BEFORE THE
CALIFORNIA AIR RESOURCES BOARD

COMMENTS ON CALIFORNIA'S DRAFT 2022 STATE STRATEGY FOR THE STATE IMPLEMENTATION PLAN

COMMENTS OF THE ASSOCIATION OF AMERICAN RAILROADS

The Association of American Railroads ("AAR"), on behalf of itself and its member railroads, respectfully submits the following comments on California's Draft 2022 State Strategy for the State Implementation Plan ("Draft Plan"). AAR also incorporates by reference its previous comments on the In-Use Locomotive regulation submitted to CARB on September 10, 2020; February 11, 2021; April 23, 2021; and June 4, 2021.

AAR is a non-profit industry association whose membership includes freight railroads that operate 83 percent of the line haul mileage, employ 95 percent of the workers, and account for 97 percent of the freight revenues of all railroads in the United States. AAR also represents passenger railroads that operate intercity passenger trains and provide commuter rail service. AAR's members own (or lease) and operate locomotives within the state of California and are part of the national freight rail network. AAR and its members therefore have a significant interest in this proceeding.

These comments are preliminary and based on the information about the Draft Plan disclosed to date, and AAR reserves the right to supplement them as more information on CARB's intent, analysis, and data with respect to the Draft Plan are provided to AAR and the public.

I. INTRODUCTION

Rail is already the most efficient way to move people and freight over land. One train can carry the freight of hundreds of trucks, making freight railroads 3-4 times more fuel efficient on average than trucks. Further, freight railroads contribute only 1.9% of the U.S. transportation-related greenhouse gas emissions.

Railroads have demonstrated their commitment to partnering with federal and state regulators, including CARB, to improve air quality. For decades, railroads have undertaken initiatives to address air quality in California - both on their own initiative and through collaborations with CARB and local air districts. Railroads have pursued pioneering technology investments, changed rail yard operations to limit emissions impacts, and voluntarily entered into two enforceable agreements with CARB to reduce emissions from locomotives in the South Coast Air Basin and to reduce particulate emissions from California railyards. [1,2] As CARB has verified, the railroads have fully complied with both agreements resulting in a dramatic decrease in particulate emissions, NOx emissions, and health risks since 2005.

Railroad initiatives to address air quality continue today. For example, BNSF partnered with Wabtec (a major locomotive manufacturer) and the San Joaquin Valley Air Pollution Control District, in coordination with CARB, to test a battery-powered line-haul locomotive between Barstow and Stockton, CA.[3] Union Pacific has placed an order for 20 battery-electric

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[1] *Memorandum of Mutual Understandings and Agreements: South Coast Locomotive Fleet Average Emissions Program.* July 2, 1998. ("1998 MOU" or "Fleet Average Agreement")

[2] *ARB/Railroad Statewide Agreement: Particulate Emissions Reduction Program at California Rail Yards.* June 2005. ("2005 MOU" or "Railyard MOU")

[3] https://www.railwayage.com/news/bnsf-wabtec-bel-pilot-the-results-are-in/.

locomotives, 10 of which will be performing switching duties in California, at a cost of more than $100 million.[4] Similarly, Sierra Northern Railway has launched a program to build and test a hydrogen-powered switcher locomotive.[5] In addition, Pacific Harbor Lines and Progress Rail have undertaken demonstration projects for battery-powered switch locomotives at the Ports of Los Angeles and Long Beach.[6]

Elsewhere, the rail industry is exploring the possible future feasibility and commercial viability of hydrogen fuel cell locomotives. For example, BNSF is partnering with Chevron and Progress rail to test a hydrogen-fuel cell line-haul locomotive between Richmond and Barstow, and Canadian Pacific has launched a Hydrogen Locomotive Program to test a line-haul locomotive powered by hydrogen fuel cells and batteries.[7] Notably, however, technologies like battery or hydrogen fuel cell locomotives are still in development and will not reach commercial viability in the near term.

Railroads have also devoted resources to significantly reducing emissions in rail yards. Based on recently updated emission inventories for major yards in California provided to CARB by Union Pacific and BNSF, railyard emissions of criteria pollutants have been reduced more than 70% and toxic pollutants and corresponding health risks (mostly for environmental justice communities) have been reduced by at least that much compared to 2005. Union Pacific has

[4] https://www.up.com/media/releases/battery-electric-locomotive-nr-220128.htm.

[5] http://sierranorthern.com/news/articles/california-energy-commission-awards-sierra-northern-railway-team-nearly-4-000-000-to-build-and-test-hydrogen-switcher-locomotive/.

[6] https://www.progressrail.com/en/Company/News/PressReleases/ProgressRailAndPacificHarborLineSignAgreementForBatteryLocomotive.html.

[7] https://www.cpr.ca/en/media/canadian-pacific-expands-hydrogen-locomotive-program-to-include-additional-locomotives-fueling-stations-with-emissions-red.

coordinated with CARB to partner with two air districts to bring Tier 4 switcher locomotives into operation and Pacific Harbor Lines operates an entirely Tier 3 or Tier 4 fleet that was purchased in partnership with the South Coast Air Quality Management District ("SCAQMD") through Carl Moyer grants. BNSF has introduced hybrid cranes in California, with an 84% reduction in NOx, compared to a diesel-only crane. AAR's members have also started introducing zero-emission intermodal cranes; low-emitting, natural-gas hostlers; battery electric hostlers; and diesel switch locomotive filters to reduce emissions of criteria pollutants and toxic air contaminants at railyards and impacts on the communities in which we operate. Additional efforts to reduce emissions include running longer trains (i.e., hauling more freight using the same number of locomotives), running trains closer together (which reduces idling by reducing the time a train must wait to enter the main lines), and several other operating efficiencies that have resulted in lowering emissions.

With these initiatives that can, and truly have, made a difference in air quality as background, AAR is disappointed that CARB continues to discard the productive and cooperative relationship of the past by proposing locomotive regulations that will not result in any creditable emissions reductions in California, and therefore cannot be relied on to help achieve attainment as required by the Clean Air Act ("CAA"). The components of the In-Use Locomotive Regulation included in the Draft Plan ("Locomotive Plan") are impractical, would significantly burden both intrastate and interstate railroad operations, and would impose tremendous costs on California railroads and their customers with little or no measurable improvements in air quality or reductions in greenhouse gas emissions.

In addition, CARB is proposing to arbitrarily impose stringent requirements on one mode of goods movement (rail) that it does not impose on other more-emissive and less-efficient modes (e.g., trucking). CARB's own Advanced Clean Fleets regulation allows diesel-powered trucks – assets with a far shorter life cycle and far lower capital cost – to operate in California through 2041. The Locomotive Plan will significantly increase costs to the railroads and impose burdens to railroad customers and communities where change-outs would occur, without parallel costs on the trucking industry or other modes of goods movement – potentially increasing criteria, toxic, and climate pollutants by driving freight to transport modes with significant negative impacts on air quality.[8]

Whether evaluated from a perspective of the law, the industry, or the science, the Locomotive Plan is not a practical way to further reduce locomotive emissions. Instead, it is an arbitrary and capricious targeting of the railroad industry.

II. CARB'S LOCOMOTIVE PLAN EXCEEDS THE AGENCY'S LEGAL AUTHORITY.

As AAR (and others) have briefed CARB in the past, CARB does not have the legal authority to regulate interstate locomotive emissions. Indeed, the Ninth Circuit Court of Appeals has held that an air district's efforts to impose district-specific regulations on rail

[8] In its Exchange Point study with the University of Illinois, CARB has reached the same conclusion. *See* https://ww2.arb.ca.gov//sites/default/files/classic/railyard/docs/uoi_rpt_06222016.pdf at xii ("The North American Class 1 railroads have continually worked to remove barriers that prevent the seamless movement of freight. Operation with exchange points and a captive fleet in the South Coast reintroduces those barriers. Based on experience with captive fleets and lack of interoperability in Europe, operation with exchange points in the South Coast is likely to result in: increased operating costs, delays and network disruption due to locomotive exchange; decreased locomotive utilization, increased locomotive fleet size and the capital cost of establishing extra regional alternative-technology locomotive maintenance, servicing and fueling facilities. According to the European experience, the net result of these outcomes will likely be a decrease in freight rail market share.").

operators are preempted by multiple federal regulatory programs. CARB's Locomotive Plan is an unlawful state program. Only EPA, through full notice and comment rulemaking, could implement the changes to the existing regulatory framework envisioned by CARB.

a. *Railroad Operations are Exclusively Regulated by the Federal Government.*

Rail operations are not a discrete activity which may be confined within the boundaries of a single state. Rather, the nation's rail transportation system is an integrated network in which over 500 railroad companies participate, operating nearly 140,000 miles of track in 49 states.[9] Given these characteristics, "the Federal Government has determined that a uniform regulatory scheme is necessary to the operation of the national rail system." *United Transp. Union v. Long Island R.R.*, 455 U.S. 678, 688 (1982). In recognition of this need for uniformity, Congress has enacted multiple statutes that preclude CARB from promulgating its Locomotive Plan, including the Interstate Commerce Act, 49 U.S.C. § 10501(b), as amended by the ICC Termination Act of 1995 ("ICCTA"); the Railroad Revitalization and Regulatory Reform Act of 1976 ("the 4-R Act"), 49 U.S.C. § 11501; the Locomotive Inspection Act ("LIA"), 49 U.S.C. § 20701; and the Clean Air Act ("CAA"), 42 U.S.C. § 7401 *et seq*.

Pursuant to Article VI of the United States Constitution, Congress can preempt state law so that it is "without effect." *Maryland v. Louisiana*, 451 U.S. 725, 746 (1981) (citing *McCulloch v. Maryland*, 17 U.S. (4. Wheat.) 316, 427 (1819)). The "purpose of Congress is the ultimate touchstone of pre-emption analysis." *Cipollone v. Liggett Grp., Inc.*, 505 U.S. 504, 516 (1992)

[9] In addition to covering all lower 48 states, U.S. rail systems link up with the major railroads of Canada and Mexico.

(internal quotation marks and citations omitted). Congress's purpose can be "explicitly stated in the statute's language or implicitly contained in its structure and purpose." *Jones v. Rath Packing Co.*, 430 U.S. 519, 525 (1977) (citing *City of Burbank v. Lockheed Air Terminal, Inc.*, 411 U.S. 624, 633 (1973); *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947)).

ICCTA "preempts all state laws that may reasonably be said to have the effect of managing or governing rail transportation." *Assoc. of Am. R.R. v. S. Coast Air Quality Mgmt. Dist.*, 622 F.3d 1094, 1098 (9th Cir. 2010) (internal quotation omitted); *see also BNSF Ry. Co. v. California Dept. of Tax and Fee Admin*., 904 F.3d, 755, 761 (9th Cir. 2018) (state laws that specifically "target" the railroad industry by definition have "the effect of managing or governing rail transportation"). ICCTA provides that the Surface Transportation Board ("STB") holds "exclusive" jurisdiction over "transportation by rail carriers." "Transportation" is defined broadly to encompass "a locomotive, car, . . . yard, property, facility, instrumentality, or equipment of any kind related to the movement of . . . property . . . by rail" as well as "services related to that movement." 49 U.S.C. § 10102(9). Various courts have stated that the core purpose of this provision is to ensure the free flow of interstate commerce, particularly by preventing a patchwork of differing regulations across states. *See, e.g.*, *Elam v. Kan. City S. Ry.*, 635 F.3d 796, 804 (5th Cir. 2011) (a purpose of ICCTA was to create a "[f]ederal scheme of minimal regulation for this intrinsically interstate form of transportation.") (quoting H.R. Rep. No. 104-311, at 93 (1995), reprinted in 1995 U.S.C.C.A.N. 793, 805); *Fla. E. Coast. Ry.*, 266 F.3d at 1338-39 (stating that a desire to prevent a "patchwork of regulation . . . motivated the passage of the ICCTA" and that "[i]n reducing the regulation to which railroads are subject at state and federal levels, the ICCTA concerns itself with the efficiency of the industry as a whole

across the nation."). The Locomotive Plan specifically targets the operation of railroads, which subjects them to categorical preemption as efforts to manage or govern rail transportation. *See, e.g.*, *Delaware v. Surface Transportation Bd.*, 859 F.3d 16, 19 (D.C. Cir. 2017) (describing "categorical" preemption under ICCTA).

Other statutes also preempt or prohibit state regulation of railroad operations. For example, the Supreme Court has held that the LIA preempts state laws purporting to regulate "the design, the construction, and the material of every part of the locomotive and tender and of all appurtenances." *Napier v. Atlantic Coast Line R.R.*, 272 U.S. 605, 611 (1926). Following *Napier*, lower courts consistently have held that attempts by states, through either common law or enactment of positive law, to impose requirements for equipping locomotives are preempted. *See, e.g.*, *Ogelsby v. Delaware & Hudson Ry. Co.*, 180 F.3d 458, 461 (2d Cir. 1999) (holding that to allow states to regulate instructional labels on locomotives would "undermine the goal of the [Locomotive Boiler and Inspection Act] which is to prevent 'the paralyzing effect on railroads from prescription by each state of the safety devices obligatory on locomotives that would pass through many of them.'") (internal citation omitted).

A law can also be expressly preempted when Congress expressly directs that state-laws are preempted subject to a narrow carve-out for state-specific waivers. In this case, the CAA and regulations promulgated under it expressly preempt state regulation of railroad emissions, with few exceptions not relevant here.

b. CARB's Proposed Ban on Otherwise Compliant Federally Certified Locomotives is Preempted by ICCTA.

There is no question that CARB's Locomotive Rule is not a generally applicable air quality rule with only an indirect impact on rail; it *directly* and *expressly* targets *only* rail transportation. Section 2478.5 of CARB's proposed In-Use Locomotive Rule would ban the operation in California of federally certified locomotives that comply with all federal requirements but that have been in operation for more than 23 years and, starting in 2030, would require that "all new Passenger, Switch, and Industrial locomotives brought into California operations [] be zero-emission." [10] This proposed state ban is preempted by, and could not be harmonized with, ICCTA, as it would interfere with the free flow of interstate commerce by creating a complicated and expensive patchwork of regulation requiring railroads to switch out otherwise compliant locomotives at the California State lines.[11] This is precisely the type of state regulation of railroads that Congress sought to disallow with ICCTA because it would have "the effect of unreasonably burdening or interfering with rail transportation." *Delaware v. Surface Transp. Bd.*, 859 F.3d 16, 19 (D.C. Cir. 2017). Because ICCTA "preempts all state laws that may reasonably be said to have the effect of managing or governing rail transportation," ICCTA preempts regulations such as CARB's Proposed Rules. 622 F.3d at 1098 (internal quotation omitted).

c. *CARB's Proposed Rules Regarding Locomotive Idling are Preempted by ICCTA, the LIA, and Federal Law.*

Similarly, CARB's Proposed Rule to require railroads to shut off any AESS-equipped main locomotive engine within 30 minutes of the locomotive becoming stationary (with specified exceptions) (Draft Regulatory Language, § 2478.6) is preempted by ICCTA, the LIA, and EPA's regulations under the Clean Air Act. EPA currently mandates all new locomotives (as explained in more detail below, the term "new locomotive" is defined to include remanufactured locomotives) "be equipped with automatic engine stop/start" devices that "shut off the main locomotive engine(s) after 30 minutes of idling (or less)." 40 C.F.R. 1033.115(g).

Although CARB staff members continually assert that they are simply "adopting" EPA's existing regulations, there are significant differences between those regulations and CARB's proposal, and CARB's draft regulatory language places onerous burdens on locomotive operators. For example, the existing Federal rule obligates the original equipment manufacturer ("OEM") or remanufacturer of the locomotive to install an anti-idling device on a locomotive. The federal rules prohibit the owner or operator of the locomotive from installing a "defeat device" to circumvent the manufacturer's anti-idling technology, with certain

[10] *Draft for Informal Public Comment and Discussion – 3/16/2021.* This is the most recent draft regulatory language published by CARB.

[11] CARB's own Exchange Point study, conducted with the University of Illinois, reached this precise conclusion. *See* https://ww2.arb.ca.gov//sites/default/files/classic/railyard/docs/uoi_rpt_06222016.pdf at xx ("For the [South Coast Air Basin] deployment scenario, with potential train delays and mode shifts, the above findings emphasize the importance of examining operational factors when evaluating new locomotive technology to reduce the emissions of line-haul freight rail in California. For several of the technologies, it is not the equipment capital cost and potential fuel savings that control the economic feasibility of the technology, but instead other factors that arise from the difficulty of integrating new locomotive technology in captive service within a highly interoperable rail network.")

exemptions provided. 40 C.F.R. 1033.115(f). In contrast, CARB's Proposed Rule ignores the federal regulations and would seek to impose additional requirements on the locomotive owner or operator, and modifies or disregards exceptions to the general idling prohibition that are provided under the federal rules.[12]

CARB's Proposed Rule seeks to simply bypass portions of the federal idling regulation that it deems undesirable, while purporting to simply parallel the federal rules and jurisdictional limitations. Circumventing federal laws and jurisdictional limits is not so easily accomplished. As the STB has previously stated with respect to this type of regulation, CARB does not have authority to "decide for the railroads what constitutes unnecessary idling." 2014 STB Decision at 9. The Ninth Circuit specifically stated that because the "rules apply exclusively and directly to railroad activity, requiring the railroads to reduce emissions and to provide, under threat of penalties, specific reports on its emissions and inventory," they were preempted. 622 F.3d at 1098. The D.C. Circuit likewise upheld an STB order holding that a state rule seeking to restrict supposed nonessential idling of locomotives was preempted by ICCTA. *See Delaware*, 859 F.3d at 18.

Further, to the extent that CARB seeks to prohibit the use of a locomotive with a non-functioning AESS device, *see* Draft Regulatory Language, § 2478.6(c), this rule directly conflicts with EPA's regulations and is also prohibited by the LIA. *See* 49 C.F.R. § 1033.815(b); *Springston v. Consolidated Rail Corp.,* 863 F. Supp. 535, 541 (N.D. Ohio 1994), *aff'd*, 130 F.3d

[12] For example, the federal regulation allows "a locomotive to idle to heat or cool the cab, provided such heating or cooling is necessary." 40 C.F.R. 1033.115(g)(5). CARB's Proposed Rules make no such allowance.

241 (6th Cir. 1997) ("It is clear that Congress intended to provide a nationally uniform standard of regulating locomotive equipment."); *Gen. Motors Corp. v. Kilgore*, 853 So.2d 171, 178 (Ala. 2002) ("Because . . . the [LIA] occupies the entire field, there is no area within which the states may regulate.").

CARB has offered no rationale or justification for attempting to promulgate idling regulations that are substantially similar to those rejected by federal courts and the STB just a few years ago. The types of idling requirements contained in the In-Use Locomotive regulation and included in the Locomotive Plan continue to be preempted by ICCTA, the LIA, EPA's rulemaking in this field, and binding legal precedent. As a result, CARB's proposed rulemaking is unlawful and should not be incorporated into the Draft Plan.

d. CARB's Proposed Charges and Fees on Locomotives and their Operators are Preempted by ICCTA and the 4-R Act, Violate the Takings Clause of the U.S. Constitution, and Are Wholly Impractical.

In its proposed In-Use Locomotive Rules, CARB is proposing both a locomotive charge (referred to by the agency as a "Spending Account"), which imposes charges on federally certified locomotives based on the operation of the locomotive within California and its emissions tier, and a yearly administrative fee that must be paid by the operator of a locomotive. Both elements of the Proposed Rules are preempted.

Section 2478.4 of the Draft Regulatory Language lays out CARB's system of charges based on the tier of the locomotive operated within the state. As an initial matter, regardless of whether they are considered "taxes" or "fees," such charges levied directly and exclusively against the railroads for their rail operations within California are unquestionably preempted

under ICCTA as state laws that directly target rail transportation. *BNSF Ry. Co.*, 904 F.3d at 760-761, 767-768.

Moreover, imposing fines on the railroads for operating even the cleanest possible locomotive available on the market –Tier 4 locomotives – does not make sense as a matter of public policy. *See* 40 C.F.R. 1033.101 (identifying EPA's promulgated emissions standards, by Tier, for locomotives with Tier 4 being the highest tier with the lowest emissions). Although CARB has asked EPA to establish a new locomotive emission standard, which CARB calls "Tier 5" (a request that EPA has not addressed), such a standard makes limited sense given CARB's expressed desire for industry to transition to non-diesel engines in the coming decades. Driving the railroads towards purchasing the next generation of long-lived diesel locomotives, if or when they are available, as opposed to focusing on developing alternative zero-emission technologies, is directly contrary to CARB's stated objective of transitioning to "zero-emission" technologies and would result in significant stranded diesel assets. These resources could better be applied to development of zero-emission technologies. As noted above, AAR's members have demonstrated a consistent commitment to testing new emissions-reducing technologies.

Based on preliminary calculations, AAR estimates that a railroad operating a Tier 4 locomotive in full compliance with federal standards would be forced to deposit tens of thousands of dollars *per year, per locomotive*, for operating the best available technology with the lowest possible emissions available on the commercial market. Setting aside the perversity of a regulatory system that would punish a regulated entity by imposing excessive charges for successfully adopting the best available technology, this is precisely the type of local regulation

that the STB has ruled is preempted because "allowing states and localities to create a variety of complex regulations governing how an instrument of interstate commerce is operated, equipped, or kept track of (even if federalized under the CAA) would directly conflict with the goal of uniform national regulation of rail transportation." 2020 STB Decision at 12; 2014 STB Decision at 10.

From a legal perspective, CARB's proposed locomotive charge structure (requiring funds to be set aside, and then requiring that they be spent only for defined purposes) is a direct economic regulation of the railroads and, as such, it is categorically preempted by ICCTA. As explained above, the "jurisdiction of the [STB] over . . . transportation by rail carriers"—which includes "locomotives"—"is exclusive." 49 U.S.C. §§ 10102(9); 10501(b) & (1). Moreover, "the remedies provided under [ICCTA] with respect to regulation of rail transportation"—which, again, includes "locomotives"—"are exclusive and preempt the remedies provided under Federal or State law." *Id.*; *see also* CSX Transportation, Inc. Petition for Declaratory Ord., No. FD 34662, 2005 WL 1024490, at *2 (May 3, 2005) ("there can be no state or local regulation of matters directly regulated by the Board"). In short, ICCTA preempts a state system of regulations and remedies that tell a railroad how it may and may not spend its funds on transportation assets.

Moreover, CARB's Proposed Rule applies to the rail industry, but does not apply to the trucking industry, despite the fact that both industries transport goods in interstate commerce and impact air quality and emit greenhouse gases. ICCTA prohibits laws that "discriminate against rail carriers or unreasonably burden interstate commerce." *Valero Ref. Company—Petition for Declaratory Ord.,* No. FD 36036, 2016 WL 5904757, at *4 (Sept. 20, 2016). *See also*

BNSF Ry. v. Cal. Dep't of Tax & Fee Admin., 904 F.3d 755, 761 (9th Cir. 2018) ("[The challenged law] is neither a law of 'general applicability,' nor a law with only a 'remote or incidental effect on rail transportation.' [The law] … 'targets' the railroad industry." (citation omitted)); *N.Y. Susquehanna & W. Ry. v. Jackson*, 500 F.3d 238, 253 (3d Cir. 2007) ("[E]ven pedestrian regulations like building codes must be applied in a manner that does not discriminate against railroad operations to avoid preemption."); *Norfolk S. Ry. v. City of Alexandria*, 608 F.3d 150, 160 (4th Cir. 2010) (holding that localities may not "discriminate against rail carriers"); *Green Mountain R.R. v. Vermont*, 404 F.3d 638, 643 (2d Cir. 2005) (explaining, in context of traditional police powers, that "*non-discriminatory* regulations … would seem to withstand preemption" (emphasis added)).

Further, the sheer costs of these proposed fees and charges would "unreasonably burden [] interstate commerce," and are therefore prohibited by ICCTA. *New Orleans & Gulf Coast Ry. Co. v. Barrois*, 533 F.3d 321, 332 (5th Cir. 2008) (internal quotations omitted).

CARB's proposed locomotive charges are also prohibited by Section 306 of the 4-R Act. 49 U.S.C. § 11501. Notwithstanding that the funds are nominally held by the railroads, the charges can properly be understood as a tax because eventually, "the assessment is expended for general public purposes," rather than being "used for the regulation or benefit of the [railroads themselves]," *Bidart Bros. v. California Apple Comm'n*, 73 F.3d 925, 931 (9th Cir. 1996). The 4-R Act prohibits states from imposing taxes that "discriminate[] against" rail carriers. *Id.* § 11501(b)(4). In enacting the 4-R Act, Congress sought to "restore the financial stability of the railway system of the United States." 45 U.S.C. § 801. After forbidding certain types of property taxes, 49 U.S.C. § 11501(b)(1)-(3), the 4-R Act broadly prohibits "another tax

that discriminates against a rail carrier." *Id.* § 11501(b)(4). The Supreme Court has stated that the phrase "another tax" means "any other tax," and has described subsection (b)(4) as a "catch-all" provision that "encompass[es] any form of tax a State might impose." *CSX Transp., Inc. v. Ala. Dep't of Revenue*, 562 U.S. 277, 280, 284 n.6, 285 (2011); *see also Burlington N. R.R. v. City of Superior*, 932 F.2d 1185, 1186 (7th Cir. 1991) ("Subsection (b)(4) is a catch-all designed to prevent the state from accomplishing the forbidden end of discriminating against railroads by substituting another type of tax. It could be an income tax, a gross-receipts tax, a use tax, an occupation tax as in this case – whatever."). Under this broad understanding of the prohibitions imposed by the 4-R Act, CARB's proposed locomotive charges and fees are forbidden.

The proposed Spending Account provision in § 2478.4 also runs afoul of the Takings Clause. *See* U.S. Const. amend. V. This provision requires Locomotive Operators to contribute funds annually to a Spending Account, the contents of which shall be used only to acquire or repair the Cleanest Available Locomotives or for a small number of related zero-emissions projects. §§ 2478.4(b)(1), (c). It also mandates that any interest or capital gains on the funds be used for the same purposes. *Id.* § 2478.4(b)(2). Those funds are property of the railroad in question, not the government, and the Takings Clause does not tolerate a system in which the government, rather than the property owner decides how the property may be possessed and disposed of. That is because "property is more than economic value; it also consists of 'the group of rights which the so-called owner exercises in his dominion of the physical thing,' such 'as the right to possess, use and dispose of it." *Phillips v. Washington Legal Found.*, 524 U.S. 156, 169–70 (1998) (citing *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 435

(1982), and quoting *United States v. Gen. Motors Corp*., 323 U.S. 373, 378 (1945)). Those rights would vanish—for vast amounts of railroad property—under the proposal.

Moreover, the Spending Account provision permits no variances for Locomotive Operators who (either now or in the future) are no longer legally required to spend their capital on the short list of allowed expenditures and who will receive no economic benefit from doing so. The proposed formula for determining the mandatory annual contribution to the Spending Account also ignores these realities. *See* § 2478.4(c)(1). As a result, the proposed Spending Account provision will force some Locomotive Operators to set aside funds every year for purposes from which they will derive no economic benefit. And courts have repeatedly recognized that when a law requires a property owner to "to sacrifice all economically beneficial uses in the name of the common good, that is, to leave his property economically idle, he has suffered a taking." *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1019 (1992). For a number of Locomotive Operators whose funds will be stranded in this way, the proposed Spending Account provision will result in just such a taking.

Finally, from a practical perspective, CARB's proposed yearly "administrative fee" of $220 per locomotive, paid by the locomotive operator, demonstrates a fundamental lack of understanding of the rail industry on the part of staff and fails to address how CARB would avoid charging the same locomotive multiple times. For example, one railroad may own and operate a locomotive for part of the year, but that same locomotive (while still owned by the same railroad) may also be operated in California by different railroads for different portions of the year. It would be unreasonable to suggest that the administrative fee should be paid multiple times for the same locomotive every year by different railroads. In the example

provided this would multiply the total fee, likely providing revenue to CARB but failing to fairly apportion the fee between operators.

Similarly, CARB's Spending Account would require railroads to place hundreds of millions of dollars into a trust account to be used only as dictated by CARB to purchase the cleanest available locomotive.[13] There is a very limited market, primarily focused on new technologies, for new locomotives at this time and thousands of locomotives are in storage due to increased productivity (with associated reductions in emissions) and reduced demand for specific commodities.[14] Indeed, new locomotive sales peaked nationwide in 2014, at about 1,450 units, and dropped off to just over 100 by 2020. Forcing railroads to place hundreds of millions of their own dollars in trusts will not suddenly cause a market for new locomotives to materialize—it will simply deprive railroads of useable capital. Moreover, as discussed above, even if a railroad purchased the cleanest available locomotive (a Tier 4), it would still be subjected to CARB's locomotive charge of up to many tens of thousands of dollars on that new locomotive on a yearly basis. Thus, in addition to being preempted by federal law, CARB's locomotive charge is both counterproductive and unreasonable.

[13] CARB attempts to characterize its proposed charge on locomotives as a "spending account." *See* CARB Workshop Slides Day 2 (10/28/2020), *available at* https://ww2.arb.ca.gov/sites/default/files/2020-12/2020.10.28%20841AM%20Workshop%20Slides%20Day%202%20-%20Remediated.pdf. This characterization is wholly inconsistent with the reality of what CARB is proposing – to "require mitigation to be paid for locomotive emissions" and to "convert mitigation funds to cleaner locomotives." *Id.* at 41. CARB's proposal amounts to a discriminatory charge being levied against the locomotive industry.

[14] *See, e.g.*, https://www.progressiverailroading.com/union_pacific/.

e. CARB's Proposed Rules Mandating Extensive Reporting Obligations are Preempted by, and Cannot Be Reconciled with, ICCTA.

Previous rules adopted by the SCAQMD purporting to impose recordkeeping and reporting requirements on locomotives operating in the district were held to be preempted by ICCTA. Upon review of the reporting rules, the STB found that "allowing states and localities to create a variety of complex regulations governing how an instrument of interstate commerce is operated, equipped, or kept track of (even if federalized under the CAA) would directly conflict with the goal of uniform national regulation of rail transportation." 2020 STB Decision at 12 (emphasis added); 2014 STB Decision at 10. In response to claims from SCAQMD that the proposed reporting requirement was "merely a record-keeping requirement and thus does not impede the flow of transportation," the STB found that the requirement "would potentially create a patchwork of localized, operational recordkeeping requirements that would likely affect railroad operations." 2014 STB Decision at 9. The STB noted multiple times that because more than 100 CAA nonattainment districts exist in the United States, if the recordkeeping rule were implemented, "other nonattainment districts across the country could, and likely would, implement their own, unique recordkeeping requirements," resulting in "an unworkable variety of regulations." 2014 STB Decision at 9, 10.

CARB's Proposed Rules are strikingly similar to the reporting provisions adopted by the SCAQMD that the STB found were preempted by federal law. The same analysis will apply to CARB's proposed reporting requirements, in which CARB is proposing to require railroads to record and report for each locomotive, among other things, total megawatt-hours operated or total fuel used throughout the year in California (broken down by air district) and the total engine hours throughout the year in California (again broken down by air district). The

administrative effort involved for all railroads to track this information within each of the 35 California air districts the locomotives operate in is immense and would require significant investment in geofencing and other technologies. This level of reporting is burdensome and would greatly interfere with the operation of the nation's rail network. As such, the Proposed Regulations are preempted by ICCTA. As AAR has shown in previous comments submitted to CARB, California's two Class I railroads already submit to CARB information sufficient to enable CARB to estimate locomotive emissions, by air district, throughout the state. In fact, such a detailed breakdown can be easily obtained from CARB's website: CEPAM2019v1.03 - Standard Emission Tool | California Air Resources Board. For example, using CARB's CEPAM website tool one can find that oxides of nitrogen emissions from switch engine locomotives operating within the South Coast Air Basin were 2.485 tons per day in calendar year 2020. CARB has demonstrated no regulatory need nor environmental benefit associated with the onerous additional reporting requirements contained in the Proposed Rules.

III. CARB'S CHARACTERIZATION OF FEDERAL REGULATIONS AS A "LOOPHOLE" IS BOTH INACCURATE AND MISLEADING.

EPA has promulgated nationwide regulations governing the useful life of locomotives and, as a result, states are expressly prohibited from promulgating their own conflicting regulations. In CAA section 209(e), Congress preempted state and local governments from adopting or enforcing "any standard or other requirement relating to the control of emissions from . . . new locomotives or new engines used in locomotives." 42 U.S.C. § 7543(e)(1)(B). EPA defines "new locomotive" as a "locomotive or locomotive engine which has been remanufactured" that was built after January 1, 1973. 40 C.F.R. § 92.2 (emphasis added). Because EPA's regulations address not only newly built, but also remanufactured engines, they

establish the national standards with respect to the lifecycle and emissions requirements for locomotives operating in the United States.

CARB, acknowledging its lack of legal authority to impose different standards on its own, characterizes these lawfully promulgated federal regulations as a "loophole." In its Draft Plan, CARB incorrectly states that "[t]he result [of the federal regulations] is continued remanufacturing of old and polluting locomotives to the same pollution tier standards, and persistent pollution from these sources."[15] CARB contemplates a petition to EPA to close this "loophole" by inventing a novel definition of "useful life" and other provisions that differ from current EPA regulations, thus altering the certification system for all U.S., Canadian, and Mexican locomotives.

CARB's proposal is an overly broad request, given the interconnected nature of the U.S. and North American rail network and the federal regulatory framework that exclusively governs it. But describing these regulations as a "loophole" is also inaccurate and misleading. The regulations governing the remanufacture of locomotive engines were promulgated in 1998 and were updated in 2008. 73 Fed. Reg. 37096. As with all lawfully promulgated regulations, EPA published its proposed rule for public comment prior to finalization. In the notice, EPA states that "[t]he near-term program [] includes new emission limits for existing locomotives and marine diesel engines that apply when they are remanufactured, and take effect as soon as certified remanufacture systems are available, as early as 2008." *Id.* Put differently, the

[15] This is plainly incorrect. In fact, EPA regulations require that when a locomotive is first remanufactured it must be upgraded to meet lower emission rates. For example, a Tier 0 locomotive must be remanufactured to meet Tier 0+ standards, which achieve a 16% reduction in NOx emissions and a 63% reduction in PM emissions.

regulations governing emissions standards for remanufactured locomotive engines are a central feature of EPA's regulatory regime, not a "loophole."

EPA's approach to remanufactured locomotives makes sense – locomotives have lifecycles that can span many decades. EPA's regulations ensure that remanufactured locomotives meet emissions limits. Contrary to CARB's blanket assertion that the regulations allow older locomotives to be remanufactured to the "same pollution tier standard," EPA has required certain locomotives to be remanufactured to standards with lower emissions than when first manufactured. For example, remanufacturing a Tier 0 locomotive engine to a Tier 0+ reduces particulate and NOx emissions by 16 percent and particulate emissions by as much as 63 percent. By regulating the remanufacturing of locomotives, EPA regulates locomotives for much or all of their operational lives, not just the ten years or less for the initial manufacturing event. This provides nationwide benefits.

Notably, CARB supported EPA's adoption of these regulations on remanufactured locomotives when those regulations were developed and promulgated. CARB submitted comments on or related to the proposed regulations in 2004, 2006, and 2007. In its 2004 comment, CARB "fully support[ed] the direction that U.S. EPA is taking to control emissions from [locomotives] in the [Advanced Notice of Proposed Rulemaking on the Control of Emissions of Air Pollution from New Locomotive Engines].[16] A significant portion of that proposed regulation, which was later finalized and promulgated, related to the emissions

[16] Letter from Alan C. Lloyd, Ph.D., Chairman, Air Resources Board, to Margo T. Oge, Director, Office of Transportation, US EPA (Aug. 26, 2004).

standards for remanufactured locomotives. At no point during that rulemaking did CARB assert that the regulation created a "loophole" or that a limit should be imposed on the number of times a particular locomotive can be remanufactured.

IV. CARB CONTINUES TO RELY ON INACCURATE AND INFLATED EMISSIONS DATA.

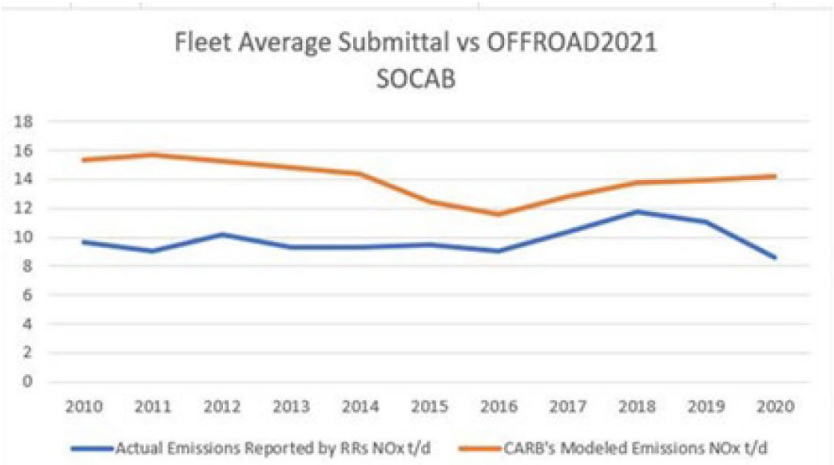
In its January 31, 2022, presentation of its Draft Plan, CARB includes estimates for NOx reductions anticipated from its locomotive plan. However, CARB continues to rely on inflated and inaccurate emissions data in reaching these estimates. As a result, actual emissions reductions resulting from the Locomotive Plan would be significantly lower than expected.

On October 19, 2021, CARB released the latest version of its emission inventory model for offroad equipment (OFFROAD2021). The model can be accessed here: EMFAC (ca.gov). This model is ultimately used for SIP and regulatory development.

OFFROAD2021 reflects the results of CARB's updated switch locomotive and line-haul locomotive models that we have been following for the last two years. As best we can determine, in these models CARB has failed to address any of AAR's concerns regarding the line-haul forecasting methodology in this latest version of the OFFROAD model.[17]

The graphic below compares the NOx emissions predicted in the South Coast Air Basin by OFFROAD2021 for Union Pacific Railroad and BNSF Railway activities compared with the actual data submitted by the railroads, and accepted by CARB, from 2010 to 2020 pursuant to the Fleet Average Agreement ("FAA"):

[17] AAR did not have significant concerns regarding the switch locomotive model.



Actual NOx Emissions Reported by Railroads (t/d)	9.67	9.07	10.20	9.29	9.34	9.52	9.08	10.36	11.77	11.06	8.58
CARB's Modeled NOx Emissions (t/d)	15.36	15.73	15.25	14.80	14.41	12.49	11.55	12.80	13.76	13.97	14.20
Discrepancy (CARB vs FAA Submissions)	59%	73%	49%	59%	54%	31%	27%	24%	17%	26%	65%

Based on the data above, CARB has consistently, and continues, to overestimate NOx emissions from Class I locomotives in the South Coast Air Basin by approximately 40 percent. CARB's current locomotive inventory methodology extrapolates its forecast of South Coast Air Basin emissions to the rest of the state (ignoring the detailed, localized data supplied by each railroad in most years); consequently, this overestimate occurs in CARB's statewide locomotive inventory as well.

AAR has communicated to CARB its concerns regarding the locomotive inventory and has had several detailed technical discussions to convey these concerns. Specifically, AAR's comments were submitted in writing to CARB on July 22, 2020. That submission was followed by several calls, culminating in a presentation on September 10, 2020, where AAR presented to CARB a more accurate line-haul locomotive forecast.

In addition to the September 10, 2020, presentation, AAR's consultants (CEA) sent several emails and had several calls with CARB explaining AAR's concerns with the inventory. CARB's formal release of OFFROAD2021 and continued reliance on this inaccurate data in its Draft Plan has resulted in CARB presenting a misleading and inaccurate view of current and past locomotive line-haul emissions.

V. THE GOALS OF CARB'S LOCOMOTIVE PLAN ARE PRESENTLY INFEASIBLE.

CARB has stated that the "goal of the [In-Use Locomotive regulation] is to accelerate immediate adoption of advanced cleaner technologies for all locomotive operations."[18] Yet CARB concedes in its regulatory documents associated with the In-Use Locomotive Regulation that zero-emission locomotives are not commercially available.[19] It is not possible for CARB (or any other state agency) to predict which technology in development today or yet to be developed will be adopted by the national transportation sector generally and the rail industry specifically. Railroads are unlikely to invest capital funds in a multi-million-dollar state-of-the-art ultra-low-emission diesel locomotive when diesel engines themselves may be replaced in the future with newer technology.

Moreover, the infrastructure to support zero-emission line-haul locomotives must be constructed across the North American continent due to the interconnected nature of the rail network. For example, the current rail network cannot currently support the use of hydrogen-

[18] https://ww2.arb.ca.gov/our-work/programs/reducing-rail-emissions-california/concepts-reduce-emissions-locomotives-and.

[19] *Preliminary Cost Document for the In-Use Locomotive Regulation*, March 16, 2021 ("Zero-emission (ZE) locomotives will be commercially available starting by (*sic*) no later than 2035.").

fuel cell locomotives or battery-electric locomotives. The infrastructure to accomplish the delivery of the necessary hydrogen, electricity, or other fuel required for zero-emission locomotives must be put in place across the continent. CARB fails to address or acknowledge the additional energy that will be required within California to accomplish some of its goals to transition to a battery-electric economy even though it will likely require significant additional electricity generation per year. Similarly, the charging infrastructure or hydrogen fueling infrastructure that would be required to power even a California-only fleet of locomotives simply does not exist and is unlikely to exist prior to CARB's stated effective date for its Locomotive Plan. Finally, in its attempt to force a transition to an as-yet unidentified new technology, CARB has failed to acknowledge that it is not feasible to have one rail network used in California and another used in the rest of North America.

VI. CONCLUSION

AAR appreciates this opportunity to comment on CARB's Draft Plan. We continue to hope to return to our previous history of meaningful cooperation and communication between CARB Staff and AAR and its members.

Respectfully submitted,

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March 4, 2022