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119TH CONGRESS
1ST SESSION

H. R. 2515

To provide for a grant program for adoption of certain telematics systems onboard freight railcars, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 31, 2025

Mr. NEHLS (for himself and Mr. MOULTON) introduced the following bill; which was referred to the Committee on Transportation and Infrastructure, and in addition to the Committee on Science, Space, and Technology, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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A BILL

To provide for a grant program for adoption of certain telematics systems onboard freight railcars, and for other purposes.

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 ''American Tank Car Modernization Act of 2025''.

SEC. 2. GRANT PROGRAMS FOR ADOPTION OF CERTAIN TELEMATICS SYSTEMS.

(a) ONBOARD FREIGHT RAILCAR TELEMATICS SYSTEMS AND GATEWAY DEVICE GRANT PROGRAM.—The Administrator of the Federal Railroad Administration shall establish a grant program to provide funds to freight railcar owners or operators to purchase and install—

(1) onboard freight railcar telematics systems; or

(2) onboard freight railcar gateway devices.

(b) ELIGIBLE ENTITIES.—Eligible entities for funding under the grant program under this section are freight railcar owners.

(c) USE OF FUNDS.—Funds provided under this section may be used to purchase and install onboard freight railcar telematic systems or onboard freight railcar gateway devices that enable the recipient of a grant to obtain and enhance the data collected from such systems and devices resulting in the following:

(1) Near real-time visibility of freight railcar location and freight railcar asset health.

(2) Increasing the visibility to the safety of the asset and commodity within the freight railcar asset.

(3) Increasing future capability of real-time visibility in the development of onboard freight railcar sensor technology that measures or monitors, for

purposes of gathering information on maintenance requirements (and enables railcar owners, operators, and shippers to identify railcars that could become a hazard)—

(A) railcar impact;

(B) wheel or wheel bearing temperature;

(C) whether a hand brake is on or off;

(D) whether a hatch is open or closed; and

(E) internal railcar temperature.

(4) Increasing the efficiency of railcar utilization in the North American freight railcar fleet.

(5) Reducing reliance on human and manual data capture, reducing the risk of errors due to data latency and timeliness related to freight railcar data and information.

(6) Offering development of alerts and triggers to capture and transmit freight railcar mechanical issues to the railroad operator for action.

(7) Ability to communicate events real-time to a wide variety of stakeholders.

(d) GRANT USE PRIORITIZATION.—In selecting recipients of grants under this section, the Administrator shall prioritize installation of onboard freight railcar telematic systems or onboard freight railcar gateway devices in the following order of priority:

(1) Newly built freight railcars manufactured by a qualified manufacturer in a qualified facility.

(2) Freight railcars entering a certification event in a qualified facility.

(3) Freight railcars entering a shopping event or maintenance event in a qualified facility.

(e) FREIGHT RAILCAR TYPE PRIORITIZATION.—After establishing the priority requirements under subsection (c), the Administrator shall further ensure that the freight railcar types eligible to receive such an installation be considered in the following order of priority:

(1) Tank cars in ''TIH/PIH'' (toxic inhalation products) service.

(2) Tank cars in Class I, II, and III flammable service.

(3) Tank cars in hazardous materials service.

(4) Tank cars in specialized service.

(5) Other tank cars.

(6) All other freight railcars.

(f) LIMITATION.—To be eligible for any expenditure of funds under this section, a freight railcar and any sensitive technology relating to such railcar shall comply with the requirements of section 20171 of title 49, United States Code.

(g) REPORT BY SECRETARY OF TRANSPORTATION.—

(1) IN GENERAL.—Not later than 3 years after the date of enactment of this Act, the Secretary of Transportation shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives a report on the implementation and effects of the grant program established under this section.

(2) CONTENTS.—The report required under paragraph (1) shall include, at a minimum, the following:

(A) The number of railcars equipped with telematics devices using funds provided under this section.

(B) The cost of equipping such railcars.

(C) The number of safety incidents involving such railcars reported to the Federal Railroad Administration.

(D) Anecdotal experience of grant recipients relating to the deployment of telematics devices.

(E) Any legislative recommendations relating to the grant program established under paragraph (1).

(3) PUBLIC AVAILABILITY.—The report required under paragraph (1) shall be made publicly available to the maximum extent practicable without compromising confidentiality or security.

(4) CONSULTATION.—In preparing the report required under paragraph (1), the Secretary shall consult with Federal agencies and stakeholders, as appropriate, to gather technical, operational, and safety-related data.

(h) DEFINITIONS.—In this section, the following definitions apply:

(1) ONBOARD FREIGHT RAILCAR TELEMATICS SYSTEM; ONBOARD FREIGHT RAILCAR GATEWAY DEVICE.—The terms ''onboard freight railcar telematics system'' and ''onboard freight railcar gateway device'' mean the telematics or gateway device physically installed on a freight railcar that is owned by a railcar owner that collects and transmits data about the railcar asset.

(2) TELEMATICS.—The term ''telematics'' means a technology that—

(A) relies on telecommunications, informatics, and computer and data processing;

(B) generates data and informatics from gateway devices fixed to railcars and provides

for the exchange of information over a distance using battery or solar powered wireless connections; and

(C) includes the method upon which freight railcars are monitored by using GPS technology through a gateway device using onboard diagnostics to plot a railcar's movements and, if applicable, gather railcar equipment health and condition data from other onboard railcar sensors when applied.

(3) GATEWAY DEVICE.—The term ''gateway device'' means a network hardware or software node used in freight railcar telecommunications that—

(A) connects two networks with different transmission protocols together;

(B) serves as an entry and exit point for a network as all data collected from the railcar must pass through or communicate with the gateway prior to being routed;

(C) are distinct from routers or switches in that they communicate using more than one protocol to connect multiple networks; and

(D) may be any device on a freight railcar that is embedded with electronics, software, sensors, or other connectivity, that enables the

device to connect to, collect data from, or exchange data with another device, including—

(i) railcar onboard telematics;

(ii) global positioning system satellite and cellular location tracking systems;

(iii) railcar event status sensors;

(iv) railcar predictive component condition and performance monitoring sensors; and

(v) similar technologies embedded into freight railcar components and sub-assemblies.

(4) RAILROAD FREIGHT CAR.—The term ''railroad freight car'' means a car designed to carry freight or railroad personnel by rail, including—

(A) a box railcar;

(B) a refrigerator railcar;

(C) a ventilator railcar;

(D) an intermodal well railcar;

(E) a gondola railcar;

(F) a hopper railcar;

(G) an auto rack railcar;

(H) a flat railcar;

(I) a special railcar;

(J) a caboose railcar;

(K) a tank railcar; and

(L) a yard railcar.

(5) QUALIFIED FACILITY.—The term ''qualified facility'' means a facility that is not owned or under the control of a state-owned enterprise.

(6) QUALIFIED MANUFACTURER.—The term ''qualified manufacturer'' means a railroad freight car manufacturer that is not owned or under the control of a state-owned enterprise.

(7) CERTIFICATION EVENT.—The term ''certification event'' means a railroad freight car that is required by current regulations to be recertified in a maintenance facility or qualified facility.

(8) SHOPPING EVENT.—The term ''shopping event'' means a railroad freight car that is undergoing regular or routine maintenance by a railcar maintenance facility or qualified facility.

(9) STATE-OWNED ENTERPRISE.—The term ''state-owned enterprise'' means—

(A) an entity that is owned by, or under the control of, a national, provincial, or local government of a country of concern, or an agency of such government; or

(B) an individual acting under the direction or influence of a government or agency described in subparagraph (A).

(10) COUNTRY OF CONCERN.—The term ''country of concern'' means a country that—

(A) is identified by the Department of Commerce as a nonmarket economy country (as defined in section 771(18) of the Tariff Act of 1930 (19 U.S.C. 1677(18))) as of the date of enactment of the Passenger Rail Expansion and Rail Safety Act of 2021;

(B) was identified by the United States Trade Representative in the most recent report required by section 182 of the Trade Act of 1974 (19 U.S.C. 2242) as a foreign country included on the priority watch list (as defined in subsection (g)(3) of such section); and

(C) is subject to monitoring by the Trade Representative under section 306 of the Trade Act of 1974 (19 U.S.C. 2416).

(i) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this section $100,000,000 for each of fiscal years 2026 through 2029, to remain available until expended.

SEC. 3. ENHANCING FREIGHT RAILCAR ONBOARD TELEMATICS AND SENSOR DEVELOPMENT PILOT PROGRAM.

(a) ESTABLISHMENT.—The Administrator of the Federal Railroad Administration shall establish a pilot program to—

(1) assist freight railcar owners and freight railcar manufacturers in the development of freight railcar onboard sensor technologies to add visibility to the safety of the freight railcar asset and commodity within the freight railcar asset;

(2) encourage development of freight railcar onboard sensors that communicate to the freight railcar onboard gateway devices to offer future capabilities of real-time visibility of—

(A) wheel and wheel bearing temperature;

(B) whether a hand brake is on or off;

(C) whether a hatch is open or closed; and

(D) internal railcar temperature; and

(3) carry out any of the activities described in paragraph (1) and (2) for purposes of informing railcar owners or operators on maintenance requirements, and enable operators, shippers, and railcar owners to possibly identify railcars that could become a hazard.

(b) ELIGIBLE ENTITIES.—Eligible entities for funding under the pilot program under this section are freight railcar owners.

(c) LIMITATION.—To be eligible for any expenditure of funds under this section, a freight railcar and any sensitive technology relating to such railcar shall comply with the requirements of section 20171 of title 49, United States Code.

(d) REPORT TO CONGRESS.—Not later than 1 year after the date of enactment of this Act, the Administrator shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives a report on—

(1) the activities carried out with funds provided under this section; and

(2) the effectiveness of developed freight railcar onboard sensors by outlining the types and numbers of sensors that have become industry accepted and are in use on freight railcars.

(e) DEFINITIONS.—

(1) FREIGHT RAILCAR ONBOARD SENSOR.—The term ''freight railcar onboard sensor'' means the onboard sensor that communicates or signals the freight railcar onboard telematics device or gateway

device physically installed on a freight railcar that is purchased and installed by, and owned by the railcar owner that collects and transmits data about the railcar asset to the railcar owner, data system, or data collection point.

(2) RAILROAD FREIGHT CAR.—The term ''railroad freight car'' means a car designed to carry freight or railroad personnel by rail, including—

(A) a box railcar;

(B) a refrigerator railcar;

(C) a ventilator railcar;

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(J) a caboose railcar;

(K) a tank railcar; and

(L) a yard railcar.

(3) TELEMATICS.—The term ''telematics'' means a technology that—

(A) relies on telecommunications, informatics, and computer and data processing;

(B) generates data and informatics from gateway devices fixed to railcars and provide for the exchange of information over a distance using battery or solar powered wireless connections; and

(C) includes the method upon which freight railcars are monitored by using GPS technology through a gateway device using onboard diagnostics to plot a railcar's movements and, if applicable, gather railcar equipment health and condition data from other onboard railcar sensors when applied.

(4) GATEWAY DEVICE.—The term ''gateway device'' means a network hardware or software node used in freight railcar telecommunications that—

(A) connects two networks with different transmission protocols together;

(B) serve as an entry and exit point for a network as all data collected from the railcar must pass through or communicate with the gateway prior to being routed;

(C) are distinct from routers or switches in that they communicate using more than one protocol to connect multiple networks; and

(D) may be any device on a freight railcar that is embedded with electronics, software, sensors, or other connectivity, that enables the device to connect to, collect data from, or exchange data with another device, including—

(i) railcar onboard telematics;

(ii) global positioning system satellite and cellular location tracking systems;

(iii) railcar event status sensors;

(iv) railcar predictive component condition and performance monitoring sensors; and

(v) similar sensitive technologies embedded into freight railcar components and sub-assemblies.

(f) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this section $10,000,000 for each of fiscal years 2026 through 2029, to remain available until expended.

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