Before the
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**OFFICE OF SCIENCE AND TECHNOLOGY POLICY**
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| *Spectrum Policy* | ) | FR Doc. No. 2014-03413 |

# COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION


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**Before the Office of Science and Technology Policy**
**Comments of the Telecommunications Industry Association**

## I. Introduction

The Telecommunications Industry Association ("TIA")[1] hereby submits its comments in response to the February 18, 2014 Notice of Request for Information ("RFI") issued by the White House Office of Science and Technology Policy ("OSTP") regarding spectrum policy.[2] TIA applauds OSTP for seeking input regarding market-based or other approaches that could give departments and agencies greater incentive to share or relinquish spectrum. White House-driven leadership is critical to interagency engagement and success on this important issue.

TIA is the leading trade association for the information and communications technology ("ICT") manufacturer, vendor, and supplier community. TIA members manufacture a wide range of products for both the commercial and government wireless markets, including Wi-Fi, LTE, emerging small cell technologies, non-radio products such as routers and switches, and many other ICT products.

## II. Four Principles for a National Spectrum Policy

Radio spectrum has never before been more important. In commercial communications networks, mobile data use is exploding as consumers embrace smartphones, tablets and other

[1] TIA is a Washington, DC-based trade association representing hundreds of ICT manufacturers, vendors, and suppliers across all technology platforms. Members' products and services empower communications in every industry and market, including healthcare, education, security, public safety, transportation, government, the military, the environment and entertainment.

TIA is also an American National Standards Institute ("ANSI")-accredited standards development organization for the telecommunications field. For more information, please see TIA's 2013 Policy Playbook, which provides an overview of the ICT market, technologies and policies that drive innovation and investment. *See* http://www.tiaonline.org/policy/tia-2013-playbook.

[2] Notice of Request for Information, *Spectrum Policy*, Federal Register Doc. No. 2014-03413.

devices. Wireless connectivity is becoming the way in which consumers access the Internet from technologies such as LTE, Wi-Fi and satellite.

In addition to commercial uses, the Federal Government has a significant dependency on spectrum for both communications and non-communications purposes. These include GPS, radars, satellite, sensing capabilities, and other civil and military uses across a wide variety of agencies to achieve a diverse set of missions unique to government. Moreover, radio technologies themselves are changing, placing new demands on spectrum allocations, and raising new operational and regulatory challenges. As a result of these dynamic changes, spectrum allocations and uses that met the country's needs during the 20th century are increasingly under stress.

However, U.S. policymakers are no longer writing spectrum policy on a blank sheet of paper, and virtually all spectrum has been allocated. For that reason, TIA believes that a national spectrum policy must reflect the following principles to allow the nation's use of radio spectrum to evolve to meet changing demand and innovation:

- *Predictability.* To drive investment by commercial and government users alike, spectrum allocations need to be predictable. Identifying demand and changes in demand, understanding the pace of radio technology development by platform, and long-term planning are all essential parts of a spectrum policy that can provide predictability for both commercial and government users.
- *Flexibility.* For commercial allocations, flexible use policies consistent with baseline technical rules that are technology-neutral have proven to be the best approach.
- *Efficiency.* Policies should encourage more efficient use of spectrum where technically and economically feasible.

- *Priority*. In cases where band sharing is technically and economically possible, policies must advance good engineering practice to best support an environment that protects those with superior spectrum rights from harmful interference.

TIA has long-advocated for realizing the broadly-expressed national policy goal of making more spectrum available for commercial use. This will create hundreds of thousands of jobs for Americans while improving U.S. technological competitiveness. It will enable the mobile industry to meet the demand for high-speed wireless applications, and will help drive the U.S. economy, both near-term and long-term.

## III. Improving Federal Spectrum Management

This Administration has shown great initiative in improving the federal government's use of spectrum. To begin with, TIA appreciates the Department of Defense ("DoD")'s recently-announced Electromagnetic Spectrum Strategy.[3] This strategy clearly and publicly articulates to the DoD spectrum community the need for increased efficiency, creativity and flexibility in spectrum use. In doing so, DoD specifically called out various mechanisms that it believes may be useful in circumstances where spectrum sharing is possible. Critically, DoD also recognized that wise use of spectrum is a matter of national economic security as well as national security, and that appropriate balancing of these interests is required.

A number of additional steps can be taken towards improving federal spectrum management. Some of the actions discussed below may require the participation of other stakeholders such as Congress or independent agencies like the FCC, but some can be taken through executive-branch administrative action.

[3] Department of Defense, *Electromagnetic Spectrum Strategy*, Release No. NR-091-14 (rel. Feb. 20, 2014), *available at* http://www.defense.gov/news/dodspectrumstrategy.pdf

*Better Tracking is Needed.* A better spectrum use tracking and management process will undoubtedly encourage more efficient uses of spectrum by all users. However, achieving this objective will require more frequent and sustained engagement between government and private-sector users at a technical level. In cases of spectrum sharing, federal policy should support forums for all stakeholders to periodically exchange information to better ensure that the sharing environment is and remains workable.

*Stronger Central Coordination May Be Useful.* NTIA – an agency in the Department of Commerce – is currently tasked with coordinating spectrum use for the federal government. However, as various spectrum-related efforts in recent years have demonstrated, a stronger level of coordination or management for federal spectrum usage may be required. Indeed, in some cases NTIA has occasionally had difficulties even obtaining current information from other departments, making it difficult for the agency to effectively respond to Administration and Congressional requests for more detailed information regarding federal use. It may be valuable to have NTIA be staffed to engage more closely with other spectrum management offices to ensure that there is greater currency to government records of use, providing greater transparency for management purposes.

*Agency Incentives Are Required.* Spectrum plays an essential role in fulfilling government missions, and this will continue despite any transition or sharing of particular bands for commercial use. For this reason, although White House-driven leadership to ensure more efficient federal use is necessary – and this Administration's engagement is very encouraging – agency-level incentives are also necessary to ensure that federal spectrum uses (and users) are responsive to constraints of efficiency, predictability, flexibility, etc. in a similar manner to those faced by commercial users. Forward-looking management of radio spectrum is essential to the

goal of expanding telecommunications services and ensuring that the public derives maximum benefit from the use of spectrum – whether by its government or wireless operators.

The proposed Federal Spectrum Incentive Act (H.R. 3674, introduced by Reps. Guthrie and Matsui) represents potentially important legislative progress towards this goal. This bi-partisan legislation is designed to provide agencies with voluntary budgetary incentives to transition spectrum to commercial uses, by simply allowing agencies to keep a portion of the proceeds of any auctioned spectrum for their own use.[4] However, even while supporting this effort, the Administration should also explore ways to provide incentives for more efficient spectrum use deeper within the agency budgeting process, *i.e.*, at a more granular level than simply an agency's top-line retention of a portion of auction proceeds.

*Spectrum "Ownership" is Outdated in an IP World.* TIA does not support moving towards a model of agency "ownership" of spectrum. To begin with, moving towards an agency ownership model would diminish the prospects for centralized control and (certainly) for transparency.

Moreover, at least for communications-based functions, the notion of spectrum ownership by agencies was an idea promulgated in an era where networks and the data flowing over them were tightly linked, *i.e.*, pre-dating the transition to IP networks. In today's world, spectrum ownership would make it more difficult to transition agencies towards a more flexible approach for meeting their communications needs. For those communications capabilities that can be provided equally well by commercial providers, agencies should be considering commercial options in lieu of using their own legacy systems – options that may be more cost-

[4] Spectrum auction legislation is usually considered to be a net "plus" for federal revenues, which has typically been a significant factor towards its advancement in Congress. TIA encourages the Administration to work with the sponsors of H.R. 3674 and others in Congress to enact federal incentive legislation that will similarly be seen as budgetary "win-win."

effective while providing much greater flexibility in serving an agency's mission. Indeed, any legacy uses of agency spectrum for communications purposes may need to be re-evaluated in favor of a more flexible approach that will ultimately benefit the agencies themselves.[5]

*Spectrum Fees Could Create Market and Technology Distortions.* Spectrum fees are not a helpful tool to drive efficiency. To begin with, the implementation of any such fees would almost certainly not be universal, and would therefore create myriad opportunities for "market distortions" including administrative and/or legislative intervention over time. (To use an analogy, the existing problems of a massively complex tax code should not be imported into spectrum policy.) Moreover, this would result in a marketplace that may not be technology-neutral, *i.e.*, in which the government is picking technological winners and losers. Finally, experience shows that fees are unnecessary – the commercial spectrum market already reflects intense market-based competition and strong pressure to use spectrum as efficiently as possible, all without spectrum fees.

*The Administration Should Push For Legislative Action.* While some actions above can be taken administratively, some require legislative action. The Administration can and should work with Congress to support greater effectiveness in the management of Federal spectrum (including proper inventories of usage, valuations, and transparency), long term planning, and to provide incentives (carrots, rather than sticks) for agencies to maximize the use of scarce spectrum resources to support their own increasing requirements and those of other users..

[5] The outcomes of such re-evaluations may be different for each agency, particularly when considering certain non-"communications" uses of spectrum (radar, telemetry, etc.).

## IV. Facilitating Spectrum Transitions

Spectrum transitions must be managed by agencies to ensure prompt and predictable outcomes that follow a transparent process.

*Cleared Spectrum is Important to Commercial Users.* TIA supports the clearing of re-purposed spectrum bands to the maximum extent feasible. Where possible, cleared, exclusively licensed spectrum bands allow for the most efficient and dependable use of spectrum suitable for mobile broadband deployment, and maximize network investment, marketability, availability and consumer use. However when incumbent uses make clearing infeasible, TIA supports greater spectrum efficiency through sharing. Indeed, TIA has recognized that for low-power technology such as Wi-Fi, shared spectrum use such as at 5 GHZ, is a good option. Meanwhile, TIA has been encouraged by DoD's recent work to facilitate opening the 1755-1780 MHz band for commercial use.

*Flexible-Use Funding is Required.* The use of commercial auction proceeds has traditionally been an important and effective tool to migrate and upgrade federal systems to make way for commercial uses, and to support cost impacts on existing programs/contracts when changes are made. As future spectrum transitions are contemplated, the Administration should ensure that any spectrum transition funds can be used in a manner flexible enough to cover a wide range of costs. Indeed, such flexibility may also help overcome any agency resistance to "unknowns" associated with any particular transition of spectrum.

*The FCC Must Play a Central Role.* TIA cautions against any agencies other than the FCC allocating spectrum rights for commercial use. The FCC has developed a strong track record in transitioning spectrum to commercial use and for its administration, and future spectrum transitions should leverage this expertise.

## V. Spectrum Sharing Research and Development

The Administration must continue to play a strong role in encouraging spectrum sharing research and development. In December 2013, TIA released its Spectrum Sharing Research and Development white paper.[6] This paper was developed with input from stakeholders across the ICT industry, and includes recommendations for actions by policymakers in Congress, the Administration, and at specific funding agencies.[7] OSTP can play a significant role in facilitating or encouraging progress on several of these recommendations, including:

- Urging Congress to update NITRD's reporting requirements to ensure a more accurate picture of federal funding for network and information technology research;
- Updating the statutory basis of the NITRD program to encompass and prioritize areas such as spectrum sharing research; and
- Continuing to seek opportunities to administratively target research funding towards spectrum sharing research and development.

*Connecting Transitions to R&D Funding.* As the Administration looks for further ways to improve federal spectrum management and facilitate transitions to commercial use, it should continue to advocate (administratively and legislatively) for re-investment of a portion of spectrum funds in spectrum research and development efforts. Spectrum R&D is the "seed corn" that has enabled more efficient uses of spectrum by federal and commercial users alike, resulting in macroeconomic benefits to the U.S. economy as well as direct benefits to the Treasury when more spectrum is made available for auction.

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[6] Telecommunications Industry Association, *Spectrum Sharing Research and Development* (rel. Dec. 11, 2013), *available at* https://www.tiaonline.org/policy/spectrum-sharing-research-development-white-paper

[7] TIA presented the white paper at a regular meeting of the NITRD-led interagency Wireless Spectrum Research and Development Senior Steering Group (WSRD SSG) held on February 6, 2014.

The Administration previously proposed a Wireless Innovation Fund ("WIN"), but funding for this initiative was unfortunately not included in the 2012 spectrum law.[8] These and other proposals should be revived as part of any legislative initiative to transfer or open federal spectrum for commercial use.

## VI. Conclusion

TIA thanks OSTP for seeking comment regarding improvements in federal spectrum policy and management. We urge OSTP to consider the positions of the ICT manufacturer and vendor community as it proceeds in its efforts.

Respectfully submitted,

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[8] Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96.