



December 5, 2025

Honorable Ted Cruz
Chairman
Committee on Commerce, Science,
and Transportation
United States Senate
Washington, DC 20510

*Re: Budgetary Determination for Section 1564 of S. 2296, the National
Defense Authorization Act for Fiscal Year 2026, as Passed by the Senate
on October 9, 2025*

Dear Mr. Chairman:

You have asked the Congressional Budget Office for information concerning our budgetary determination for section 1564 of S. 2296, the National Defense Authorization Act for Fiscal Year 2026, as passed by the Senate on October 9, 2025. You also have asked us to describe the key assumptions underlying our estimate.

Section 1564 would establish a mandatory process to govern modifications to Department of Defense (DoD) systems within the 3.1 to 3.45 GHz (gigahertz) and 7.4 to 8.4 GHz bands of the electromagnetic spectrum. Those bands currently are excluded from the auction authority of the Federal Communications Commission (FCC).

DoD has exercised its broad authority under current law to safeguard national defense and national security interests concerning its use of spectrum. Because CBO expects DoD to continue to do so, we expect that implementing section 1564 would not affect the results of spectrum auctions.

In CBO's judgment, any potential budgetary effects would be one-sided: They would be in the direction of reducing offsetting receipts. (Offsetting receipts are recorded in the budget as reductions in direct spending.) That is, if CBO's expectation is incorrect, and implementing section 1564 ended up decreasing,

rather than not affecting, offsetting receipts, the result would be an increase in direct spending. Therefore, CBO expects that implementing the provision would result in an insignificant increase in direct spending.¹

Laws and Regulations Concerning Reallocation of DoD's Spectrum

DoD currently has broad authority over its protected spectrum through specific statutory provisions that are designed to support military capabilities and through the regulations that govern reallocation and sharing of spectrum.

Several statutes apply specific conditions relating to the protected bands:

- Section 1062(b) of the National Defense Authorization Act (NDAA) for Fiscal Year 2000 requires the Secretary of Commerce, the Secretary of Defense, and the Chairman of the Joint Chiefs of Staff to certify, before surrendering any frequencies that DoD occupies as a primary user, that the replacement band provides comparable technical characteristics and would allow the restoration of any essential military capability lost in surrendering the original frequencies.²
- The Infrastructure Investment and Jobs Act established a framework for identifying, coordinating, and authorizing DoD to share or surrender frequencies within the 3.1 to 3.45 GHz band.³ That statute directs that sharing with nonfederal users must not affect the primary mission of military spectrum users. The protection applies to changes that would accommodate sharing or surrender of frequencies within the 3.1 to 3.45 GHz band.
- One section of the U.S. Code requires the Secretary of Defense and the Chairman of the Joint Chiefs to jointly submit, at least every two years, a report on national policy plans for reallocating DoD spectrum.⁴ The reports must discuss the implications of sharing, reassigning, reallocating, or relocating spectrum that might hamper DoD's essential

1. For more information on CBO's estimate of spectrum auctions authorized under the 2025 reconciliation act, see supplemental cost estimate for Public Law 119-21, to provide for reconciliation pursuant to title II of H. Con. Res. 14, title IV, Committee on Commerce, Science, and Transportation, Section 40002, Spectrum Auctions (October 28, 2025), www.cbo.gov/publication/61838.

2. See "Surrender of Department of Defense Spectrum," 47 U.S.C. §921, note (P.L. 106-65 (division A, title X, section 1062(b)) (1999)), <https://tinyurl.com/28ujfjpk>.

3. See "Spectrum Auctions," 47 U.S.C. §921, note (P.L. 117-58, division I, section 90008 (2021)), <https://tinyurl.com/22e9hms9>.

4. See "Management and Review of Electromagnetic Spectrum," 10 U.S.C. §488 (2003), <https://tinyurl.com/34mrmvtn>.

military capability, as determined under feasibility assessments to ensure comparable capability. They also must identify whether the changes would be considered feasible within 10 years.

Several other statutes govern the processes that are required to protect national security:

- Section 47 of the U.S. Code allows the President to substitute an alternative frequency for one planned for reallocation under certain circumstances, notably if the original reallocation would seriously jeopardize national defense or carry an excessive cost, or if the reassigned frequency is particularly necessary to meet the government's needs.⁵ The protection would apply to changes to any system in any band under the specified circumstances.
- Section 40002 of Public Law 119-21, the 2025 reconciliation act, requires the President, as necessary to protect U.S. national security, to modify or withdraw any frequency proposed for reallocation.⁶ The provision applies to any changes, regardless of system or band, that would compromise national security.

Several laws and regulations currently allow federal agencies to participate in developing transition plans for spectrum relocation or sharing.⁷ The agencies' estimates of related costs are key considerations used to determine whether the FCC will undertake an auction.

The Communications Act of 1934 requires that the proceeds from spectrum auctions cover 110 percent of the estimated costs of spectrum relocation or sharing.⁸ The National Telecommunications and Information Administration

5. See "Withdrawal or Limitation of Assignment to Federal Government Stations," 47 U.S.C. §924 (1993), <https://tinyurl.com/5d22u7m7>.

6. See "Spectrum Auctions," 47 U.S.C. §309, note (2025), <https://tinyurl.com/3jd9fwz5>.

7. Those laws and regulations include "Relocation of and Spectrum Sharing by Federal Government Stations," through "Relocation Prioritized Over Sharing," 47 U.S.C. §§ 923(g)-(j), <https://tinyurl.com/msmdm6up>, "Spectrum Relocation Fund," 47 U.S.C. § 928, <https://tinyurl.com/527zwt2m>, "Special Auction Provisions for Eligible Frequencies," 47 U.S.C. 309(j)(16), <https://tinyurl.com/jf4rarzy>; and "Relocation of and Spectrum Sharing by Federal Government Stations," 47 C.F.R. Part 301 (2013), <https://tinyurl.com/5nddexud>.

8. See "Conclusion of Auctions Contingent on Minimum Proceeds," 47 U.S.C. § 309(j)(16)(B), <https://tinyurl.com/3d6jcy2x>.

(NTIA), which is within the Department of Commerce, has issued other regulations and outlined specific procedures for spectrum auctions.⁹

The federal agencies that are affected by spectrum auctions—including those that are relocated from spectrum to be auctioned and those that must accommodate relocated incumbents—draft initial transition plans that include schedules and estimated costs for spectrum relocation and sharing. The plans are subject to review and approval by a technical panel established under the laws and regulations noted above.

A federal entity, such as DoD, that incurs relocation or sharing costs as a result of an auction of federally occupied spectrum is entitled to reimbursement of those costs from the Spectrum Relocation Fund. The costs include those necessary for the agency to achieve capability of systems that are comparable to those before the relocation or sharing arrangement and may cover incidental increases in functionality. Agencies' assessments of the cost and the required schedules carry considerable weight; if actual auction proceeds do not exceed the estimated costs by 10 percent, the auction of federally encumbered bands must be canceled.

Operational Effects of Implementing Section 1564 of S. 2296

Section 1564 would prohibit the modification of any spectrum-dependent DoD system within the two protected bands—3.1 to 3.45 GHz and 7.4 to 8.4 GHz—unless the Secretary of Defense and the Chairman of the Joint Chiefs jointly certify that a modification would not result in a loss of capability for the armed forces. Current law already excludes those bands from auction authority.

Section 1564 would be in force either through September 30, 2034, or the date on which the Secretary and the Chairman determine that dynamic spectrum sharing, as defined by DoD in a 2023 report, is fully operational.¹⁰

Under section 1564, the joint certification process would apply to any modification of systems that rely on protected spectrum, including information technology updates and modernization efforts that are unrelated to spectrum

9. See Department of Commerce, National Telecommunications and Information Administration, *Manual of Regulations for Federal Radiofrequency Spectrum Management*, January 2021 Edition (revised January 2023), “Annex O, Procedures and Guidance Related to the Spectrum Relocation Fund and Transition Activities in Support of Relocation or Sharing by Federal Government Stations,” www.ntia.gov/publications/redbook-manual.

10. Department of Defense, *Emerging Mid-Band Radar Spectrum Sharing (EMBRSS) Feasibility Assessment Report* (September 2023), <https://tinyurl.com/esjfzvw>.

auctions. The process also would apply if, in order to auction a nonprotected band, modifications were required to DoD's operations within the 3.1 to 3.45 GHz or 7.4 to 8.4 GHz bands.

Budgetary Effects of Implementing Section 1564

To estimate the effects of section 1564 on auction receipts, CBO considered whether the provision would change key auction outcomes—specifically, the likelihood that an auction would succeed, the total amount of spectrum to be auctioned, the unit value by megahertz, and the expected timing of receipt collections—relative to CBO's estimate of those outcomes under current law.¹¹

CBO expects that implementing section 1564 would have no effect on offsetting receipts from spectrum auctions under current law. That determination is driven by the overlap between every aspect of section 1564 and the protections and processes that govern relocation and sharing efforts involving DoD systems.

An important area of statutory overlap, for example, involves the certification process enacted under the 2000 NDAA, which governs changes that would modify DoD's operations to accommodate nonfederal use.¹² Under such a circumstance, DoD may not surrender the use of a band of frequencies in which it is a primary user to make that band available for another use until two conditions are met:

- The NTIA, in consultation with the FCC, must identify and make available alternative spectrum for DoD's primary use, if necessary, and
- The Secretary of Commerce, the Secretary of Defense, and the Chairman of the Joint Chiefs must jointly certify to the relevant Congressional committees that the alternative band has technical characteristics that are sufficient to restore the essential military capability.

11. For this estimate, CBO used the January 2025 baseline budget projections, updated to reflect the estimated budgetary effects enacted legislation, including the 2025 reconciliation act. Congressional Budget Office, *The Budget and Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/60870, and estimated budgetary effects of Public Law 119-21, to provide for reconciliation pursuant to title II of H. Con. Res. 14, relative to CBO's January 2025 baseline (July 21, 2025), <https://www.cbo.gov/publication/61570>.

12. National Defense Authorization Act for Fiscal Year 2000, P.L. 106-65, section 1062(b) (47 U.S.C. §921, note), <https://tinyurl.com/3c4pmpnm>.

The administrative requirement for joint certification is simpler under section 1564 of S. 2296 than under current law: Section 1564 does not require input from the Secretary of Commerce. CBO considers the requirements in the two pieces of legislation concerning the capabilities in the protected bands to be substantively identical. Publicly available information indicates that DoD's systems encumbering 3.1 to 3.45 GHz and 7.4 to 8.4 GHz are military systems (weapons systems or components of broader weapons platforms, including radar systems onboard ships and satellites that feed data to weapons).¹³ Moreover, the applicability of provisions concerning the protected bands is functionally identical: The requirement to "make [spectrum] available for other use" would clearly apply to vacating ("surrendering") frequencies in the protected bands to make room for relocated incumbents of other bands identified for auction. CBO's interpretation is that the provision under section 1062(b) of the 2000 NDAA would apply beyond the surrender of frequencies to be directly auctioned.

Therefore, any modification to DoD's systems that involve the surrender of DoD frequencies within the protected bands is subject to a certification process under current law that is identical to the process described in section 1564. On the basis of information from DoD, CBO expects that most modifications to DoD spectrum allocations that result in a loss of capability for the armed forces would involve the surrender of at least some currently occupied frequencies.

The only difference between section 1062(b) of the 2000 NDAA and section 1564 of S. 2296 concerns the applicability of those provisions to system modifications that do not involve the surrender of frequencies. Those modifications might involve nondynamic sharing, accommodation of interference, or other, unforeseen, modifications. Modifications related to dynamic spectrum sharing are excluded here because if dynamic spectrum sharing became operational, section 1564 would no longer apply.

Significant overlap also exists between section 1564 and the current-law processes that govern relocation and sharing for DoD systems, as shown by recent relocation and sharing efforts. For example, during the feasibility and pre-auction planning phases for Auction 110, the NTIA, the President, and DoD's America's Mid-Band Initiative Team initiative, *started* with the

13. DoD also maintains mission support, such as commissaries and child care centers, that might not be labeled essential; those systems do not use DoD's protected spectrum.

premise that incumbent operations would remain unchanged.¹⁴ That approach excluded the 3.1 to 3.45 GHz band from consideration and narrowed the focus to the band from 3.45 to 3.55 GHz. The FCC’s rules for that auction included requirements to protect adjacent operations at both edges of the band and to prevent any need for DoD to reengineer or compress systems in the 3.1 to 3.45 GHz band.¹⁵

DoD also completed the Emerging Mid-Band Radar Spectrum Sharing feasibility assessment, as required by section 90008 of the Infrastructure Investment and Jobs Act, to assess options for reallocating spectrum in the 3.1 to 3.45 GHz band for shared federal and nonfederal commercial use.¹⁶ In the 2023 report, DoD focused on dynamic spectrum sharing, concluding that long lead times and the implications of relocation for DoD’s mission would make commercial access within the 3.1 to 3.45 GHz band infeasible unless many regulatory, technical, and resource-related conditions were met.

Those examples demonstrate the timeline implications and operational challenges—made evident during the identification and feasibility study stages of auction planning—within proposals to change DoD operations in the 3.1 to 3.45 GHz protected band. CBO expects that other efforts to modify DoD’s systems in the protected bands, whether in the context of nondynamic sharing or accommodations for interference, would face similar challenges at similar points in pre-auction planning processes. That expectation is incorporated into CBO’s current baseline assumptions regarding the likelihood of success of spectrum auctions as well as for their timing and the expected relocation costs.

Section 1062(b) of the 2000 NDAA and the relocation efforts discussed here cover two components of the broader framework of protections for DoD’s spectrum under current law. There are others; DoD can affect reserve prices for spectrum auctions through its own estimates of transition costs. DoD also can invoke national security concerns—an area in which other federal

14. Department of Commerce, National Telecommunications and Information Administration, *Feasibility of Commercial Wireless Services Sharing With Federal Operations in the 3100-3550 MHz Band* (July 2020), <https://tinyurl.com/5ej4n6v9>.

15. See Federal Communications Commission and National Telecommunications Information Administration, “The Federal Communications Commission and National Telecommunications and Information Administration: Coordination Procedures in the 3.45-3.55 GHz Band,” notice, 86 *Fed. Reg.* 38081 (July 19, 2021), <https://tinyurl.com/2s3p578p>.

16. Department of Defense, *Emerging Mid-Band Radar Spectrum Sharing (EMBRSS) Feasibility Assessment Report* (September 2023), <https://tinyurl.com/esjfzzvw>.

agencies and the courts generally provide deference.¹⁷ In developing the estimates for section 1564, CBO applied the principle that the President, the Secretary of Defense, and the Joint Chiefs would act in concert on policy matters concerning national security. In aggregate, CBO concluded that, with respect to the results of spectrum auctions, there is no distinction between our current-law estimates and those for implementing section 1564.

CBO also expects that implementing section 1564 would significantly increase the administrative costs of system modifications that are not triggered by spectrum auctions, relocations, or sharing. Any related spending would be subject to the availability of appropriated funds.

One-Sided Uncertainty

CBO estimates that the most likely budgetary effect on auction receipts from implementing section 1564 would be zero. Typically, the distribution of possible effects of a legislative proposal is approximately symmetric around a single, most likely, result. In that context, although an estimate will rarely turn out to be precisely correct, the symmetry of the uncertainty implies that the estimate is about equally as likely to be too low as it is to be too high. That symmetry also suggests that the sum of positive and negative errors from a large number of such estimates will be close to zero.¹⁸

Section 1564 is unusual in that the possible effects of implementing it are one-sided: That is, the probability is zero that implementing the provision would increase auction receipts. Because the uncertainty around the most likely estimate is asymmetric, an estimate of zero budgetary effect would be misleading.

CBO therefore ascribes a budgetary determination of an “insignificant increase in direct spending” to section 1564. That determination acknowledges

17. For more on actions to prevent changes to DoD’s spectrum operations, see, for example, Brad Revare, “The Implications of the National Defense Authorization Act of 2000 Section 1062(b) on Spectrum Relocation and Wireless Broadband Growth,” *Colorado Technology Law Journal*, vol. 13, issue 2 (2015), p. 421, <https://scholar.law.colorado.edu/ctlj/vol13/iss2/10>; President’s Council of Advisers on Science and Technology, *Report to the President: Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth* (July 2012), <https://tinyurl.com/43b988fk>; and Martha Minow, “Outsourcing Power: How Privatizing Military Efforts Challenges Accountability, Professionalism, and Democracy,” *Boston College Law Review*, vol. 46, issue 5 (2005), p. 989, <https://bclawreview.bc.edu/articles/1077>.

18. See Congressional Budget Office, *Estimating the Costs of One-Sided Bets: How CBO Analyzes Proposals With Asymmetric Uncertainties* (October 1999), www.cbo.gov/publication/11843.

Honorable Ted Cruz

Page 9

the uneven uncertainty around a zero-effect estimate. It does not change the fact that CBO's most likely estimate is zero.

I hope this information is useful to you. Please contact me if you have further questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Phillip L. Swagel", with a long, sweeping flourish extending to the right.

Phillip L. Swagel
Director

cc: Honorable Maria Cantwell
Ranking Member
Senate Committee on Commerce,
Science, and Transportation

Honorable Lindsey Graham
Chairman
Senate Committee on the Budget

Honorable Jeff Merkley
Ranking Member
Senate Committee on the Budget