) and the Department of Transportation (DOT) regarding civil use of the Global Positioning System (GPS).

2. BACKGROUND

The Space Policy Directive (SPD-7) titled “The United States Space-Based Positioning, Navigation, and Timing Policy,” dated January 15, 2021, establishes guidance and implementation actions for space-based positioning, navigation, and timing (PNT) activities. This Agreement provides the basis for the necessary working relationships between the DOD and DOT to ensure operational availability and reliability of GPS signal services to support civil GPS applications, including safety-critical transportation applications.

3. APPLICABLE DOCUMENTS

The following documents are applicable to the policies and procedures outlined in this Agreement:

- *United States Code (U.S.C.) Title 10, Section 2281, Global Positioning System*
- *U.S.C. Title 49, Section 106, Federal Aviation Administration (FAA)*
- *Space Policy Directive 7, The United States Space-Based Positioning, Navigation, and Timing Policy, January 15, 2021*
- *SPD-7 Implementation Plan, May 12, 2021*
- *U.S.C. Title 49, Section 44505, Systems, procedures, facilities, and devices*
- *Federal Radionavigation Plan (FRP), current edition*
- *GPS Standard Positioning Service (SPS) Performance Standard, current edition*
- *GPS Protected Positioning Service (PPS) Performance Standard, current edition*
- *National Space-Based Positioning, Navigation, and Timing Systems Engineering Forum Charter, current edition*
- *Interagency Requirements Plan (IRP), current edition*
- *Interagency Forum for Operational Requirements (IFOR) Charter*
- *Civil Monitoring Performance Specification (CMPS), current edition*

- *GPS Security Classification Guides (SCG), current editions*
- *DOD Directive 4650.05, Positioning, Navigation, and Timing, current edition*
- *DOD Instruction (DODI) 4650.08, Positioning, Navigation, and Timing and Navigation Warfare, current edition*
- *Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6130.01, CJCS Master Positioning, Navigation, and Timing Plan (MPNTP), current edition*
- *Chairman of the Joint Chiefs of Staff Manual (CJCSM) 3212.03A, Performing Tests, Training, and Exercises Impacting the Global Positioning System (GPS), 2013 (current as of 24 September 2019)*
- *FAA Order JO 7610.4W – Special Operations, 2 November 2021*
- *Intelligence Community Directive 404, Executive Branch Intelligence Customers, dated July 22, 2013*
- *DODI 4000.19, Support Agreements, current edition*

4. AUTHORITY

DOD and DOT enter into this Agreement in accordance with SPD-7 and the SPD-7 Implementation Plan. Nothing in this MOA supersedes the statutory authority of any Federal Agency or Department.

5. DEPARTMENT OF DEFENSE RESPONSIBILITIES

In order to fulfill its responsibilities under this Agreement, the DOD will:

- 5.1. Program and budget for resources necessary to operate and maintain a constellation of GPS satellites and associated ground control network to support Joint Requirements Oversight Council (JROC) validated system requirements as submitted through the Interagency Forum for Operational Requirements (IFOR) process and/or GPS Performance Standards consistent with statutory obligations.
- 5.2. Provide GPS satellite health status, orbital assignment, and system time information to DOT in accordance with DOD security classification guidance.
- 5.3. Participate in Civil GPS Service Interface Committee (CGSIC) meetings conducted by the U.S. Coast Guard (USCG) on behalf of DOT.
- 5.4. Approve and publish the GPS Standard Positioning Service (SPS) Performance Standard (PS). In cooperation with DOT as civil lead for PNT, non-DOD agencies will have an opportunity to review the document during the staffing process, however the DOD retains final adjudication authority.

- 5.5. Notify DOT in the event that GPS is not operating in accordance with the current SPS PS or that failure of a major component threatens to impact user performance.
- 5.6. Support the National Space-Based PNT Systems Engineering Forum (NPEF) by designating a DOD Co-Chair.
- 5.7. Maintain safety-of-life backward compatibility commitments to enable continued international acceptance of civil and military GPS PNT services in civil airspace.
- 5.8. Provide cost, schedule, and technical estimates to DOT to support civil programming, planning, and budgeting for implementation of designated GPS civil capabilities. Designated GPS civil capabilities are new capabilities that have exclusively civil (non-military) application projected for implementation in the GPS space and/or control segment(s), sponsored by one or more civil agencies consistent with interagency agreements, and approved by the National Space-Based PNT Executive Committee. These estimates will be refined consistent with DOD Program Objective Memorandum submissions.
- 5.9. Serve as the final decision authority regarding U.S. and foreign civil use of the GPS Protected Positioning Service (PPS). Terms of use of the PPS by U.S. civil agencies are subject to separate bilateral agreements between the DOD and the using agencies.
- 5.10. Execute designated GPS civil capabilities that have been formally validated in accordance with the IRP and that are funded by the appropriate civil agency/agencies.
- 5.11. Ensure that it will take steps in acquisition to provide for the designated GPS civil capability to be severable in order to prevent overall program delay or cost growth to DOD capabilities in the event civil funding for the designated GPS civil capability is not provided.
- 5.12. Identify to DOT proposed implementation changes and associated costs that affect designated GPS civil capabilities prior to change execution.
- 5.13. Coordinate all tests, demonstrations, training, and exercises involving Radio Frequency (RF) transmission in the GPS SPS or PPS spectrum with FAA, when FAA is the Civil Aviation Authority for the affected area, in accordance with the procedures specified in CJCSM 3212.03A, provided DOD coordinates future updates with FAA when changes affect FAA coordination.
- 5.14. Provide intelligence support on PNT-related matters in accordance with IC Directive 404 through agencies of the DOD Intelligence Community (DOD IC).

6. DEPARTMENT OF TRANSPORTATION RESPONSIBILITIES

In order to fulfill its responsibilities under this Agreement, the DOT will:

- 6.1. As required, represent the United States Government (USG) civil Departments and Agencies in discussions regarding the development, acquisition, management, and operations of GPS and its augmentations.
- 6.2. Be responsible for and execute regular CGSIC meetings as the civil agency focal point for civil use of GPS.
- 6.3. Represent the USG civil Departments and Agencies in reviewing the GPS SPS PS.
- 6.4. Develop/sponsor requirements for designated GPS civil capabilities from USG civil Departments and Agencies for validation in accordance with the IRP.
- 6.5. Inform DOD regarding the development and implementation by the civil Agencies of augmentations to the basic GPS that achieve or enhance uses of the system in support of civil applications.
- 6.6. In coordination with DOD CIO PNT representatives, participate in U.S. Space Force (USSF) GPS design review(s) and contract negotiations as required to ensure agreement with cost, schedule, and technical basis for implementation of GPS civil capabilities.
- 6.7. Participate in GPS operational acceptance processes which involve civil signal services to confirm their functionality in accordance with the SPS PS to ensure backward compatibility and GPS civil signals perform to the standard prior to declaration by the DOD of Full Operational Capability for those signals.
- 6.8. Provide funding to the U.S. Space Force Space Systems Command (SSC) for the development, production, and fielding of designated GPS civil capabilities that have been validated through the IRP and accepted by the Air Force Service Acquisition Executive (SAE) for Space, the Assistant Secretary of the Air Force for Space Acquisition and Integration (SAF/SQ).
- 6.9. Provide civil representation to United States Space Force (USSF).
 - 6.9.1. The civil representative at USSF Headquarters will be designated as the DOT GPS Liaison to HQ USSF for civil GPS Capability, Policy, and Requirements coordination.
 - 6.9.2. The civil representative at USSF/Space Operations Command (SpOC) will be designated as the DOT Operations Liaison to USSF/SpOC for civil GPS operations and sustainment in accordance with the GPS SPS PS.

- 6.9.3. The civil representative at USSF/SSC will be designated the DOT Acquisition Liaison to USSF/SSC for civil GPS applications.
- 6.9.4. The duties of the DOT GPS Liaison, DOT Operations Liaison, and the DOT Acquisition Liaison (and any supporting liaison staff) will be defined in job descriptions jointly developed between the USSF and DOT and coordinated with the Office of the Secretary of the Air Force, the DOD CIO, and the Office of the Assistant Secretary of Transportation for Research and Technology.
- 6.10. Support the NPEF by designating a civil Co-Chair.
- 6.11. Review and provide the civil position, as the basis for negotiation, on any issues or problems arising from proposed changes requested by DOD to designated GPS civil capabilities.
- 6.12. Represent civil agencies at DOD requirements validation events for the GPS program in accordance with the IRP.
- 6.13. Respond to DOD proposals to test, demonstrate, train, or exercise in the GPS SPS or PPS spectrum, when FAA is the Civil Aviation Authority for the affected airspace area, within 30 calendar days from receipt of notification and supporting analytical information. DOD and DOT may negotiate shorter notification times for locations agreed to in accordance with paragraph 7.1.8.3. HQ FAA Air Traffic Organization Director of Systems Operations Security will be the DOT's focal point for coordinating these activities with the DOD. The DOT Office of the Assistant Secretary for Research and Technology will coordinate between the FAA and other civil government agencies to assess the effects for non-aviation civil applications.

7. JOINT RESPONSIBILITIES

- 7.1. Both Departments will collaborate and cooperate within existing processes to:
 - 7.1.1. Control the operation of GPS augmentation systems in a national emergency.
 - 7.1.2. Review and update, as necessary, the Interagency Requirements Plan.
 - 7.1.3. Participate in the IRP process for new civil/national GPS PNT capabilities.
 - 7.1.4. Achieve agreement on civil capabilities to be implemented in the SPS PS, GPS Interface Control Documents, and/or GPS Interface Specifications by participation in appropriate working groups and Configuration Control Boards.
 - 7.1.5. Promote international acceptance for civil use of GPS and its augmentations and military use of GPS PPS with equivalent levels of safety and performance (or

better) in civil airspace and maritime operations in commercial shipping lanes and seaports.

- 7.1.6. Govern the DOT/DOD GPS Program Management Review (PMR) and its subordinate Civil Signal Operational Capability (CSOC) Integrated Product Team (IPT) by a charter mutually agreed upon between DOT and DOD. The PMR will address issues and processes affecting operational capability for civil GPS signals and services through participation in the CSOC IPT. The CSOC IPT participants representing the DOD and DOT will prepare staff packages documenting recommendations, including any resourcing implications, and ensure they are appropriately routed for awareness or action by their department leadership.
- 7.1.7. Ensure programmatic monitoring and technical oversight for implementation of both National and designated GPS civil capabilities.
- 7.1.8. Use existing guidelines and, when appropriate, develop new guidelines to facilitate coordination of Navigation Warfare testing in an operationally realistic environment, training, demonstration, and exercises.
 - 7.1.8.1. Use mutually acceptable engineering tools and modeling techniques for assessing potential effects to GPS users. As appropriate, such tools and models may be used to explore the possibility of reducing the advance notification time for coordinating tests, demonstrations, training, and exercises involving GPS interference.
 - 7.1.8.2. Research and document mutually agreeable civil receiver interference levels for various GPS interference waveforms to assist in modeling the potential effects of a test, demonstration, training, or exercise.
 - 7.1.8.3. Address options for mutually acceptable geographic locations where GPS interference effects may be generated with limited notification (*i.e.*, shorter lead time).
 - 7.1.8.4. The FAA's National Airspace System (NAS), under 49 U.S.C. 44505, "shall...meet the needs for safe and efficient navigation and traffic control of civil and military aviation." The NAS relies on GPS civil signals to ensure capacity, continuity, and safety of flight. Once the GPS L5 signal is declared operational by the DOD, subsequent DOD test and exercise activities which may affect the GPS L5 signal will be deconflicted with effects to the GPS L1 signal to the extent possible in time and/or location to ensure continuity of civil aviation operations. Exceptions will be addressed in existing forums established for interagency coordination of such activities.

7.1.9. Coordinate through USSF Space Operations Command (SpOC) on operations, monitoring and reporting of GPS signal in space (L1 C/A, L1C, L2C, and L5) performance commensurate with their characteristics as described in current and future editions of the SPS PS.

7.2. DOD and DOT intend to provide reasonable and adequate funding for the National Coordination Office (NCO) for Space-Based Positioning, Navigation and Timing (PNT), based on an annual budget approved by the co-chairs of the U.S. Space-Based PNT Executive Committee (EXCOM), subject to the availability of funds. The NCO annual budget costs will be shared between the DoD and DOT, as appropriate. However, this MOA does not document the obligation of funds between the Parties. The obligation of funds by the Parties, resulting from this MOA, is subject to the availability of funds pursuant to the DoD Financial Management Regulation. No provision in this MOA will be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, Section 1341 of Title 31, United States Code.

8. SUPPLEMENTAL AGREEMENTS

This Agreement is intended to establish an overall framework for cooperative efforts between DOD and DOT regarding civil use of GPS. Following coordination with and approval by DOD and DOT PNT policy leads, any additional agreements between components of DOD and operating elements of the civil Agencies represented by DOT will be executed either by annex to this Agreement or by separate Charter to delineate more specific agreements between organizations, as required.

9. POINTS OF CONTACT

Each Department shall designate a single point of contact to coordinate on each policy, programmatic, and operational issue requiring supplemental agreement. Unless otherwise designated, the Assistant Secretary for Research and Technology will be the overall point of contact for supplemental policy, programmatic and operational matters for the Department of Transportation. Unless otherwise designated, the DOD Chief Information Officer will be the overall point of contact for policy and operational matters for the Department of Defense.

10. DISPUTES

Any disputes relating to this MOA will, subject to any applicable law, Executive Order, Directive, or Instruction, be resolved by consultation between the Parties or in accordance with DODI 4000.19 within 120 days. If a dispute that relates to funding remains unresolved for more than 120 days, the matter will be resolved in accordance with instructions set forth in the Treasury Financial Manual (TFM) Volume I, Part 2, Chapter 4700, Appendix 5 (Overall Intra-governmental Transactions (IGT) Processes and General Information).

11. AMENDMENT AND TERMINATION

This MOA will be reviewed biennially by DOD and DOT to determine the need for modifications or amendments. This MOA may be amended by mutual agreement of DOD and DOT, or may be terminated by either party. Notice of intent to terminate must be provided to the other party in writing 120 days prior to the termination date. This MOA will terminate on 31 December 2030 unless terminated sooner or extended by the mutual agreement of the signatories.

12. TRANSFERABILITY

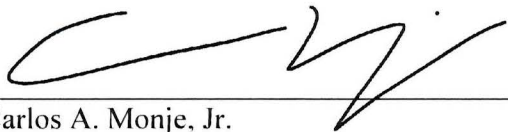
This Agreement is not transferable except with the written consent of the Parties.

13. ENTIRE AGREEMENT

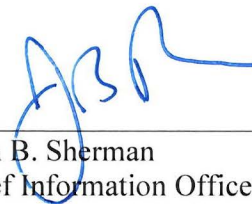
It is expressly understood and agreed that this MOA embodies the entire agreement between the Parties regarding the MOA's subject matter.

14. EFFECTIVE DATE

This Agreement is effective when signed by both Departments.



Carlos A. Monje, Jr.
Under Secretary of Transportation for Policy



John B. Sherman
Chief Information Officer for the
Department of Defense

08/08/2023

Date

8/28/23

Date