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United States Senate

COMMITTEE ON COMMERCE, SCIENCE,
AND TRANSPORTATION

WASHINGTON, DC 20510-6125

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May 6, 2025

The Honorable Pete Hegseth
Secretary

U.S. Department of Defense
1400 Defense Pentagon
Washington, DC 20301

Dear Secretary Hegseth:

Few assets are more vital to our national security than the electromagnetic spectrum powering America's military radars, combat drones, and satellite communications. These complex systems must function flawlessly in contested environments while under enemy attack. Our military must apply every resource available to stay ahead of our adversaries who are, at this very moment, battle-testing electromagnetic warfare techniques designed to disrupt these very systems and deny our warfighters access to key offensive and defensive capabilities.

Make no mistake, on today's battlefield, if we lose the spectrum war, we lose the war.

However, some in Congress now want to disrupt this work by auctioning off strategic portions of spectrum – resources currently in use by our military – to the highest bidder. This would be a grave error, placing short-term corporate gain ahead of our nation's long-term security. As we face mounting challenges around the world, particularly from China, I urge you to guard the critical spectrum resources currently assigned to the Department of Defense.

In one of his first acts in office, President Trump directed the military to prioritize missile defense through his proposed Golden Dome system.¹ This advanced missile defense system relies on a fusion of ground, air, and space-based sensors and radars paired with a variety of kill vehicles to protect us from a broad array of missile threats, including next-generation hypersonic missiles. These sensors, radars, and counter-ballistic systems require significant spectrum resources. If Golden Dome remains a priority for the Administration, we need assurances that taking spectrum away from the Department of Defense will in no way impede or delay the effectiveness of this initiative.

Golden Dome is not the only system at risk—a substantial number of military radar systems that operate in the lower 3 GHz band are also endangered. These systems are highly dependent on electromagnetic spectrum and we cannot afford to destabilize them. The DoD describes the unique characteristics of this spectrum band as having superiority in “long

¹ The Iron Dome for America, Executive Order (Jan. 27, 2025), <https://www.whitehouse.gov/presidential-actions/2025/01/the-iron-dome-for-america/>.

detection ranges, tracking accuracy, and discrimination capability.”² The 3 GHz band and the systems that rely on it are not just critical to detecting fast-moving missile threats, they also detect targets such as the Chinese spy balloon that floated across the United States in 2023, an incident you once characterized as “impotence on display.”³ Moving these DoD radars to another band is both technologically challenging and costly—estimates say as high as \$120 billion.⁴ Acting to auction this band before we understand the full consequences of doing so risks exposing the United States to even more significant incursions – and next time, it may not merely be a Chinese balloon that we can’t afford to miss.

The same caution is called for with respect to the Citizens Broadband Radio Service (CBRS), which currently uses spectrum shared by Naval radar systems and commercial wireless users. The innovative structure of this spectrum-sharing arrangement allows the Navy to continue using high power surveillance and targeting radars to protect vessels and our coasts, while also enabling commercial use of the band when and where the Navy does not need access. I’m concerned about a proposal to move these Navy systems entirely out of the band. This would do more than disrupt critical naval operations and homeland defense. Transferring control of this band would also undermine an innovative ecosystem of commercial wireless technology that will be extremely valuable for robotic manufacturing, precision agriculture, ubiquitous connectivity in large indoor spaces, and private wireless networks supporting the industrial uses and improved data connectivity.

Yet another proposal under consideration is repurposing spectrum in the 4.4 GHz band. The Department of Defense already uses this band extensively, including for Unmanned Aircraft Systems (UAS).⁵ As we are seeing in Ukraine and around the world, UAS is critical not just to the battlefield of the future—but to today’s conflicts. Given the urgency to accelerate American investments in these technologies and the need to rapidly deploy this technology to compete with China’s military transformation to UAS systems, I have significant concerns about allowing a spectrum band enabling these critical capabilities to be sold off to the commercial wireless industry.

Furthermore, I am deeply concerned about proposals to mandate an auction of the 7 to 8 GHz bands. The military uses these bands for a wide range of fixed and mobile satellite communications capabilities as well as other critical missions. This band is essential to our national security and our ability to communicate and coordinate military action worldwide. Now

² U.S. Department of Defense, Emerging Mid-Band Radar Spectrum Sharing (EMBRSS) Feasibility Assessment Report (Sept. 2023), <https://odcio.defense.gov/Portals/0/Documents/Library/DoD-EMBRSS-FeasibilityAssessmentRedacted.pdf>.

³ <https://www.mediaite.com/tv/foxs-pete-hegseth-loses-it-over-biden-admin-impotence-on-chinese-spy-balloon-this-is-insane/>.

⁴ Brattle Group, Principles of Spectrum Sharing: Understanding the Value of Shared Spectrum, <https://spectrumfuture.com/wp-content/uploads/2023/09/Principles-of-Spectrum-Sharing-Understanding-the-Value-of-Shared-Spectrum.pdf>.

⁵ NTIA, Federal Government Spectrum Use Reports 4500.0-4800.0 MHz (Dec. 1, 2015) https://www.ntia.gov/files/ntia/publications/compendium/4500.00-4800.00_01SEP14.pdf

is most definitely not the time to undercut DoD's use of critical spectrum for satellite communications.

Finally, there have also been troubling proposals to repurpose much of the 6 GHz band for high-powered commercial use. This band is currently used by the tech industry for Wi-Fi, and most of the world has allocated the 6 GHz band to support this thriving ecosystem. The significant exception is China. If the United States were to follow China's lead and switch the upper 6 GHz band to full power use, it would only favor Huawei – the only global telecommunications supplier currently building equipment for licensed 5G in that band. We cannot afford to give Huawei any advantages in the race to 5G and beyond.

This is not idle speculation. Spectrum resources have long supported many of the DoD's most critical capabilities, and poor spectrum planning and coordination have put those capabilities at risk in the past. Years ago, the B-2 bomber's radar had to be replaced at substantial cost to the taxpayers because failures of coordination meant that commercial users interfered with the spectrum that the B-2 used. We cannot afford to disrupt these complex and extremely critical systems. We cannot risk repeating these same mistakes as China rapidly increases its strike capacity.

I urge you to consider these issues and engage appropriately to defend both DoD's capabilities and our nation.

Please respond to the following questions:

1. Will Golden Dome effectively defend the homeland and accomplish the President's goals if the spectrum these systems will use is auctioned away?
2. How will you ensure that there will be no effects on our warfighters before any spectrum band currently used by the Department of Defense is auctioned off to the highest bidder?
3. Do you believe that the lower 3 GHz band can be repurposed for commercial use without reducing the effectiveness of systems that defend the homeland? Do we risk another Chinese balloon or worse spying on Americans and violating our territorial sovereignty?
4. Do you believe that moving Navy radars out of the CBRS band could disrupt your ability to detect and respond to threats aimed at the United States?
5. As warfighting increasingly depends on UAS, can the military afford to lose access to spectrum used for UAS such as the 4.4 GHz band?
6. What will be the effects on national security if the Department of Defense loses access to the spectrum used for satellite communications in the 7 to 8 GHz bands?
7. Would mimicking China's allocation of the 6 GHz band favor Huawei over trusted vendors in the race to build global telecom infrastructure?

Thank you for your prompt attention.

Sincerely,

A handwritten signature in blue ink that reads "Maria Cantwell". The signature is fluid and cursive, with the first name "Maria" and last name "Cantwell" clearly distinguishable.

Maria Cantwell
Ranking Member