PRESIDENTIAL MEMORANDA

Memorandum on Space Policy Directive 7

INFRASTRUCTURE & TECHNOLOGY

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MEMORANDUM FOR THE VICE PRESIDENT
THE SECRETARY OF STATE
THE SECRETARY OF DEFENSE
THE ATTORNEY GENERAL
THE SECRETARY OF THE INTERIOR
THE SECRETARY OF COMMERCE
THE SECRETARY OF TRANSPORTATION
THE SECRETARY OF ENERGY
THE SECRETARY OF HOMELAND SECURITY
THE DIRECTOR OF THE OFFICE OF MANAGEMENT AND BUDGET
THE DIRECTOR OF NATIONAL INTELLIGENCE
THE ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS
THE ADMINISTRATOR OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
THE CHAIRMAN OF THE JOINT CHIEFS OF STAFF
THE CHAIRMAN OF THE FEDERAL COMMUNICATIONS COMMISSION

SUBJECT: Space Policy Directive 7, The United States Space-Based Positioning, Navigation, and Timing Policy

This Space Policy Directive establishes implementation actions and guidance for United States space-based positioning, navigation, and timing (PNT) programs and activities for United States national and homeland security, civil, commercial, and scientific purposes. This policy complements the guidance set forth in Executive Order 13905 of February 12, 2020 (Strengthening National Resilience through Responsible Use of Positioning, Navigation, and Timing Services), and the intersector guidance for Global Navigation Satellite Systems (GNSS) included in the December 9, 2020, National Space Policy. This policy supersedes National Security Presidential Directive-39 (NSPD-39) of December 15, 2004 (United States Space-Based Positioning, Navigation, and Timing Policy).

Section 1. Scope. This policy directive provides guidance for:

(a) sustainment and modernization of the Global Positioning System (GPS) and federally developed, owned, and operated systems used to augment or otherwise improve GPS;

(b) implementation and operation of capabilities to protect United States and allied access to and use of GPS for national, homeland, and economic security, and to deny adversaries hostile applications use of United States space-based PNT services; and

(c) United States participation in international cooperative initiatives regarding foreign space-based PNT services and foreign use of GPS and its augmentations.

Sec. 2. Definitions. For purposes of this document:

(a) “PNT service” refers to any system, network, or capability that provides a reference to calculate or augment the calculation of longitude, latitude, altitude, or transmission of time or frequency data, or any combination thereof.

(b) “Primary PNT Service” refers to an independent PNT service chosen by a user or system operator as the preferred source of PNT information. A primary PNT service is expected to provide sufficient accuracy, availability, integrity, or other characteristics important to the user.

(c) “Augmentation” refers to any system that provides users of PNT signals with additional information that enables users to obtain enhanced performance when compared to the un-

augmented signals from a primary PNT service alone. These improvements include improved accuracy, availability, integrity, and reliability, and independent integrity monitoring and alerting capabilities for critical applications. Augmentation systems inherently rely on a primary PNT service to operate.

(d) “Alternative PNT Service” refers to a PNT service that has the capability to operate completely independent of, or in conjunction with, other PNT services. Multiple, varied PNT services used in combination may provide enhanced security, resilience, assurance, accuracy, availability, and integrity. An alternative PNT service allows a user to transition from the primary source of PNT signals in the event of a disruption or manipulation.

(e) “Interoperable” refers to the ability of multiple, independent PNT services and their augmentations to be used together to provide better capabilities at the user level than would be achieved by relying solely on a single service or signal.

(f) “Compatible” refers to the ability of multiple, independent PNT services and their augmentations to be used separately or in combination with each other without interfering with any individual service, and without adversely affecting the United States and allied military employment of PNT, commonly referred to as Navigation Warfare.

(g) “Navigation Warfare” or “NAVWAR” refers to the deliberate defensive and offensive action to assure and prevent positioning, navigation, and timing information through coordinated employment of space, cyberspace, and electronic warfare. Desired effects are generated through the coordinated employment of components within information operations, space operations, and cyberspace operations, including electronic warfare, offensive and defensive space operations, and computer network operations.

Sec. 3. Background. The multi-use services provided by GPS are integral to United States national security, economic growth, transportation safety, and homeland security. These services are essential but largely invisible elements of worldwide economic infrastructures.

(a) Responsible use of Space–Based PNT.

(i) GPS is a key component of multiple sectors of United States critical infrastructure, as identified in Presidential Policy Directive-21 (PPD-21) of February 12, 2013 (Critical Infrastructure Security and Resilience) and stated in EO 13905. Cascading effects from extended PNT service disruption or denial can adversely affect all sectors. Autonomous vehicles on land, sea, and air have begun to rely on GPS for navigation, positional awareness, and other vehicle capabilities. Additionally, many information systems rely on the GPS timing signal to enable both fixed and mobile communications. An extended outage of GPS, or

extended period of spoofed or manipulated GPS signals, could cause severe economic losses and put lives at risk.

(ii) GPS remains critical to United States national security. Its applications are integrated into virtually every facet of United States military operations. United States and allied military forces will continue to equip and train for the responsible use of GPS and alternative PNT services to support mission operations.

(iii) The widespread and growing dependence on GPS by military, civil, and commercial applications, systems, and infrastructure make the performance of many of these systems inherently vulnerable if disruption or manipulation of GPS signals were to occur. GPS users must plan for potential signal loss and take reasonable steps to verify or authenticate the integrity of the received GPS data and ranging signal, especially in applications where even small degradations can result in loss of life. In addition, whether designed for military capabilities or not, signals from PNT services and their augmentations provide inherent capabilities that may be used by adversaries, including enemy military forces and terrorist groups.

(b) Space Applications. Applications for GPS now extend beyond Earth. The Terrestrial Service Volume of GPS, defined as the volume from the ground to an altitude of 3,000 kilometers, has become an integral component for space launch operations. Use of GPS is expanding into the Space Service Volume (SSV), which extends from 3,000 km to geosynchronous Earth orbit (GEO), despite reduced line-of-sight visibility and lower received signal power. Satellites rely on GPS for navigation, attitude control, space situational awareness, and new space science applications such as radio occultation. Consistent with Space Policy Directive-1 (SPD-1) of December 11, 2017 (Reinvigorating American’s Human Space Exploration Program) and Space Policy Directive-3 (SPD-3) of June 18, 2018 (National Space Traffic Management Policy) PNT services will also play an important role in space traffic management and future applications in the Cislunar Service Volume, which extends from GEO out to and including the Moon’s orbit. For requirements necessary to support these emerging applications, agencies should coordinate through standard GPS requirements processes.

(c) Foreign Space-Based PNT. Emerging foreign space-based PNT services could enhance or undermine the future utility of GPS. The United States will continue to encourage the development of foreign space-based PNT services based on GPS and their responsible use in non-military applications with allied and likeminded nations. Use of multiple, varied PNT services can result in better performance in terms of user accuracy, availability, and resilience. However, the United States Government does not assure the reliability or authenticity of foreign PNT services. Although foreign space-based PNT services may be used to complement civil GPS service, receiver manufacturers should continue to improve security, integrity, and resilience in the face of growing cyber threats. Thus, incorporation of

foreign PNT in multi-constellation devices should be designed in a manner that precludes potential degradation of essential user capabilities resulting from possible foreign global navigation satellite system (GNSS) origins. The United States will maintain awareness of the risks and potential benefits associated with the use of foreign space-based PNT services and continue to promote and support the responsible use of GPS as the pre-eminent space-based PNT service.

(d) United States Policy and Management Framework.

(i) The United States continues to improve and maintain GPS and its augmentations to meet growing national, homeland, and economic security requirements as well as other civil requirements, and to enable diverse commercial and scientific applications. In parallel, the United States continues to improve capabilities to deny adversary access to space-based PNT services, particularly including services that are openly available and can be readily used by adversaries or terrorists, to threaten the security of the United States. The United States is addressing risks associated with dependence on space-based PNT and fostering responsible use approaches to PNT service acquisition, integration, and deployment across critical infrastructures. The United States is also encouraging the development of alternative approaches to PNT services and security that can incorporate new technologies and services as they are developed, such as quantum sensing, relative navigation and private or publicly owned and operated alternative PNT services.

(ii) The diverse requirements for and multiple applications of space-based PNT services require stable yet adaptable policies and management mechanisms. Therefore, the United States Government will continue to support a policy and management framework governing GPS and its augmentations that meets increasing and varied domestic and global requirements.

Sec. 4. Policy Goals and Guidance. The goal of this policy is to maintain United States leadership in the service provision, and responsible use of global navigation satellite systems, including GPS and foreign systems. To this end, the United States Government shall:

(a) Provide continuous worldwide access to United States space-based GPS services and government-provided augmentations, free of direct user fees, and provide open, free access to information necessary to develop and build equipment to use these services;

(b) Operate and maintain the Global Positioning System in accordance with United States law to satisfy civil, homeland security, and national security needs, consistent with published performance standards and interface specifications;

(c) Improve NAVWAR capabilities to deny hostile use of United States Government space-based PNT services, without unduly disrupting civil and commercial access to civil PNT services outside an area of military or homeland security operations;

(d) Improve the performance of United States space-based PNT services, including developing more robust signals that are more resistant to disruptions and manipulations consistent with United States and allied national security, homeland security, and civil purposes;

(e) Improve the cybersecurity of GPS, its augmentations, and United States Government owned GPS-enabled devices, and foster private sector adoption of cyber-secure GPS enabled systems through system upgrades and incorporation of cybersecurity principles for space systems, interface specifications, and other guidance that prescribes cybersecurity for user equipment;

(f) Protect the spectrum environment that is currently used by GPS and its augmentations, and work with United States industry to investigate additional areas of the radio spectrum which could increase GPS and PNT resilience;

(g) Invest in domestic capabilities and support international activities to detect, mitigate, and increase resilience to harmful disruption or manipulation of GPS, and identify and implement, as appropriate, alternative sources of PNT for critical infrastructure, key resources, and mission-essential functions;

(h) Maintain GPS and its augmentations for use by United States critical infrastructure to enhance safety of life functions and operational efficiency, consistent with PPD-21;

(i) Engage with international GNSS providers to
ensure compatibility, encourage interoperability with likeminded nations, promote transparency in civil service provision, and enable market access for United States industry. Encourage foreign development of PNT services and systems based on GPS and the inclusion of GPS as an essential element in systems that integrate multiple PNT services. At a minimum, seek to ensure that all foreign systems are compatible with GPS and its augmentations, that they do not interfere with GPS military and civil signals, and that mutual security concerns are addressed to prevent hostile use of United States space-based PNT services;

(j) Promote the responsible use of United States space-based PNT services and capabilities for applications at the Federal, State, and local level, consistent with Executive Order 13905; and

(k) Promote United States technological leadership in the provision of space-based PNT services and in the development of secure and resilient end user equipment.

Sec. 5. Management of Space-Based PNT Services.

(a) The National Space-Based Positioning, Navigation, and Timing Executive Committee (Executive Committee) is the interagency body responsible for guiding and preserving whole-of-government interests in the provision of space-based PNT services, augmentations, and space-based alternatives. The Deputy Secretaries of the Department of Defense and the Department of Transportation, or their designated representatives, shall co-chair the Executive Committee.

(b) In addition to the Co-Chairs, the members of the Executive Committee shall be at the deputy secretary level or equivalent from the Department of State, the Department of the Treasury, the Department of Justice, the Department of the Interior, the Department of Agriculture, the Department of Commerce, the Department of Energy, the Department of Homeland Security, the Office of the Director of National Intelligence, the Joint Chiefs of Staff, the National Aeronautics and Space Administration, or their designated representatives, and the heads of other executive departments and agencies (agencies) invited by the Co-Chairs. The Administrator of the National Telecommunications and Information Administration shall serve as an ex officio member consistent with the Administrator’s duties to advise the President on telecommunications and information policy issues.

(c) Components of the Executive Office of the President, including the Office of Management and Budget, the National Space Council staff, the National Security Council staff, the Office of Science and Technology Policy, and the National Economic Council staff, may participate by invitation of the Co-Chairs as observers and advise the Executive Committee on Presidential policy implications. The Chairman of the National Space-Based Positioning, Navigation, and Timing Advisory Board (or designated representative) shall be invited in an advisory role representing non-governmental considerations. The Co-Chairs may also invite the Chairman of the Federal Communications Commission to participate on the Executive Committee as appropriate. The Executive Committee shall convene at least once each year and as required on the advice of the Executive Steering Group, as described in Section 5(e).

(d) The Executive Committee shall make recommendations on sustainment, modernization, and policy matters regarding United States space-based PNT services to its member agencies, and to the President, through the Assistant to the President for National Security Affairs, or the Executive Secretary of the National Space Council, as appropriate. In addition, the Executive Committee will advise and coordinate with and among the agencies responsible for the strategic decisions regarding policies to maintain and improve United

States leadership in the provision of space-based PNT infrastructures and services, including GPS, its augmentations and United States Government owned and operated space-based PNT systems and applications, security for these services, and their relationships with foreign space-based PNT services. Specifically, the Executive Committee shall:

(i) Ensure that national security, homeland security, and civil requirements receive full and appropriate consideration in the decision-making process and facilitate the integration and deconfliction of these requirements for space-based PNT capabilities, as required;

(ii) Coordinate individual Departments’ and Agencies’ space-based PNT program plans, requirements, budget considerations and policies;

(iii) Every four years provide the Executive Secretary of the National Space Council a report assessing current and planned civil space-based PNT services and whether they are projected to remain competitive with foreign space-based PNT services;

(iv) Promote, review, and implement plans to modernize United States space-based PNT infrastructure and services, including development, deployment, and operation of new or improved, or both, national security and public safety services;

(v) In coordination with the Office of Science and Technology Policy, promote research and development on next-generation technologies and on workforce development to ensure continued United States leadership in space-based PNT technologies;

(vi) Review proposals from and provide recommendations to agencies for international cooperation in coordination with the Department of State, as well as PNT spectrum management and protection issues in coordination with the Department of Commerce; and

(vii) Maintain and receive advice from the National Space-Based Positioning, Navigation, and Timing Advisory Board (Advisory Board). The Advisory Board shall be composed of experts from outside the United States Government, and shall be chartered as a Federal Advisory Committee. The Advisory Board shall seek input from state and local governments, industry, and academia on developments in the application of space-based PNT technologies and advise the Executive Committee on policy and service impacts.

(e) The Executive Committee shall maintain an Executive Steering Group composed of officials designated by the agencies that constitute the Executive Committee. The Executive Steering Group shall meet as needed to determine tasks and topics that require consideration of the Executive Committee. The agenda for Executive Steering Group

meetings shall be approved by steering group members or their designees in advance. The Executive Steering Group, operating on a consensus basis, shall build consensus and work to resolve issues on behalf of the Executive Committee while establishing priorities and deconflicting tasks across the interagency members and the National Space-Based Positioning, Navigation, and Timing Coordination Office. When the Executive Steering group members cannot achieve consensus on proposals, budget recommendations, or policy, or in the event of critical events affecting United States space-based PNT architecture or services, the group shall recommend supplemental meetings of the Executive Committee to address relevant issues.

(f) The National Space-Based Positioning, Navigation, and Timing Coordination Office (NCO) shall support the meetings and functions of the Executive Committee and Executive Steering Group. It shall be led by a full-time Director assigned from the Senior Executive Service from an agency other than the Department of Defense, and include a Deputy Director assigned from the Department of Defense. Agencies represented on the Executive Committee shall assign staff to the NCO, as appropriate and consistent with applicable law, on a defined duration as required for task completion with appropriate technical expertise. The Executive Committee shall determine the resources for the NCO, including funding, location, staffing, and composition, consistent with this directive.

(g) The NCO shall serve as the Secretariat for the Executive Committee and shall perform functions delegated by the Executive Committee and Executive Steering Group. Agencies shall provide appropriate information to the NCO to ensure interagency transparency about space-based PNT programs, plans, policies, budget allocations, and activities affecting mutual interests or interagency dependencies. The NCO will coordinate the development and dissemination of strategic messaging and educational materials to support trust and adoption of United States space-based PNT services.

(h) The Executive Committee shall advise on and coordinate the interdepartmental resource allocation for GPS and its augmentations. The Secretary of Defense shall have primary responsibility for providing resources for development, acquisition, operation, sustainment, and modernization of GPS. The Secretary of Transportation shall continue to provide resources to the Secretary of Defense for assessment, development, acquisition, implementation, operation, and sustainment of GPS civil signal performance monitoring and any additional designated GPS civil capabilities that have exclusively civil (non-military) application consistent with interagency agreements. GPS augmentations and other unique PNT capabilities shall be funded by any agency requiring those services or capabilities, including out-year procurement and operations costs. Any new technical features proposed and funded by the civil agencies shall not unduly degrade or displace existing or planned national security functions of GPS. Resource issues will be resolved through the regular budget process.

(i) Within 120 days of publication of this directive, the Executive Committee shall publish an implementation plan to enact over a five-year period all provisions of this directive. Further, the Executive Committee will update the charter of both the Executive Committee, Executive Steering Group, and NCO consistent with the provisions within this Directive.

Sec. 6. Foreign Access to United States Space-based PNT Capabilities.

(a) Exports of any United States PNT capabilities included on the United States Munitions List or the Commerce Control List will continue to be licensed pursuant to the International Traffic in Arms Regulations or the Export Administration Regulations, as appropriate, and in accordance with all existing laws and regulations. Export controls shall be updated to ensure that unnecessary controls that undermine or restrict the resilience and global use of civil GPS are reduced or eliminated without compromising United States navigation warfare, national security, or homeland security.

(b) As a general guideline, most exports of civil, mass-market space-based PNT capabilities that are currently available or are planned to be available in the global marketplace will continue to be considered favorably. Exports of sensitive dual-use or advanced PNT information, systems, technologies, and components will be considered on a case-by-case basis in accordance with existing laws and regulations, as well as relevant national security and foreign policy goals and considerations.

Sec. 7. Agency Roles and Responsibilities. Agencies shall allocate the resources required to fulfill the objectives of this policy, subject to the availability of funds appropriated for that purpose.

(a) The Secretary of State shall:

(i) In cooperation with the Secretary of Defense, the Secretary of Transportation and the heads of other appropriate agencies, promote the use of GPS and its augmentation services and standards with foreign governments and other international organizations, and encourage the development of foreign civil PNT services and systems based on GPS;

(ii) Take the lead for negotiating with foreign governments and international organizations regarding civil and, as appropriate and in coordination with the Secretary of Defense, military PNT matters, including coordinating interagency review of:

(A) Instructions to United States delegations for bilateral and multilateral consultations relating to the planning, management, and use of GPS, other global and regional navigation satellite systems, and their augmentation systems;

(B) International agreements, arrangements, and public statements with foreign governments and international organizations regarding the planning, operation, management, or use of GPS, other global and regional navigation satellite systems, and their augmentation systems; and

(iii) Participate with the Secretary of Defense in PNT dialog with allies, especially NATO relations.

(b) The Secretary of Defense shall:

(i) Have responsibility for the development, acquisition, operation, security, and continued modernization of GPS, while facilitating appropriate civil and homeland security representation and participation in these activities and any decisions that affect civil and homeland security equities;

(ii) Develop, acquire, operate, realistically test, evaluate, and maintain NAVWAR capabilities and other capabilities required to:

(A) Effectively utilize GPS services in the event of an adversary or other jamming, disruption, or manipulation;

(B) Develop effective measures to counter adversary efforts to deny, disrupt, or manipulate PNT services;

(C) Identify, locate, and mitigate, in coordination with other agencies, as appropriate, any intentional disruption or manipulation that adversely affects use of GPS for military operations;

(iii) Ensure the earliest operational availability for modernized military and NAVWAR capabilities;

(iv) Train, equip, test, and exercise United States military forces and national security capabilities in operationally realistic conditions that include denial or degradation of GPS. In cooperation with the Secretary of Transportation and the Secretary of Homeland Security, and as appropriate, with the Secretary of State, develop guidelines that facilitate these

activities and NAVWAR training, testing, demonstrations, and exercises without unduly disrupting or degrading homeland security and civil services and operations, either internationally or domestically;

(v) Encourage use of GPS national security services by allied military forces to facilitate interoperability between United States and allied forces and capabilities, and to maintain their use as the pre-eminent military space-based PNT capability;

(A) Consistent with the guidance in Section 6 of this directive, make GPS national security services, user equipment, information, and technology available for use by allied military forces; and

(B) Work with allies to monitor access to national security services and user equipment to limit the potential for adversaries to use these capabilities against United States and allied military forces;

(vi) Maintain the commitment to discontinue the use of the feature known as Selective Availability;

(vii) In coordination with the Department of Transportation, maintain safety-of-life backwards compatibility commitments to enable continued international acceptance of civil and military GPS PNT services in civil airspace;

(viii) Facilitate access to appropriate levels of national security services and user equipment at the Federal level to meet critical requirements for emergency response and other homeland security purposes, and, on an exceptional basis, for civil purposes, including State or local emergency response in accordance with established memorandums of understanding;

(ix) Develop improved and dedicated national security PNT capabilities, including more diverse, flexible, and capable signals and services;

(x) In coordination with the Secretary of Transportation, provide estimates of GPS program costs based on the Department of Transportation’s strategy and future requirements to implement GPS data and signal authentication and reflect strategy consistent with the Federal Radio Navigation Plan or its successor;

(xi) Maintain lead responsibility for negotiating with foreign defense organizations for any cooperation regarding access to or information about GPS military services;

(xii) In cooperation with other agencies, as appropriate, assess the utility and feasibility of hosting secondary payloads on GPS satellites, including those intended to enhance global search and rescue capabilities for all users. No secondary payload may adversely affect the performance, schedule, or cost of GPS, or its signals or services. Resources required for the assessment, development, acquisition, integration, and operation of secondary payloads shall be the responsibility of the sponsoring agency or agencies; and

(xiii) In coordination with the Secretary of State and the Secretary of Commerce, and with all agencies who are members of the Executive Committee having been notified, maintain the Department of Defense’s lead responsibility for Radio Frequency compatibility coordination with other Radio Navigation Satellite Services (RNSS) who operate or intend to operate in the RNSS radio frequency bands utilized by GPS.

(c) The Secretary of Commerce shall:

(i) Promote United States industry access to foreign markets for space-based PNT goods and services while adopting a risk management approach to United States national security concerns;

(ii) Invest in research and development on next-generation technologies that could enhance GPS applications for commercial use;

(iii) Represent United States commercial interests with other agencies in the requirements review of GPS and its related augmentations;

(iv) In coordination with the Secretary of State, the Secretary of Defense, the Secretary of Transportation, and the Administrator of the National Aeronautics and Space Administration, seek to protect the radio frequency spectrum used by GPS and its augmentations through appropriate domestic and international spectrum management and regulatory practices;

(v) In coordination with the Secretary of Defense, the Secretary of Transportation, the Secretary of Homeland Security, and the Administrator of the National Aeronautics and Space Administration, facilitate cooperation between the United States Government and the United States private sector as appropriate to identify mutually acceptable solutions that will preserve existing and evolving uses of space-based PNT services, while allowing for the development of other non-interfering technologies and services that depend on use of the radio frequency spectrum;

(vi) In cooperation with the Administrator of the National Aeronautics and Space Administration, develop, and provide to the Secretary of Transportation, requirements for use of GPS and its augmentations to support civil space systems; and

(vii) In cooperation with the heads of other agencies, as appropriate, develop guidelines to improve the cybersecurity of PNT devices, including their capability to detect and reject manipulated or counterfeit signals, and promote the responsible use of space-based PNT services and capabilities for applications that support national security, economic growth, transportation safety, and homeland security as directed in Executive Order 13905.

(d) The Secretary of Transportation shall:

(i) Have lead responsibility for the development of requirements for civil applications from all United States Government civil agencies;

(ii) Ensure, in coordination with the Secretary of Defense and the Secretary of Homeland Security, the performance monitoring of United States civil space-based PNT services;

(iii) Consistent with the guidance in section 6 of this directive, and in coordination with the Secretary of State, facilitate international participation in the development of civil transportation applications using United States space-based PNT services;

(iv) Consistent with the background provided in section 3 of this directive, and in coordination with the Secretary of State and the Secretary of Defense, ensure that international transportation initiatives consider the dual-use nature of space-based PNT services, particularly including services that are openly available and can be readily used by adversaries or terrorists to threaten the security of the United States;

(v) Ensure, in coordination with the Secretary of Defense, that public safety service applications based on United States space-based PNT services meet or exceed internationally recognized standards as required to meet mission requirements, including those used for aviation, maritime, and surface transportation applications;

(vi) In cooperation with the heads of other agencies, as appropriate, promote the responsible use of United States and foreign civil space-based PNT services and capabilities for transportation safety as directed in EO 13905;

(vii) Represent the civil agencies in the development, acquisition, management, and operations of GPS and its augmentations;

(viii) In coordination with the Secretary of Defense and the Secretary of Homeland Security and the heads of other agencies, as appropriate, implement Federal and facilitate State, local and commercial capabilities to monitor, identify, locate, and attribute space-based PNT service disruption and manipulations within the United States that adversely affect use of space-based PNT for transportation safety, homeland security, civil, commercial, and scientific purposes;

(ix) Ensure the earliest operational availability for modernized civil signals and services on GPS and its augmentations, in coordination with the Secretary of Defense;

(x) In coordination with the Secretary of Defense, assess and assist, as appropriate, in the international acceptance of using the military PNT services of GPS for operations in civil airspace;

(xi) Facilitate international coordination for the development of monitoring standards for space-based PNT services;

(xii) Maintain awareness of the risks and potential benefits associated with the use of foreign space-based PNT services, and

(xiii) In coordination with the Secretary of Defense and the Secretary of Homeland Security, develop and validate requirements and a funding strategy to implement data and signal authentication of civil GPS and wide area augmentations for homeland security and public safety purposes consistent with the Federal Radionavigation Plan or its successor plan.

(e) The Secretary of Homeland Security shall:

(i) Identify space-based PNT requirements for homeland security purposes to the Secretary of Transportation;

(ii) In coordination with the Secretary of Transportation, and with the heads of other agencies, as appropriate, promote the responsible use of GPS and other PNT services, consistent with EO 13905;

(iii) In coordination with the Secretary of Defense and the Secretary of Transportation, and in cooperation with the Secretary of Commerce:

(A) Ensure that mechanisms are in place to monitor, identify, locate, and attribute space-based PNT service disruptions and manipulations within the United States that can cause significant disruption to United States critical infrastructure and scientific purposes; and

(B) Develop procedures to notify the civil sectors and Federal, State, local, territorial and tribal agencies when space-based services have anticipated disruptions or are deemed to be no longer reliable.

(iv) In coordination with the Secretary of Defense, the Secretary of Commerce, and the Secretary of Transportation, develop and maintain capabilities, procedures, and techniques for, and routinely exercise, civil contingency responses to ensure continuity of operations in the event that access to GPS services are disrupted or manipulated;

(v) In coordination with the Secretary of Defense and the Secretary of Transportation, and in cooperation with the heads of other agencies, as appropriate, coordinate the use of existing and planned capabilities to identify, locate, and attribute any disruption or manipulation of GPS and its augmentations within the United States that significantly affects homeland security or critical infrastructure;

(vi) In coordination with the Secretary of Transportation, provide to the Executive Committee resourcing recommendations based on the Department of Transportation’s strategy and future requirements to implement data and signal authentication and reflect that strategy consistent with the Federal Radionavigation Plan or its successor plan;

(vii) In coordination with the Secretary of Defense, the Secretary of Transportation, and the Director of National Intelligence, promptly notify the Secretary of Defense, the Administrator of the National Telecommunications and Information Administration, the Chairman of the Federal Communications Commission, the Director of National Intelligence, and the heads of other relevant agencies in cases of significant domestic or international disruption to or manipulation of United States space-based PNT services to enable appropriate investigation, notification, or enforcement action.

(f) The Director of National Intelligence shall identify, monitor, and assess the development of foreign threats to the use of GPS PNT architectures and related services, and provide information to assist the Secretary of Defense in development of countermeasures.

(g) The Administrator of the National Aeronautics and Space Administration shall:

(i) In cooperation with the Secretary of Commerce, develop and provide to the Secretary of Transportation technical requirements for the use of GPS and its augmentations to support civil and commercial space systems;

(ii) In cooperation with the Secretary of Defense, the Secretary of Commerce, and the Secretary of Transportation, develop requirements for GPS support of space operations and science in higher orbits within the SSV and beyond to cislunar space; and

(iii) In cooperation with the Secretary of State, the Secretary of Defense, the Secretary of Commerce, and the Secretary of Homeland Security, sustain and modernize search and rescue and distress alert and location capabilities and programs that operate as secondary payloads on GPS satellites.

Sec. 8. Notification of Harmful Disruption or Manipulation. Agencies detecting or receiving domestic or international reports of harmful disruption or manipulation of United States space-based PNT services shall provide timely reports to the Secretary of Homeland Security, the Secretary of Defense, the Secretary of Transportation, and the Director of National Intelligence. Upon notification:

(a) The Secretary of Commerce, and the Chairman of the Federal Communications Commission in cooperation with the heads of other agencies as appropriate, shall take appropriate and legally permissible actions required to mitigate harmful disruption or manipulation of United States space-based PNT services within the United States.

(b) The Secretary of State shall, as appropriate, notify or coordinate the notification of foreign governments and international organizations in the event of harmful disruption or manipulation of United States space-based PNT services caused by foreign government or commercial activities.

(c) The Secretary of Homeland Security, when appropriate, shall notify the civil sectors and United States Government agencies of the disruption.

Sec. 9. General Provisions. (a) Nothing in this directive shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department or agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This directive shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This directive is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable as law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

DONALD J. TRUMP

The White House