U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON ENERGY AND COMMERCE

March 24, 2015

TO: Members, Subcommittee on Communications and Technology

FROM: Committee Staff

RE: Hearing entitled "Next Steps for Spectrum Policy"

## I. INTRODUCTION

On Thursday, March 26, 2015, at 10:15 a.m. in 2322 Rayburn House Office Building, the Subcommittee on Communications and Technology will hold a hearing entitled "Next Steps for Spectrum Policy." The purpose of this hearing is to examine the state of the Federal Communications Commission's (FCC) preparations for its planned 2016 broadcast incentive auction, Commission work to expand and improve the use of the 5 GHz band for unlicensed services, and future plans for expanding access to spectrum resources.

## II. WITNESSES

- Gary Epstein, Chair, Incentive Auction Task Force, Federal Communications Commission;
- Julius Knapp, Chief, Office of Engineering and Technology, Federal Communications Commission;
- John Liebovitz, Deputy Bureau Chief, Wireless Telecommunications Bureau and Special Advisor to the Chairman for Spectrum Policy, Federal Communications Commission; and,
- Roger Sherman, Chief, Wireless Telecommunications Bureau, Federal Communications Commission.

## III. BACKGROUND

The demand for wireless connectivity has grown at an astounding rate, with one report predicting that wireless subscribers worldwide data use will grow 400 percent by 2019.[1] With higher data throughput rates and increased consumer expectations for network performance, the stress on networks necessitates more spectrum dedicated to handle growing demand. There has

[1] ABI Research, Average Monthly Mobile Data Consumed to Reach 2,289 Megabytes by 2019, Says ABI Research, January 2015; http://www.businesswire.com/news/home/20150128005900/en/Average-Monthly-Mobile-Data-Consumed-Reach-2289#.VN0p_PnF98E - See more at: http://www.ctia.org/resource-library/facts-and-infographics/archive/monthly-data-usage#sthash.dHQzZsYR.dpuf.

been more than $260 billion in wireless carrier investment over the last ten years, much of which has been directed towards the acquisition of spectrum.[2]

In 2010, the National Broadband Plan called for the FCC to make 500 MHz of new spectrum available for broadband use within ten years, with 300 MHz between 225 MHz and 3.7 GHz made available within five years.[3] The FCC, pursuant to legislation, has met some of the recommendations made in the plan, including freeing up 75 MHz of spectrum through the auctions of the H-Block in 2014[4] and AWS-3 earlier this year.[5]

In 2012, the Energy and Commerce Committee helped take a significant stride towards meeting spectrum demand through the passage of legislation authorizing the reallocation and auction of spectrum.[6] In particular, Title VI of the Middle Class Tax Relief and Job Creations Act of 2012 (Spectrum Act) authorized the FCC to auction off spectrum in the 600 GHz band currently used by broadcasters. The legislation authorized the FCC to share auction proceeds with television broadcasters that voluntarily relinquish some or all of their airwaves, as well as reimbursing others for some costs associated with the relocation of stations that choose to remain on the air. The legislation outlined a two-sided auction where broadcasters first place "reverse bids" to determine how much compensation they would require to either relinquish some or all of their spectrum or to move to a potentially less desirable frequency band. Wireless carriers then bid in a "forward auction" on licenses in the newly cleared spectrum. The FCC in turn repackages remaining stations in a manner that preserves a broadcast television band for broadcasters while making spectrum available for the new wireless licenses.

In May 2014, the FCC adopted initial rules for the incentive auction, seeking further input on specific questions.[7] The Report and Order adopted a plan for how the 600 MHz band will be configured following the auction of reclaimed spectrum and relocation of remaining broadcast stations. The order also adopted rules and principles for the repacking of broadcast stations in order to comply with the statutory mandate that the FCC make all reasonable efforts to preserve the coverage areas of stations that choose to remain on the air. In addition to the engineering-focused outcomes of the auction, the Report and Order adopted rules for the actual execution of the auction, integrating the reverse and forward stages of the auction. Other process rules included bidding eligibility, bidding processes, post-auction transitions, and reimbursement of relocation costs.

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[2] Background on CTIA's Wireless Industry Survey, June 2014, http://www.ctia.org/docs/defaultsource/Facts-Stats/ctia_survey_ye_2013_graphics-final.pdf?sfvrsn-2.
[3] *Connecting America: The National Broadband Plan*, Federal Communications Commission (2010)
[4] *Auction of H Block Licenses in the 1915-1920 MHz and 1995-2000 MHz Bands Closes*, AU Docket No. 13-178, Public Notice, 28 FCC Rcd. 13019 (2014).
[5] *Auction of Advanced Wireless Services (AWS-3) Licenses Closes*, AU Docket No. 14-78, Public Notice, 29 FCC Rcd. 8386 (2015).
[6] Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, Sec. 6403 (2012) ("Middle Class Tax Relief Act").
[7] In the Matter of Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, GN Docket No. 12-268, Report and Order, 29 FCC Rcd. 6567 (2014).

Also as part of the Spectrum Act, the Committee instructed the FCC and National Telecommunications and Information Administration (NTIA) to investigate the potential for increased unlicensed use of the spectrum in the 5 GHz band.[8] As demand for wireless grows, this band can potentially house expanded Wi-Fi use and other unlicensed data services. In March 2014, the FCC adopted an order that modified rules governing the use of unlicensed devices in the 5 GHz band, removing restrictions and streamlining rules and procedures to improve the usability of the spectrum.[9] Because of the incumbent users of spectrum in the 5 GHz band, including Intelligent Transportation Systems and federal radar systems, the Spectrum Act also instructed the FCC and NTIA to examine whether and how to facilitate co-existence among and between the systems, without harmful interference.

It has been widely accepted that the most usable spectrum for mobile broadband services falls below 3 GHz. However, in light of the congestion below 3 GHz, the increasing use of spectrum in the 5 GHz band – previously considered ill-suited to mobile broadband, and technology innovations, the use of higher band frequencies for consumer mobile broadband must be reconsidered. In October 2014, the FCC initiated a Notice of Inquiry to examine use of the spectrum bands above 24 GHz for mobile radio service.[10] The proceeding will look at the status of development of new technologies that will enable the build-out of networks in these high frequencies. They also seek comment on which frequency bands could be suitable for advanced mobile services, how to manage interference concerns, and the technical challenges that might accompany with the deployment of a new generation of technology.

## IV. STAFF CONTACTS

If you have any questions regarding this hearing, please contact David Redl or Kelsey Guyselman of the Committee staff at (202) 225-2927.

[8] See Middle Class Tax Relief Act, Sec. 6406.
[9] In the Matter of Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band, ET Docket No. 13-49, First Report and Order (2014).
[10] In the Matter of Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, GN Docket No. 14-177, Notice of Inquiry (2014).