

National Telecommunications and Information Administration Implementation of the National Spectrum Strategy

Comments of APCO International

The Association of Public-Safety Communications Officials-International, Inc. (APCO)¹ submits these comments in response to NTIA’s request for comments² regarding implementation of the National Spectrum Strategy.³ APCO appreciates the opportunity to provide a public safety perspective on spectrum planning. Here, APCO outlines how NTIA and other agencies can take public safety considerations into account when implementing each pillar of the National Spectrum Strategy.

I. Pillar One: A Spectrum Pipeline to Ensure U.S. Leadership in Advanced and Emerging Technologies.

The National Spectrum Strategy identifies a growing demand for spectrum access across all industries.⁴ While the strategy places an emphasis on increasing spectrum access for commercial sectors,⁵ APCO urges NTIA and other agencies not to overlook public safety users’ need for access to reliable, interference-free spectrum. Public safety agencies depend on spectrum for communications to protect life and property. For example, public safety agencies use spectrum to dispatch first responders, provide incident-related data such as suspect descriptions and scene-safety information essential to law enforcement, fire, and EMS officials,

¹ Founded in 1935, APCO is the nation’s oldest and largest organization of public safety communications professionals. APCO is a non-profit association with over 40,000 members, primarily consisting of state and local government employees who manage and operate public safety communications systems – including 9-1-1 Emergency Communications Centers (ECCs), emergency operations centers, radio networks, and information technology – for law enforcement, fire, emergency medical, and other public safety agencies.

² Implementation of the National Spectrum Strategy, 88 Fed. Reg. 85266 (Dec. 7, 2023) *available at* <https://www.federalregister.gov/documents/2023/12/07/2023-26810/implementation-of-the-national-spectrum-strategy>.

³ National Telecommunications and Information Administration, National Spectrum Strategy (Nov. 13, 2023) (“NSS”) *available at* https://www.ntia.gov/sites/default/files/publications/national_spectrum_strategy_final.pdf.

⁴ *Id.* at 3.

⁵ *See, id.* at 4 (“Strategic Objective 1.2: Ensure spectrum resources are available to support private sector innovation now and into the future”).

establish backup links for 9-1-1 networks, support life-safety communications for first responders, and coordinate the incident response through its resolution.

Public safety agencies depend upon a range of spectrum bands to suit communications for diverse use cases. Public safety users might lack flexibility in which bands suit their needs, due to the propagation characteristics in certain bands and the need to use a specific band to achieve interoperability with neighboring public safety entities. In many cases, the bands available to public safety are so congested that existing and prospective licensees cannot obtain the spectrum needed to meet their requirements. The National Spectrum Strategy should be implemented with attention given to these issues.

II. Pillar Two: Collaborative Long-Term Planning to Support the Nation's Evolving Spectrum Needs.

The National Spectrum Strategy notes that several advisory groups have been established to provide input on a broad range of spectrum issues.⁶ APCO welcomes the efforts by NTIA and other federal agencies to develop a sustainable long-term spectrum strategy with collaboration from various spectrum stakeholders.⁷ As NTIA oversees stakeholder advisory groups such as the Commerce Spectrum Management Advisory Committee to develop future spectrum plans, APCO encourages NTIA to ensure public safety perspectives are included.

The National Spectrum Strategy highlights the importance of capturing essential data and information on spectrum use, with an emphasis on real-world data.⁸ APCO supports efforts to collect real-world data provided that these efforts take into consideration that metrics relevant for commercial users to assess the degree of use might not be applicable for evaluating public safety

⁶ *Id.* at 9.

⁷ *Id.*

⁸ *Id.* at 12.

use.⁹ Public safety systems are designed for the worst-case scenario, with high reliability requirements. During emergencies public safety spectrum use can surge in a small geographic area. The capacity needed to meet public safety demands during a surge should not be mistaken for excess capacity or a sign of underutilization. Nor should public safety's standards for fade margins – the margin of extra signal strength built into a radio system to ensure reliable communications during signal degradations – be mistaken as an opportunity to introduce new spectrum users with transmissions that could be tolerated by the public safety systems during ideal circumstances but would decrease the systems' ability to remain operational.

III. Pillar Three: Unprecedented Spectrum Innovation, Access, and Management through Technology Development.

The National Spectrum Strategy places an emphasis on improving the efficient and effective use of spectrum through enhancements in spectrum equipment and spectrum sharing mechanisms.¹⁰ APCO supports efforts to explore avenues to improve spectrum sharing and agrees that a national policy to maximize flexible use of spectrum must respect current spectrum users, ensure incumbents are protected from harmful interference, and avoid risks to national security and public safety.¹¹ Any spectrum sharing techniques that could impact public safety communications should be thoroughly tested and proven in advance through real-world trials to not only prevent interference, but promptly identify and eliminate it.

APCO is particularly interested in efforts to establish a national testbed for dynamic spectrum sharing.¹² Public safety stakeholders have advocated for real-world testing prior to

⁹ *Id.* (“Data about current real-world usage, the purpose and type of use (active or passive), as well as the occupancy in the time, frequency, and geography domains, is needed as the basis for assessing the potential for increased capacity.”).

¹⁰ *Id.* at 13.

¹¹ *Id.* at 17.

¹² *Id.* at 16.

deployment of spectrum sharing mechanisms involving bands used by public safety.¹³ As NTIA and other agencies establish the national testbed, APCO suggests that a process be developed for acting upon public safety requests to evaluate current and prospective sharing frameworks and technologies.

The National Spectrum Strategy notes that “embracing and promoting innovative technologies that can expand the overall capacity or usability of spectrum is vital to our Nation.”¹⁴ APCO supports efforts to improve innovation in spectrum technologies, but to the extent that implementation of the National Spectrum Strategy would require spectrum users to adopt specific innovative technologies, APCO encourages NTIA to consider the limitations faced by public safety spectrum users. Public safety agencies often lack the resources needed to acquire newer spectrum technologies or to augment existing systems to make them more tolerant of new sources of interference. As NTIA explores efforts to increase innovation in spectrum technologies, APCO encourages additional attention to how federal policies could incentivize competition for public safety equipment manufacturers in ways that enable public safety agencies to implement technology upgrades at lower costs.

IV. Pillar Four: Expanded Spectrum Expertise and Elevated National Awareness.

APCO supports efforts to improve policymakers’ understanding of spectrum considerations.¹⁵ As the demand for spectrum increases, it is imperative that policymakers understand the unique needs of public safety spectrum users and how these needs differ from

¹³ See, e.g., Comments of APCO International, GN Docket No. 23-65, IB Docket No. 22-271, at 2 (May 12, 2023) (requesting the Federal Communications Commission conduct independent testing of the Supplemental Coverage from Space framework prior to deploying the framework in the 700 and 800 MHz bands) *available at* <https://www.apcointl.org/~documents/filing/apco-comments-scs-framework-051223>; Comments of APCO International, ET Docket No. 18-295, GN Docket No. 17-183, at 3 (June 29, 2020) (urging the Federal Communications Commission to conduct real-world testing prior to permitting unlicensed operations in the 6 GHz band).

¹⁴ NSS at 12.

¹⁵ *Id.* at 21.

commercial spectrum demands. Sufficient access to reliable, interference-free spectrum is vital for public safety and emergency response, and the Federal Government is in a position to address these needs through effective spectrum planning and management.

Respectfully submitted,

APCO INTERNATIONAL

By:

Jeffrey S. Cohen
Chief Counsel
(571) 312-4400 ext. 7005
cohenj@apcointl.org

Mark S. Reddish
Senior Counsel
(571) 312-4400 ext. 7011
reddishm@apcointl.org

Alison P. Venable
Government Relations Counsel
(571) 312-4400 ext. 7004
venablea@apcointl.org

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