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NTIA Releases Highly Anticipated National Spectrum Strategy

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On November 13, 2023, the National Telecommunications and Information Administration (NTIA) released its National Spectrum Strategy (Strategy)—a "high-level blueprint" articulating the Biden-Harris Administration's national objectives for spectrum policy. The Strategy is a culmination of NTIA's efforts to collect public input and collaborate with the Federal Communications Commission (FCC or Commission) on ways to support U.S. leadership in wireless technologies and services through improved spectrum management and access. The Strategy identifies more than 2,700 megahertz of spectrum for further study for potential repurposing, including the 3.1-3.45, 5.03-5.091, 7.125-8.4, 18.1-18.6 and 37.0-37.6 GHz bands. Other highlights of the Strategy include: recommending the formation of a new "collaborative framework" for spectrum planning; proposing to establish new models for evaluating spectrum use and assessing the impact of spectrum reallocation; and launching a "moonshot" effort and national testbed to advance innovation in and development of spectrum management and dynamic sharing technologies, including the use of artificial intelligence.

More information from NTIA is expected in a forthcoming implementation plan, which will identify the timeline for completing various Strategy objectives and the parties responsible for those objectives.

The National Spectrum Strategy recognizes that demand for spectrum is on the rise, with consumers, businesses, and government entities relying on spectrum as part of everyday life. In NTIA's view, dynamic spectrum sharing will be a key technique for meeting the growing demands on spectrum resources, alongside improved processes for the public and private sector collaboration on long-term planning to

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support the nation's evolving spectrum needs.

The Strategy adopts four pillars with various strategic objectives to carry out a "whole-of-Nation" approach to meet current and future spectrum access requirements. It notes that all objectives should be achieved in a manner consistent with the statutory roles and responsibilities of the FCC as the exclusive regulator of non-federal spectrum use and NTIA as the sole agency responsible for authorizing federal spectrum use.

Pillar One: Spectrum Pipeline & Spectrum Bands for In-Depth Study

The Strategy identifies five federal and shared federal/non-federal spectrum bands (totaling 2,786 megahertz of spectrum) for in-depth study to determine suitability for potential repurposing over the next two years. NTIA emphasizes, however, that the study of a band for potential repurposing does not prejudge the outcome of the study or final recommendations with respect to whether all, part, or none of the spectrum should be repurposed.

- ***Lower 3 GHz (3.1-3.45 GHz)***: The U.S. Department of Defense (DOD) has studied the possibility of sharing the lower 3 GHz band with the private sector pursuant to the Infrastructure Investment and Jobs Act of 2021. DOD determined that sharing is feasible through advanced interference-mitigation features and a spectrum-sharing coordination framework. The Departments of Commerce and Defense will co-lead any additional studies that focus on the 3.1-3.45 GHz band through the broader Emerging Mid-band Radar Spectrum Study to explore dynamic spectrum sharing, while ensuring DOD and other federal mission capabilities are preserved in the band.
- ***5030-5091 MHz***: The FCC—in coordination with NTIA and the Federal Aviation Administration—is expected to take near-term action through an ongoing FCC proceeding to develop rules to enable wireless communications in the 5030-5091 MHz band for unmanned aircraft system (UAS) use. Studying this band will assist the FCC in optimizing UAS spectrum access without harmful interference to other protected in-band and adjacent band operations.
- ***7125-8400 MHz***: The 7125-8400 MHz band will be studied initially for wireless broadband use on a licensed and/or unlicensed basis, with some sub-bands to be studied for other uses at a later time. NTIA explains there are several mission-critical federal operations in this band—such as Fixed, Fixed Satellite, Mobile, Mobile Satellite, Space Research, Earth Exploration Satellite, and Meteorological Satellite services—that will make it challenging to repurpose portions of the band while protecting incumbent users from harmful interference.
- ***18.1-18.6 GHz***: This spectrum will be studied for expanded federal and non-federal satellite operations, which could involve adding space-to-space allocations in this band (among others). NTIA notes that Fixed Satellite Service downlink operations are currently authorized in this band, as is non-Federal Fixed Service in the 18.1-18.3 GHz segment of the band.
- ***37.0-37.6 GHz***: To build on prior NTIA, DOD, and FCC efforts, 37.0-37.6 GHz will be studied further to implement a co-equal, shared-use framework to allow federal and non-federal users to operate in the band.

The Strategy explains that when federal agencies identify requirements for additional spectrum access, NTIA will consider: (1) the agency's operational and mission requirements (*i.e.*, whether the agency's mission requires constant availability of spectrum for immediate use); (2) existing authorities and conformity to international allocations for similar applications; and (3) the potential for improved efficiency and mission effectiveness through new technology developments and coexistence techniques. NTIA further notes that it aims to provide increased transparency and data on federal spectrum usage to decisionmakers to the extent permitted by law and subject to operational security protections.

Pillar 2: Long-Term Spectrum Planning

NTIA explains that the U.S. Government must implement a long-term planning process for stakeholders to address users' current and future spectrum requirements. In NTIA's view, the United States "needs a better and more consistent process for bringing the public and private sectors together to work through the difficult issues surrounding access to spectrum, including dynamic forms of spectrum sharing." Strategy at 2.

NTIA and the FCC have recently formalized their cooperative relationship through a revised Memorandum of Understanding (MOU) and various interagency cooperation mechanisms (including state, local, and Tribal governments) exist, but the Strategy notes that the U.S. needs a process to bring together all stakeholders—including industry stakeholders—for advanced planning. The Strategy calls for "a new collaborative framework" and directs the U.S. Government to develop a "national spectrum planning process" and determine "the key elements needed to plan spectrum allocations" to meet U.S. spectrum needs. With input gathered through this new collaborative framework, the U.S. Government intends to regularly update the Strategy.

The Strategy identifies as a strategic objective the development of an evidence-based national spectrum decision-making methodology. The methodology will incorporate best practices, developed through the new collaborative framework, for conducting technical and economic analyses and will include—at a minimum—more transparency around reported findings to the extent practicable (subject to information security restrictions).

The U.S. Government is also directed to define requirements for capturing essential data and information on spectrum issues. Data about real-world usage, the type of use (*i.e.*, active or passive), as well as frequency and geography domains are needed to assess the potential for increased spectrum capacity. The Strategy indicates that the Government will work to improve available data and use new or upgraded validated models to facilitate acceptance of studies assessing the potential for coexistence.

Pillar 3: Spectrum Management Technologies

The Strategy states that the U.S. will set "measurable goals" to advance the state of technology for spectrum access with an emphasis on dynamic forms of sharing. Within 12-18 months, the U.S. Government will complete a "moonshot" effort in collaboration with industry to advance research, create investment incentives, and set goals for advancing spectrum access technology. Specifically, the U.S. Government seeks to encourage investment in technologies that will facilitate dynamic sharing, such as artificial intelligence and

machine learning, cloud-based spectrum management, open and interoperable network architecture, advanced RF microelectronics, and edge intelligence. The U.S. Government will also identify mechanisms that drive federal investment in spectrum innovation and explore ways to incentivize federal agencies to procure systems that can operate outside of traditional frequency allocations and across frequency bands.

The Strategy further notes that the U.S. Government will develop a National Spectrum Research and Development Plan to consider recommendations to facilitate long-term spectrum planning. The U.S. Government will also establish a national testbed for dynamic spectrum sharing, which will allow policymakers to evaluate spectrum access technologies in federal and non-federal spectrum segments and work collaboratively with stakeholders to assess new technologies.

Pillar 4: Modernizing the Spectrum Workforce

The Strategy explains that preparing a well-trained U.S. spectrum workforce is critical for achieving its objectives. The U.S. Government is tasked with developing and periodically updating a National Spectrum Workforce Plan. As an initial step, academic institutions, federal agencies, Tribal Nations, and private entities are invited to identify the needed education and training programs to equip the workforce for spectrum-related workforce demands.

The Strategy also indicates that the Administration will encourage policymakers at all levels to improve their understanding of spectrum topics and that the U.S. Government will work to improve the public's overall understanding and appreciation of spectrum.

What's Next: Release of the Implementation Plan

NTIA—in collaboration with the FCC and other federal agencies—will publish an Implementation Plan that will establish specific outcomes for each strategic objective. For each outcome, the Implementation Plan will name a responsible party, other contributing stakeholders, the anticipated start date, and the estimated amount of time needed to achieve the objective. The Strategy does not indicate when the Implementation Plan will be released.

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For more information about the Strategy and its impact on the wireless industry, please contact any of the authors listed on this alert. Wiley's Telecom, Media & Technology practice has a wealth of expertise on spectrum management and regulations, and our team of engineers and attorneys include former government officials that are deeply involved with all aspects of the United States government's spectrum management regime.