



Department of Defense

DIRECTIVE

NUMBER 4650.05
February 19, 2008

ASD(NII)/DoD CIO

SUBJECT: Positioning, Navigation, and Timing (PNT)

- References:
- (a) DoD Directive 4650.5, "Positioning, Navigation, and Timing," June 2, 2003 (hereby canceled)
 - (b) DoD Directive 5144.1, "Assistant Secretary of Defense for Networks and Information Integration/DoD Chief Information Officer (ASD(NII)/DoD CIO)," May 2, 2005
 - (c) National Security Presidential Directive, "U.S. Space-Based Positioning, Navigation, and Timing Policy," December 8, 2004 ¹
 - (d) Section 2281 of title 10, United States Code
 - (e) through (j), see Enclosure 1

1. PURPOSE

This Directive:

1.1. Reissues Reference (a) and updates DoD PNT policy, procedures, and responsibilities according to References (b) through (d) and Deputy Secretary of Defense Memorandum (Reference (e)), 2005 Federal Radionavigation Plan (Reference (f)), 2001 Federal Radionavigation Systems (Reference (g)), DoD Directive 5101.2 (Reference (h)), and Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) Memorandum (Reference (i)).

1.2. Expands and clarifies the authority and responsibility assigned to the ASD(NII)/DoD CIO in Reference (b), by designating that official as the OSD Principal Staff Assistant (PSA) for overseeing PNT policy, development, and coordination of the DoD position on all aspects of PNT for communication to external organizations.

1.3. Designates the ASD(NII)/DoD CIO as the OSD PSA with authority and responsibility for all aspects of the Global Position System (GPS).

1.4. Implements assignments of responsibilities made in and cancels Reference (e).

¹ Document not available for public dissemination. Copies of fact sheet available at <http://pnt.gov/policy/>

1.5. Establishes the DoD PNT Executive Committee as the primary advisory body to the ASD(NII)/DoD CIO on all PNT matters.

1.6. Assigns responsibilities for developing and implementing PNT policy.

1.7. Assigns responsibilities for DoD participation in the National Space-Based PNT Executive Committee (NPEC), consistent with Reference (c).

2. APPLICABILITY

This Directive applies to OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the Department of Defense (hereafter referred to collectively as the “DoD Components”).

3. POLICY

It is DoD policy, in accordance with Reference (d), to:

3.1. Acquire cost-effective airborne, land, sea, and space PNT systems by taking advantage of existing military and commercial capabilities whenever possible, consistent with military requirements.

3.2. Ensure that PNT systems support U.S. participation in allied and coalition operations to the maximum extent possible.

3.3. Cooperate with other Federal Departments and Agencies in managing and overseeing dual-use PNT systems.

3.4. Maintain a level of PNT service consistent with both military and civilian requirements within affordable limits.

3.5. Ensure the protection of PNT services from disruption by forces adversarial to the United States, its allies, and coalition partners while denying hostile use of PNT services to adversary forces, without unduly disrupting peaceful civil and commercial PNT services outside an area of military operations.

4. RESPONSIBILITIES

4.1. The ASD(NII)/DoD CIO shall:

4.1.1. Serve as the senior official in the Department for all aspects of GPS and as the PSA for overseeing PNT policy and coordinating with all external organizations.

4.1.2. Develop, implement, and coordinate policy related to PNT, including GPS and Navigation Warfare, with the Under Secretary of Defense for Policy (USD(P)).

4.1.3. Provide overall guidance on national and international matters related to PNT.

4.1.4. Develop and implement policy related to DoD participation in national and international PNT activities, in coordination with the USD(P).

4.1.5. Implement this Directive including issuing necessary policy, instructions, procedures, and guidance.

4.1.6. Chair the DoD PNT Executive Committee.

4.1.7. Establish a DoD PNT Executive Secretary and DoD PNT Working Group to support the DoD PNT Executive Committee.

4.1.8. Ensure coordination of DoD PNT development, acquisition, and implementation of programs among the DoD Components, as appropriate, as well as organizations external to the Department, including the North Atlantic Treaty Organization (NATO), the Department of Homeland Security, and the Department of Transportation.

4.1.9. Coordinate operational and equipment interoperability between the Department of Defense and the Department of Transportation, Federal Aviation Administration, to best ensure interoperability, except where national security takes precedence.

4.1.10. Consolidate DoD inputs to the Federal Radionavigation Plan and Federal Radionavigation Systems documents (References (f) and (g) respectively).

4.1.11. Approve and publish PNT service performance standards for GPS-based services, including the GPS Standard Positioning Service and Precise Positioning Service Performance Standards and others as appropriate.

4.1.12. Oversee on behalf of the Department of Defense the development of a National PNT Architecture by the National Space Security Office and provide guidance and direction for the implementation of the DoD elements of the National PNT Architecture.

4.1.13. Participate in the NPEC consistent with Reference (c).

4.1.14. As appropriate, and with the other NPEC participants, provide support to the National Space-Based PNT Coordination Office (NCO).

4.1.15. Ensure the DoD PNT Working Group coordinates and communicates with the Policy Board on Federal Aviation Working Group in all areas of common interest and/or responsibility.

4.1.16. Ensure information assurance solutions are considered and integrated into the acquisition process for DoD PNT systems where applicable.

4.1.17. In coordination with the Under Secretary of Defense for Intelligence (USD(I)) and with other departments and agencies as required, ensure required capabilities are available to identify, locate, and mitigate any interference on a global basis that adversely affects use of GPS for military operations.

4.2. The USD(P) shall:

4.2.1. Provide oversight and guidance on international matters as they pertain to this Directive, including oversight and guidance relating to exports and technology transfers of PNT systems and associated technologies.

4.2.2. Coordinate with ASD(NII)/DoD CIO on items identified in subparagraphs 4.1.2 and 4.1.4.

4.2.3. Participate in PNT committees and working groups as necessary.

4.3. The USD(AT&L) shall:

4.3.1. Coordinate with the ASD(NII)/DoD CIO on matters of PNT research, development, test, and evaluation (RDT&E) and acquisitions and ensure approved PNT policies are implemented in Service acquisition activities subject to USD(AT&L) oversight.

4.3.2. Provide guidance on PNT-related international cooperation strategies as they pertain to this Directive.

4.3.3. Participate in PNT committees and working groups, as necessary.

4.3.4. Develop and maintain the PNT Science and Technology Roadmap to support future operational concepts requiring PNT technologies.

4.4. The USD(I) shall:

4.4.1. Provide intelligence support on PNT-related matters and participate in PNT committees and working groups, as necessary.

4.4.2. Coordinate with ASD(NII)/DoD CIO on items identified in subparagraph 4.1.17.

4.5. The Director of the National Geospatial-Intelligence Agency, under the authority, direction, and control of the USD(I), shall maintain the standard for the terrestrial reference frame for the DoD Components.

4.6. The Director of the Defense Intelligence Agency, under the authority, direction, and control of the USD(I), shall lead efforts in producing all-source intelligence analysis on PNT-related matters, participating in the DoD PNT Executive Committee and working groups as necessary.

4.7. The Director of the National Security Agency, under the authority, direction, and control of the USD(I), shall:

4.7.1. In coordination with the Secretary of the Air Force, provide, validate, and verify sufficiency of information assurance solutions during the development, integration, and operation of all segments of the GPS.

4.7.2. Provide representatives to PNT committees and working groups, as necessary.

4.8. The Under Secretary of Defense (Comptroller)/DoD Chief Financial Officer shall participate in PNT committees and working groups, as necessary.

4.9. The General Counsel of the Department of Defense shall provide legal advice on PNT-related matters and participate in PNT committees and working groups, as necessary.

4.10. The Director of Operational Test and Evaluation shall:

4.10.1. Prescribe policies and procedures for the conduct of PNT-related operational test and evaluation.

4.10.2. Provide representatives to PNT committees and working groups, as necessary.

4.11. The Director of Program Analysis and Evaluation shall:

4.11.1. Review PNT programs and plans, including supporting cost and force effectiveness analyses prepared by the Military Departments.

4.11.2. Provide representatives to PNT committees and working groups, as necessary.

4.12. The Heads of the DoD Components shall:

4.12.1. Identify and document PNT-related operational capabilities in accordance with Joint Capabilities Integration and Development System procedures. Conduct RDT&E on PNT equipment and modify and procure such equipment to provide inter- and intra-Service and allied coalition commonality, while leveraging commercial technologies to the maximum extent possible and in compliance with DoD policy.

4.12.2. Acquire PNT equipment that provides protection against adversary disruption. Acquire capabilities to identify, locate, and mitigate interference that affects the use of GPS for military operations, and obtain capabilities to deny PNT to adversaries without unduly disrupting civil or commercial use outside of an area of operations.

4.12.3. Provide Military Department liaison representatives to support joint program offices and associated Air Force wings designated by the ASD(NII)/DoD CIO, in coordination with the Chairman of the Joint Chiefs of Staff and the USD(AT&L), for development and acquisition of PNT systems.

4.12.4. Provide representatives to PNT committees and working groups, as necessary.

4.13. The Secretary of the Navy shall direct the U.S. Naval Observatory to:

4.13.1. Develop and maintain the standards for Precise Time and Time Interval (PTTI) services, earth orientation parameters, and the celestial reference frame for the DoD Components.

4.13.2. Provide representatives to PNT committees and working groups, as necessary.

4.13.3. Serve as the DoD PTTI Manager.

4.14. The Secretary of the Air Force shall:

4.14.1. When acting as the DoD Executive Agent for Space, in accordance with Reference (h) and consistent with Reference (i):

4.14.1.1. Develop, procure, and modernize the major components of the GPS in a timely and synchronized manner.

4.14.1.2. Consult with the USD(AT&L), USD(I), ASD(NII)/DoD CIO, and Vice Chairman of the Joint Chiefs of Staff on significant changes to the GPS program, prior to reflecting any adjustments in DoD program submissions.

4.14.1.3. Issue appropriate guidance on acquisition of PNT space systems.

4.14.2. Operate and maintain the GPS constellation and ground control segment.

4.14.3. Perform GPS systems engineering and integration with other stand-alone and augmentation systems as required to ensure GPS compatibility and interoperability.

4.14.4. Support the office of the ASD(NII)/DoD CIO radio spectrum-related efforts by ensuring GPS radio frequency compatibility and interoperability with other Radionavigation Satellite Systems as well as defending GPS spectrum at the International Telecommunications Union and other forums as necessary.

4.14.5. Develop, forward to the ASD(NII)/DoD CIO for approval and publication, and maintain the Standard Positioning Service and Precise Positioning Service Performance Standards and others as necessary.

4.15. The Chairman of the Joint Chiefs of Staff shall:

4.15.1. In coordination with USD(P) and ASD(NII)/DoD CIO, recommend DoD positions on PNT matters affecting NATO and individual nations.

4.15.2. Prepare and publish the Master PNT Plan (Reference (j)). Coordinate the plan with ASD(NII)/DoD CIO, the USD(P), the USD(AT&L), and the DoD Executive Agent for Space.

4.15.3. Collect and assess Service GPS user equipment roadmaps biennially.

4.15.4. Provide representatives to PNT committees and working groups, as necessary.

4.15.5. Participate in the NPEC consistent with Reference (c).

4.15.6. As appropriate, and with the other members of the NPEC, provide support to the NCO.

4.15.7. Validate DoD PNT-related capabilities. Review civil PNT-related capabilities that are identified and submitted through the established interagency process. The Chairman of the Joint Chiefs of Staff will approve or identify DoD concerns with any civil requirements within the established interagency process.

4.16. The Commander, United States Strategic Command, (USSTRATCOM) shall:

4.16.1. Be responsible for implementation of PNT operations and identify joint PNT-related capability needs.

4.16.2. Develop joint concepts of operations and tactics, techniques, and procedures for those PNT capabilities for which the Commander, USSTRATCOM, has responsibility. Provide direction and input for the military component of the National PNT Architecture that describes operating concepts, systems developments, replacement plans, and alternatives for satisfying validated capability needs.

4.16.3. In coordination with the Chairman of the Joint Chiefs of Staff, participate in the development and maintenance of operations roadmaps for all PNT activities, to ensure synchronization between PNT services and related user equipment.

4.16.4. Provide representatives to PNT committees and working groups, as necessary.

4.16.5. Participate in the development and maintenance of PNT service performance standards to GPS-based services, including the Standard Positioning Service and Precise Positioning Service Performance Standards, and others as appropriate.

5. RELEASABILITY. UNLIMITED. This Directive is approved for public release. Copies may be obtained through the Internet from the DoD Issuances Web site at <http://www.dtic.mil/whs/directives>.

6. EFFECTIVE DATE. This Directive is effective immediately.



Gordon England

Enclosures – 1

E1. References, continued

E1. ENCLOSURE 1

REFERENCES, continued

- (e) Deputy Secretary of Defense Memorandum, “Global Positioning System Responsibilities,” June 23, 2006 (hereby canceled)
- (f) 2005 Federal Radionavigation Plan²
- (g) 2001 Federal Radionavigation Systems³
- (h) DoD Directive 5101.2, “DoD Executive Agent for Space,” June 3, 2003
- (i) Under Secretary of Defense for Acquisition, Technology and Logistics Memorandum, “Delegation of Milestone Decision Authority for DoD Space Systems,” February 4, 2002
- (j) Chairman of the Joint Chiefs of Staff Instruction 6130.01D, “2007 CJCS Master Positioning, Navigation, and Timing Plan (MPNTP),” 13 April 2007

² Available at <http://www.navcen.uscg.gov>

³ Available at <http://www.navcen.uscg.gov>