

**BEFORE THE
CALIFORNIA AIR RESOURCES BOARD**

**COMMENTS ON THE PROPOSED IN-USE LOCOMOTIVE
REGULATION**

**SUPPLEMENTAL COMMENTS OF
THE AMERICAN SHORT LINE AND REGIONAL RAILROAD ASSOCIATION
AND
THE CALIFORNIA SHORT LINE RAILROAD ASSOCIATION**

The American Short Line and Regional Railroad Association (“ASLRRA”) and the California Short Line and Regional Railroad Association (“CSLRA”) (jointly, “the Associations”) on behalf of themselves and their member railroads, respectfully submit the following comments responding to the California Air Resources Board’s (“CARB”) Second Notice of Public Availability of Modified Text and Availability of Additional Document and Information for its Proposed In-Use Locomotive Regulation (“Regulation”).

ASLRRA is an incorporated, nonprofit trade association representing the approximately 600 owners and operators of short line and regional freight railroads throughout North America. Short line railroads play a vital role in the transportation network, often providing the first-mile and/or last-mile connection between farmers, energy producers, manufacturers, industrial shippers of all stripes, and the national freight rail network. CSLRA is a non-profit trade

association promoting best business practices and providing legislative and public outreach for California short lines. Approximately 25 short line railroads own (or lease) and operate locomotives within the state of California as part of the national freight rail network, giving the Associations and their members a significant interest in these proceedings. ASLRRA and CSLRA have filed previous comments in this proceeding both individually and jointly with the Association of American Railroads (“AAR”). ASLRRA also filed comments jointly with AAR in response to this notice, and the Associations incorporate those comments herein.

On August 8, 2023, CARB announced a second supplemental comment period on additional proposed modifications and documents for the Regulation. In the notice, CARB states, that “an unprecedented amount of grant and incentive funding [recently] has been made available to locomotive operators.”¹ This provides the reasoning for the proposed delay in the required spending account requirements, as CARB claims that the additional time will afford locomotive operators the time needed to secure funding and begin operations of cleaner locomotives before incurring costs in the spending accounts. While California short line railroads have made use of grant funding in the past to acquire more efficient, less polluting locomotives because securing such locomotives simply is beyond the financial capacity of the short lines without grant support, it is a gross mischaracterization for CARB to claim that the funds that will realistically be available for locomotives in California will be anywhere close to sufficient to cover the cost of the regulation for these small businesses. ASLRRA provided similar feedback in response to comments made at the November 18, 2022, public hearing on the proposed regulations, which the Associations incorporate herein.

¹ This purports to respond to CARB’s Initial Statement of Reasons, page 29, “What if a Locomotive Operator Cannot Afford the Cost of Compliance?” This section of the Final Statement of Reasons is incomplete, as elaborated upon in this comment, and should not be relied upon by Board members who may be concerned about the impacts of the Regulation on small railroads.

I. Cost of Compliance for Small Business Railroads

The Associations estimate that between \$335 - \$427 million will be required to upgrade the short line freight locomotive fleet currently operating in California.² This amount only includes freight railroads, so the actual number will be higher if industrial, tourist, and historic locomotive operators are included. The estimate also assumes an upgrade for diesel locomotives from Tier 3 and below to Tier 4, and the range is due to the difference in cost between repurposing locomotives versus purchasing completely new locomotives. If zero emission (“ZE”) locomotives were required, the total costs would be significantly higher, for the following reasons:

1. If the ZE locomotive is battery electric powered, there is a high probability that small rail operations now using one or two locomotives would require two or three, due to the recharging periods for the batteries requiring more time than simply refueling a diesel-electric locomotive.
2. A small railroad would be required to provide back-up locomotives in case of an issue with the new technology ZE locomotive that takes it out of service. Unlike a Class I railroad that can reshuffle its locomotive assignments to cover for a locomotive failure, small railroads do not have that ability and will be required to build in a back-up plan to provide service continuity to its customers.

II. Public Funding Opportunities for Small Business Railroads

While small business railroads can apply to numerous public funding programs to fulfill the \$335 - \$427 million cost to comply with the regulation, the railroads will not be able to come

² The Associations estimate that 172 locomotives operated by short line railroads in California will need to be replaced or repowered to comply with the Regulation.

close to meeting this obligation with the current funding vehicles. The following analysis shows the lack of sufficient public funds compared to the totality of the cost of the regulation.

Consolidated Rail Infrastructure and Safety Improvements (“CRISI”)

The Federal Railroad Administration’s CRISI program began funding projects in 2017. Since that time, the program has made \$1.3 billion in awards, excluding funding set-asides for positive train control projects in 2018. Of this amount, projects in California have received \$107 million, or about 8% of funding. California has been the second largest state recipient of CRISI funding after North Carolina, which has received \$170 million. Therefore, historically, FRA’s maximum willingness to fund projects in a single state over time has been 13% of available resources. While the CRISI statute does not have a quantitative geographic equity constraint, as do other USDOT grant programs, FRA has informally shared that this is a consideration within the agency when awards are made. Within that \$1.3 billion, the Associations were able to identify only two funded projects where potentially five or six locomotives were purchased, representing less than a single percent of available CRISI resources. Therefore, CRISI has historically not been a meaningful source of funds for locomotives. The Associations do not have data on whether this is in part due to applicants not seeking funding for locomotive rebuilding or acquisitions rather than the agency not choosing to fund such projects.

With the passage of the Infrastructure Investment and Jobs Act (“IIJA”), CRISI has received substantial additional resources. Each of the five years of the law (2022 – 26) provides \$1 billion to CRISI through advance appropriations. Congress also has authority to provide up to an additional \$1 billion each year through the annual appropriations process and in fact has provided additional appropriations in 2022 and 2023 and is contemplating doing so in 2024. The bill included legislative language emphasizing CRISI eligibility to fund “Rehabilitating,

remanufacturing, procuring, or overhauling locomotives, provided that such activities result in a significant reduction of emissions.” However, the additional funding has so far been less than the additional \$1 billion and is expected to decline each year.

In the FY 2022 competition, FRA highlighted the eligibility of motive power projects and provided applicants with policy guidance on competitive project applications relative to achievements in emissions reductions. Awards are expected to be announced before the end of September 2023. The awards will be instructive in helping California short lines understand FRA’s willingness to fund locomotive projects supporting short line compliance with the In-Use Locomotive Regulation. Out of \$1.4 billion funds made competitively available in 2022, \$1.25 billion was potentially available to short lines, although historically short line related projects have received a bit less than half of all CRISI awards. Historical data suggests that as much as \$162 million could be awarded to all California CRISI projects in total.

The Associations have modeled out a scenario for the CRISI program in which California received 8% of award funding for the remainder of the IJJA, the state’s historical average. For the fiscal years 2022 through 2026, a range of assumptions were made including using the lowest of average annual appropriations each fiscal year, continuation of set-aside amounts seen to date, and an average for earmarked projects. In this scenario, short lines could possibly see – assuming they successfully apply and are awarded grants for locomotive compliance projects – as much as \$95 million between 2022 and 2026. This assumes that FRA is willing to award 20% of the state’s average annual historical CRISI funding to just short line freight railroad locomotive projects that support locomotive rebuilds or acquisitions enabling compliance with the new rule, which is admittedly very unrealistic, given the many other rail projects in California every year.

To model awards in 2027 – 2028 towards projects achieving compliance in 2030 requires a major assumption, completion of a surface transportation reauthorization bill and assumptions around the choices Congress would make to continue and fund the CRISI program. Pushing forward the previous assumptions, then CRISI could potentially deliver \$35 million in awards towards California short line railroad locomotive projects in 2027 and 2028 supporting compliance with the new rule, making a total of \$130 million from FY22-FY28. Fiscal Year 2029 and beyond were not modeled, assuming the potential of awards in those years would be too late to support projects towards 2030 compliance requirements.

However, it is extremely aspirational to assume that short line railroads in California will receive \$130 million from CRISI to purchase Tier 4 locomotives. Based on the CRISI match from 2021 – the only year for which FRA has released this data at the award level, a 65 federal / 35 non-federal is the average. Given the estimated cost imposed on the short lines to comply, the non-federal amount they will have to produce – after considering the other assumptions made about CRISI funds availability for short line locomotive projects in CA – is an extremely large amount given the financial capacity of these businesses. Therefore, even under these optimistic circumstances, CRISI funds alone cannot come anywhere close to meeting short line operators' funding needs associated with timely compliance with the Regulation, and allowing for the Spending Accounts to be used as matching for a grant for Tier 4 or better locomotives does not provide meaningful relief.

Diesel Emissions Reduction Act (“DERA”) Grants

The EPA's DERA program is a potential resource to support smaller freight locomotive operators meet the compliance targets of the new rule, but it is very limited in capacity for this purpose. Since 2009, more than \$660 million awards have been made through DERA, including

set-asides for emerging technology and SmartWay activities. Of that amount, over 62 awards totaling \$94 million included locomotive projects. Based on project descriptions, we estimate those funded \$62 million worth of locomotive replacements, repowers or retrofits. Over the 14 years of awards, that is less than \$5 million per year across the entire United States. The amount within that estimated to have funded locomotive projects in California was \$23 million, only \$1.7 million per year. Presently the national grants cycle of DERA is open, making available \$115 million in FY 2022 and 2023 funding. Region 10, which includes CA, NV, AZ, HI and the Pacific Islands, is anticipated to only receive \$6.2 million in total funding. This aligns with the historical patterns. DERA is an excellent program, but only can offer a very small fraction of the resources needed to help offset the costs that will be imposed by the new rule on small freight locomotive operators.

Transit and Intercity Rail Capital Program (“TIRCP”)

The TIRCP program has made over \$10 billion in awards since inception, with an average award size of \$76 million. TIRCP has made numerous rolling stock awards, particularly for buses and transit passenger railcars. The program has funded traditional locomotive acquisitions on at least two occasions, ten units for Metrolink in 2015 and one unit for SJRRC in 2016. In the latest Cycle 6 of the program, 28 awards were made for \$690 million, with an average award of \$25 million. TIRCP can accommodate smaller awards, 12 of the last cycle awards were for \$10 million or less, one as low as \$2.3 million. Freight locomotive projects do not appear to be eligible for TIRCP so it cannot be considered a resource for these locomotive operators. Future cycles of this program can potentially benefit freight locomotive operators only indirectly by absorbing some of the demand for public funding for locomotive projects coming

from intercity passenger rail and rail transit operators as they work towards bringing their fleets into compliance with the new rule.

Carl Moyer Memorial Air Quality Standards Attainment Program

The Carl Moyer Program, administered by CARB, receives about \$60 million in state funds annually for grants to private companies and public agencies to purchase cleaner-than-required engines, equipment, and emission reduction technologies. Locomotive projects are eligible among a wide range of other uses of funds including for projects in the construction, agricultural, marine, and emergency services sectors. Funds are administered through the regional air districts, that may implement additional criteria for awards that can restrict the flexibility of funding and relative competitiveness of different types of projects in different geographies.

Since inception in 1998, out of \$1.3 billion, the program has awarded \$94 million to 227 locomotive projects, or only 7% of available resources. Assuming past funding levels and sector allocations remain similar going forward, available funding for locomotives would be only \$4 million per year. More than 30% of past locomotive awards went to passenger rail, leaving freight locomotive operators to compete fiercely for very limited resources in a large pool including port, short line, and industrial locomotives. Based on past awards this would be around only \$2.8 million available annually to all California freight locomotive operators. Because the Moyer program statute requires that "...projects must not be required by any regulation, memorandum of understanding, or other legal mandate but must be 'early or extra,'" the eligibility of short line and other freight locomotive operators' projects for this funding upon enactment of the new rule is unclear. Until CARB clarifies the eligibility of locomotive projects

relative to and across the timeline of the new rule, we must assume no Carl Moyer funds will be available to resource-constrained locomotive operators to help them achieve compliance.

Finally, regarding the Carl Moyer program, it is important to point out that the early use of these grants was to acquire “GenSet” locomotives. This technology promised less fuel usage and fewer emissions through the use of multiple diesel engines in one locomotive that could be turned on or off as demand warranted. As with any new technology, there were problems with GenSets that did not manifest themselves until after the new locomotives went into service. California short line railroads have struggled at times to keep these GenSet locomotives in service to fulfill the requirements of the Carl Moyer grants. The lesson here should not be lost: any new locomotive technology needs to be thoroughly proven before benefits, to the railroad and to the public at large, can be fully expected. Simply mandating adoption of a new technology before it is proven can lead to serious misapplication of railroad and public funds.

Prop. 1B Goods Movement Emission Reduction Program

This program received \$1 billion in funding and \$938 million of this has been allocated. The program has funded upgrades of 72 locomotives and the original program guide identified \$100 million targeting projects for locomotives and railyards. Funding terms ranged from a 25% to a 15% applicant match. Funds could be used for line haul (road) locomotives, road switchers and pure switchers. Modified higher non-CA match requirements were presented for locomotive projects where the lower emission locomotive replaced with the funding was prohibited from operating in California, and options were available based on the percentage of California operations of a locomotive for units that routinely crossed the border. This program was created and funded by a ballot proposition in 2006 but appears to have spent its appropriated resources.

Should new funding be appropriated by the state, this program could be a resource for freight locomotive operators working towards compliance with the new CARB rule.

Volkswagen Environmental Mitigation Trust

Funding is available through the Volkswagen Environmental Mitigation Trust for California, administered by the South Coast Air Quality Management District (“SCAQMD”) for repowering or replacement of freight switcher locomotives. These awards are limited to 25% of replacement costs or 40% of repowering costs, not to exceed \$1.35 million per unit. Just over \$26 million in funding is presently available for the entire state and across a broad array of eligible freight sector engine types under the program announcement (PA) for Combustion Freight and Marine Projects. Another \$30 million may be made available through a future PA. In the absence of a history of program awards, it is conservative to assume in a competitive environment that only a fraction of these funds are likely to be secured by freight locomotive operators, perhaps \$2 - \$6 million in total, as seen in practice with the relative percentage of 9% of Moyer program awards going to locomotive projects. However, as with the Moyer funding, the VW Trust requires that “...existing vehicles/equipment/engines must be in compliance with all rules and regulations,” this raises the same question about eligibility for repowering or replacement of locomotives subject to the new rule. The Associations request that CARB and SCAQMD provide clarification on eligibility of these funds for locomotive projects under the new rule through 2030.

Clean Off-Road Equipment Voucher Incentive Project (“CORE”)

The CORE program is administered by nonprofit CALSTART and provides assistance for the purchase of “...commercial-ready products that have not yet achieved a significant market foothold.” Four models of lithium battery electric locomotives are eligible for incentives,

along with a very broad range of other equipment in the transport, construction, agricultural and other sectors. The locomotive models covered range from 87,281/66,050-lb. starting/continuous tractive effort up to 200,000/155,000-lb. Through various funding categories this program has received and disbursed \$153 million since 2017, an average of \$26 million annually. The program documentation does not identify any new funding sources for future availability.

As with other incentive programs identified by CARB, CORE has extremely broad eligibility. Should future funding be made available to this program in amounts as in the past, it is reasonable to expect that only a small fraction, perhaps less than 10% of available funds, could realistically be secured by freight locomotive operators each year. The incentives that CORE can provide for each battery switcher locomotive project is up to \$1 million plus another \$150,000 more for qualifying small businesses with less than \$15 million in revenue and fewer than 100 employees. But the balance of the cost for such equipment as offered is substantially more than that for the entire cost for the least expensive remanufacture of a switcher to diesel Tier 4 standards.

CORE's focus on funding equipment that does not have a market foothold is problematic for freight locomotive operators, particularly small operators. This implies a product at a technology readiness level that is below implementation. As explained regarding Carl Moyer and GenSet locomotives, clear expectations of reliability of locomotives and their operations and maintenance costs are extremely important to the operational and financial health of freight rail operators, especially smaller operators who have limited fleet sizes and mechanical facilities and few mechanical personnel. Locomotives are very long-lived and expensive pieces of capital equipment that are expected to withstand punishing duty cycles with high availability. The freight rail industry is still developing a full understanding of the total cost of ownership for the

latest generations of Tier 4 compliant diesel locomotives, and this is many years after those locomotives entered the market. Poor motive power performance can cripple railroad operations with corresponding effects on highly integrated freight supply chains. Even with incentives available such as from CORE, locomotive operators, especially smaller ones, will find it extremely risky to become early and broad adopters of brand-new locomotive technologies with little to no operational history. Battery-electric locomotive acquisition must also be accompanied by potentially very large investments in charging and electrical infrastructure to enable their operations.

Therefore, the CORE program, due to scale, eligibility, and focus, seems unlikely to be a meaningful source of funding to enable significant investments in compliance with the new rule, particularly for smaller freight rail operators. We suggest that CARB consider that the latest Tier 4 diesel locomotive technologies should be made eligible for future CORE incentive funding, rather than only ZE technologies that are still essentially in development or pilot, such as battery- and hydrogen-powered locomotives. CARB has specifically observed that Tier 4 diesel locomotive technology adoption is not widespread in the national locomotive fleet, nor in the California locomotive fleet, and also not specifically in the California short line locomotive fleet. Broadening the eligibility for this incentive program in this manner would specifically facilitate the dramatic reduction in emissions that occurs in the jump from uncontrolled locomotives to Tier 4 compliant diesel units for potentially well over 100 short line units.

Additionally, the Associations note that CORE defines small business differently than in the Regulation. CARB uses a definition of \$15 million or less in average annual gross receipts for the CORE program. This is certainly a much higher standard than the \$5 million which is used in the in-use locomotive regulation. The \$15 million standard would seem to exclude many

short lines and make them eligible for the small business hardship extension. The Associations urge CARB to review this definition to ensure consistency in its definitions to provide meaningful regulatory relief and aid to small businesses in California. A better solution overall for the definition of small businesses in the freight rail industry would be to treat all Class II and III railroads as small businesses.

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The examination of the funding programs referenced by CARB for short line railroads to utilize in order to comply with the Regulation could provide an estimated total of \$20.3 million per year, or \$121.8 million from fiscal years 2023-2028.³ This amount is as much as \$305 million less than what will be needed for short line railroads in California to comply with the Regulation. The Associations continue to urge CARB to either withdraw the Regulation or completely exempt short line railroads from its requirements.

Respectfully submitted,



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³ This total assumes an average of \$18.6 million per year of funding available from CRISI and \$1.7 million per year of funding from DERA. There does not appear to be funding available through TIRCP and Prop 1B, and eligibility clarification is needed for the Carl Moyer Program, the VW Mitigation Trust, and CORE.