



DATE: November 28, 2018

MEMORANDUM TO: Executive Branch Departments and Agencies

FROM: David J. Redl 
Assistant Secretary of Commerce for Communications and Information

SUBJECT: Anticipated Future Spectrum Requirements

With this memorandum and enclosed guidance, the National Telecommunications and Information Administration (NTIA), on behalf of the Secretary of Commerce, specifies the format and time period for executive branch departments and agencies (collectively “agencies” hereafter) preparing reports to NTIA on your anticipated future spectrum requirements.

President Trump’s recent Presidential Memorandum on “Developing a Sustainable Spectrum Strategy for America’s Future” calls for the development of a comprehensive, long-term National Spectrum Strategy by July 22, 2019.¹ Further, Section 2(a) of the President’s memorandum requires the executive branch agencies, by April 23, 2019 (within 180 days of the memorandum’s release) to:

- (1) Report to the Secretary of Commerce (Secretary), working through NTIA, on their anticipated future spectrum requirements for a time period and in a format specified by the Secretary; and
- (2) Initiate a review of their current frequency assignments and quantification of their spectrum usage in accordance with guidance to be provided by the Secretary.

On behalf of the Secretary, the enclosed Guidance on Reporting Future Spectrum Requirements addresses the first effort. In the near future, NTIA will provide separate guidance regarding the review and quantification of your agency’s current spectrum usage. In the spirit of the transparency and innovation objectives of the President’s memorandum, NTIA plans to establish an enduring process for the continued reporting of future spectrum requirements and current spectrum usage in order to ensure this information is reasonably up to date and to track development of advanced technologies.

The Presidential Memorandum mentions that spectrum-dependent systems also are indispensable to the performance of many United States Government missions and that

¹ Memorandum for the Heads of Executive Departments and Agencies, Developing a Sustainable Spectrum Strategy for America’s Future (rel. Oct. 25, 2018), published at 83 Fed. Reg. 54513 (Oct. 30, 2018), available at <https://www.gpo.gov/fdsys/pkg/FR-2018-10-30/pdf/2018-23839.pdf> (Presidential Memorandum). The Presidential Memorandum is included as the second enclosure.

technological innovation in spectrum usage occurs in both the private and public sectors.² In addition, the Presidential Memorandum states, “Flexible, predictable spectrum access by the United States Government will help ensure that Federal users can meet current and future mission requirements for a broad range of both communications- and non-communications-based systems.”³ At the same time, Federal agencies are expected to “thoughtfully consider whether and how their spectrum-dependent mission needs might be met more efficiently and effectively, including through new technology and ingenuity.”⁴

One of NTIA’s core statutory responsibilities is to promote the best possible and most efficient use of electromagnetic spectrum resources across the Federal Government, subject to, and consistent with, the needs and missions of Federal agencies.⁵ Pursuant to Section 105(c)(2) of the NTIA Authorization Act, as amended, “executive agencies are authorized and directed to cooperate with the NTIA and to furnish it with such information, support, and assistance, not inconsistent with law, as it may require in the performance of its functions.”⁶ NTIA requests that your agency’s Chief Information Officer or similar ranking senior official certify that the information provided to the Secretary meets the requirements of the enclosed guidance.

The enclosed guidance requests that agencies provide anticipated future spectrum requirements over a 15-year period in their reports to the Secretary. It defines “future spectrum requirements” and specifies the format for the report. The information provided by your and other agencies will be subject to existing safeguards protecting classified, sensitive, and proprietary data. At the same time, a key element of the National Spectrum Strategy will be transparency of spectrum use and improved cooperation and collaboration between Federal and non-Federal spectrum stakeholders. Similarly, the Presidential Memorandum provides that the “Secretary may release publicly a summary of information provided by agencies, to the extent consistent with applicable law.” Accordingly, NTIA will post this memorandum, the enclosed guidance document, and the publically available summary on its website (www.ntia.doc.gov).

NTIA looks forward to working with your agency to complete this immediate and important action under the Presidential Memorandum. Please review closely the attached guidance and designate the appropriate senior official and points of contact on your agency’s staff who will be responsible for assembling, producing, and submitting the requested information. The enclosure lists NTIA’s points of contact for this effort, but please do not hesitate to contact me at dredl@ntia.doc.gov or 202-482-1840 with any questions or concerns.

Enclosures (2)

² See *id* at Sec. 1.

³ *Id.*

⁴ *Id.*

⁵ See 47 U.S.C § 902(b)(2)(U).

⁶ 47 U.S.C. § 904(c)(2).

Guidance on Reporting Future Spectrum Requirements

INTRODUCTION

President Trump in his Presidential Memorandum on “Developing a Sustainable Spectrum Strategy for America’s Future” calls for the development of a National Spectrum Strategy.¹ Concurrent with development of the strategy, executive branch departments and agencies (collectively “agencies” hereafter) are to report to the Secretary of Commerce (Secretary), working through the National Telecommunications and Information Administration (NTIA), on their anticipated future spectrum requirements for a time period and in a format specified by the Secretary.² On behalf of the Secretary, and in execution of its statutory responsibilities, NTIA’s Office of Spectrum Management (OSM) will work collaboratively and informatively with the agency members of the Policy and Plans Steering Group along with the Executive Office of the President’s newly formed Spectrum Strategy Task Force.³

KEY DATES AND MILESTONES

Presidential Memorandum released: October 25, 2018
Agency points of contact (POCs) submitted to OSM: December 13, 2018
Kick-off meeting: Week of December 17, 2018 (depending on agency POCs’ availability)
Interagency Workshop: January 24, 2019
Initial agency submissions due: February 21, 2019
Status update meeting: March 21, 2019
Final agency reports due: April 23, 2019

ANTICIPATED FUTURE SPECTRUM REQUIREMENTS

For this task, NTIA defines “future spectrum requirements” as any additional spectrum access required when planned systems become operationally fielded during the time period specified below. A *planned system* is a spectrum-dependent, communications- or non-communications-based system that is at one of several stages of actual development (e.g., conceptual, research, testing), but is not yet operational. As such, a planned system does not yet have, but will need, final authorization to operate via NTIA’s spectrum certification and/or

¹ Memorandum for the Heads of Executive Departments and Agencies, Developing a Sustainable Spectrum Strategy for America’s Future (rel. Oct. 25, 2018), *published at* 83 Fed. Reg. 54513 (Oct. 30, 2018), *available at* <https://www.gpo.gov/fdsys/pkg/FR-2018-10-30/pdf/2018-23839.pdf> (Presidential Memorandum). The Presidential Memorandum is included as an enclosure.

² *Id.* at Sec. 2.

³ *Id.* at Sec. 5. The Spectrum Strategy Task Force shall work with the Secretary and NTIA in the coordination and implementation of the Presidential Memorandum.

frequency assignment processes.⁴ It is important to ensure that future spectrum requirements are based on tangible and documented needs for each planned system. NTIA therefore requests that each agency provide requirements-type technical information and supporting documentation demonstrating, for example, that specific operating features have been identified, budgets have been approved for system-specific research and development, plans are in place for early-stage testing and evaluation, or significant steps have been taken toward acquisition and procurement of the planned system.

A complete understanding of future spectrum requirements must also include spectrum access necessary to support the continued use of currently authorized and operating spectrum-dependent systems, as they may continue to operate for many years. NTIA will seek and collect information on these current systems under a separate task, and NTIA will provide separate guidance for identifying and quantifying spectrum usage of current systems in accordance with the President's memorandum.⁵ This initial effort focuses on identifying spectrum requirements for new systems or anticipated future upgrades or enhancements of existing systems that will require access to additional or different spectrum resources. For the purposes of this initial effort, such system enhancements or upgrades include those that involve any significant changes (increases or decreases) in the amount of spectrum required or any changes in the frequency bands that will be used.

TIME PERIOD

NTIA, on behalf of the Secretary, seeks to gather information from executive branch agencies on their anticipated future spectrum requirements for planned systems that are likely to become operational within the next fifteen (15) years (2019 through 2033). A primary benefit of understanding all of the Federal agencies' future spectrum needs is that it enables the Federal and non-Federal spectrum user community and their respective regulators to consider long-term collaboration opportunities along with, as the President's memorandum calls for the National Spectrum Strategy to include, "advanced technologies, innovative spectrum-utilization methods, and spectrum-sharing tools and techniques that increase spectrum access, efficiency, and effectiveness."⁶ The Presidential Memorandum identifies the use of new technology as integral to more efficient and effective access to spectrum and NTIA strongly encourages each agency to identify those specific planned systems that will rely on advanced technologies (including commercial, dual-use, and fifth-generation or 5G wireless technologies) to meet its mission requirements. In addition, as the Presidential Memorandum states, "The United States Government will continue to look for additional opportunities to share spectrum among Federal and non-Federal entities."⁷

⁴ See generally, NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management, Chapters 9 and 10 (Sept. 2017 Rev), available at <https://www.ntia.doc.gov/page/2011/manual-regulations-and-procedures-federal-radio-frequency-management-redbook>.

⁵ Presidential Memorandum, *supra* note 1 at Sec. 2(a).

⁶ *Id* at Sec. 2(c).

⁷ *Supra* Note 1, Sec.1.

Traditionally, major technology advancements used for Federal Government spectrum-dependent systems have taken significant time to research, develop, test, and implement, and are subject to budgetary constraints. Moreover, several initiatives are currently underway toward a spectrum access roadmap for the next 5-years (e.g., the Spectrum Pipeline Act of 2015 and the MOBILE NOW Act of 2018 established goals to evaluate and repurpose spectrum in the 2022 and 2024 timeframes).⁸ Therefore, it is important to address and anticipate future Federal agency spectrum requirements in the five- to ten-year period, beyond the horizon of the current legislative directives and milestones. At the same time, NTIA recognizes there are instances in which certain types of planned systems (e.g., satellite systems, weather radar upgrades) may not be operational until beyond ten years. Accordingly, although uncertainty may increase with anticipated spectrum requirements when looking five, ten, or more years ahead, NTIA believes that important information on planned systems can and should be provided for a 15-year period. Together with the definition of “future spectrum requirements” above, the flexible range specified in this guidance will avoid approaches that are more speculative.

FORMAT

On behalf of the Secretary, NTIA requests that agencies submit documents for their anticipated future spectrum requirements in the following formats: (1) a narrative document that elaborates on and describes each planned system; and (2) a Microsoft (MS) Excel spreadsheet providing technical characteristics for each planned system. The information requested should portray future agency spectrum demands relative to frequency, time, and location. Further guidance on these two documents is provided in the following numbered paragraphs below and in the Appendix.

1. Narrative Summary – First, NTIA asks the agencies to provide a narrative summary of their anticipated future spectrum requirements over the next 15-year period for any planned system as defined above. Agencies should provide any available information on these systems and how they may affect future spectrum resources. Such information should include, at a minimum:

- Anticipated increases or changes in spectrum access requirements, based on, for example, each new technology implementation or planned system identified;
- Major spectrum-dependent system acquisition activities that have taken place, are planned, or are in early program-management stages that could impact future spectrum requirements; and
- Projected deployment schedules, expansion plans, expected equipment life cycle and termination, and other relevant past, ongoing, and planned developments and activities as necessary to describe properly future agency spectrum needs.

In addition, agencies should provide the following information as applicable in articulating their spectrum needs and strategies regarding future spectrum requirements:

⁸ See Spectrum Pipeline Act of 2015, Title X, Section 1004, Pub. L. 114-74, available at <https://www.gpo.gov/fdsys/pkg/PLAW-114publ74/html/PLAW-114publ74.htm>; Consolidated Appropriations Act, 2018, Division P, Title VI, MOBILE NOW ACT, Pub. L. 115-141, Section 603, available at <https://www.gpo.gov/fdsys/pkg/CPRT-115HPRT29374/pdf/CPRT-115HPRT29374.pdf>.

- Expected reliance on commercial services, dual-use, unlicensed devices, 5G technologies, frequency agile equipment, dynamic spectrum access methodologies, and other advanced technologies and their implications on future spectrum demands;
- Overall trends that may impact future spectrum access needs;
- Increases in spectrum use for any particular radio services and applications such as aeronautical mobile use for Unmanned Aircraft Systems; and
- Expected variations in spectrum use at specific locations such as test ranges, military bases, or border areas.

Agencies should also attach to the narrative summary supporting documentation that contains and/or clarifies the technical information provided in the spreadsheet and narrative. For example, the applicable DD Form 1494 should be submitted for Department of Defense systems that have not been submitted to OSM or the IRAC's Spectrum Planning Subcommittee (SPS) for certification of spectrum support. Agency narrative summaries should be in both PDF and MS Word formats and supporting attachments may be in PDF format.

2. Excel Spreadsheet – Consistent with NTIA's June 2014 request for information on planned systems in certain bands, NTIA asks agencies to provide similar technical information regarding the planned systems and expected spectrum usage in all frequency bands in which agencies plan to operate.⁹ NTIA recognizes that the availability of detailed, system-characteristic information may depend on the stage of development; with more detail expected for those systems nearer to operation than conceptual systems. The attached Appendix details the requested information.

NEXT STEPS

Within 15 days of this memorandum date, NTIA asks agencies to provide their agency POC information to Mr. Richard Orsulak, via email at rorsulak@ntia.doc.gov and FutureRequirements@ntia.doc.gov. Shortly after agency POCs are submitted, NTIA will host a kick-off meeting to discuss milestones and deliverables and address questions. An interagency workshop and status update meetings will follow over the next few months in order to ensure that submissions remain on track.

SUBMISSIONS

Initial submissions are due to NTIA no later than February 21, 2019; final reports are due by April 23, 2019.

In the interest of transparency, all agencies should, at a minimum, submit unclassified documents suitable for potential posting on the NTIA website. Those agencies with classified systems, uses, or other information should also submit a classified version subject to existing safeguards. Federal agencies should submit their unclassified documents to FutureRequirements@ntia.doc.gov. Documents containing controlled unclassified

⁹ See Quantitative Assessment of Spectrum Usage, U.S. Department of Commerce, November 2016, at 3, available at https://www.ntia.doc.gov/files/ntia/publications/ntia_quant_assessment_report-no_appendices.pdf.

information (CUI) should be marked in accordance with appropriate regulations and guidelines.¹⁰ Consistent with your agency's security guidelines, please submit classified (up to Secret) information with appropriate markings to rorsulak@ntia.sgov.gov. The method of submission for any documents classified higher than Secret should be coordinated with the OSM POCs identified below. Please include with your agency's submission a cover letter to the Secretary of Commerce from the Chief Information Officer or a similar ranking senior official certifying that the information provided meets the requirements of this guidance document and any subsequent instructions and guidance provided by NTIA.

NTIA will protect classified information and CUI in accordance with appropriate authorities, regulations, and guidance.¹¹ NTIA will also coordinate with the agencies prior to making public any agency-specific information.

NTIA OSM POCs

For additional information or if you have questions, please contact Mr. Richard Orsulak at rorsulak@ntia.doc.gov or 202-482-9193, or Mr. Edward Drocella at edrocella@ntia.doc.gov or 202-482-2608.

¹⁰ See, e.g., 47 C.F.R. Part 2002; National Archives and Records Administration, *CUI Policy and Guidance*, available at <https://www.archives.gov/cui/registry/policy-guidance>.

¹¹ See Exec. Order No. 13,526, *Classified National Security Information*, 75 Fed. Reg. 707 (Jan. 5, 2010); Exec. Order 13,556, *Controlled Unclassified Information*, 75 Fed. Reg. 68675 (Nov. 9, 2010); National Archives and Records Administration, *Classified National Security Information, Final Rule*, 81 Fed. Reg. 63336 (Sept. 14, 2016); 32 C.F.R. Part 2002 (2016).

APPENDIX

NTIA requests that agencies provide certain technical information for future planned systems. The information requested below may serve as input to run the Quantitative Assessment tool.

The following technical characteristics should be provided for each planned system that is identified, if available:

- System name
- Anticipated calendar year of initial operation
- Brief system description and purpose
- Radio service
- Frequency(ies) or frequency band(s) of operation, in megahertz
- System maturity (e.g., conceptual, experimental)
- Regulatory implications – (Yes or No).
- Will the system identified have any international implications (e.g., plan to operate internationally or along international border areas)?
- New or revised allocation required
- Location(s) of operation (e.g., Latitude/Longitude, test ranges, State, US&P)
- Number of units
- TME field entry per Chapter 9 of the NTIA Manual: 1--for constant or nearly constant (50-100% use); or 2--for regular or frequent (10-50% use); or 3--for intermittent (1-10% use); or 4--for sporadic/occasional (less than 1% use)
- Transmitter necessary bandwidth, in hertz as per Annex J of the NTIA Manual
- Transmitter power, in watts
- Pulse width (for pulsed systems), in microseconds
- Pulse repetition interval (for pulsed systems), in microseconds
- Mainbeam antenna gain for transmitters and receivers, in decibels referenced to an isotropic antenna (dbi)
- Minimum antenna up-tilt angle, in degrees
- Antenna heights for transmitters and receivers, in meters
- Intermediate Frequency receiver filter 3 dB bandwidth, in hertz
- Receiver noise figure (for receive only systems), in dB
- Receiver noise temperature (for receiver only systems), in Kelvin
- Receive antenna azimuth angle (for receive only systems), in degrees
- Receive antenna minimum elevation angle (for receive only systems), in degrees
- Spectrum Planning Subcommittee (SPS) number on new system
- Is the system funded? (Yes or No)
- Estimated cost

- Has an OMB A-11 analysis been conducted for budget preparation per OMB A-11, Sections 31.1 and 51.18? (Yes or No)
- Replacement systems – indicate what current system(s) will be replaced by this planned system if applicable. Provide the SPS number of the current system that is being replaced by this planned system.

The format for each agency submission should be in one MS Excel file, using the file template provided below.

Title 3—

Memorandum of October 25, 2018

The President

Developing a Sustainable Spectrum Strategy for America's Future

Memorandum for the Heads of Executive Departments and Agencies

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Policy. It is the policy of the United States to use radiofrequency spectrum (spectrum) as efficiently and effectively as possible to help meet our economic, national security, science, safety, and other Federal mission goals now and in the future. To best achieve this policy, the Nation requires a balanced, forward-looking, flexible, and sustainable approach to spectrum management.

The growth in the availability of mobile wireless broadband connectivity over the past decade has reshaped the American experience—the way Americans work, learn, shop, run businesses, transport their families and goods across the Nation, farm, conduct financial transactions, consume entertainment, deliver and receive public safety services, and interact with one another. In the growing digital economy, wireless technologies expand opportunities to increase economic output of rural communities and connect them with urban markets, and offer safety benefits that save lives, prevent injuries, and reduce the cost of transportation incidents. American companies and institutions rely heavily on high-speed wireless connections, with increasing demands on both speed and capacity. Wireless technologies are helping to bring broadband to rural, unserved, and underserved parts of America. Spectrum-dependent systems also are indispensable to the performance of many important United States Government missions. And as a Nation, our dependence on these airwaves is likely to continue to grow.

As the National Security Strategy of 2017 made clear, access to spectrum is a critical component of the technological capabilities that enable economic activity and protect national security. Wireless communications and associated data applications establish a foundation for high-wage jobs and national prosperity. While American industry continues to extract greater and greater value from spectrum, each technological leap also increases demands on its usage. Those demands have never been greater than today, with the advent of autonomous vehicles and precision agriculture, the expansion of commercial space operations, and the burgeoning Internet of Things signaling a nearly insatiable demand for spectrum access. Moreover, it is imperative that America be first in fifth-generation (5G) wireless technologies—wireless technologies capable of meeting the high-capacity, low-latency, and high-speed requirements that can unleash innovation broadly across diverse sectors of the economy and the public sector. Flexible, predictable spectrum access by the United States Government will help ensure that Federal users can meet current and future mission requirements for a broad range of both communications- and non-communications-based systems.

The Nation can and will ensure security and safety through modern technology. America's national security depends on technological excellence and the United States Government must continue to have access to the spectrum resources needed to serve the national interest, from protecting the homeland and managing the national airspace, to forecasting severe weather and exploring the frontiers of space. Technological innovation in

spectrum usage, moreover, occurs in both the private and public sectors. Federal agencies must thoughtfully consider whether and how their spectrum-dependent mission needs might be met more efficiently and effectively, including through new technology and ingenuity. The United States Government shall continue to look for additional opportunities to share spectrum among Federal and non-Federal entities. The United States Government shall also continue to encourage investment and adoption by Federal agencies of commercial, dual-use, or other advanced technologies that meet mission requirements, including 5G technologies. In doing so, we will take appropriate measures to sustain the radiofrequency environment in which critical United States infrastructure and space systems operate.

Sec. 2. *Advancing the National Spectrum Strategy.* Within 180 days of the date of this memorandum, and concurrent with development of the National Spectrum Strategy referred to in section 4 of this memorandum:

(a) Executive departments and agencies (agencies) shall report to the Secretary of Commerce (Secretary), working through the National Telecommunications and Information Administration (NTIA), on their anticipated future spectrum requirements for a time period and in a format specified by the Secretary. Additionally, agencies shall initiate a review of their current frequency assignments and quantification of their spectrum usage in accordance with guidance to be provided by the Secretary. Reporting of information under this section shall be subject to existing safeguards protecting classified, sensitive, and proprietary data. The Secretary may release publicly a summary of information provided by agencies, to the extent consistent with applicable law.

(b) The Director of the Office of Science and Technology Policy (OSTP), or the Director's designee, shall submit a report to the President on emerging technologies and their expected impact on non-Federal spectrum demand.

(c) The Director of OSTP, or the Director's designee, shall submit a report to the President on recommendations for research and development priorities that advance spectrum access and efficiency.

Sec. 3. Within 180 days of the date of this memorandum, and annually thereafter, the Secretary, working through the NTIA, and in coordination with the Office of Management and Budget (OMB), OSTP, and the Federal Communications Commission (FCC), shall submit to the President, through the Director of the National Economic Council and the Assistant to the President for National Security Affairs, a report (to be made public to the extent practicable and consistent with applicable law) on the status of existing efforts and planned near- to mid-term spectrum repurposing initiatives.

Sec. 4. Within 270 days of the date of this memorandum, the Secretary, working through the NTIA, and in consultation with OMB, OSTP, and the FCC, and other Federal entities, as appropriate, shall submit to the President, through the Director of the National Economic Council and the Assistant to the President for National Security Affairs, a long-term National Spectrum Strategy that includes legislative, regulatory, or other policy recommendations to:

(a) increase spectrum access for all users, including on a shared basis, through transparency of spectrum use and improved cooperation and collaboration between Federal and non-Federal spectrum stakeholders;

(b) create flexible models for spectrum management, including standards, incentives, and enforcement mechanisms that promote efficient and effective spectrum use, including flexible-use spectrum licenses, while accounting for critical safety and security concerns;

(c) use ongoing research, development, testing, and evaluation to develop advanced technologies, innovative spectrum-utilization methods, and spectrum-sharing tools and techniques that increase spectrum access, efficiency, and effectiveness;

(d) build a secure, automated capability to facilitate assessments of spectrum use and expedite coordination of shared access among Federal and non-Federal spectrum stakeholders; and

(e) improve the global competitiveness of United States terrestrial and space-related industries and augment the mission capabilities of Federal entities through spectrum policies, domestic regulations, and leadership in international forums.

Sec. 5. *Spectrum Strategy Task Force.* The Chief Technology Officer and the Director of the National Economic Council, or their designees, shall co-chair a Spectrum Strategy Task Force that shall include representatives from OMB, OSTP, the National Security Council, the National Space Council, and the Council of Economic Advisers. The Spectrum Strategy Task Force shall work with the Secretary and the NTIA in coordinating implementation of this memorandum. In carrying out its coordination functions, the Spectrum Strategy Task Force shall consult with the FCC.

Sec. 6. *General Provisions.* (a) Nothing in this memorandum 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 OMB relating to budgetary, administrative, or legislative proposals.

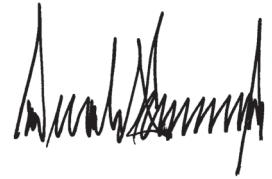
(b) Nothing in this memorandum shall be construed to require the disclosure of classified information, law enforcement sensitive information, proprietary information, or other information that must be protected as required by law or in the interests of national security or public safety.

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

(d) This memorandum is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at 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.

(e) The Presidential Memoranda of June 28, 2010 (Unleashing the Wireless Broadband Revolution) and June 14, 2013 (Expanding America's Leadership in Wireless Innovation) are hereby revoked.

(f) The Secretary is authorized and directed to publish this memorandum in the *Federal Register*.

A handwritten signature in black ink, appearing to be "Donald Trump", located in the upper right quadrant of the page.

THE WHITE HOUSE,
Washington, October 25, 2018

[FR Doc. 2018-23839
Filed 10-29-18; 8:45 am]
Billing code 3510-07-P