

Response to Written Questions Submitted by Hon. John Thune  
Written Questions for the Record to Assistant Secretary David Redl

**Question 1.** In your opening statement, you said that “NTIA is charged with the efficient and effective use of the nation’s spectrum.”

- How many major radio system purchases have been completed since the review process in OMB Circular A-11 was established?
- Has NTIA ever conducted a complete analysis of spectrum efficiency pursuant to OMB Circular A-11 associated with the purchase of major radio systems? If so, please provide a description of each such analysis, including any recommendations made by NTIA, responses to NTIA’s analysis, and any changes made to radio system purchases or spectrum use as a result of this analysis.
- Why has NTIA not conducted any/more such analyses? Has NTIA been asked to conduct such an analysis and not done so?
- Has NTIA designated any agency to provide a certification required pursuant to OMB Circular A-11, Section 31.12 (c)?
- Is NTIA aware of any other agency conducting such an analysis pursuant to OMB Circular A-11?

Section 31.12 of OMB Circular A-11 directs agencies to work with their Office of Management and Budget (OMB) examiners to ensure the appropriate analyses are completed before procuring major spectrum-dependent systems. NTIA has not been asked by OMB or any agency to conduct any analyses pursuant to the circular. In coordination with the Interdepartment Radio Advisory Committee’s Spectrum Planning Subcommittee, NTIA’s Office of Spectrum Management is exploring options for implementing the NTIA “review” provisions. Consistent with Section 31.12(b), NTIA has regularly certified that the radio frequencies necessary are available prior to the procurement of spectrum-dependent systems.

**Question 2.** OMB Circular A-11, Section 31.12 (b) includes a table providing “spectrum weighting factors.”

- What is the purpose of such weighting?
- Was NTIA involved in the calculation of these factors? If so, what was the basis for specifying the factors?
- Does NTIA believe the factors are reasonable? If so, why, and if not, why not? If not, has NTIA taken any steps to request revision of the factors?

NTIA was consulted in the development of these weighting factors, which were revised with NTIA’s input for the 2016 version of the Circular. The weighting factors provided in Table 1 are intended to roughly equate to the relative market value of spectrum in particular frequency ranges. These are only intended as suggested rough orders of magnitude. The specific market value of any spectrum band is dependent on any number of factors including frequency, terms of use, geographic availability and size of authorized geographic areas, bandwidth, and technologies available for deployment, rules of operation, encumbrances and various other factors. Moreover, the relative value of spectrum in various frequency ranges has been evolving quickly with the technology. In the absence of sufficient market transactions in each of these

frequency ranges, these weightings are considered reasonable at this time, but should be re-evaluated prior to the next update of this section.

Response to Written Questions Submitted by Hon.  
Roger Wicker  
Written Questions for the Record to  
Assistant Secretary David Redl

**Question 1. Assistant Secretary Redl, at the hearing you testified that NTIA has had preliminary conversations with Verisign about continuing the Cooperative Agreement set to expire in November 2018. What is the process for stakeholders to provide input or public comment on the management and operation of top level domains?**

The Internet Corporation for Assigned Names and Numbers (ICANN) is responsible for the global coordination and management of the Internet's domain name system (DNS). Policies related to top level domains are developed via the ICANN multistakeholder policymaking process and when appropriate incorporated in the contracts ICANN has with domain name registries and registrars. This applies to all of the over 1,200 top level domains including .com, which is operated by Verisign pursuant to a registry agreement with ICANN.

**Question 2. Assistant Secretary Redl, multiple countries are competing to build 5G that will shape the future of innovation, and create income, jobs, and opportunity. China, for example, stresses that it will spend \$245 billion on 5G by 2025 because it wants to dominate this area, as does the European Commission that hopes to repeat its success in 3G technologies. In this global race, however, I am only aware of a handful of American companies that are gaining the experience and revenue in 4G which enable them to invest in and develop 5G technologies. Are you concerned about U.S. leadership in 5G and what do you think should be done to ensure that the U.S. is the world's leader in this critical technological area?**

United States' leadership in 5G is critical to our future economic competitiveness and is an important national priority. I believe that the U.S. government must demonstrate unified support of private industry so it can do what it does best – create and invest in technology, deploy secure networks, offer gold-standard services and applications to meet the needs of the American people, and compete effectively in markets around the world.

This support takes many forms – ensuring sufficient spectrum access, making it easier to deploy the necessary telecommunications infrastructure, promoting innovation by avoiding unnecessary regulation, collaborating on research and development, supporting U.S. industry in global standards fora, working with other nations and regions to encourage market openness, and working together to address potential security vulnerabilities. U.S. companies today enjoy leading positions in various parts of the 4G LTE value chain. It is essential that this success be replicated and expanded with 5G, which will underpin so much of the national and global economies. I am committed to ensuring that the federal government maintains a robust dialogue and engagement with industry to help us meet our shared objectives.

Response to Written Questions Submitted by Hon.  
Shelly Moore Capito  
Written Questions for the Record to  
Assistant Secretary David Redl

**Question 1. In the Consolidated Appropriations Act of 2018, Congress authorized \$39.5 million to NTIA, \$7.5 million of which was allocated to updating the national broadband map.**

- **What are NTIA's plans on using these funds?**
- **Does NTIA plan on completely starting from scratch? Or does the agency plan on building off of the National Broadband Map?**

NTIA is currently assessing the best approach to collecting better broadband availability data and making that data accessible for better policymaking decisions. In May, NTIA issued a request for comments on the quality, accuracy, recommendations, and sources of broadband availability data, as well as on mechanisms to validate this data. See *Improving the Quality and Accuracy of Broadband Availability Data*, Notice and Request for Comment, 83 FR 24747 (May 30, 2018), available at: <https://www.ntia.doc.gov/federal-register-notice/2018/request-comments-improving-quality-and-accuracy-broadband-availability>. These comments were due on July 16, 2018, and NTIA is evaluating the responses. NTIA anticipates that we will focus this funding towards specialized technical staffing, the technology platform, data acquisition and data integration and testing.

Currently, the only source of nationwide broadband availability data is that collected from broadband service providers' responses to the Federal Communications Commission's (FCC) Form 477 Fixed Broadband Deployment data process. While this data does provide some useful information, it only provides data at the Census block level, leading to overstatements of broadband coverage in certain areas, primarily rural, in the United States. At the direction of Congress, NTIA will work with the FCC to fill in gaps that exist in the current FCC map. This is not a new program to fund the primary collection of broadband data nor fund data collection activities by states or third parties.

**Question 2. In February 2018, the FCC unveiled a new national broadband map that relies on – provider reported – form 477 data. The need for more granular data has been a concern in this Committee and even the FCC recognized that the map is a first step.**

- **I believe that it is quite clear that the current maps are not granular enough with census block data. And I appreciate you identifying this in your testimony as well. In your opinion, how can we get more granular data to identify where broadband is lacking and to ensure federal funds do not go towards overbuilding? Does it just require more coordination between federal agencies – like NTIA, FCC, and USDA?**

NTIA views data accuracy and granularity as two important but separate issues. Granularity refers to the level of geographic detail at which reporting takes place. Accuracy is the extent to which data correctly identifies the broadband deployment characteristics of a specified geographic area. It is unclear whether incorrect data provided for any particular address on the National Broadband Map is due to variation within blocks or incorrect data for the block as a

whole. For most—though certainly not all—of the U.S. population, Census blocks provide a very granular level of detail; approximately 97 percent of Americans live in Census blocks that are less than two square miles. This suggests that efforts to increase the accuracy of data reported at the Census block level may yield the greatest improvements for the most Americans.

That said, intra-block variation in broadband availability is likely to be most problematic in rural areas where Census blocks tend to be larger. Large Census blocks are more common in some states—like West Virginia—than in others. Federal agencies must work together to ensure that the available data on broadband deployment is accurate, particularly where federal funds are directed.

As noted above, NTIA is currently assessing the best approach to collecting better broadband availability data and making that data accessible for better decisions. NTIA has also been working with a variety of stakeholders to locate, and potentially acquire, more granular data to enable policy makers to make better decisions about broadband investments.

NTIA has been holding meetings with the FCC, the United States Department of Agriculture, other federal agencies, states, service providers, and trade associations regarding improved coordination and potential data sources that could be leveraged for NTIA's broadband availability data mapping work. NTIA is working to improve federal coordination around this goal through the Broadband Interagency Working Group, which we co-chair alongside the Department of Agriculture's Rural Utilities Service. Our efforts are focused on three workstreams that align with key recommendations of the president's Task Force on Agriculture and Rural Prosperity, which released a report earlier this year on improving life in rural America. This working group is critical in ensuring better coordination among federal agencies relative to broadband, and NTIA will leverage these relationships in improving the accuracy of the National Broadband Map.

**Question 3. According to John Stephens, AT&T Chief Financial Officer, around 600 agencies across 48 states have signed up for First Responder Network Authority (FirstNet) services. As part of the contract with FirstNet, a 15% partnering requirement was implemented to ensure rural areas have access to the Nationwide Public Safety Broadband Network (NPSBN).**

- **How far along is AT&T in meeting this 15% geographic requirement?**
- **What kinds of oversight does NTIA have to ensure compliance with this requirement?**

The Middle Class Tax Relief and Job Creation Act of 2012 calls for “deployment phases with substantial rural coverage milestones” and indicates that “[t]o the maximum extent economically desirable ... shall include partnerships with existing commercial mobile providers to utilize cost-effective opportunities to speed deployment in rural areas.” After an extensive consultation period with states, territories, tribal nations, public safety, vendors, and a vigorous public notice period, FirstNet included an objective in its procurement for the Nationwide Public Safety Broadband Network (NPSBN) to “integrate existing assets ... with an emphasis on assets owned and operated by rural telecommunications providers.” This objective was part of the Request

for Proposals (RFP) that FirstNet issued in January 2016 and part of the contract that was ultimately awarded to AT&T after a competitive, open, and transparent process.

To help ensure the use of existing assets, FirstNet included a Pass/Fail evaluation factor in the NPSBN RFP that required the proposed solutions to demonstrate commitment to exercise rural telecommunications provider partnerships for at least 15 percent of the total rural coverage area nationwide at Final Operational Capability (FOC). AT&T's proposal, which is incorporated into the NPSBN contract, demonstrated its commitment to meet that requirement.

In addition, the NPSBN includes deployment phases with substantial rural coverage milestones based on AT&T's proposed rural coverage area nationwide at FOC. Progress in achieving the proposed rural coverage is evaluated over the five-year deployment period, and FirstNet maintains constant contact with AT&T, the states, and public safety to ensure that the network deployment remains on track. The deployment of the FirstNet network is covered under Task Order 4 (TO4), which was executed in March 2018. Given that it has only been six months since execution of TO4, it is too early to assess progress towards the rural coverage requirement; however, validation, reporting and monitoring of these requirements will occur at each IOC. FirstNet continues to work with its NPSBN private-sector partner to ensure that public safety receives the best possible network. I receive regular briefings from FirstNet leadership on the status of the network. Moreover, NTIA and the Department of Commerce regularly coordinate with FirstNet to monitor its progress in deploying the network and address any issues that arise.

**Question 4. As you stated in your testimony, NTIA has made tremendous progress over the last five years in freeing up more available spectrum for commercial use, especially in the midband range (3100-3550 MHz).**

- **What do you see as the end state for our national spectrum policy? How far along is the administration in developing a National Spectrum Strategy?**

The need for a sustainable pipeline to efficiently and effectively meet the needs of both federal and non-federal spectrum users is a major driver of how we must manage spectrum. The Administration is taking a strategic, long-term and flexible approach in order to achieve what is a multi-faceted goal. NTIA has been working closely with Secretary Ross and the White House to further refine our national spectrum policy. Developing and implementing a national spectrum strategy will require ongoing coordination and collaboration with the White House, the Federal Communications Commission, other federal agencies, and numerous other stakeholders.

Ideally, a national spectrum strategy will lay the groundwork for implementation plans that would more fully address how we support both short-term spectrum requirements and long-term objectives. We need to be comprehensive in terms of understanding the scope and scale of both commercial and government needs now and in the future. We need to better understand the impact of technological innovations in both cases, including but not limited to 5G, and catalogue research and development activities and gaps. We also need a plan for modernizing the government's spectrum management systems and tools so we are not held back by reliance on antiquated technology. In short, our national spectrum strategy must be agile so we can adapt to changes in technology, markets, and mission requirements.