



San Diego County  
**Air Pollution  
Control District**

**Options and Considerations for  
Reducing Indirect Source Emissions at  
Warehouses, Distribution Centers, and Ports**

**May 2023**

**SAN DIEGO COUNTY  
AIR POLLUTION CONTROL DISTRICT**  
10124 Old Grove Road  
San Diego, CA 92131

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## 1.0 **INTRODUCTION**

### 1.1 **BACKGROUND**

In 2019, California Assembly Bill 423 (Gloria, Statutes of 2019) added specified duties to the San Diego County Air Pollution Control District (District) including a requirement to “*consider adopting an indirect source rule to address pollution from mobile sources that is associated with stationary sources such as ports, warehouses, and distribution centers*” (California Health & Safety Code Section 40100.6.5(a)(6)). An indirect source is defined in the Clean Air Act as “...*a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution.*” (42 U.S.C. §7410(a)(5)(C)).

Accordingly, the District has evaluated potential strategies to control and reduce indirect source emissions from warehouses, distribution centers and ports in accordance with State and federal law. This report presents staff’s findings to date and provides an opportunity to gain public input and direction from the Governing Board on the preferred nature and scope of the District’s potential indirect source rule or program. Any future rulemaking that staff may be directed to pursue would be subject to a public process including public outreach, environmental and socioeconomic analyses, and future consideration of adoption by the Governing Board.

### 1.2 **INDIRECT SOURCE AIR POLLUTION FROM WAREHOUSES AND PORT OPERATIONS**

Air pollution from the ships, locomotives, trucks, and other heavy equipment that moves freight throughout San Diego County adversely affects our communities and the region at large and is a public health concern. Medium and heavy-duty trucks alone make up only 1% of all vehicles in San Diego County but emit 13% of all diesel particulate matter (DPM), a major component of fine particulate matter (PM) in the region, which contributes to lung cancer and aggravates asthma. Moreover, medium and heavy-duty trucks emit 15% of all oxides of nitrogen (NOx), which is a precursor to regional ozone and particulate pollution and contributes to respiratory and other illnesses. San Diego County does not yet meet the federal or State ozone standards or the State fine PM standard and must further reduce air pollution to reach attainment.

Sources such as warehouses, distribution centers and ports are primary destinations for trucks engaged in delivering, loading and/or unloading cargo.<sup>1</sup> These freight hubs indirectly cause air pollution due to the emissions from diesel-fueled trucks, trains, ships, off-road equipment, and other mobile sources they attract, including trucks with diesel-fueled refrigeration systems used for transporting perishable goods. Moreover, freight facilities commonly use diesel-fueled cargo handling equipment (such as forklifts and yard tractors) to maneuver cargo onsite and transfer it onto or off the trucks, trains, and ships. Employee passenger vehicles also contribute to the facility’s indirect source emissions. For ports, ocean-going vessels are the largest contributor of indirect source emissions.<sup>2</sup> Heavy-duty diesel trucks are the largest contributor to the indirect

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<sup>1</sup> The terms “warehouse” and “distribution center” are sometimes used interchangeably, as both serve as storage facilities for goods and products. A distribution center, in addition to storing products, also distributes them to wholesalers, retailers, and end customers.

<sup>2</sup> Ocean-going vessels emit over 60% of the indirect source emissions from Ports, according to SCAQMD’s analyses of its Rule 2305 (Warehouse Indirect Source Rule-Warehouse Actions and Investments to Reduce Emissions Program). See page 2-2 at <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-may4-032.pdf>.

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source emissions associated with warehouses and distribution centers.<sup>3</sup> The widespread emergence of online purchasing and rapid delivery services is contributing to a strong demand for warehouse space near populated areas, heightening concerns over the potential impacts on air quality and public health.<sup>4</sup> These concerns emphasize the need for actions to help minimize the public health impacts caused by freight operations in our region.

### 1.3 DISTRICT AUTHORITY TO REGULATE INDIRECT SOURCES

#### 1.3.1 State Law

Health & Safety Code. The District’s authority to regulate indirect sources of air pollution, such as warehouses and ports, is codified in the California Health and Safety Code (H&SC) including Sections 39002, 40000, 40001, 40702, 40716, 40920, and 40100.6.5. A district may, for example, “*adopt and implement regulations to...reduce or mitigate emissions from indirect and areawide sources of air pollution*” (H&SC §40716(a)(1)).<sup>5</sup> The District may also collect fees to recover its costs to regulate indirect sources (H&SC §42311(g)).

AB 423. AB 423 (Gloria, Statutes of 2019), as previously stated, amended State law to expressly require the District to “*consider adopting an indirect source rule to address pollution from mobile sources that is associated with stationary sources, such as ports, warehouses, and distribution centers*” (H&SC §40100.6.5(a)(6)).

AB 617 Portside Community. In 2019, the California Air Resources Board (CARB) selected the Portside Community of Barrio Logan, West National City, Logan Heights, and Sherman Heights to develop and implement a community emissions reduction plan (CERP) pursuant to AB 617 (Garcia, Statutes of 2017). The District worked with a Community Steering Committee to prepare the Portside CERP, which was adopted by the District Governing Board in July 2021 and by CARB in October 2021. Exposure to diesel pollution from stationary and mobile operations, including freight, is a key concern reflected throughout the Portside CERP. To help address this concern, the CERP includes a District commitment to evaluate the feasibility of adopting a rule to control emissions from indirect sources such as warehouses, distribution centers, and port terminals.

AB 617 International Border Community. In 2021, CARB selected the International Border Community of San Ysidro and Otay Mesa to develop and implement a CERP pursuant to AB 617. District staff are working with an International Border Community Steering Committee to identify the community’s key air quality concerns and potential strategies to address them, for inclusion in a future proposed CERP. Committee members have raised concerns over the rising demand for warehouse and distribution space in the international border region, which adds to existing high volumes of trucks crossing the border daily and contributes to some of the worst DPM

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<sup>3</sup> Heavy-duty trucks emit over 90% of the indirect source emissions from warehouses with at least 100,000 sq ft. of indoor floor space, according to SCAQMD’s analyses of its Rule 2305 (Warehouse Indirect Source Rule-Warehouse Actions and Investments to Reduce Emissions Program). See page 2-2 at <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-may4-032.pdf>.

<sup>4</sup> See CBS News, *Otay Mesa continues to grow as a commerce hub* (Feb. 8, 2023) and *Proposed project could bring thousands of diesel trucks to Barrio Logan, locals not happy* (Dec. 4, 2022); available at <https://www.cbs8.com>, accessed Mar.16, 2023.

<sup>5</sup> Letter from Ellen M. Peter, Chief Counsel of the California Air Resources Board to Wayne Nastri, Executive Officer of the South Coast Air Quality Management District, dated May 6, 2021, attaching letter from Robert Swanson, on behalf of California Attorney General Rob Bonta, to Ellen M Peter, entitled “Legality of South Coast Air Quality Management District Proposed Rules 2305 and 316 - Facility-Based Mobile Source Measure for Warehouse Distribution Centers.” Dated, 6 May 2021.

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pollution in the state. To help address these concerns, the Committee is considering including a warehouse indirect source measure as part of the future proposed International Border CERP, mirroring and supporting the corresponding measure in the Portside CERP.

### **1.3.2 Federal Law**

The District's indirect source authority is reinforced in the Clean Air Act, which, as previously stated, defines an indirect source as "...a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution." (42 U.S.C. §7410(a)(5)(C)). Federal law allows an indirect source review program to be included in the State Implementation Plan to attain national clean air standards (42 U.S.C. §7410(a)(5)(A)(i)). An indirect source review program is defined as a *"facility-by-facility review of indirect sources of air pollution"* and includes, but is not limited to, *"measures as are necessary to assure, or assist in assuring, that a new or modified indirect source will not attract mobile sources of air pollution, the emissions from which would cause or contribute to air pollution concentrations that exceed a national primary ambient air quality standard or prevent maintenance of any such standard."* (42 U.S.C. §7410(a)(5)(D)).

## **2.0 STAFF ACTIVITIES & FINDINGS**

Starting in November 2021, District staff began work to evaluate the feasibility of various actions to address indirect sources of pollution, particularly warehouses, distribution centers, and ports. Staff began by reviewing rules from other districts, and then conducted meetings with stakeholders and subject matter experts to determine what sort of actions could be feasible for the region.

To date, District staff has conducted 49 meetings with various stakeholders, including community groups, warehouse owners, other jurisdictions and other internal District divisions. Feedback from those initial meetings included requests to:

- Minimize the administrative burden and costs for those affected by any new rule, and to the extent feasible, avoid duplicative requirements with existing or proposed State or federal mobile source regulations;
- Include as many warehouses as possible that are close to residents or vulnerable populations;
- Provide a suite of compliance options for those subject to the regulation; and
- Ensure any rule or agreement (i.e. Memorandum of Understanding (MOU)) would not impede the ability to access incentive funding.

Given the feedback from these initial meetings, staff has been researching the potential feasibility of developing a rule similar to South Coast Rule 2305 for warehouses and a Memorandum of Understanding (MOU) with the Port of San Diego, and are requesting feedback from stakeholders and the Governing Board to guide the process as it moves forward. To help inform those decisions by stakeholders and the Governing Board, staff conducted the activities outlined in Sections 2.1 through 2.4 in this document.

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## 2.1 SAN DIEGO WAREHOUSE INVENTORY ANALYSIS

District staff obtained information from a commercial real estate analytics firm to identify the number, size, and location of existing warehouses in the San Diego region.<sup>6</sup> There are approximately 6,700 warehouses throughout the region, ranging in size from less than 1,000 sq ft. to 3.3 million sq ft. of indoor floor space. The population of warehouses in various size categories is listed in Table 1. Warehouses with at least 100,000 sq ft. of indoor floor space represent less than 4% of all warehouses yet account for more than 28% of the total warehousing space in the region.

**Table 1**  
**Warehouse Population in San Diego County<sup>7</sup>**

<b>Size Category (Indoor Floor Space)</b>	<b>Number of Warehouses</b>	<b>Square Footage</b>
≥ 250,000 square feet (sq. ft.)	27	14,654,930
≥ 150,000 to < 250,000 sq. ft.	81	15,077,654
≥ 100,000 to < 150,000 sq. ft.	135	15,986,960
≥ 50,000 to < 100,000 sq. ft.	414	28,401,882
< 50,000 sq. ft.	6,080	87,121,334
<b>Total:</b>	<b>6,737</b>	<b>161,242,760</b>

Figure 1 shows the locations of all warehouses in the region, which tend to be concentrated in areas with access to transportation infrastructure and customer markets. The location of warehouses is overlaid on a map showing the region's CalEPA CalEnviroScreen (4.0) scores.<sup>8</sup> The region's under-resourced communities are generally shaded in red, orange, and yellow in the figure.

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<sup>6</sup> The update to the Governing Board in August 2022 regarding the status of the District's indirect source program included data obtained through the San Diego Association of Governments (SANDAG). This data included industrial warehouses only. The data provided in Table 1 is more comprehensive, current, and approximately double the amount of facilities previously presented. It includes industrial facilities (e.g. warehouse, distribution, manufacturing, refrigeration/cold storage, truck terminal) and flex facilities (e.g. light distribution, light manufacturing).

<sup>7</sup> The warehouse inventory is based on information provided by CoStar Realty Information Inc. and comprises buildings classified as warehouse, distribution, manufacturing, refrigeration/cold storage, truck terminal, or flex (i.e., includes light distribution and light manufacturing and at least half of the building floor area is used as office space).

<sup>8</sup> Under-resourced communities throughout the state were identified by CalEPA using its CalEnviroScreen (4.0) tool, which evaluates communities using environmental, public health, and socioeconomic indicators to determine their health burdens. Communities are given a percentile score (out of 100%) to show how they compare to the rest of the state. Communities receiving the highest 25% of scores statewide are designated as disadvantaged (i.e. under-resourced) communities, and are generally indicated in the map as shaded in red, orange, or yellow. These include, but are not limited to, the Portside and the International Border communities.

**Figure 1**  
**Warehouse Locations in San Diego County**

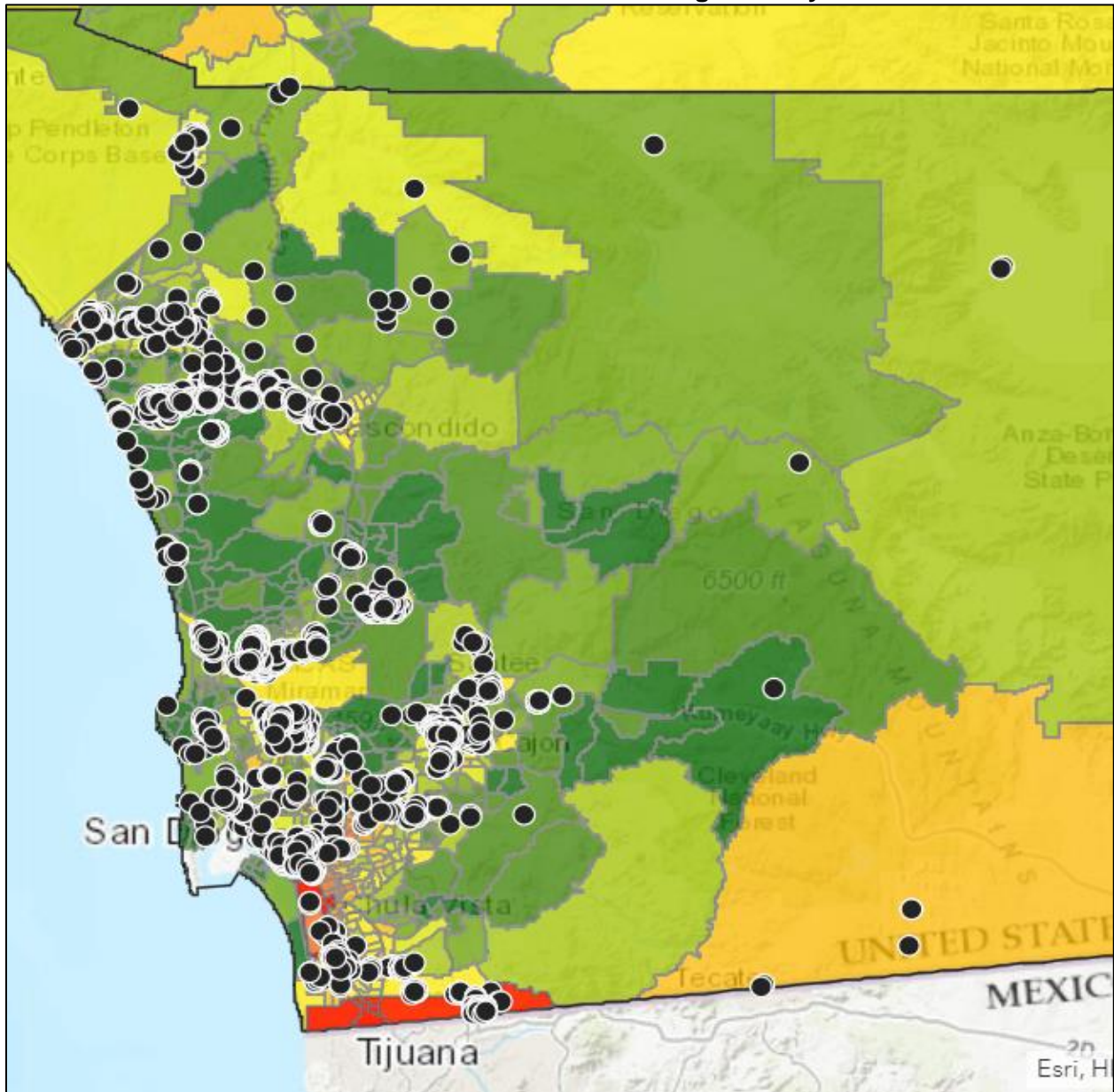


Table 2 below summarizes the warehouse population count (by warehouse size) in under-resourced communities in San Diego County, including the Portside and International Border communities. Table 3 below presents the same information as Table 2 but summarizes the information by warehouse total floor area.

**Table 2**  
**Warehouse Population in Under-Resourced Communities in San Diego County**

<b>Size Category (Indoor Floor Space)</b>	<b>International Border</b>	<b>Portside</b>	<b>Other Under- Resourced Communities</b>	<b>Total</b>
≥ 250,000 square feet (sq. ft.)	7	1	3	11
≥ 150,000 to < 250,000 sq. ft.	23	2	7	32
≥ 100,000 to < 150,000 sq. ft.	31	2	9	42
≥ 50,000 to < 100,000 sq. ft.	68	32	50	150
< 50,000 sq. ft.	299	487	835	1,621
<b>Total:</b>	<b>428</b>	<b>524</b>	<b>904</b>	<b>1,856</b>

**Table 3**  
**Warehouse Total Floor Area in Under-Resourced Communities in San Diego County**

<b>Size Category (Indoor Floor Space)</b>	<b>International Border (sq. ft.)</b>	<b>Portside (sq. ft.)</b>	<b>Other Under- Resourced Communities (sq. ft.)</b>	<b>Total (sq. ft.)</b>
≥ 250,000 square feet (sq. ft.)	5,914,592	340,566	2,380,903	8,636,061
≥ 150,000 to < 250,000 sq. ft.	4,610,991	371,000	1,177,932	6,159,923
≥ 100,000 to < 150,000 sq. ft.	3,606,598	234,248	1,015,256	4,856,102
≥ 50,000 to < 100,000 sq. ft.	4,699,764	2,037,876	3,460,352	10,197,992
< 50,000 sq. ft.	5,879,094	5,063,832	11,947,368	22,890,294
<b>Total:</b>	<b>24,711,039</b>	<b>8,047,522</b>	<b>19,981,811</b>	<b>52,740,372</b>

## **2.2 INDIRECT SOURCE RULE FEASIBILITY ANALYSIS**

District staff researched the rules of other air districts to identify and evaluate concepts for potentially regulating indirect source emissions from existing and new freight hubs in the San Diego region. Staff's findings are presented below.

### **2.2.1 Indirect Source Rule Adopted by SJVAPCD**

In December 2005, the San Joaquin Valley Air Pollution Control District (SJVAPCD) became the first air agency in the nation to control emissions from indirect sources by adopting Rule 9510 (Indirect Source Review), which addresses emissions growth from new land development in the Central Valley.<sup>9</sup> Developers are required to mitigate their construction and operational emissions

<sup>9</sup> SJVAPCD's eight-county jurisdiction covers all of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, and Tulare Counties and the Valley air basin portion of Kern County.



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by specified percentages, or pay mitigation fees if the emissions are not reduced by the required amount, and the resulting proceeds are used by the air district to fund emission reduction projects.

Rule 9510 plays a significant role in the SJVAPCD's overall emission reduction efforts. However, the rule does not apply to existing freight facilities, which are an important consideration for the San Diego region. Furthermore, it involves individual project-by-project reviews of all types of new land development, which is well outside the scope of the District's current measure and programmatic capabilities. Additionally, environmental documents for regionally significant projects are already screened for possible air quality concerns through the District's existing California Environmental Quality Act (CEQA) review program, which the District anticipates expanding in the years ahead. For these reasons, SJVAPCD's rule was not prioritized for further evaluation or consideration at this time.

## **2.2.2 Warehouse Indirect Source Rule Adopted by SCAQMD**

In May 2021, the South Coast Air Quality Management District (SCAQMD) adopted Rule 2305 (Warehouse Indirect Source Rule—Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program), a first-of-its-kind air district rule to help reduce DPM and NO<sub>x</sub> emissions specifically from the freight sector in the Greater Los Angeles region.<sup>10</sup> The SCAQMD also adopted companion Rule 316 (Fees for Rule 2305), establishing fees paid by the regulated warehouses to fund the air district's implementation and administration of Rule 2305.

Applicability & Requirements. SCAQMD's Rule 2305 applies to about 3,300 warehouses in that region, comprising all facilities with 100,000 sq ft. or more of indoor floor space in a single building that may be used for warehousing activities. Affected warehouses must earn a certain number of points annually, depending on the number of truck trips made to and from the warehouse each year as tracked by the operator.<sup>11</sup> To earn points, warehouses must complete any combination of items from a menu of several different implementation measures, including buying and/or using zero-emission or ultra-low NO<sub>x</sub> on-road trucks, zero-emission cargo handling equipment, zero-emission charging and fueling infrastructure, solar panels, or indoor particulate filters for nearby sensitive land uses.<sup>12</sup> Alternatively, warehouse operators may prepare and implement site-specific custom plans of onsite or offsite actions (within the operator's control) that are not on the menu. Or facilities may choose to pay a mitigation fee to SCAQMD rather than, or in conjunction with, implementing a custom plan or menu items; the resulting proceeds are used to fund clean technology projects that are primarily deployed in impacted communities.

Reporting is also required by SCAQMD's rule. Warehouse owners must submit a one-time Warehouse Operations Notification that includes basic information about their building and tenants. Warehouse operators must submit a one-time Initial Site Information Report about their operations and associated truck activity. Warehouse operators must also submit annual WAIRE Reports providing truck trip data and demonstrating how their facility complied during the previous

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<sup>10</sup> SCAQMD's four-county jurisdiction covers all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties.

<sup>11</sup> Trucks are categorized by their classification. Larger Class 8 trucks are weighted 2.5 times due to higher emissions.

<sup>12</sup> Points assigned to each menu option are constructed based on options available to warehouses with at least 100,000 sq. ft of indoor floor space and would need to be adjusted accordingly for smaller facilities if they would be subject to the rule in the future.

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year.<sup>13</sup> SCAQMD has developed an online reporting tool to assist facilities in meeting these reporting requirements.

Rule implementation began January 1, 2022, and is phased in over several years, beginning with the largest warehouses (greater than or equal to 250,000 sq ft.). Full rule implementation will be complete in 2024. Recent reporting from California Assistant Attorney General Robert Swanson, in response to current litigation, indicates more than 75% of regulated warehouses comply with Rule 2305 provisions without the need to purchase zero-emission or near-zero emission trucks.<sup>14</sup>

Litigation. The California Trucking Association (CTA) filed a lawsuit in federal court in August 2021, seeking to invalidate SCAQMD's Rules 2305 and 316.<sup>15</sup> Additional parties have intervened in the lawsuit. In support of SCAQMD, the State of California intervened on behalf of the Office of the Attorney General and CARB, Earthjustice intervened on behalf of a coalition of environmental and community groups, and Natural Resources Defense Council, Communities for a Better Environment, and Environmental Defense Fund also intervened. Airlines for America (A4A) intervened on behalf of CTA.

CTA and A4A claim the rules (1) exceed air district authority because the rules apply to existing sources and interfere with city and county authority over land use decisions; (2) are preempted by federal law including (a) the Clean Air Act preemption of state and local regulations setting motor vehicle emissions standards, and (b) the Federal Aviation Authorization and Administration Act's prohibition of state and local regulations on the prices, routes, or services of motor carriers, and (c) the Airline Deregulation Act's similar prohibition of state and local regulations on the prices, routes, or services of air carriers; and (3) impose an improper regulatory fee under Proposition 26, which was an amendment to Article XIII C of the California Constitution.

In January 2023, the CTA and A4A filed a Motion for Summary Judgment on the Clean Air Act and Airline Deregulation Act claims. The SCAQMD and their supporting intervenors argued the rules are not preempted because they do not relate to the control of emissions from motor vehicles, do not impose an emissions standard, do not require the purchase of vehicles, and at most have a tenuous, remote, or peripheral effect on air carrier prices, routes, or services. A hearing was held on April 17, 2023. The Court has not issued a ruling and has not indicated when a ruling can be expected. The SCAQMD and State of California stated they intend to file their own Motion for Summary Judgment. District staff are tracking developments and will keep the Governing Board apprised.

Benefits & Costs. SCAQMD has reported that its Rule 2305 reduces NOx emissions in that region by an estimated 468 to 936 tons per year depending on which menu options are implemented.<sup>16</sup> The maximum annual cost of compliance is estimated at \$979 million (in 2018 dollars) if all warehouses in that air district implement the highest-cost menu item (solar panel installations). Total public health benefits are estimated to outweigh the total regulatory costs by a ratio of about 3:1 in terms of avoided premature deaths, hospitalizations, respiratory effects, and lost workdays.

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<sup>13</sup> However, warehouses greater than or equal to 100,000 sq. ft. in size that use less than 100,000 sq. ft. for warehousing activity, or with multiple tenants (not under the same parent company) where no operator uses more than 50,000 sq. ft. for warehousing activity, only must comply with the reporting requirements; they are not required to annually earn points or take other emission-reducing actions to comply with the rule.

<sup>14</sup> Barry, C. (2023, April 18). Judge Mulls EPA SIP Approval of L.A. Warehouse Rule in Preemption Case. *InsideEPA.com*.

<sup>15</sup> California Trucking Association v. South Coast Air Quality Management District et al, Case 2:21-cv-06341.

<sup>16</sup> See <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf>.

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Alternatives Considered. SCAQMD considered and ultimately rejected potential alternative measures before adopting Rule 2305 and its menu-based points system, which was found to be the least administratively burdensome for facilities and the air district. The alternatives considered included:

- Local government measures, where local governments could decide to tailor indirect source emission reduction strategies through their land use authority. This alternative was rejected due to the potential uncertainty in implementation by local governments.
- Facility-wide emission caps, giving warehouses the flexibility to individually determine how to reduce their emissions to meet a specified cap. This alternative lacked public support and was found to be too administratively burdensome to implement and track.
- Truck fleet certification program, allowing fleet owners to voluntarily certify their fleets as cleaner than otherwise required by CARB regulations while requiring warehouses to use a prescribed amount of certified fleets. This alternative lacked board member support and was considered too complex to set up, administer and track by the air district.

### **2.2.3 Feasibility of Warehouse Indirect Source Rule for San Diego Region**

District staff preliminarily reviewed the potential feasibility of adopting a local rule similar to SCAQMD's warehouse indirect source rule regulating warehouses of 100,000 sq. ft. and larger (and fees to recover rule administration and enforcement costs), considering technological, environmental, and economic factors. Staff's findings are presented below and suggest such a rule and associated administrative fees are feasible and could be successfully implemented in San Diego County, providing much-needed emission reductions from the freight sector. However, such a rule is predicted to be the costliest measure the District has ever enacted in terms of the compliance costs per pound of reduced emissions. If the Governing Board directs staff to proceed with rule development, further technical analyses including socioeconomic and environmental impact studies and public review would be conducted in accordance with State law to further assess and verify feasibility prior to rule adoption.

Technical Feasibility. A menu of several different compliance options is provided in SCAQMD's rule, as previously stated. Some options involve the purchase and use of heavy-duty (Class 8) zero-emission vehicles (ZEVs), for which the market is still emerging.<sup>17</sup> However, they are increasingly available as more manufacturers are beginning to offer them in response to regulatory and incentive programs (highlighted in Section 2.4) and were therefore included as a compliance option. Additionally, phase-in periods of the proposed rule are intended to accommodate their increasing availability over time as the market expands. However, if a similar menu-based rule is pursued for the San Diego region, the Governing Board could direct a periodic technology review, including staff recommendations to update the menu of emissions-reducing actions, if warranted. Moreover, warehouse operators would have other potential compliance options that are currently available. These include ultra-low NOx heavy-duty trucks, smaller zero-emission trucks, zero-emission yard trucks, solar panels, charging/fueling infrastructure, and indoor air filtration systems.

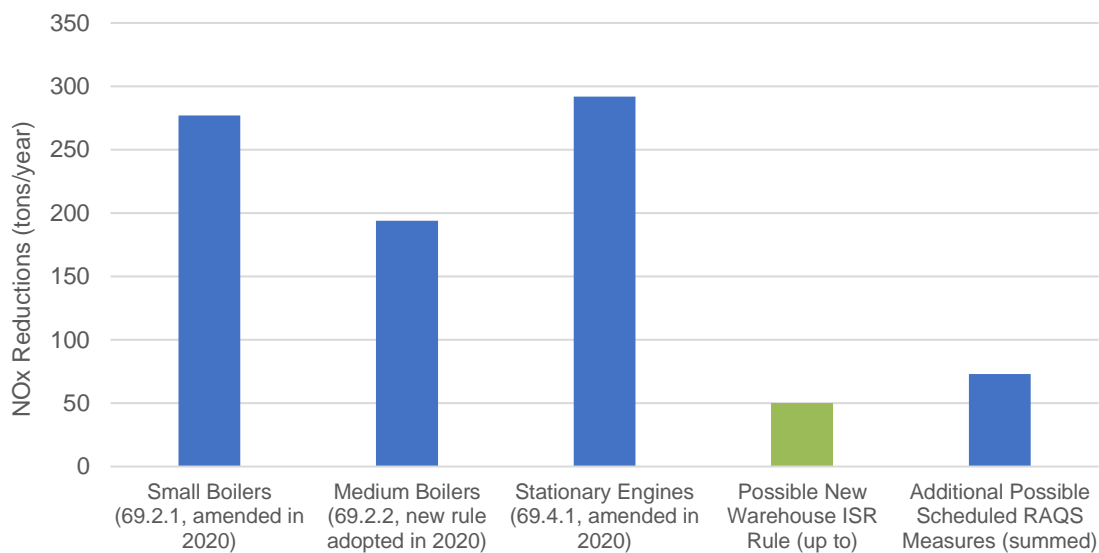
Air Quality & Health Benefits. Adopting a local rule similar to SCAQMD's warehouse indirect source rule would be expected to provide comparable air quality and public health benefits to the

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<sup>17</sup> Currently there are 8 commercially available models of zero-emission tractors with more coming, as reported by CARB during a public workshop on Feb. 13, 2023.

San Diego region, in proportion to our smaller population of warehouses with at least 100,000 sq. ft. of indoor floor space (approximately 240 here vs. 3,300 in SCAQMD). If adopted, a local rule could be expected to reduce NOx emissions by as much as 50 tons per year (i.e. 0.2% of baseline regionwide NOx emissions in 2023), and diesel particulate matter emissions by as much as 0.27 tons per year (i.e. 0.1% of baseline regionwide diesel particulate matter emissions in 2023), based on preliminary estimates. Figure 2 below illustrates emission reduction benefits from recent (and proposed future) stationary source rulemakings compared to potential reductions estimated from a possible new warehouse indirect source rule. In July 2020 the District adopted rules that reduce NOx emissions from small boilers (Rule 69.2.1) by 277 tons per year, medium boilers (Rule 69.2.2) by 194 tons per year, and stationary engines (Rule 69.4.1) by 292 tons per year upon full rule implementation. These emission reductions are also presented in relation to possible future emission reductions from measures scheduled for rule development activity in the District’s most recent air quality plan to attain state ozone standards (“2022 Regional Air Quality Strategy” (RAQS)). A comparison of the cost-effectiveness of these same previous/future measures can be found below in the *Compliance Costs and Cost-Effectiveness* portion of this section of the document.

**Figure 2**  
**NOx Reduction Comparison to Recent/Possible Rulemakings**

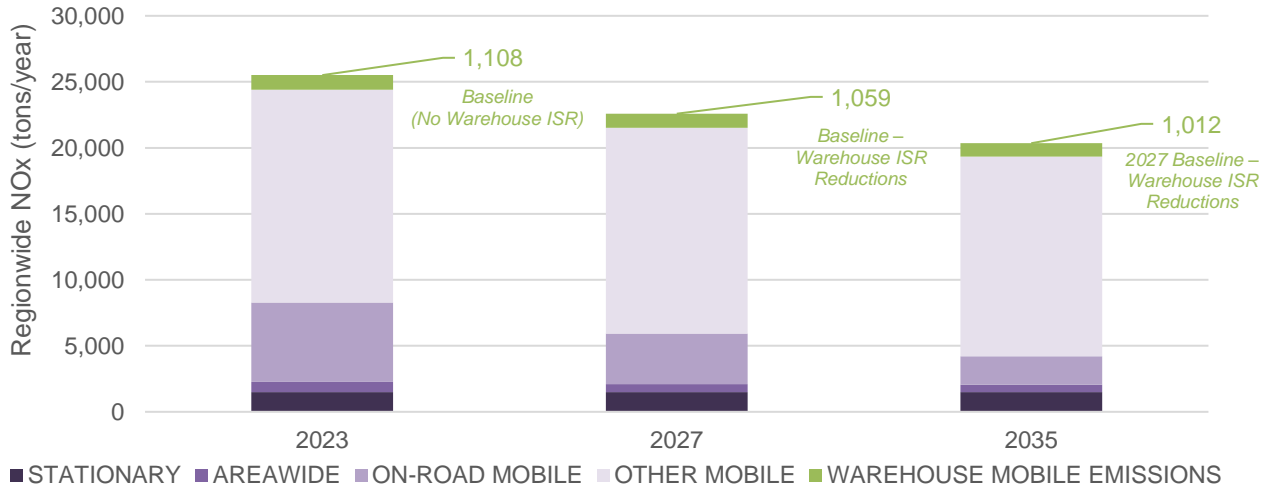


Anticipated air quality benefits of a potential warehouse indirect source rule are further visualized in Figures 3 and 4 below. Figure 3 presents total regionwide NOx emissions along with anticipated NOx reductions as a result of a proposed warehouse indirect source rule (shown in green). Figure 4 presents emission reductions to be achieved through CARB regulations (in blue) as discussed further in Section 2.4.2, alongside a scenario that combines reductions to be achieved through CARB regulations in addition to a warehouse indirect source rule (in green), if pursued. Substantial emission reductions will be achieved from CARB regulations alone. However, a local warehouse indirect source rule would further reduce NOx emissions above and beyond existing conditions.<sup>18</sup> Moreover, the resulting public health benefits would be expected to outweigh the potential costs of compliance by a ratio of up to 2.5:1, like SCAQMD’s rule. As many as 16

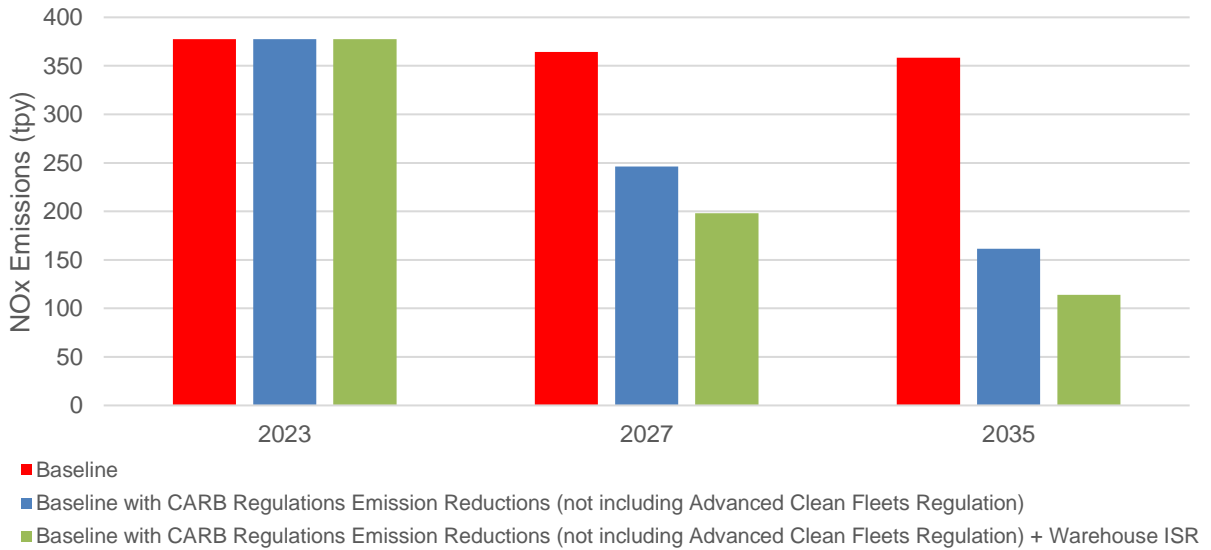
<sup>18</sup> The delta between the blue and green bars in Figure 4 (i.e. emission reductions possible through a warehouse indirect source rule) is expected to be far smaller in practice due to CARB’s recent adoption of the Advanced Clean Fleets regulation in April 2023, which will now require zero-emission trucks for many trucking fleets through 2045.

premature deaths, 317 asthma attacks, and 1,092 lost workdays would be estimated to be avoided over a ten-year period as a result of a local rule in the San Diego region.<sup>19</sup>

**Figure 3**  
**San Diego County Regionwide NOx Emissions (tons per year)<sup>20</sup>**



**Figure 4**  
**Estimated Warehouse Indirect Source NOx Emissions in San Diego County (from warehouses ≥ 100,000 square ft. in size)<sup>21</sup>**



<sup>19</sup> Potential health benefits were estimated using SCAQMD Final Socioeconomic Impact Assessment (SIA), May 2021, scaled in proportion to our smaller population of warehouses with at least 100,000 sq. ft. of indoor floor space.

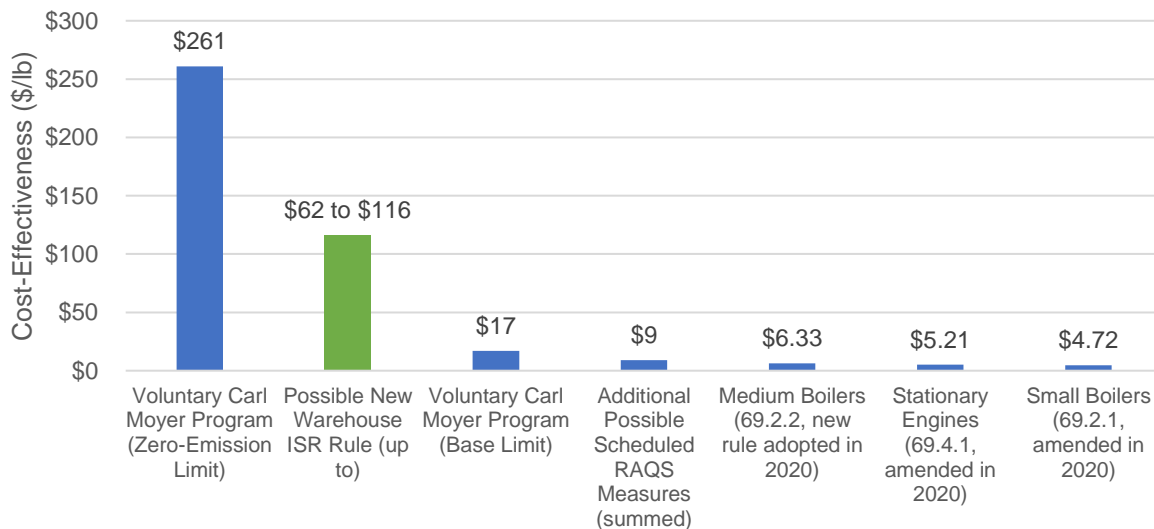
<sup>20</sup> Warehouse emissions from facilities above 100,000 square feet.

<sup>21</sup> The emission reductions from a potential local warehouse rule were estimated based on SCAQMD's emission reduction estimates for that region under its Rule 2305, scaled in proportion to San Diego County's smaller population of warehouses with at least 100,000 sq. ft. of indoor floor space.

**Compliance Costs and Cost-Effectiveness.** Average annual compliance costs incurred by each local warehouse is estimated to be between \$14,400 and \$26,100 per year. Actual costs would vary depending on the site-specific actions taken to reduce emissions. According to SCAQMD, costs for most compliance options are anticipated to be about 0.5% of the total operating costs of each warehouse. SCAQMD also noted that the most expensive compliance option a warehouse operator is likely to select is the mitigation fee, which at SCAQMD equates to \$0.83 per square foot per year according to that air district’s rulemaking analyses. Overall, this translates to an estimated maximum compliance cost of about \$83,000 per year for a smaller warehouse with 100,000 sq ft. of floor space, and could rise to \$830,000 per year for a larger warehouse with 1 million sq ft. If rulemaking is directed by the Governing Board, the District’s proposed mitigation fee would be calculated during the rule development process.

Cost-effectiveness is typically expressed in terms of total compliance costs (dollars) per unit of emissions reduced (tons or pounds). The cost-effectiveness value in this case is difficult to calculate due to the dozens of options that would be available for compliance. Preliminary estimates of cost-effectiveness for a proposed rule in San Diego County currently range between \$62 to \$116 per pound of NOx reduced.<sup>22</sup> As illustrated in Figure 5 below, recent (and proposed) stationary source rulemakings are resulting in greater emission reductions at lower costs. For instance, in July 2020 when the District adopted NOx rules for small boilers (Rule 69.2.1), medium boilers (Rule 69.2.2), and stationary engines (Rule 69.4.1), all three rulemakings were achieved with cost-effectiveness values under \$7 per pound of emissions reduced. Similar low cost-effectiveness values are also anticipated from previously identified measures found within the District’s recently adopted 2022 Regional Air Quality Strategy (RAQS).

**Figure 5  
Cost-Effectiveness Comparison to Recent/Proposed Rulemakings and Incentive Programs**



<sup>22</sup> Warehouses are assumed to gravitate towards the lowest cost options for their specific situations, as reported by SCAQMD. As such, no warehouse would be expected to comply in a costlier manner than the mitigation fee option, which has an estimated cost-effectiveness of about \$100,000 per ton (\$50 per pound) of NOx reduced for this option according to SCAQMD at the time of its rulemaking. Mitigation fee amounts for San Diego County could vary. SCAQMD noted in their 2022 Air Quality Management Plan (AQMP) that most compliance options available in Rule 2305 were analyzed with a cost-effectiveness below \$315,000 per ton (\$157.50 per pound)

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If adopted, a warehouse indirect source rule is anticipated to be the costliest (or least cost-effective) measure the District has ever enacted, significantly exceeding the cost effectiveness values of the District's existing and possible future prohibitory rules (up to \$6 per pound), as well as EPA's guidance threshold for NOx control measures (\$2.50 per pound).<sup>23</sup> Though high, the preliminary cost-effectiveness estimates are comparable to the cost-effectiveness values of mobile source regulations recently adopted by CARB, and as shown in Figure 5 above, lower than the cost-effectiveness values for voluntary adoptions of zero-emission equipment found in incentive funding programs that the District administers.

District Costs for Rule Development and Administration. The District's costs to proceed with rule development, if directed, are partially incorporated in the District's FY 2023-24 Recommended Budget. Existing staff would lead the rule development process. Additional one-time costs of approximately \$250,000 would be expected to be incurred to prepare a socioeconomic impact assessment and CEQA compliance documentation using technical consultants with expertise in those areas.<sup>24</sup>

In addition to the rule development costs, the District would also incur future costs associated with the ongoing rule administration, outreach, and enforcement activities, including:

- Labor costs for staff time to: receive and process the three types of reports that would be required by such a rule; verify compliance through desk audits and onsite inspections; conduct significant outreach and training on the rule and its requirements; and administer an incentive program funded by collected mitigation fees to deploy clean technology projects benefitting impacted communities. For example, the District estimates between 0.2 and 3.8 hours of staff time would be necessary for each report received, if a rule similar to SCAQMD Rule 2305 were to be adopted and implemented locally. Each report received would consist of review by a Division Chief, Supervising Air Resources Specialist, Air Quality Specialist, and an Air Quality Inspector II. The estimated review time per report does not include additional elements that would be conducted by the District, including proactive outreach opportunities and small business assistance. Although an exhaustive analysis has not been done, initial estimates indicate the additional staff time for the various compliance and outreach activities will likely result in the need for at least two additional staff positions at the District to administer a potential warehouse indirect source program.
- The District anticipates that to administer a warehouse indirect source rule similar to SCAQMD Rule 2305, three reports would be required of facilities subject to the San Diego rule. This includes: a one-time warehouse operations notification report (preliminarily estimated at approximately \$100 per facility), a one-time initial site information report (preliminarily estimated at approximately \$300 per facility), and an annual compliance report (preliminarily estimated at approximately \$600 per facility for each reporting year). Preliminary estimated costs of such reports would be further refined and decreased/increased as needed during the rule development process to ensure District implementation costs would be adequately recovered.

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<sup>23</sup> Further information can be found in Section 1.1.3 of the District's *2020 Reasonably Available Control Technology Demonstration for the National Ambient Air Quality Standards for Ozone in San Diego County*, available at: [https://www.sdapcd.org/content/dam/sdapcd/documents/grants/planning/Att%20B%20\(RACT\).pdf](https://www.sdapcd.org/content/dam/sdapcd/documents/grants/planning/Att%20B%20(RACT).pdf)

<sup>24</sup> <https://abag.ca.gov/sites/default/files/documents/2021-02/Planning%20Cost%20Guide%20Final%2009-02-2020.pdf>

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- Services and supply costs, primarily for information technology as reporting by warehouses would likely be conducted through a new District web portal, estimated to cost \$200,000 to develop initially and \$25,000 annually to maintain. Like SCAQMD, the District estimates an additional fee (per report) would be necessary to recover costs associated to maintain the new District web portal.

As authorized by State law, these future costs could be recovered through an accompanying proposed revision to District Rule 40 setting a schedule of fees to be paid by regulated warehouses when submitting their reports. If staff were directed to complete the rule development process, cost estimates would be presented at public workshops and to the Governing Board in the future when draft warehouse indirect source and fee rules are proposed for adoption. This would include costs for additional District staffing, if warranted, for rule administration, enforcement, and outreach, as well as costs to develop and maintain a web portal for warehouse reporting. These costs would also be incorporated in the District's future annual budgets, as appropriate.

Staff's Conclusions. If the Governing Board were to direct staff to proceed with rule development, the findings presented above suggest a District rule similar to SCAQMD's warehouse indirect source rule regulating warehouses of 100,000 sq. ft. and larger and associated fees to recover the District's rule administration costs could be successfully implemented in San Diego County to improve air quality and protect public health. However, the rule would likely be the costliest (or least cost-effective) measure the District has ever enacted, and further technical analyses including socioeconomic and environmental impact studies and public review would need to be conducted in accordance with State law to assess potential impacts and analyze feasibility prior to rule adoption.

A rule (if pursued) would achieve emission reductions from a significant source of air pollution, the freight sector, and contribute toward the timely attainment of federal and State ozone and State particulate pollution standards and associated health benefits in communities throughout the region. It would also provide regulatory consistency for warehouses in adjacent air districts and trade corridors using an established regulatory model. Moreover, it would support many actions occurring at the federal, state, and local levels to spur development and deployment of zero-emission and other clean technologies in pursuit of clean air and climate goals.

#### **2.2.4 Additional Considerations**

Legislation. California Assembly Bill 1372 (Alvarez, 02/17/23) would block CARB's enforcement of any requirements to buy and use heavy-duty zero-emission vehicles operating at the land ports of entry on the California-Mexico border. CARB could resume enforcement starting in 2026 under certain conditions. In its current form (as introduced), the bill is contrary to the District's mission and the goals and actions of multiple agencies that support deployment of zero-emission vehicles, especially in port-adjacent communities suffering greater health risks from diesel pollution. Additional pieces of legislation have also been proposed recently that could affect future siting of new warehousing facilities statewide, thus representing a changing legislative landscape around the sector overall. In accordance with the District's Legislative Policy, staff has advocated and will continue to advocate for bill amendments that align with the agency's mission to meet clean air standards and reduce air pollution burdens, especially in our most vulnerable communities.

Smaller Warehouses. Warehouses smaller than 100,000 sq ft. of floor space are not subject to SCAQMD's rule and would not be covered in this region if an analogous rule were pursued for



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San Diego County. However, nearly 30% of all warehousing space in San Diego County would still be subject to a local rule covering warehouses 100,000 sq ft and larger.<sup>25</sup>

Additional analysis would be required prior to including smaller warehouses in a local rule. Specifically, the District would need to research the ability of warehouses smaller than 100,000 sq. ft. to implement the menu of compliance measures that is in the SCAQMD rule to reduce emissions, and if certain measures are infeasible, to find alternative compliance options. This analysis is critical to the legal defense of the rule from potential claims of federal preemption. It is expected that with fewer emissions sources, limited operating parameters, and space limitations, smaller warehouses likely have fewer menu options, or potentially different menu options, available to them. But because warehouses are often clustered, and actions by regulated larger warehouses may affect fleets that also serve smaller warehouses, a proposed rule regulating warehouses 100,000 sq. ft. and larger could provide localized benefits to residences and other sensitive receptors adjacent to smaller warehouse operations.

Following rule adoption (if pursued) and once the necessary District resources and regulatory infrastructure are in place to administer the new program, future efforts could focus on possibly expanding the rule or implementing other non-regulatory strategies (such as an incentive program) to reduce indirect source emissions from warehouses smaller than 100,000 sq ft. Further, in the initial rulemaking, if pursued, the Governing Board could direct staff to include a provision that requires one-time reporting by smaller warehouses (for example, those with at least 50,000 sq. ft. of floor space), providing basic information about their location and operations that would help inform possible future strategies to further control indirect source emissions from warehouses.

Possible State Implementation Plan (SIP) Rule Submittal. If directed to pursue a local warehouse indirect source rule, the District would likely submit the rule (if adopted by the Governing Board) for inclusion into the San Diego County portion of the California SIP. Its inclusion in the SIP will help ensure the rule is federally enforceable as a SIP-strengthening measure and provide critically needed NOx and particulate matter emission reductions to the San Diego region to support timely attainment of criteria pollutant standards.

## 2.3 PORT OF SAN DIEGO

The Port of San Diego is a seaport that operates two marine cargo terminals, two cruise ship terminals, and the leases of hundreds of tenant businesses along the San Diego Bay. The Port's National City Marine Terminal (NCMT) receives about 130-160 vessel calls annually,<sup>26</sup> and focuses on automobile importing and exporting. The Tenth Avenue Marine Terminal (TAMT) receives about 90-110 vessel calls annually<sup>27</sup> and processes refrigerated containers of perishable goods, dry bulk cargo such as cement or fertilizer, and breakbulk commodities (oversized, non-containerized cargo such as windmill blades or large generators). Truck trips at each terminal varies year-to-year but were recently estimated by the Port at over 40,000 annual truck trips per

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<sup>25</sup> SCAQMD Rule 2305 covers approximately 50% of all warehousing space in their respective region, which indicates they generally have larger warehousing facilities in comparison to San Diego County warehousing facilities.

<sup>26</sup> Port of San Diego. *National City Marine Terminal: Port of San Diego & Pasha Automotive Services At Berth Port Plan* (November 30, 2021). <https://ww2.arb.ca.gov/sites/default/files/2022-05/San%20Diego%20-%20National%20City%20Marine%20Terminal%20-%20Original%20Plan%20%28non-ADA%29.pdf>

<sup>27</sup> Port of San Diego. *Tenth Avenue Marine Terminal: Port of San Diego At Berth Port Plan* (November 30, 2021). <https://ww2.arb.ca.gov/sites/default/files/2022-05/San%20Diego%20-%20Tenth%20Avenue%20Marine%20Terminal%20-%20Original%20Plan%20%28non-ADA%29.pdf>

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terminal.<sup>28</sup> The B Street Cruise Ship Terminal receives about 90-100 ship calls annually,<sup>29</sup> while the smaller Broadway Cruise Ship Terminal receives about 12-14 vessel calls annually.<sup>30</sup>

Port operations and associated activities rely on ocean-going vessels, commercial harbor craft, cargo-handling equipment, and heavy-duty vehicles and equipment, most of which are powered by diesel engines that produce air pollution impacting port-adjacent neighborhoods. In fact, currently most of the cancer risk (84%) from air pollution in the Portside Community is due to DPM.<sup>31</sup> However, sources of DPM in the Portside community emanate from a variety of sources both on and off Port tidelands, including commercial harbor craft, locomotives, ocean-going vessels, on-road mobile sources, transport refrigeration units, stationary sources, and air pollution transported from on and off-road mobile sources in Mexico.

### 2.3.1 Maritime Clean Air Strategy

On October 12, 2021, the Port of San Diego Board of Port Commissioners approved the Maritime Clean Air Strategy (MCAS), a strategic planning document to help the Port identify and prioritize future projects and initiatives to reduce emissions while supporting efficient and modern maritime operations. Key MCAS goals include:

- 40% of the Port's annual cargo truck trips being performed by zero-emission trucks by June 30, 2026, increasing to 100% by 2030, five years ahead of state requirements.
- 100% of cargo handling equipment being zero emission by 2030.

### 2.3.2 Potential Memorandum of Understanding (MOU)

District staff worked extensively with the Port in the development of the MCAS. The MCAS identifies important goals and opportunities, on an ambitious timeline, to advance the Port's clean air efforts. However, the path to implementation is complex and is expected to face financial, infrastructure, and operational challenges. District staff has been working with the Port to establish a path forward through these challenges by exploring opportunities for formalizing some of the implementing mechanisms into an MOU. An MOU allows the District and the Port to consider the inclusion of emissions reducing actions that could not be directly required through a rulemaking because of potential limitations in the District's authority over emissions sources at the Port.

Furthermore, an MOU could allow for the expedited adoption of emissions reducing measures because it involves fewer procedural requirements compared to a rule development process. As with the warehouse indirect source rule, an indirect source rule specific to port operations would need to contain alternative emissions reducing measures (i.e. menu of available compliance options) and verify feasibility of those options. Due to the time needed to develop these

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<sup>28</sup> Port of San Diego. *Final Heavy-Duty Zero-Emission Truck Transition Plan, Version 1.0* (June 30, 2022). Appendix A, Page A-18. <https://pantheonstorage.blob.core.windows.net/environment/Final-Zero-Emission-Truck-Transition-Plan.pdf>

<sup>29</sup> Port of San Diego. *B Street Cruise Ship Terminal: Port of San Diego At Berth Port Plan* (November 30, 2021). <https://ww2.arb.ca.gov/sites/default/files/2022-05/San%20Diego%20-%20B-Street%20Pier%20-%20Original%20Plan%20%28non-ADA%29.pdf>

<sup>30</sup> Port of San Diego. *Broadway Street Cruise Ship Terminal: Port of San Diego At Berth Port Plan* (November 30, 2021). <https://ww2.arb.ca.gov/sites/default/files/2022-05/San%20Diego%20-%20Broadway%20Pier%20-%20Original%20Plan%20%28non-ADA%29.pdf>

<sup>31</sup> CARB, May 24, 2022, *San Diego Regional and Portside Community Modeling Presentation to the Portside Community Steering Committee* [PowerPoint Slides]. [https://www.sdapcd.org/content/dam/sdapcd/documents/capp/meetings/portside-csc/052422/III.%20CARB%20SD%20Portside%20Risk%20Modeling\\_Eng.pdf](https://www.sdapcd.org/content/dam/sdapcd/documents/capp/meetings/portside-csc/052422/III.%20CARB%20SD%20Portside%20Risk%20Modeling_Eng.pdf)

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alternatives, the rule development process may not be able to match the aggressive timelines in the MCAS. Additionally, it's estimated that 73% of the Port's NOx and 87% of its DPM emissions are created by ocean-going vessels and commercial harbor craft,<sup>32</sup> which are sources that are challenging to regulate at the local level and may better be addressed with an MOU approach. Overall, operations at the Port of San Diego (as of 2016) comprised approximately 2.5% of regionwide NOx emissions, and 6.2% of regionwide DPM emissions.

To date no air district has adopted an indirect source rule for port operations. SCAQMD has recently pivoted from MOU negotiations with the Ports of Los Angeles and Long Beach to rule development as referenced in Section 2.3.3 below. Any local indirect source rule for the Port of San Diego will have to carefully navigate international and federal laws to determine legal authority. Also, as is often the case with first-in-kind regulations, an indirect source rule would likely face a legal challenge. The SCAQMD will be attempting to navigate this landscape in their rule development process but are still in the early phases.

Thus, as an effective next step, staff propose building off its collaborative work with the Port of San Diego by pursuing an MOU to partner on emissions reduction, facilitative, and health-protective mitigation measures that could support more expedient emission reduction opportunities along the Port tidelands. An MOU, if pursued, can be developed more quickly than a rule and is considered more suitable for facilitative and incentive-based measures that can help to achieve air quality goals. Also, it can provide more flexibility to allocate incentive funding from the District to such projects that may still be considered surplus to regulation, whereas a rule would significantly limit such funding opportunities.

Examples of direct emission reduction projects could include commitments from the Port to achieve quantifiable emission reductions from projects within the Port Tidelands that replace diesel-fueled equipment with newer, cleaner technology or fuels. Facilitative projects are likely to include actions that cannot easily quantify emission reductions, such as enhanced outreach opportunities, installation of zero-emission charging/fueling infrastructure, or additional measures that might incentivize the adoption of zero-emission equipment. Health protective mitigation projects could include commitments to enhance existing air purifier/air monitoring programs, or enhanced enforcement of existing/new truck routes in the Portside area.

Accordingly, and contingent upon the Port agreeing with any proposed MOU, District staff propose returning to the Governing Board in Q4 2023 with proposed MOU language with the Port that includes emission reduction commitments, facilitative measures, health-protective mitigation measures, and reporting requirements to reduce Port indirect source emissions. The MOU would also require approval by the Port of San Diego Board of Commissioners in the same timeframe. The District and the Port will release the draft MOU language for public comment prior to any Board action.

### **2.3.3 Future Update to Governing Board**

If directed to pursue an MOU by the Governing Board, staff propose to return to the Governing Board in Q4 2023 with an update on MOU development, including either proposed MOU language, or with recommendations as to how to proceed. For example, if MOU development is not prompt and successful, i.e., if a proposed MOU is not ready to be executed by Q4 2023, the Board could direct staff to extend the negotiation period for an MOU to be developed, or to shift efforts to investigating a future rulemaking applicable to the Port of San Diego/Port Tenants and

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<sup>32</sup> Port of San Diego 2016 Maritime Air Emissions Inventory, June 2018. Table ES-1.  
<https://pantheonstorage.blob.core.windows.net/environment/2016-Maritime-Air-Emissions-Inventory.pdf>

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their indirect source emissions. Staff are tracking similar efforts of the SCAQMD, which was previously working to develop an MOU with the Ports of Los Angeles and Long Beach, which are the two busiest marine container ports in the nation and the largest source of NOx emissions in that air district. However, an MOU was never completed, and in February 2022 the SCAQMD embarked upon rulemaking.

SCAQMD is thus currently developing a proposed indirect source rule for commercial marine ports, with an initial focus on container terminals. The rule will be considered for adoption in 2024, and a subsequent rulemaking is planned for non-containerized terminals. The District will be actively tracking the SCAQMD process moving forward.

## **2.4 OTHER FEDERAL, STATE, & LOCAL ACTIVITIES**

Many other actions are being taken at the federal, state, and local levels to encourage and accelerate the heavy-duty ZEV market and reduce emissions from the freight sector. A few key examples are presented below. A warehouse indirect source rule, if pursued, as well as a potential MOU with the Port of San Diego, would achieve emission reductions that are above and beyond these other programs and would contribute additional air quality benefits to help meet clean air standards in the San Diego region.

### **2.4.1 U.S. EPA**

In December 2022, the U.S. Environmental Protection Agency (EPA) adopted more stringent emissions standards that will reduce NOx emissions from heavy-duty vehicles starting with model year 2027 (88 FR 15). EPA's rule established more stringent NOx standards compared to today's standards and requires lower NOx emissions over a wider range of operating conditions. Moreover, EPA's rule lengthened emissions-related warranty periods. Further, EPA recently proposed two additional rulemakings as part of its Clean Truck Plan to further reduce truck emissions including greenhouse gases.<sup>33</sup>

### **2.4.2 CARB**

CARB has recently adopted several regulations, and is developing others, to further control and reduce emissions from heavy-duty vehicles. A few of these statewide regulations are further described below. Any future District rulemaking that staff would be directed to pursue would be designed to achieve surplus emission reductions beyond CARB's regulations and facilitate the implementation of CARB rules by encouraging early adoption of rule requirements.

Omnibus Regulation. In September 2021, CARB adopted the Heavy-Duty Low NOx Omnibus Regulation that requires new trucks that use fossil fuels to include the most effective emissions control technology during the state's transition to electric trucks. The regulation cuts NOx emissions by 75% starting with 2024 models sold in the state,<sup>34</sup> and by 90% starting with 2027 models. The regulation also includes provisions to ensure trucks meet standards under real-world conditions and extends warranties.

Heavy-Duty Truck Inspection & Maintenance. In December 2021, CARB adopted a heavy-duty vehicle inspection and maintenance (HD I/M) regulation, ensuring emissions control systems on

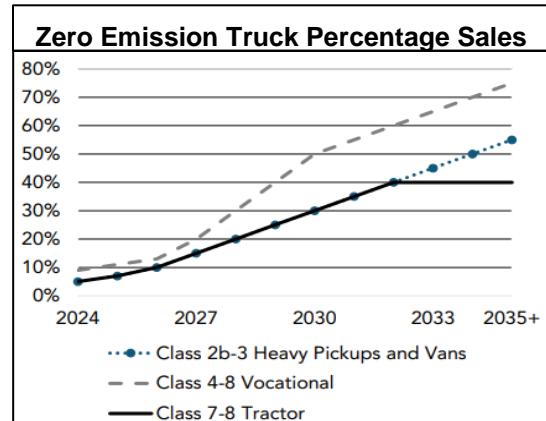
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<sup>33</sup> [www.epa.gov/regulations-emissions-vehicles-and-engines/clean-trucks-plan](https://www.epa.gov/regulations-emissions-vehicles-and-engines/clean-trucks-plan).

<sup>34</sup> In a February 2023 workshop, CARB noted manufacturers may have difficulty in meeting standards for 2024-2025 model year truck engines and as such is providing more flexibility for these model years.

heavy-duty trucks are functioning as intended and well-maintained throughout their vehicle life, cutting air pollution. Implementation began in January 2023 and requires regular testing on nearly all heavy-duty vehicles operating in California. All covered vehicles, including out-of-state registered vehicles and trucks crossing international borders, must demonstrate compliance to legally operate in California. The Department of Motor Vehicles will block registration on California-based trucks that do not comply.

Advanced Clean Trucks. In June 2020, CARB adopted its Advanced Clean Trucks regulation to ensure expanding supplies of zero-emission trucks. Truck manufacturers must sell zero-emission vehicles as a growing percentage of sales in all vehicle classes starting in 2024, as can be seen in the graphic on the right. Six additional states have adopted CARB's Advanced Clean Trucks regulation and more states are in the process of doing so. These united efforts are expected to further expand the zero-emission supply chain, leading to increased economies of scale and lower costs.



#### Advanced Clean Fleets (ACF)

In April 2023, CARB adopted the ACF regulation to require fleets that are well suited for electrification to transition to ZEVs where feasible. The regulation requires (1) 100% zero-emission drayage trucks, last mile delivery, and government fleets by 2035, (2) 100% zero-emission refuse trucks and local buses by 2040, and (3) 100% zero-emission capable utility fleets by 2040. Due to the recent adoption of this regulation, the impacts of this action in regard to a local warehouse indirect source rule are still being analyzed by District staff. However, it is anticipated that the ACF and Advanced Clean Trucks regulations will both significantly increase the number of zero-emission heavy-duty trucks in operation throughout San Diego County, whether or not a local warehouse indirect source rule is pursued.

### **2.4.3 DISTRICT**

Financial Incentives. Through its "Clean Air for All" program,<sup>35</sup> the District has invested over \$159 million since 1999 in businesses, the community, and local government to encourage and accelerate the adoption of clean technologies in mobile sources associated with freight hubs and other indirect sources. These incentive grant programs are primarily funded by the State and include:

- Carl Moyer Program, which replaces heavy-duty diesel vehicles and engines with electric and other cleaner technologies;
- Community Air Protection Incentives, which prioritize deployment of zero-emission technologies and infrastructure within under-resourced communities;
- Zero-Emission Truck Pilot Project, which encourages the purchase or lease of zero-emission heavy-duty trucks in the Portside Community; and
- Proposition 1B Goods Movement Emissions Reduction Program, which upgrades heavy-duty diesel trucks and other equipment involved in freight movement to cleaner technologies.

<sup>35</sup> <https://www.sdapcd.org/content/sdapcd/grants/moyer.html>.

While the District has been successful with grant programs historically, zero-emission focused programs have had a more difficult time attracting viable projects. As these technologies mature District staff anticipates more interest in those programs. Applicants will need to be aware of the tight timelines and restrictions created by the new state and federal regulatory landscape and opportunities for incentives will continue to be limited.

Mobile Source Enforcement Program. To help address air pollution from mobile sources, the District signed an MOU with CARB to enforce certain mobile source regulations in the San Diego region on CARB’s behalf. As a result, the District has the first and most comprehensive Mobile Source Enforcement Program of any air district in the state. The MOU granted the District the authority to conduct inspections of on-road and off-road vehicles and equipment for purposes of enforcing the following statewide mobile source regulations in San Diego County:

- Truck and Bus Regulation;
- Heavy-Duty Vehicle Inspection Program;
- Transport Refrigeration Units;
- Commercial Vehicle and School Bus Idling;
- Off-road Vehicles; and
- Commercial Harbor Craft.

These CARB regulations focus on reducing pollutants that form ozone and cause exposure to toxic DPM, which adversely impacts public health especially in under-resourced communities.

### **3.0 POTENTIAL TIMELINE**

Following its consideration of the information contained herein, if the Governing Board were to direct staff to pursue a local warehouse indirect source rule for warehouses 100,000 square feet and above and/or an MOU with the Port of San Diego, the projected timeline for completing future actions is as follows:

**Table 4  
Tentative Timeline of Warehouse Indirect Source Rule Development Actions (if pursued)**

<b>Throughout</b>	- Public outreach and stakeholder engagement
<b>Q3 2023</b>	- Refine/continue collecting facility information; - Initiate procurement process to secure a contractor to prepare required CEQA and SIA documentation
<b>Q1 2024</b>	- Complete facility and background information collection, refine rule language
<b>Q2 2024</b>	- Start CEQA/SIA preparation process (Environmental Impact Report (EIR) anticipated, ~12-18 months to complete) - Draft rule released for public workshop(s) and comments;
<b>Q4 2024</b>	- Enhanced outreach and engagement (i.e. AB 617 Steering Committees, affected facilities, trade groups, etc.)
<b>Q1 2025</b>	- Complete draft CEQA environmental analysis; release for public comment; respond to comments
<b>Q2 2025</b>	- Governing Board consideration of proposed final rule and final CEQA environmental analysis

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**Table 5**  
**Tentative Timeline of Port/APCD MOU Actions (if pursued)**

<b>Q3 2023</b>	<ul style="list-style-type: none"><li>- Further refine measures/actions with the Port of San Diego to be included in MOU;</li><li>- Public outreach and engagement</li></ul>
<b>Q4 2023</b>	<ul style="list-style-type: none"><li>- District Governing Board consideration of proposed MOU (or extend negotiation period/direct staff to pursue other options);</li></ul>
<b>Q1 2024</b>	<ul style="list-style-type: none"><li>- Port of San Diego Board of Port Commissioners consideration of proposed MOU (if applicable)</li></ul>