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Recent Spectrum Developments: 2011

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NSMA

Spectrum Management

May 24, 2011

Outline

- Spectrum Policymakers
- National Broadband Plan
- Spectrum Bands in Play
- Other Hot Topics
- The Look Ahead

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Spectrum Policymakers

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The Washington, D.C. Landscape: Administration Policy Leaders

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- NTIA
 - Lawrence Strickling
- RUS
 - Jonathan Adelstein
- White House
 - Aneesh Chopra
 - Phil Weiser
- State Department
 - Phil Verveer
- Congress
 - Rep. Fred Upton
 - Sen. Jay Rockefeller



The FCC



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- Chairman
 - Julius Genachowski (D) (June 2013)
- Commissioners
 - Michael J. Copps (D) (June 2010)
 - Robert M. McDowell (R) (June 2014)
 - Mignon Clyburn (D) (June 2012)
- Commissioners are appointed by the President and confirmed by the Senate for 5-year terms

Spectrum Policymakers: FCC

- Ruth Milkman, Chief, Wireless Bureau
- James Barnett, Chief, Public Safety and Homeland Security Bureau
- Mindel De La Torre, Chief, International Bureau
- Julius Knapp, Chief, Office of Engineering and Technology
- Austin Schlick, General Counsel
- Paul De Sa, Office of Strategic Planning & Policy Analysis

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The Genachowski FCC

- National Broadband Plan; offshoot proceedings:
 - Spectrum Reallocation, Infrastructure, USF Reform, etc.
- Process/Procedural Reform
 - Ex Parte, Procedural Order, FNPRM
 - Use of Social Media
 - Data-driven policies

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The National Broadband Plan

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National Broadband Plan

- Spectrum for Broadband
 - **Goal:**
 - 10 Years: 500 MHz for broadband
 - 5 Years: 300 MHz between 225 MHz – 3.7 GHz

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National Broadband Plan: Administration Support

- Presidential Memo – June 2010
 - Directs NTIA to complete a plan and timetable for identifying and making available 500 MHz of spectrum
- NTIA report – October 2010
 - Identifies 115 MHz to be freed up for commercial use
- Obama Administration National Wireless Initiative – February 2011
 - Supports voluntary incentive auctions and more efficient use of government spectrum

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National Broadband Plan

- Spectrum Transparency
 - Spectrum Dashboard – 2.0 released April 2011
 - FCC and NTIA should create methods for measurement of spectrum utilization
 - FCC should maintain an ongoing strategic spectrum plan, including triennial assessment of spectrum allocations

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National Broadband Plan

- Spectrum Reallocation
 - Congress should expand FCC authority to allow for incentive auctions
 - Congress should build upon success of CSEA to facilitate relocation
 - Congress should grant authority to FCC and NTIA to impose spectrum fees

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National Broadband Plan

- Spectrum Flexibility
 - FCC should evaluate secondary markets rules
 - Revise Parts 74, 78, 101 to allow for increased spectrum sharing among point to point microwave services
 - Revise rules to allow for greater flexibility to deploy backhaul: NOI and NPRM – August 2010
 - NPRM: Proposes permitting greater sharing between FS operations in certain BAS and CARS frequencies; permitting adaptive modulation; permitting “auxiliary” fixed stations
 - NOI: Seeks comment on modifying efficiency standards in rural areas; reviewing Part 101 antenna standards; general review of Part 101 rules

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National Broadband Plan

- Spectrum Access – Promote Alternatives to Licensed
 - NPRM – Experimental Licensing Rules – November 2010
 - Creates three new types of experimental licenses to permit testing over a wide variety of frequencies and eliminate the requirement for prior approval for specific tests
 - NOI – Promoting More Efficient Use of Spectrum Through Dynamic Spectrum Use Technologies – November 2010
 - Seeks comment on how to promote more intensive use of spectrum by dynamic spectrum access radio technologies, including spectrum sensing and other technologies that identify temporarily unused spectrum

TV Bands

- NBP: FCC should initiate rulemaking proceeding to reallocate 120 MHz from the broadcast television bands
 - November 2010: FCC adopts TV Spectrum Innovation NPRM
- Congressional action needed to provide FCC with incentive auction authority
 - Number of bills proposed in Congress
- White House support: Wireless Innovation and Infrastructure Initiative – February 2011
- Lots of open questions about funding, process, and timing

AWS-2 and 3

- AWS-2: 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz
- AWS-3: 2155-2175 MHz
- National Broadband Plan recommendations:
 - By Oct. 1, 2010, NTIA/FCC, should analyze possibility of reallocating portion of 1755-1850 MHz band to pair with AWS-3 band: Complete
 - By end of 2010, FCC should adopt order to make 60 MHz from AWS bands available for broadband including, if possible, 20 MHz from federal allocations for broadband: Incomplete
 - By end of 2011, an auction of AWS -2/-3 spectrum should occur: Unlikely
 - By end of 2011, if NTIA determines there is not strong possibility of reallocating federal spectrum to pair with AWS-3, FCC should auction AWS-3 on a stand-alone basis: Possible

D Block

- The National Broadband Plan called for a nationwide, wireless, interoperable broadband public safety network, accessible to all first responders
- By the end of 2010, NBP said FCC should issue an order to make 10 MHz in the Upper 700 MHz D block available for commercial use that is compatible with public safety broadband services for broadband
- Now with Administration support, Congress moving to reallocate D Block to public safety
→ Momentum building for reallocation (Sen. Rockefeller legislation, 9/11 Commission)
- Funding remains a significant issue

MSS

- Mobile Satellite Service (“MSS”): NBP recommends FCC accelerate terrestrial deployments in MSS spectrum.
 - **Report and Order – April 2011**
 - Adds co-primary Fixed and Mobile allocations to the Table of Frequency Allocations for the 2 GHz band, consistent with the International Table of Allocations.
 - Extends the Commission’s existing terrestrial secondary market “spectrum manager” spectrum leasing policies and rules to the use of MSS/ATC spectrum for the provision of terrestrial services.
 - **Public Notice on 2 GHz – May 20, 2011**
 - Seeks information on “ways to assign licenses for stand-alone terrestrial services in an integrated 2 GHz band pursuant to the Commission’s Part 27 rules.”
 - Also seeks comment on three different band plans that could “increase opportunities for successful use of 2 GHz spectrum for terrestrial mobile broadband.”

Other Bands

- Wireless Communications Service (“WCS”) – Order – May 2010:
 - R&O adopts final rules for WCS modifying technical parameters governing operation of WCS mobile and portable devices
 - Second R&O adopts technical rules governing operation of SDARS repeaters
- White Spaces – Order – September 2010
 - Upholds the majority of the FCC’s November 2008 decision, but makes a number of changes in response to the petitions for reconsideration
 - Removes spectrum sensing requirement
 - Retains geolocation database requirement
 - Reserves two TV channels (12 MHz) for wireless mics in each market

Other Hot Topics

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Wireless in 2011: Transactions

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- T-Mobile / AT&T
-
- AT&T / Qualcomm
 - Echo / Hughes
 - Dish / DBSD
 - The Next Thing?

Wireless in 2011: Competition Policy

- Return of More Aggressive Market Regulation?
 - Current “competitive screen” is 95 MHz
 - Triggers in-depth analysis for markets where exceeded, but does not preclude owning more than 95 MHz
 - Spectrum Cap
 - RTG Petition for Rulemaking (2008)
 - 110 MHz cap below 2.3 GHz
 - Other flavors
 - Incumbent eligibility restrictions
 - All spectrum in an auction
 - Some bands or % of spectrum in an auction
 - “Foreclosure Value” tax on incumbent bids
 - Bids are discounted for purposes of determining who wins, not how much they pay
 - Skyterra Order
 - Imposes new procedures on Verizon and AT&T in merger review context

Wireless in 2011: Spectrum Use

- Inventory of Spectrum Use?
 - Spectrum Inventory Legislation
 - Commercial (FCC)
 - Federal (NTIA)
 - Other Developments:
 - FCC Spectrum Dashboard
 - Consolidated Licensing System?



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Wireless in 2011: Net Neutrality

- FCC adopts Open Internet Order – 12/21/10
 - New Part 8 rules fall into three main categories:
 - Transparency; No Blocking; Nondiscrimination
 - The requirements are generally subject to an exemption for reasonable network management
 - Mobile broadband treated differently from fixed
 - Additional transparency requirements
 - Notes that conditions in mobile broadband networks may necessitate network management practices that would not be necessary in most fixed networks
 - Cannot block consumers from accessing lawful websites or block apps that compete with provider's voice/video telephony services

Wireless in 2011: Infrastructure

- The FCC has taken action on several of the NBP's recommendations to improve the utilization of infrastructure:
 - Pole Attachments Order and FNPRM (2010); Report & Order and Order on Reconsideration (April 7, 2011)
 - Rights of Way Task Force
 - Rights of Way and Tower Siting NOI (April 7, 2011)
- Migratory Bird MOU – May 2010

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Wireless in 2011: Roaming

- April 2010: Order eliminates home roaming exclusion; carriers must provide push-to-talk upon request; outlines process for dispute resolution
- April 2011: Second Report and Order imposing data roaming obligations on CMRS providers
- May 2011: Verizon appeals the April 2011 Order



Wireless in 2011: Outage Reporting

- May 2011 NPRM:
 - Expands outage reporting requirements for 911 to interconnected VoIP and broadband ISPs
 - Seeks comment on definition of outage reporting, proposed reporting thresholds, effectiveness of mandatory reporting, how reporting process should work, what information should be reported, and confidentiality requests



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Wireless in 2011: E911

- Second Report & Order – September 2010
 - Requires that Phase II location accuracy be measured at a more granular geographic area at the individual county or PSAP level
 - Carriers may no longer average location accuracy fixes over a broader geographic area
- FNPRM – September 2010
 - Seeks comment on: more stringent accuracy requirements; testing methodology to verify compliance; improving accuracy in challenging environments; and improving accuracy in roaming situations
- NOI – September 2010
 - Seeks comment on applying 911/E911 requirements to non-interconnected VoIP services; whether location accuracy will be affected by NG 911 deployment; and whether to apply 911/E911 to additional devices/services enabled by broadband services

Wireless in 2011: Bill Shock

- October 2010: FCC adopts NPRM on bill shock
- Proposed rules – three requirements:
 - Provide notification when customer approaches/reaches monthly limits
 - Notify customers if they will incur international/roaming charges
 - Disclose clearly any consumer tools to review usage

Wireless in 2011: NTIA Spectrum Management Advisory Committee

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- Rechartered – April 1, 2011
- New Co-Chairs and new members?
- Previous Iteration of CSMAC:
 - Incentives Subcommittee Report (1/11/11)
 - Unlicensed Use Subcommittee Report (1/11/11)
 - Spectrum Inventory Working Group Report (5/19/10)
 - Spectrum Transparency Subcommittee Report (5/19/2010)
- Next meeting: May 25, 2011

Wireless in 2011: Other Issues

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- Wireless Consumer Protection
- Disabilities Access
- Signal Boosters
- Special Access

The Look Ahead



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The Look Ahead:

National Broadband Plan Timeline

- **2011:** Auction AWS-2/-3 spectrum, upper 700 MHz D block for commercial use; adopt order to accelerate terrestrial deployment in S-Band of MSS spectrum for broadband
- **2012:** Elections / Silly Season
- **2012/13:** Auction broadcast TV spectrum for broadband
- **2020:** Eliminate High Cost USF program and migrate all support to Connect America Fund; 100M US homes should have affordable access to 100 mbps (down) / 50 mbps (up)

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