

From: sdalu@innovativecold.com
To: [APCD, Rules](#)
Subject: [External] Warehouse Indirect Source Rule
Date: Monday, April 21, 2025 3:07:46 PM

Good afternoon,

I am in receipt of the Warehouse Indirect Source Rule Framework Supplement. I have browsed the document and watched the video. We also had a visit from APCD staff to discuss this work.

Innovative Cold Storage Enterprises is a warehouse primarily dedicated to food storage. As you have pointed out, our facility is an indirect source of air pollution because we are loading and unloading trucks that come to our facility. I am not in disagreement with the idea that such a small percentage of vehicles accounts for a disproportionately large amount of air pollution. I am also not opposed to the overall goal of this rule.

However, there are a few factors that are important to consider when weighing the role of the warehouse's effort to monitor, control, or prevent this air pollution.

First, the benefit of the warehouse, as defined by the function of the facility and the product being stored, is important to consider when trying to define the role of the warehouse in helping to reduce the air pollution.

Second, I also think that the location of the warehouse in relation to residential and shopping districts, as well as schools need be considered when determining the amount of activity that must be reported by the warehouse, and when defining and enforcing any applicable fees in relation to air pollution.

And finally, the type of storage facility should be weighed against our ability to follow such regulations. A dry warehouse would find it far easier to justify enforcing a requirement that all engines must be shut once the vehicle is docked, for example.

Some warehouses are more limited in their ability to control the amount of air pollution generated by trucks. In our situation, we must be able to load and unload the trucks to conduct our primary business, which in this case directly affects the availability of food products to the general public. We must be able to function efficiently and maximize the amount of trucks we can service on a daily basis to meet the demand of our clients, which is directly connected to the availability of food at the grocery store. The reefer units must be running and fully functional for us fulfill our primary role as a frozen food storage facility.

The reality of our services and capabilities demands that we must follow a rigorous food safety program in order to remain eligible to serve our current body of customers. For example, the trucks that arrive empty must be pre-chilled to -10°F, and must remain on while we are loading them in order to maintain the temperatures required. If these temperatures are not maintained, then readings from temp recorders may cause an entire load of food to be rejected at the other end of the truck's journey. The same goes for trucks delivering. We must require that the truck arrives with

its reefer set to a certain temperature, and we must always take sample temperatures of the pallets as they were stored in the front, middle, and back of the truck.

On another topic, any time we spend trying to control or monitor the status of the trucks' emissions prevents us from operating efficiently. There are certain measures we can take, such as reporting certain limited information to the APCD, which could simply be a few extra fields that a driver is required to fill out when checking in and using a system you provide that can automatically upload this information into a database, for example. Something that would be relatively transparent to our current procedures is fair to ask.

Our facility was built to be as energy efficient as possible. It was the first LEED Gold-Certified cold storage facility in the world. The philosophy of this designation extends beyond the physical traits of the building. The culture of our team values energy efficiency and food safety very highly. This means that we continue to care about conserving energy as much as possible, but even our facility cannot undermine the safety of a food product to decrease the amount of air pollution that is being caused by the trucks.

Thank you for the opportunity to provide comments on this rule.

Sean Dalu
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SIMNSA Health Care
Sycuan Casino
TRI Pointe Homes

April 25, 2025

Air Pollution Control District
Via email APCDRules@sdapcd.org

Subject: Comments on the April 2025 Framework Supplement

Thank you for the opportunity to provide feedback on the Framework Supplement released in April 2025.

While we appreciate the stakeholder engagement efforts, we find the response to our recommendation inadequate and lacking in substantive consideration.

Our proposal—to implement an appointment system at the Otay Mesa Cargo Port of Entry—presents a practical, cost-effective solution for reducing emissions. Beyond its environmental benefits, it would also enhance supply chain efficiency. We acknowledge that such a system would require coordination among various federal agencies and represents an innovative approach. However, this complexity should not deter action; the solution is entirely feasible.

The claim in the Supplement that this system could lead to induced demand is unsubstantiated. Evidence from similar initiatives, such as the Pier Pass system at the Port of Long Beach, demonstrates the opposite—an effective reduction in congestion without increasing demand. Additionally, current international trade conditions, including shifts in tariffs, suggest a likely decrease in cargo traffic across the U.S.-Mexico border, further weakening the argument of induced demand.

The APCD should prioritize investment in strategies that offer strong cost-effectiveness, such as the appointment system, rather than dismissing them due to the need for further evaluation. The border region is a unique economic engine for our area, and policy approaches should reflect its distinct nature. We urge the District to pursue emissions reductions in ways that preserve and support regional competitiveness.

Implementing the WAIRE system in San Diego would be an expensive measure with limited emissions benefits, particularly for our underserved communities. Current CARB policies are already driving emissions reductions effectively. Introducing additional burdensome and inefficient regulations would impose unnecessary costs on businesses with minimal environmental return.

We encourage the District to reconsider our proposal and invest in meaningful, collaborative, and effective solutions.

Sincerely,


Alejandra Mierly Teran
Executive Director

SANDAG Staff Comments

SDAPCD Warehouse Indirect Source Rule (ISR)

Chapter/Appendix Section	Page Number	Heading	Comment
Section 2.0 - Staff Activities and Findings	12	Uncertainties and Unknowns Relating to an ISR	Goods movement is important to the economy of the San Diego region, as it supports jobs and ensures the availability of essential goods. Having warehouses in the region can improve access of distributors to their customers, which include both retail outlets and people ordering products for delivery to their own homes. The staff report notes that it is necessary to consider "whether an ISR specifically in San Diego County would result in tenants moving their operations out of the county or state, or into Mexico to avoid becoming subject to a local ISR. If operations were moved into Mexico or a neighboring county, those emissions may potentially continue to impact San Diego air quality." We would like to emphasize this consideration.
Section 2.0 - Staff Activities and Findings	38	Compliance Costs and Cost-Effectiveness	SANDAG published a white paper on the Zero Emission Freight Transition at the California-Baja California Border in April 2023. In the white paper, we note that zero emission regulations in the region raise shipping costs and could dampen future investments if manufacturers and other industrial businesses see a difficult regulatory environment. In addition, firms would also seek alternative shipping routes that bypass California. This would disadvantage business, including warehouse and distribution workers in California, resulting in economic losses. Under any scenario in which rules causes higher shipping costs, there will be some decline in marginal economic activity, loss of jobs/economic output locally and nationally, and an accompanying rise in prices throughout the chain from producer to consumer. These losses may, or may not be modest in comparison to benefits. Although a potential warehouse indirect source rule would likely have multiple options for compliance beyond the use of zero-emission vehicles, we appreciate that ACPD is considering both the potential costs and benefits of its implementation.
Section 2.0 - Staff Activities and Findings	46	2.7.3 Assembly Bill 98 (Carrillo and Reyes)	Implementation of AB 98 is anticipated to reduce truck traffic and other impacts from new warehouses. Adding an ISR could make it especially difficult to develop and operate new warehouses despite the building standards, truck routes, and other mitigations required by the law.

Executive Findings	ES-7	District Costs for Rule Development and Admini	In addition to including the direct costs from the proposed ISR, SANDAG encourages SDAPCD to include all known warehouse development related fees (e.g. developer impact fees) when completing the socioeconomic impact assessment documentation. In addition, SANDAG encourages SDAPCD to also include additional costs from other CARB regulations that may impact warehouse development or retrofitting.
Section 2.0 - Staff Activities and Findings	8	Three-Tier Incentive Funding Plan	We encourage APCD to assist businesses in the San Diego region with complying with existing federal, state, and local rules rather than adding additional rules specific to the region. Such assistance could be accomplished through the use of incentive programs discussed in the report.
Section 2.0 - Staff Activities and Findings	10	2.1.3 Summary of WWG Feedback	We encourage APCD and other agencies and partners to continue implementing the actions in the Portside and International Border Community Emissions Reduction Plans (CERPs) to reduce the disproportionate emissions and community impacts in these areas.
Section 2.0 - Staff Activities and Findings	18	2.3.3 Transportation modeling data	Referring to major releases of SANDAG's Activity Based Model (ABM) as a "version" is not in line with our style guide. Suggestion to drop the word "version" from all "Version ABM3" references. ABM3 should be okay standing on its own.
Section 2.0 - Staff Activities and Findings	19	Transportation Analysis Zones	"Zones are constructed by census block information. Most often the critical information is the number of automobiles per household, household income, and employment within these zones." While this is true for many generic transportation models, this should be reworded to, "San Diego Region TAZs are constructed from Master Geographic Reference Areas (MGRA) developed by SANDAG. Population, employment, land use, and demographic inputs to ABM are at the MGRA level. Travel estimates and analysis in ABM is performed at the MGRA level, then aggregated to the TAZ geography for the traffic assignment step".
Section 2.0 - Staff Activities and Findings	23	2.3.5 Methodology for Estimating Truck Trip Types Light-, Medium-, and Heavy-Heavy Duty Truck Volumes	A sentence should be added that, "The commercial vehicle component (CVM) of ABM2+ is intended to estimate regional heavy duty truck demand for on the road travel. It may not precisely reflect specialized truck activity such as, but not limited to; on-site drayage, staging, backhauling, etc."



May 29, 2025

San Diego County Air Pollution Control District
Rule Development Section
10124 Old Grove Rd.
San Diego, CA 92131

SENT VIA EMAIL: APCDRules@sdapcd.org:

SUBJECT: Warehouse Indirect Source Rule (ISR) Framework Supplement

Dear Air Pollution Control Officer Forbis,

The Port of San Diego (Port) appreciates the opportunity to review and comment on updated information in the *Warehouse ISR Framework Supplement (Supplement)* and to have participated in the Warehouse Working Group. As evidenced through the implementation of our maritime emissions reduction initiatives, the Port supports a collaborative, flexible approach to advance clean technologies and improve air quality in the San Diego region.

The Port is charged with the responsibility of managing over 14,000 acres of submerged lands and tidelands (tidelands) in and around San Diego Bay and 34 miles of waterfront on behalf of the people of the State of California. The Port is a regional, economic engine and environmental champion, providing benefits for workers, visitors, and neighbors.

The Port adopted the Maritime Clean Air Strategy (MCAS) in 2021 with a vision of "Health Equity for All". In collaboration with numerous stakeholders, including the San Diego County Air Pollution Control District (APCD), the MCAS includes goals and objectives to advance maritime electrification and improve air quality in and around the Portside communities. So far, the Port and its partners, including key partnerships with Port tenants as well as APCD, have committed approximately \$227 million for clean technology and electrification initiatives. These projects include the installation of shore power infrastructure to reduce vessel emissions while at berth; procurement of electric cargo handling equipment, such as harbor cranes, forklifts, and yard trucks; advancement of the first all-electric tugboat in the US by Crowley Maritime; incentives for truck operators to convert their diesel trucks to electric; and commencement of the development of a zero-emission truck stop. Many of these projects have leveraged assistance and funding from APCD. In fact, one of the Port's main goals in developing the MCAS was to position our region to be more competitive in pursuing state and federal funding and emerging market opportunities in advance of regulations.

The Port is grateful for our partnership with APCD especially, as our staff have worked alongside each other on the development of plans to reduce emissions. In addition to the MCAS that has focused transformative changes at the Port, our agencies collaborated on the Portside Community Emissions Reduction Program. Both documents include strategies that are complementary and aligned with the common goal of reducing criteria air pollutants, toxic air contaminants, and greenhouse gas emissions and improving public health within the surrounding

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May 29, 2025

RE: Warehouse Indirect Source Rule (ISR) Framework Supplement

communities. In furtherance of these plans and goals, the Port and APCD have been working closely on the development of a proposed Memorandum of Understanding (MOU) that is currently available on APCD's website. The MOU is anticipated to be presented to each agency's Board for consideration this summer.

The Port and its partners have shown that emissions can be reduced through collaborative partnerships and integrated planning. Non-regulatory approaches, such as MOUs, collaborative industry workgroups, and innovative incentives create opportunities for expedient advancement of clean technologies to protect public health and assist the region in achieving near-term criteria pollutant attainment deadlines. As indicated in the Supplement, pursuing regulatory approaches is complex and time consuming, and such regulations would be expensive emission reduction methods. An ISR would likely take many years to develop and may even jeopardize the Port's and/or our tenants' ability to qualify for future state funding for cleaner vehicles and equipment, should certain voluntary emission reduction measures become required. Regulations play an important role in emission reductions, however, there are already multiple regulations and legislation aimed at reducing emissions from sources of pollution involved in goods movement. We believe a balanced approach that carefully matches regulatory and non-regulatory options into complementary pairings is important. The Port remains committed to electrify mobile sources of air emissions as much and as quickly as possible.

Thank you for the opportunity to provide comments on the Supplement. We value our partnership with APCD and look forward to our continued collaboration to improve air quality in the San Diego Region.

If you have any questions or require additional information, please do not hesitate to contact Jason Giffen, Chief Sustainability and Innovation Officer at (619) 686-6254 or jgiffen@portofsandiego.org, or Philip Gibbons, Program Director, Climate and Sustainability at (619) 725-6037 or pgibbons@portofsandiego.org.

Sincerely,

A handwritten signature in blue ink that reads "Jason H. Giffen".

Jason H. Giffen
Chief Sustainability & Innovation Officer



May 30, 2025

San Diego Air Pollution Control District
10124 Old Grove Road
San Diego, CA 92131

Submitted Electronically to: APCDRules@sdapcd.org

RE: Warehouse Indirect Source Rule (ISR) Framework Supplement

The California Trucking Association (CTA) and the Supply Chain Federal appreciate the opportunity to submit comments on San Diego Air Pollution Control District's Warehouse Indirect Source Rule (ISR) Framework Supplement.

CTA is the largest non-profit state association of trucking carriers in the U.S. Founded in 1923 and headquartered in Sacramento, CTA advocates for sensible legislation and regulations that affect our members. We are comprised of independent-owner operators, family-owned for-hire fleets and international carriers including many who are owners or operators of warehouse facilities. Our members are vital components to California's economy by servicing nearly 80 percent of California communities.

The Supply Chain Federation and its members represent all links of California's supply chain. Our members include labor, transportation, ports, logistics construction management, land use experts, and companies focused on advancing the industry's interests, promoting sustainability, and supporting the communities and employees that are a part of the goods movement economy. We support efforts that advance cleaner freight solutions while ensuring that California remains a global leader in trade, transportation, and environmental stewardship.

SDAPCD Unlikely to Receive SIP Credit for Emission Reductions

South Coast Air Quality Management District's (SCAQMD) Warehouse Indirect Source Rule (ISR) or Rule 2305 did not receive any creditable emission reductions from EPA¹. Rule 2305 cross-references definitions from two California mobile source regulations that had not been incorporated in California's State Implementation Plan, the Low NOx Omnibus ("Omnibus") and Advanced Clean Trucks ("ACT") Regulations, among other issues raised by EPA for meeting evaluation criteria. EPA consequently concluded "that the submitted rule

¹ <https://www.federalregister.gov/documents/2024/09/11/2024-20349/air-plan-approval-california-south-coast-air-quality-management-district>

should not be credited in any attainment and rate of progress/reasonable further progress demonstrations.”

Since the time of the EPA’s approval in September 2024, Congress has subsequently passed two joint resolutions of disapproval pursuant to the Congressional Review Act invalidating necessary Section 209 preemption waivers which will remove California’s ability to enforce both the Omnibus and ACT, which means the deficiency which led to EPA’s findings cannot be cured.

It is, therefore, reasonable to assume that a rule modeled after the South Coast’s program would then not receive any SIP credit for emission reductions.

Compliance Costs Likely Greater than Estimated

Rule 2305 requires warehouse owner or operators of facilities 100,000 square feet or greater to calculate annual truck trips, which generate points and consequently have to mitigate the points through certain mitigation measures like acquiring zero-emission vehicles, near-zero emission vehicles, solar panels, charging infrastructure, and paying a mitigation fee.

SCAQMD’s 2nd Annual Report for the Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program released on October 2024 provides some data, but does not analyze the specific costs of compliance for subjected warehouse owners and operators.

The report states that mitigation fees accounted for approximately 5% of the total WAIRE points costing around \$29,700,000 total for warehouse owners and operators across 1,556 AWRs submitted during 2022 and 2023. If compliance were achieved solely through payment of mitigation fees, this would bring the total cost of all WAIRE points earned to \$594 million, or \$381,748 per AWR submitted. While this is an upper bound estimate given that there are a range of costs per action that can earn WAIRE points, it is nonetheless a plausible estimate.

SDAPCD’s Framework Supplement estimates “average annual compliance costs that would be incurred by each local warehouse subject to a possible ISR are estimated to be between \$29,000 and \$49,000 per year.” Given the variance in square footage of regulated parties in the San Diego Air Basin and South Coast Air Basins, costs may vary. However, we want to flag that costs in the San Diego region may greatly exceed what is estimated in the Framework Supplement.

Significant Emission Reductions Have Already Been Achieved at Warehouses

Over the past two decades, nearly every source of emissions operating at warehouses operating in the San Diego Air Basin have been subject to the most stringent regulations in the nation. These regulations include the Statewide Truck and Bus Regulation, Transport Refrigeration Unit Air Toxic Control Measure, Statewide Idling Air Toxic Control Measure, Heavy Duty Inspection and Maintenance Program, and more.

These regulations have resulted in a more than 99% reduction in diesel particulate matter and 94% reduction in NOx emissions since 2005.

Table ES.5: Maritime Industry-related 2023-2005 Emissions Comparison by Source Category

	PM ₁₀ tons	PM _{2.5} tons	DPM tons	NO _x tons	SO _x tons	CO tons	HC tons	CO ₂ e tonnes
2023								
Ocean-going vessels	41	38	27	2,258	76	213	106	164,054
Harbor craft	11	10	11	482	1	96	27	51,808
Cargo handling equipment	10	9	9	329	2	624	79	145,461
Locomotives	24	23	24	659	1	159	38	55,408
Heavy-duty vehicles	3	3	3	350	3	285	35	356,601
Total	90	83	75	4,078	82	1,377	285	773,331
2005								
Ocean-going vessels	601	482	435	5,220	4,673	424	209	280,386
Harbor craft	33	32	33	706	4	209	49	44,996
Cargo handling equipment	44	40	43	1,449	9	797	104	134,630
Locomotives	57	53	57	1,712	98	237	89	82,201
Heavy-duty vehicles	248	238	248	6,307	45	1,865	368	474,877
Total	982	845	816	15,394	4,830	3,532	819	1,017,091
Change between 2005 and 2023 (percent)								
Ocean-going vessels	-93%	-92%	-94%	-57%	-98%	-50%	-49%	-41%
Harbor craft	-68%	-68%	-68%	-32%	-88%	-54%	-45%	15%
Cargo handling equipment	-77%	-77%	-79%	-77%	-83%	-22%	-24%	8%
Locomotives	-57%	-57%	-57%	-61%	-99%	-33%	-57%	-33%
Heavy-duty vehicles	-99%	-99%	-99%	-94%	-93%	-85%	-91%	-25%
Total	-91%	-90%	-91%	-74%	-98%	-61%	-65%	-24%

For the reasons outlined above, we request SDAPCD rejects any consideration of an indirect source rule. We appreciate the opportunity to comment on the proposal. If there are any concerns or questions, please do not hesitate to contact Nick Chiappe by email at Nchiappe@caltrux.org.

Sincerely,



Nick Chiappe
Director, Government and Regulatory
Affairs
California Trucking Association



Sarah Wiltfong
Chief Public Policy and Advocacy Officer
Supply Chain Federation



San Diego Air Pollution Control District
10124 10124 Old Grove Road
San Diego, CA 92131

Via Electronic Mail

May 31, 2025

Dear SDAPCD staff,

The undersigned organizations write to provide feedback on the Warehouse Indirect Source Rule (ISR) Framework Supplement for staff consideration in their recommendations to the San Diego Air Pollution Control District (APCD) Board. We strongly urge staff to ask the Board to direct the APCD to begin the rulemaking process for a Warehouse ISR to achieve necessary and legally-mandated emission reductions in San Diego County and to address the disproportionate pollution burdens shouldered by warehouse-adjacent communities in the County.

The Warehouse ISR concepts explored in the Framework Supplement are limited to compliance options available in the South Coast Air Quality Management District's (SCAQMD) Warehouse Indirect Source Rule (Rules 2305 and 316), and do not properly consider the unique context of warehousing operations in San Diego or its localized impacts on warehouse-adjacent communities. As a result, the Framework Supplement does not provide accurate estimates of potential emission reductions that may be achieved through an indirect source rule, the cost of regulation, or the effectiveness of an incentive-only framework.

According to the American Lung Association's 2025 State of the Air Report, San Diego County ranks as the eighth most ozone-polluted regions in the United States,, for which it received a failing grade on the number of high ozone days that residents experience.¹ The County is in serious nonattainment of the 2008 federal 8-hour ozone standard and moderate nonattainment of the 2015 federal 8-hour ozone standard.² Despite these classifications, the District and California Air Resources Board (CARB) determined that the County will not meet its attainment deadlines for areas classified as serious or moderate nonattainment.³ The District's plan is to achieve attainment by the deadlines

¹ American Lung Association, <https://www.lung.org/research/sota/city-rankings/msas/san-diego-chula-vista-carlsbad-ca>.

²<https://www.sdapcd.org/content/dam/sdapcd/documents/community/annual-air-quality-reports/2023/2023%20SDAPCD%20Annual%20Air%20Quality%20Report.pdf>

³ The attainment date for areas classified as moderate nonattainment of the 2015 ozone standard is August 3, 2024. San Diego County did not meet the 2008 ozone standard by the July 2015 Marginal attainment deadline or the July 2018 Moderate attainment deadline. California Air Resources Board, CARB Review of the 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County, 3 (2020), https://ww2.arb.ca.gov/sites/default/files/2020-10/sd_ozone_report_10162020.pdf.

for severe nonattainment areas. To meet the deadlines, the County will need a 53 percent reduction of nitrogen oxides (NO_x) by 2026 and a 60 percent reduction in NO_x by 2032.⁴

According to APCD's updated ISR emission reduction estimates presented to the public on April 2025, an indirect source rule (ISR) applicable to facilities over 50,000 square feet (sq ft) would be expected to reduce regional NO_x emissions by as much as 36.1 tons per year (TPY), and PM_{2.5} emissions by as much as 0.26 TPY. Notably, these estimates only factor in 657 warehouses.⁵ Expanding the applicability of an ISR to a broader range of warehouses throughout the region would substantially increase emission reduction potential for the rule and help ensure cleaner air in San Diego's disadvantaged communities and neighborhoods that endure a disproportionate share of air pollutant emissions, exposure, and health impacts.⁶

Medium- and heavy-duty trucks account for only 1% of all vehicles that operate in San Diego County but emit 13% of the diesel particulate matter (DPM), a major component of fine particulate matter (PM) and ozone precursor, which contributes to lung cancer and aggravates asthma across the region. Moreover, medium- and heavy-duty trucks emit 15% of all nitrogen oxides (NO_x), which is also a precursor to regional ozone and particulate matter pollution and contributes to respiratory and other illnesses.⁷

In San Diego's most impacted communities, such as the Portside AB 617 community, most of the cancer risk from air pollution (84%) is attributable to DPM, a component of PM_{2.5}.⁸ Residents of the Portside AB 617 community are exposed to emissions from various sources, including the Port of San Diego, freight and rail facilities that service the Port, and industrial facilities. The community is exposed to disproportionately high levels of DPM due to its proximity to intersecting highways that see heavy truck traffic.⁹ As a result of this cumulative air pollution exposure, the community experiences among the highest rates of asthma and cancer in the region. According to recent data, emergency room visits for childhood asthma in the 92113 zipcode are nearly twice as

⁴ https://www2.arb.ca.gov/sites/default/files/2020-10/sd_ozone_report_10162020.pdf.

⁵ Page 46. Table 8.

<https://www.sdapcd.org/content/dam/sdapcd/documents/rules/warehouse-work-group/april-2025/isr-framework-supplement.pdf>

⁶ Less than 20% of the regulated warehouses in the 50k framework (131 of the 657 warehouses countywide) are located in San Diego's AB 617 communities. The warehouse reality in San Diego necessitates a more tailored ISR framework that will enable regulation of warehouse facilities in San Diego's most pollution burdened neighborhoods.

⁷ Page 2. <file:///S:/APCD%20SD/APCD%20Rules/Rule%2056%20Indirect%20Source%20Rule/ISR-Framework-English.pdf>

⁸ Page 14.

<https://www.sdapcd.org/content/dam/sdapcd/documents/capp/meetings/portside-csc/031621/031621-V-CARB-Prelim-Air-Toxics-Risk-Modeling-Results.pdf>

⁹ San Diego Air Pollution Control District, Community Emissions Reduction Plan - Portside Environmental Justice Neighborhoods, pg. 34, <https://www.sdapcd.org/content/dam/sdapcd/documents/capp/cerp/Portside-Environmental-Justice-CERP-July-2021.pdf>.

high as the San Diego County average.¹⁰ Children in our communities also experience among the highest chronic school absenteeism rates in the County.¹¹



Figure 1. Heavy-duty trucks idling in front of the Barrio Senior Villas Complex in Barrio Logan (warehouse facility is <50,000 sq ft in size).

Despite the urgent need to enact targeted and effective policies to curb regional as well as neighborhood-scale emissions in our communities, the proposed framework for regulating warehouses over 50k sq ft would only apply to 29 of the more than 500 warehousing facilities that are presently located within the Portside community.¹² This lack of attention to the reality of environmental injustice in the region and within state-designated disadvantaged communities is unacceptable. We encourage APCD staff to consider stronger, more appropriate, and proven methods to regulate warehouse operations in San Diego County.

In the International Border AB 617 community, air quality conditions are similar. San Ysidro is identified as a “disadvantaged” community by the California Environmental Protection Agency (CalEPA) under SB 535. Its census tracts have an overall CalEnviroScreen (CES) 4.0 score in the 66-83th percentile, which is determined by multiplying a Pollution Burden (environmental effects and exposures) score by a

¹⁰ In the 92113 Zipcode the rate is ~90 visits per 10,000 residents. The county average is ~48 visits per 10,000. Data Source: California's Department of Health Care Access and Information (HCAI) 2022 Patient Discharge and Emergency Department Databases

¹¹ Seven of the 15 San Diego Unified schools with the highest chronic absenteeism districtwide are in the 92113 ZIP code. Chronic absenteeism is when a student misses 10 percent or more of instructional days in a year.

¹² <https://voiceofsandiego.org/2023/03/13/of-the-15-san-diego-unified-schools-with-the-most-chronic-absenteeism-14-are-south-of-i-8/>

¹² Page 46.

<https://www.sdapcd.org/content/dam/sdapcd/documents/rules/warehouse-work-group/april-2025/isr-framework-supplement.pdf>

Population Characteristics (sensitive populations and socioeconomic factors) score. . Of note, the PM_{2.5} burden and traffic burden for San Ysidro is 95% and 100% higher than other census tracts in California, respectively.

Over 1 million heavy-duty trucks are processed at the Otay Mesa Port of Entry and travel along the 905 trade corridor, contributing to DPM, PM_{2.5} and NO_x emissions that residents are exposed to in the area.¹³ The warehouse footprint in Otay Mesa has expanded by 45% since 2019, reflecting significant market growth in the region.¹⁴Expediting transition to electric truck fleets is a necessity given the number of heavy-duty trucks that are processed at the Port of Entry as well as growing warehouse development in the international border region. A Warehouse ISR that encourages investment in zero emission (ZE) and near-zero emission (NZE) technologies and supportive infrastructure is critical to cleaning up the freight industry, aligning improvements in our region with changes achieved in other regions, and lessening the pollution burden on AB 617 communities.

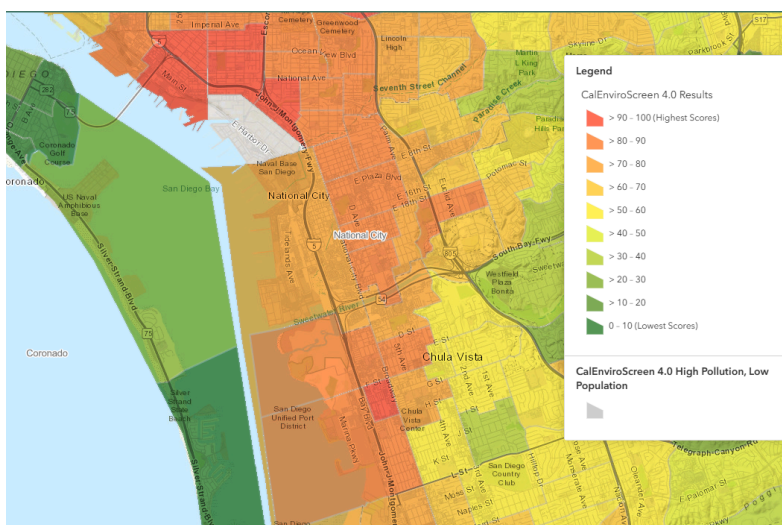


Figure 2. CalEnviroScreen version 4.0 scores for the Portside AB 617 community (census tracts rank within the 60-99 percentile for indicators used by CalePA for disadvantaged community designation).

¹³ <https://www.gsa.gov/about-us/gsa-regions/region-9-pacific-rim/land-ports-of-entry/otay-mesa-land-port-of-entry>

¹⁴ <https://ipggsf.com/otay-mesa-emerging-leader-industrial-market/>



Figure 3. CalEnviroScreen version 4.0 scores for the Otay Mesa Region and environs (the census tract covering the Otay Mesa Region is in the 100th percentile for traffic impacts in the State of California).

While the Framework Supplement acknowledges California’s withdrawal of a waiver request to the Environmental Protection Agency for its Advanced Clean Fleets regulation, it does not fully lay out the emissions or air quality impacts of this decision or the vacuum of regulatory uncertainty that the loss of this regulation creates. Among other requirements, the Advanced Clean Fleets (ACF) regulation would have required all drayage trucks that serve California ports or intermodal yards to be zero-emission by 2035. Due to the state’s withdrawal of its waiver request, California can only enforce the rule in part; as a result, the investments in ZEV trucks that are necessary to meet state climate goals are unlikely to occur. For example, a recent study by UC Irvine School of Law concluded that ACF would have resulted in significant reductions in NOx and PM emissions - over 2,000 TPY and 50 TPY, respectively - through 2045 in the San Francisco Bay Area alone. Its authors noted that indirect source rules should “play an essential role in reducing emissions within and across the Bay Area, primarily due to the postponement of ACF.”¹⁵ The loss of this critical statewide regulatory safeguard only serves to increase the imperative for the San Diego County region and APCD in particular to ensure continued progress toward achieving federal air quality and state climate goals as well as compliance with federal and state civil rights laws and protections for its disadvantaged communities. The UC Irvine report underscored how a Warehouse Indirect Source Rule, carefully tailored to achieve regional as well as neighborhood-scale emissions reductions while encouraging investment in ZE/NZE technologies and infrastructure, can ensure compliance with these and other laws.

¹⁵ Gregg Macey & Sue Dexter, Goods Movement and Environmental Justice Policy Pathologies, UC Irvine Law CLEANR, pg. 46, <https://bpb-us-e2.wpmucdn.com/sites.uci.edu/dist/5/5378/files/2025/03/Goods-Movement-and-Environmental-Justice-Policy-Pathologies-March-18-2025.pdf>.

Specifically, the report reviews the rulemaking record for SCAQMD's Rule 2305 as well as the San Joaquin Valley Air Pollution Control District's Rule 9510, and suggests how a Warehouse ISR can be designed to consider cumulative, neighborhood-scale impacts, encourage continuous improvement as technological and economic considerations change, and ensure affirmative compliance with civil rights laws such as California Government Code Section 11135.

A well-crafted Warehouse Indirect Source Rule that is tailored to San Diego County and its unique industry and local conditions would contribute to significant reductions in nitrogen oxides, particulate matter, and toxic air pollutants. The full promise of a Warehouse ISR for the region as well as disadvantaged communities is not properly reflected in the Framework Supplement. Staff must consider compliance options that are more attuned to County- and region- specific warehousing activity, as well as innovations proposed and implemented elsewhere..

For example, during workgroup meetings, staff identified the purchase and use of zero-emission yard trucks as among the most used compliance options in SCAQMD's Warehouse Indirect Source Rule. In San Diego County, by comparison, yard trucks are not as widely in use at warehouses. This highlights the need for APCD staff to consider a broader range of compliance options for a Warehouse ISR in the County that may contribute to greater emission reductions than estimated in the Framework Supplement. Among the many available compliance options outlined in Rule 2305 (SCAQMD) and Rule 9510 (SJVAPCD) as well as in the peer-reviewed literature are:

- Purchase or use of zero-emission transport refrigeration units. This could lead to emission reductions particularly for cold storage facilities, which comprise 1,009,066 square feet of total warehouse building floor area in the County.¹⁶ Data on warehouse and distribution centers in southern California show that refrigeration/cold storage facilities are most likely to be located in disadvantaged communities;¹⁷
- Contracting with a third-party charging provider. Warehouse operators in the South Coast under Rule 2305 cannot earn points under the current menu of compliance options for contracting with third-party charging providers to install charging stations. Including this compliance option would encourage greater investment in much-needed charging infrastructure in the region;

¹⁶ San Diego Air Pollution Control District, Warehouse ISR Framework Supplement, pg. 24.

¹⁷ Miguel Jaller et al., Distribution facilities in California: A dynamic landscape and equity considerations; 15 J. of Transp. & Land Use 755, 771 (2022).

- Development of a zero-emission pilot program, funded by a mitigation fee, to fund zero-emission projects for warehouses not covered under an ISR and sited in freight-impacted communities;
- Adding battery capacity to onsite solar systems;
- All-electric buildings with no onsite fossil fuel infrastructure (e.g. gas connections or backup generators);
- All-electric landscaping equipment; and
- Direct purchase of offsite mitigation or contribution to an air quality mitigation bank.

Rule 2305 in the South Coast has already encouraged a more rapid transition to ZEV trucks and yardhouse equipment. We have also noted a willingness among warehouse operators in areas that do not have indirect source rules to begin the transition to ZEV truck fleets.¹⁸ While the scale and pace of this transition demonstrates that the requisite technology is available, voluntary or incentive-based programs do not always work. In fact, SCAQMD tried a voluntary incentive program with little success, before moving forward with its Warehouse Indirect Source Rule.¹⁹

The most recent Framework Supplement characterizes an indirect source rule as an expensive and administratively burdensome regulation. In Section 2.6 of the document, the District explains that up to six additional full-time staff positions would be necessary to regulate warehouses over 50,000 sq ft, under such a rule, and that staffing increases would result in up to \$900,000 in additional ongoing costs for personnel salary and benefits. While we are sensitive to the financial realities of the District, a more in-depth analysis of warehouse activity and truck counts throughout the County is required to determine whether this figure overestimates administrative costs. For example, not all warehouses over 50,000 sq ft attract significant truck traffic.²⁰ In addition, the potential public health benefits of a Warehouse ISR are substantial. For example, the UC Irvine School of law study estimated the dollar value of health benefits of a Rule 2305-style Warehouse ISR in the Bay Area. Its authors determine that such a program would achieve health benefits from PM and NO_x/ozone reductions of up to \$18.1 million per year for a Rule 2305-type program in the Bay Area alone..

We appreciate staff's consideration of these comments and encourage the APCD to begin the rulemaking process for an indirect source rule. In addition, we encourage a tailored approach to the design of an ISR program that achieves regional air quality

¹⁸<https://www.sierraclub.org/press-releases/2024/12/sierra-club-secures-unprecedented-clean-truck-requirements-inland-empire>

¹⁹ <https://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-may4-032.pdf?sfvrsn=2>

²⁰ As a community member its frustrating to see staff simultaneously make the argument that the number of warehouses is excessive when highlighting the cost burden analysis of pursuing the rule, but in the same report when estimating the potential pollution reductions of an ISR the warehouse count is minimized because not all warehouses conduct traditional warehousing operations.

improvements while protecting our most vulnerable communities. An indirect source rule offers relief to warehouse-impacted communities and will bring much-needed investment in zero-emission technologies and infrastructure to the County.

Sincerely,

Charles Rilli
Conservation Manager
Sierra Club San Diego

Kyle Heiskala
Policy Co-Director
Environmental Health Coalition

Anthony Dang
Policy and Community Outreach Manager
Climate Action Campaign

Regina Hsu
Senior Attorney
Earthjustice

Pam Heatherington
Executive Director
Environmental Center of San Diego

Dan Silver
Executive Director
Endangered Habitat League

Joe Houde
Chair
North County Climate Change Alliance

Christopher Roberts
Transportation Team Co-lead
SD350

Suzanne Hume
Educational Director & Founder
CleanEarth4Kids.org

Mitch Silverstein
Senior Policy Coordinator
Surfrider Foundation San Diego



May 31, 2025

Mike Watt
Deputy Director
San Diego County Air Pollution Control District
10124 Old Grove Rd.
San Diego, CA 92131

RE: Comments regarding Warehouse ISR Framework Supplement

Dear Mr. Watt,

The undersigned Coalition represents a broad spectrum of business organizations and advocates in San Diego County, who support ensuring responsible air quality management while balancing the economic realities of our region. We appreciate the opportunity to prepare and submit comments regarding the staff's proposed Indirect Source Rule Framework Supplement (ISR), published in April 2025, as informed by the Warehouse Work Group (WWG) meetings that were held throughout 2024.

California is already among the most expensive states in which to operate a business, affecting both San Diego's business community and working families. The proposed ISR imposes new requirements and rulemaking that increase operating costs for businesses. The costs of new rulemaking and regulations greatly undermine the competitiveness of our region and our region's economy, further straining affordability for businesses and residents

alike. Businesses are already facing significant inflationary pressures and regulatory complexities at both the local and state level, which would be further exacerbated by this proposed rulemaking. We remain concerned that the proposed rulemaking laid forth in this ISR does not accurately or effectively address emissions, and places undue burdens that will undoubtedly drive up the costs of goods and services, which will be borne by consumers in the San Diego region.

The Coalition hopes that District Staff and its Governing Board will take into consideration the following comments and agree with the Coalition's recommendation against creating an ISR for San Diego County. As conceptualized by other Air Districts such as the South Coast Air Quality Management District, and even through the WWG's own findings, an ISR would be the least effective and most costly rule to date to reduce criteria air pollutants, namely nitrogen oxides (NO_x) and particulate matter (PM).

1) Executive Summary, Page ES-2

Regarding the comment from the "environmental perspective", where: developing an ISR (as opposed to a voluntary incentive program) could potentially provide more certainty for achieving emission reductions if framed in a way that could target such facilities in disadvantaged communities".

The Coalition asserts that staff's emissions reduction analysis; CARB's emissions modelling data; IEA's warehouse identification, truck traffic, and emissions reduction analyses from publicly available data; and the Kerr et al study's finding as cited by the Environmental Health Coalition do not support this conclusion.

2) Executive Summary, Page ES-4

Regarding: The results of the analysis showed a strong positive correlation between warehouse size and truck volume".

The Coalition disagrees with staff's methodology in determining warehouse size and truck volumes, especially considering the District's refined analysis of CoStar warehouses". As noted in the Kerr et al. study, if it was the case that the size of the facility correlated so strongly with increased truck volume/visits, then their findings would have also indicated as such. Rather, the study concluded that across all population densities, the r-value for warehouse loading dock and parking space numbers (a useful proxy for facility size) was low (less than $r=0.2$), especially for high-population density

areas, where $r=0.02$ and $r=0.03$ for loading docks and parking spaces, respectively.

3) Executive Summary, Page ES-6

Regarding The estimated cost-effectiveness for a possible ISR now far exceeds the cost-effectiveness values estimated for recent District rulemakings, as well as for incentive-based projects within the Carl Moyer program, which are generally recognized as some of the highest cost-effectiveness values for achieving emission reductions”.

While this phrasing is confusing, the Coalition agrees with the staff's assessment given all of the facts noted above that an ISR is the least cost-effective means of achieving emissions reductions, and we would encourage the APCD Board to come to the same conclusion based upon the preponderance of facts presented throughout the WWG process. The coalition encourages proponents for the rule to consider the opportunity costs for applying so much capital, time, and energy to provide such marginal material benefit to emissions reductions. There are demonstrably more effective alternatives to improving quality of life to affected community members within San Diego County than an ISR as conceptualized by South Coast AQMD.

4) Executive Summary, Page ES-8

Regarding 14% of the 70 facilities researched may likely be conducting goods-movement related activities. If these results are extrapolated for the warehouse inventory countywide, then the possible ISR emission reduction estimates presented above may very likely be a best-case scenario.

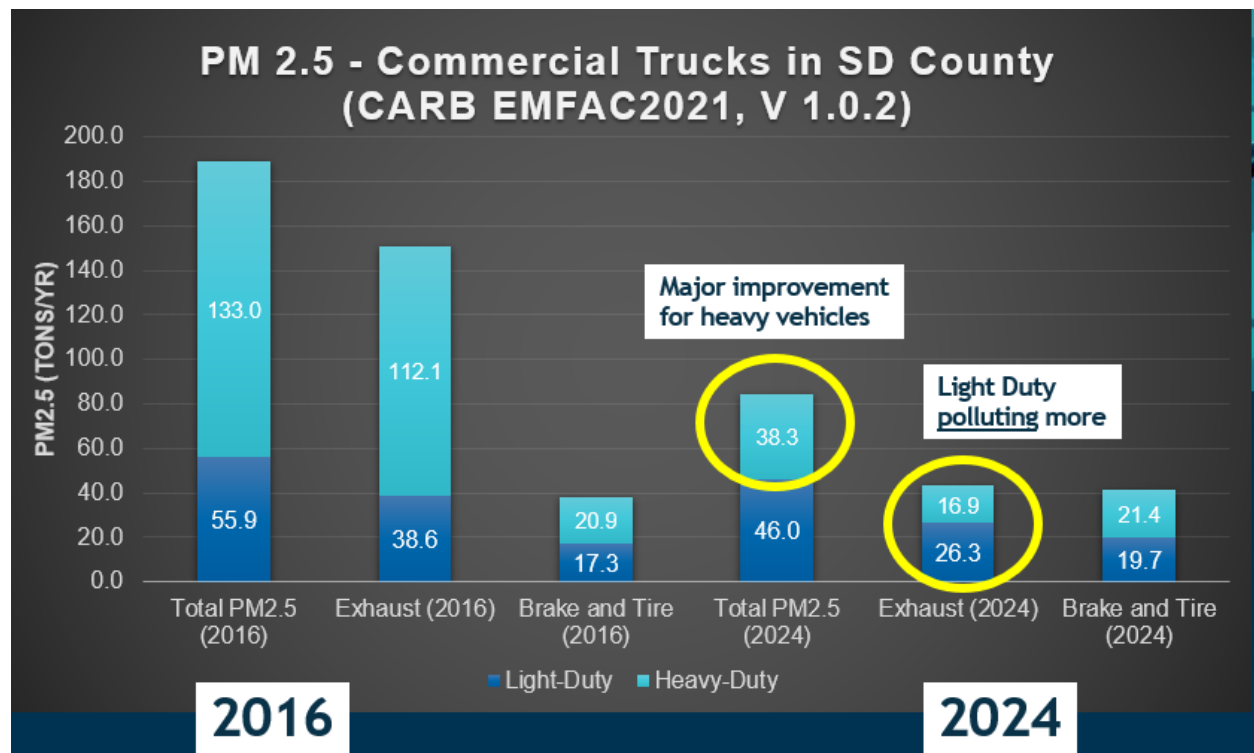
The Coalition agrees with staff's assessment that the emissions reductions estimates presented may be a best-case scenario, which strongly suggests against promulgating an ISR.

5) Section 2.1.5, Stakeholder Comments for District Consideration, Page 15:

The Coalition acknowledges and agrees that to implement an incentive-based electrification program of all diesel light-duty commercial vehicles throughout San Diego County would be infeasible due to the resources needed to administrate applicants and cover the total cost of the vehicles themselves. However, the Coalition maintains that the scope of an incentive-based program for light-commercial vehicle electrification can be scaled to focus on small businesses across other industry groups, largely meeting the

goals of this program. These businesses, categorized in the 2022 SANDAG Commercial Vehicle Survey, utilize fleets of diesel light-duty vehicles and present the best opportunity to reduce emissions from mobile sources, as demonstrated below.

Data shows that exhaust emissions of PM2.5 from the County's light-duty commercial vehicle population are considerably greater than heavy-duty commercial vehicles. According to CARB EMFAC emissions modeling, the amount and nature of NOx and diesel particulate emissions (classified as PM2.5) have changed considerably since 2016, the data year referenced in policy-making tools such as CalEnviroscreen. For example, the 2016 total heavy duty commercial vehicle contribution for PM2.5 was approximately 133 tons per year, compared to 55.9 tons per year for light-duty; of which, approximately 80% was from tailpipe exhaust. By 2024, the model estimates total heavy duty commercial vehicles emissions at approximately 38.3 tons per year (71% reduction), compared to 46 tons per year for light-duty commercial vehicles. Further analysis yields additional key insights (See the figure below).



First, overall contributions of NOx and diesel particulate matter, have decreased by more than 50% from 2016 to 2024. Second, exhaust emissions of PM2.5 from light-duty commercial vehicles are considerably greater than heavy-duty commercial vehicles, by a factor of 1.5; likely due to the numerous CARB emissions standards for medium/heavy-duty vehicles and fuel requirements.

The EMFAC-modelled emissions are also in alignment with the trends identified in SANDAG's 2022 Commercial Vehicle Survey, where up to 60% of all commercial vehicles in San Diego County are light-duty and they contribute a significant portion of commercial traffic within the County, including AB617-recognized disadvantaged communities. The owners of these vehicles include small and local businesses that are the most affected by changes in economic conditions, less likely to have the capital to electrify their work vehicle fleets and are the most at risk for slow adoption of EV technologies, despite their localized impacts to air quality within the communities that they serve.

Furthermore, the scope of a possible incentive-based program for light-commercial vehicle electrification can be scaled to accommodate resource and practicality needs by the District. For example, public data sets from entities like Go-Biz (CA Governor's Office of Business and Economic Development) allow for relatively simple identification and outreach to businesses within cities, census tracts, neighborhoods, etc. to assess their vehicle habits, and applicability for incentives. Successful initiation of an ISR incentives program for small businesses, whether scoped for the County, a City, or AB617 communities, appears to have multiple positives: investment in small businesses (and potentially disadvantaged communities), accelerating EV adoption for slow-adopters, reduction of street-level emissions from a mobile source with growing contributions to air pollution, and allowing for the commercial engine of San Diego's economy to maintain its operational flexibility.

6) Section 2.1.5, Stakeholder Comments for District Consideration, Page 17:

The Coalition commends the additional rigor applied by District Staff to the ISR emissions reduction analysis to append what was first presented to the Warehouse Working Group in October 2024. One of the Coalition's primary concerns regarding previous analyses was the use of real estate data from CoStar, of which a majority of their commercial/industrial properties are flagged with a "warehouse" descriptor but are, in fact, not used as such. The

use of the data at face value presented a high risk of overestimating the number of warehouses (and therefore commercial heavy-duty truck traffic) in San Diego County.

Staff's follow-up observational assessment of facilities classified as "warehouses" in the CoStar Data around the Barrio Senior Villas complex (in the AB617 Portside Community) determined that 10 out of 70 (14%) may be conducting goods movement and distribution (emphasis added). This low number aligns with IEA's independent analysis, as presented during one of the WWG sessions, of the quantity and location of warehousing facilities in San Diego County and warrants strong caution against overstating potential localized impacts in areas that CoStar data erroneously categorizes as warehouses.

7) Response to Environmental Health Coalition Letter to APCD
Rulemaking Group on September 2024 in support of an ISR:

The Coalition understands that the Environmental Health Coalition has advocated for an ISR based in part on findings from the Kerr et al, (2024) Nature study titled "Air Pollution Impacts from Warehousing in the United States" in their letter to the APCD dated September 2024. On its face, the study purports to have identified a strong correlation of elevated NO₂ concentrations (up to 21% relative to ambient conditions) around warehouse clusters at the national level with a population of approximately 150,000 facilities. However, in a separate presentation to the WWG, the IEA identified several key issues with the study's methodology and narrative that strongly suggest against an ISR for San Diego County, specifically, and the conceptualization of an ISR based on warehouse sizing as used in other Air Districts, more broadly.

First, the study presents in Figure 2B the correlation between NO₂ measurements (collected via satellite composite measurements) and warehouse loading docks, parking spaces, and clustering (co-location) in three distinct cohorts: low-population density (<267 people per square kilometer[Sq.Km]), medium population density (267 to 1501 people per Sq.Km), and "high" population density (greater than 1501 people per Sq.Km) areas. The study's strongest correlation factor (r-value) among these cohorts is for low-population density clusters at 0.63. The r-value drops significantly, down to 0.24 (little to no correlation), for high-population density areas. The study's authors concede the point that the relationship

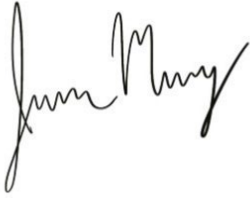
between NO_x, loading docks, parking spaces, and [warehouse] clustering is weaker in high population density environments, likely owing to the complex mixture of NO_x sources in built up areas that may obscure the warehouse-associated enhancement". This suggests that warehouse operations, relative to all other commercial/industrial impacts, are indistinguishable to ambient air quality concerning NO_x. For reference, essentially all developed census tracts with commercial warehousing areas in San Diego County, with the exception of Otay Mesa, have "high" population densities.

Second, the study's population of warehouse facilities for use in their methodology is based on CoStar data as well, which has since been demonstrated by the APCD's targeted review of 70 warehouse facilities around the Barrio Senior Villas complex, as potentially misrepresenting as much as 86% of the population as a warehouse facility. Therefore, the study's statistical associations (r- and p-scores) in their findings are likely significantly overstated or distorted. In other words, the study cannot conclude that warehousing clusters, especially in high population densities, contribute any more to ambient NO_x concentrations than any other activity done in modern society, casting severe doubts on the effectiveness of an ISR.

Lastly, the Coalition strongly advises APCD to consider the following observation in the study's narrative: Other warehouse characteristics were either uncorrelated or weakly correlated with NO_x; for example, the correlation between warehouse building area and NO_x is weak for all population densities ($r < 0.1$). The Coalition believes that an observation like this in a study attempting to associate a link between warehouses and emissions, if true, suggests that the entire paradigm for a rule based on warehouse size (square footage) is technically unsound and an ineffective basis for an ISR. At this time, the publicly available data for emissions, commercial traffic, and properties would appear to support a stance against an ISR.

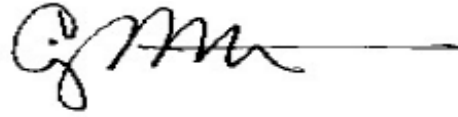
Thank you for your consideration of these comments and for the opportunities to participate and provide feedback through the WWG process. The Coalition understands this is a complicated situation, but remains steadfast in our conclusion that the facts do not warrant the initiation of a rule making process to establish an ISR. We would further hope that the District, in coming to the same conclusion, would continue to work with us, as impacted stakeholders, on ways to address vehicle emissions that are feasible, sustainable and responsible to all communities.

Sincerely,

A handwritten signature in black ink, appearing to read 'Justine Murray'.

Justine Murray

Executive Director, Public Affairs
San Diego Regional
Chamber of Commerce

A handwritten signature in black ink, appearing to read 'Craig Benedetto'.

Craig Benedetto

Legislative Advocate
NAIOP San Diego

A handwritten signature in black ink, appearing to read 'Jack Monger'.

Jack Monger

CEO
Industrial Environmental Association