119TH CONGRESS
2D SESSION
H. R. __

To amend the Communications Act of 1934 to establish a prospective minimum setback for newly sited macro wireless facilities, to direct Federal review of radiofrequency exposure limits and testing, to authorize support for optical communications in public schools and Federal buildings, to promote optical wireless interoperability in consumer devices and Federal procurement of interoperable devices, to support optical systems, to authorize the voluntary donation of qualifying intellectual property, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

[date]

Mr./Ms. _____ introduced the following bill; which was referred to the Committee on Energy and Commerce

A BILL

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “Clean Aether Act of 2026”.

SEC. 2. TABLE OF CONTENTS.

The table of contents for this Act is as follows:

SEC. 3. FINDINGS.

Congress finds the following:

(1) Part C of subchapter V of chapter 9 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 360hh et seq.), originally enacted as the Radiation

Control for Health and Safety Act of 1968 (Public Law 90-602), directs the Secretary of Health and Human Services to establish and carry out an electronic product radiation control program designed to protect the public health and safety from electronic product radiation.

(2) The Food and Drug Administration has stated that the radiation-control provisions described in paragraph (1) apply to electronic products, including cordless and cellular telephones.

(3) On August 13, 2021, the United States Court of Appeals for the District of Columbia Circuit remanded the Federal Communications Commission's order in Environmental Health Trust v. FCC for further reasoned explanation concerning the adequacy of current radiofrequency exposure guidelines and testing-related issues.

(4) As of the date of enactment of this Act, the Federal Communications Commission continues to identify ET Docket Nos. 03-137, 13-84, and 19-226 as the proceeding in which potential changes to the Commission's rules regarding human exposure to radiofrequency electromagnetic fields are to be addressed.

(5) Recent systematic reviews and related corrigenda published in the World Health Organization radiofrequency electromagnetic field review project have reported high-certainty animal evidence for certain cancer and reproductive endpoints.

(6) IEEE Std 802.11bb-2023 established a published light-communications amendment to IEEE 802.11, and later IEEE projects contemplate compatibility with legacy devices defined in IEEE Std 802.11bb-2023.

(7) It is in the national interest of the United States to foster secure, interoperable, and domestically competitive optical communications technologies while evaluating lower-impact alternatives to additional terrestrial macro wireless infrastructure near residences, schools, hospitals, and childcare locations.

SEC. 4. DEFINITIONS.

In this Act:

(1) CHILDCARE SITE.—The term "childcare site" means a licensed childcare center or licensed day-care facility.

(2) COVERED CONSUMER DEVICE.—The term "covered consumer device" means a smartphone, tablet computer, laptop computer, Wi-Fi or networking device, or other consumer device designated by the Federal Communications Commission by rule.

(3) COVERED PUBLIC FACILITY.—The term "covered public facility" means—
- (A) a public elementary school;
- (B) a public secondary school; or
- (C) a building owned or leased by the Federal Government.

(4) COVERED STRUCTURE.—The term "covered structure" means a parcel improved by—

(A) a single-family or multifamily residence;
(B) a public or private elementary school;
(C) a public or private secondary school;
(D) a hospital; or
(E) a childcare site.

(5) NEW MACRO WIRELESS FACILITY.—The term "new macro wireless facility" means a personal wireless service facility requiring initial siting approval on a support structure not lawfully in existence on the date of enactment of this Act. Such term does not include collocation, replacement, or modification of equipment on an existing support structure lawfully in existence on the date of enactment of this Act.

(6) NON-TERRESTRIAL ALTERNATIVE.—The term "non-terrestrial alternative" means satellite service or any other communications architecture not dependent on the construction of a new terrestrial macro wireless facility at the relevant service location.

(7) OPTICAL WIRELESS COMMUNICATION.—The term "optical wireless communication" means the transmission of data by means of visible, infrared, or other optical frequencies, including operation compatible with IEEE 802.11bb-2023 or a successor standard.

(8) QUALIFIED DUAL-USE OPTICAL SYSTEM.—The term "qualified dual-use optical system" means fixed or vehicle-based infrastructure that combines optical wireless communication with a sanitation, biodefense, or related protective function and is designed for Federal, defense, maritime, transportation, healthcare, or other institutional use.

(9) QUALIFYING INTELLECTUAL PROPERTY.—The term "qualifying intellectual property" means a patent, patent application, continuation, divisional, continuation-in-part, licensing right, know-how package, or related contract right relating to a qualified dual-use optical system.

SEC. 5. PROSPECTIVE APPLICATION; NO RETROACTIVE RELOCATION.

(a) EXISTING FACILITIES.—Nothing in this Act or an amendment made by this Act shall be construed to require the removal, relocation, decommissioning, or modification of a personal wireless service facility lawfully placed, constructed, collocated, or approved before the date of enactment of this Act.

(b) SAVINGS CLAUSE.—Nothing in this Act shall be construed to impair the operation of communications facilities used exclusively for emergency response, disaster recovery, national defense, or public-safety dispatch.

SEC. 6. MINIMUM SETBACK FOR NEW MACRO WIRELESS FACILITIES.

(a) AMENDMENT.—Section 332(c)(7)(B) of the Communications Act of 1934 (47 U.S.C. 332(c)(7)(B)) is amended by adding at the end the following:

"(vi) MINIMUM SETBACK FOR NEW MACRO WIRELESS FACILITIES.—
"(I) IN GENERAL.—A State or local government approval for the placement or construction of a new macro wireless facility shall not be effective if the base of such facility would be located

within 1,500 feet of the property line of a covered structure.

"(II) MEASUREMENT.—For purposes of subclause (I), distance shall be measured in a straight line from the outer boundary of the equipment compound or, if there is no compound, from the base of the support structure, to the nearest property line of the parcel containing the covered structure.

"(III) EXCLUSIONS.—Subclause (I) shall not apply to—

"(aa) a temporary facility used solely for emergency response or disaster recovery;

"(bb) a facility used exclusively for public-safety or military communications; or

"(cc) a collocation, replacement, or modification on an existing support structure lawfully in existence on the date of enactment of the Clean Aether Act of 2026.

"(IV) WAIVER.—A waiver of subclause (I) may be granted only if the approving authority determines, on the basis of clear and convincing evidence in a written record, that—

"(aa) no technically feasible alternative using existing infrastructure, fiber-based facilities, optical wireless communication, non-terrestrial alternatives, or a site outside the setback area is reasonably available;

"(bb) denial would create a significant and material gap in public-safety, emergency, national-security, or other critical communications service; and

"(cc) the approved facility is the least intrusive means of addressing the gap described in item (bb).".

(b) CONFORMING AMENDMENT.—Section 332(c)(7)(C) of the Communications Act of 1934 (47 U.S.C. 332(c)(7)(C)) is amended by adding at the end the following:

"(iv) The terms 'covered structure' and 'new macro wireless facility' have the meanings given those terms in section 4 of the Clean Aether Act of 2026.".

SEC. 7. NATIONAL STRATEGY FOR LOWER-IMPACT AND NON-TERRESTRIAL ALTERNATIVES.

(a) STRATEGY REQUIRED.—Not later than 1 year after the date of enactment of this Act, the Assistant Secretary of Commerce for Communications and Information, acting through the National Telecommunications and Information Administration and in consultation with the Federal Communications Commission, the Secretary of Defense, and the Administrator of the National Aeronautics and Space Administration, shall submit to Congress a national strategy for reducing the need for newly constructed terrestrial macro wireless facilities near covered structures.

(b) REQUIRED ELEMENTS.—The strategy required under subsection (a) shall include—

(1) an assessment of the extent to which fiber backhaul, optical wireless communication, satellite service, and other non-terrestrial alternatives can reduce future macro tower densification;

(2) recommendations for Federal grant priorities, procurement preferences, and pilot authorities that encourage lower-impact and non-terrestrial alternatives where technically and economically feasible;

(3) model siting best practices for minimizing the placement of new macro wireless facilities near covered structures; and
(4) identification of legal or regulatory barriers to the use of such alternatives.

(c) FEDERAL GRANT PREFERENCE.—To the maximum extent practicable, any Federal agency administering a competitive broadband or communications infrastructure grant program shall give preference to projects that materially reduce the need for newly constructed terrestrial macro wireless facilities near covered structures.

SEC. 8. FEDERAL REVIEW OF RADIOFREQUENCY EXPOSURE LIMITS AND TESTING.

(a) HHS RECOMMENDATIONS.—Not later than 1 year after the date of enactment of this Act, the Secretary of Health and Human Services, acting through the Commissioner of Food and Drugs and in consultation with the Director of the National Toxicology Program, shall submit to the Federal Communications Commission and Congress recommendations regarding exposure characterization, electronic product radiation standards, testing methods, and vulnerable-population considerations relevant to radiofrequency-emitting consumer products and infrastructure.

(b) FCC REASSESSMENT.—Not later than 18 months after the date of enactment of this Act, the Federal Communications Commission, in consultation with the Secretary of Health and Human Services, the Commissioner of Food and Drugs, and the Director of the National Toxicology Program, shall complete a proceeding to reassess the adequacy of the Commission's radiofrequency exposure limits and testing procedures.

(c) MINIMUM SCOPE.—The reassessment required by subsection (b) shall address, at a minimum—
(1) children and other potentially vulnerable populations;
(2) long-term exposure;
(3) cumulative ambient exposure;
(4) pulsation or modulation characteristics;
(5) technological developments since 1996, including the ubiquity of wireless devices and Wi-Fi;
(6) device testing assumptions, separation distances, and body-placement conditions used for portable-equipment compliance; and
(7) environmental effects and wildlife impacts to the extent relevant to the Commission's statutory responsibilities and the administrative record.

(d) RULE OF CONSTRUCTION.—Nothing in this section shall be construed to predetermine the outcome of the reassessment required by subsection (b).

SEC. 9. OPTICAL CONNECTIVITY PILOT PROGRAM FOR SCHOOLS AND FEDERAL BUILDINGS.

(a) ESTABLISHMENT.—The Secretary of Education and the Administrator of General Services, in consultation with the Federal Communications Commission and the Director of the National Institute of Standards and Technology, shall establish a 5-year pilot program to support deployment of fiber-based and optical wireless communication systems in covered public facilities.

(b) ELIGIBLE USES.—Amounts made available under this section may be used for—

(1) fiber backhaul and related wiring;
(2) optical wireless access points, receivers, adapters, and supporting equipment;
(3) cybersecurity and interoperability testing;
(4) staff training, installation, maintenance, and technical support; and
(5) planning and engineering services.

(c) PRIORITY.—In carrying out the pilot program under this section, priority shall be given to public elementary and secondary schools and buildings owned or leased by the Federal Government.

(d) RULE OF CONSTRUCTION.—Nothing in this section shall be construed to require the use of a germicidal or ultraviolet emitter in a covered public facility.

SEC. 10. OPTICAL WIRELESS INTEROPERABILITY FOR CONSUMER DEVICES AND FEDERAL PROCUREMENT.

(a) RULEMAKING.—Not later than 18 months after the date of enactment of this Act, the Federal Communications Commission, in consultation with the Assistant Secretary of Commerce for Communications and Information and the Director of the National Institute of Standards and Technology, shall initiate a rulemaking to establish a phased schedule and implementation framework for optical wireless interoperability in covered consumer devices.

(b) FEDERAL PROCUREMENT REQUIREMENT.—Beginning on January 1, 2029, an executive agency may procure a covered consumer device only if such device supports optical wireless interoperability consistent with the baseline interoperability target described in subsection (c).

(c) BASELINE INTEROPERABILITY TARGET.—In carrying out subsection (a) and for purposes of subsection (b), the Commission shall consider compatibility with IEEE 802.11bb-2023, or any successor standard for optical wireless local-area networking, as the baseline interoperability target.

(d) FACTORS.—The Commission shall consider—

(1) cybersecurity;
(2) energy efficiency and battery use;
(3) backward compatibility;
(4) accessibility and affordability;
(5) domestic manufacturing capacity; and
(6) reasonable compliance periods for small manufacturers.

(e) AGENCY WAIVER.—The head of an executive agency may waive the requirement under subsection (b) on a case-by-case basis if the head of the agency determines that—

(1) no compliant device is reasonably available to meet mission, national-security, interoperability, accessibility, or cybersecurity requirements; or
(2) compliance would result in an unreasonable increase in cost or

unacceptable disruption to agency operations.

(f) RULE OF CONSTRUCTION.—Nothing in this section shall be construed to require a covered consumer device to incorporate a germicidal or ultraviolet light source.

SEC. 11. PHOTONICS INNOVATION GRANTS.

(a) ESTABLISHMENT.—The Secretary of Commerce shall establish a competitive grant program to support domestic research, development, testing, and manufacturing relating to optical wireless communication technologies.

(b) ELIGIBLE ACTIVITIES.—Eligible activities under this section shall include work on—

(1) optical transceivers, receivers, access points, chipsets, optical front ends, adapters, and related components;
(2) interoperability and standards implementation;
(3) secure optical networking;
(4) manufacturing readiness and supply-chain resilience; and
(5) deployment-ready equipment suitable for schools, Federal buildings, and other institutional settings.

(c) PRIORITY.—In awarding grants under this section, the Secretary shall give priority to projects that—

(1) strengthen United States manufacturing capacity;
(2) improve interoperability with published standards and successor standards;
(3) support deployment in covered public facilities; and
(4) reduce dependence on foreign-adversary-controlled supply chains.

SEC. 12. RESEARCH, DEVELOPMENT, AND PILOT DEPLOYMENT OF QUALIFIED DUAL-USE OPTICAL SYSTEMS.

(a) RESEARCH PROGRAM.—The Secretary of Defense, the Secretary of Homeland Security, and the Director of the National Institute of Standards and Technology shall carry out a research and development program on qualified dual-use optical systems, including research on solid-state far-UVC emitters, secure optical communications, and fixed-site or vehicle-based deployment architectures.

(b) PILOT DEPLOYMENTS.—Subject to applicable law and safety review, the Secretary of Defense and the Secretary of Homeland Security may carry out pilot deployments of qualified dual-use optical systems on military vessels, defense installations, secure Federal facilities, transportation hubs, and other mission-critical environments.

(c) LIMITATION.—Nothing in this section shall be construed to authorize a requirement that handheld consumer devices include a qualified dual-use optical system.

SEC. 13. VOLUNTARY DONATION OF QUALIFYING INTELLECTUAL PROPERTY.

(a) ACCEPTANCE AUTHORITY.—The Secretary of the Treasury may accept the voluntary donation of qualifying intellectual property relating to a qualified dual-use optical system.

(b) NO MANDATE.—Nothing in this Act shall be construed to require any person or entity to donate intellectual property.

(c) FUTURE TRANSFER.—If Congress establishes by law a United States sovereign wealth fund or other public investment vehicle authorized to hold intellectual property for public benefit, the Secretary of the Treasury may transfer or assign rights accepted under subsection (a) to that entity, subject to the terms of the donating instrument and other applicable law.

(d) USE OF RECEIPTS.—Any net receipts derived from rights accepted under subsection (a) shall be deposited in the Treasury and may be made available, subject to appropriations Acts, to carry out sections 9, 11, and 12.

(e) IDENTIFICATION OF DONATED PROPERTY.—A donation under subsection (a) may identify the qualifying intellectual property by United States patent number, application number, continuation, divisional, continuation-in-part, or licensing instrument.

SEC. 14. REPORTS TO CONGRESS.

(a) INITIAL REPORT.—Not later than 18 months after the date of enactment of this Act, each official responsible for carrying out sections 7 through 13 shall submit to Congress a report describing implementation status, costs, barriers, cybersecurity considerations, supply-chain issues, and recommendations for further legislation.

(b) ANNUAL UPDATES.—For each of the 4 years following submission of the initial report, the officials described in subsection (a) shall submit an annual update.

SEC. 15. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated—

(1) $200,000,000 for each of fiscal years 2027 through 2031 to carry out section 9;

(2) $75,000,000 for each of fiscal years 2027 through 2031 to carry out section 11;

(3) $50,000,000 for each of fiscal years 2027 through 2031 to carry out section 12; and

(4) $5,000,000 for fiscal year 2027 to carry out sections 7, 8, and 14.