



# SCAQMD Rule 2305 Warehouse Indirect Source Review

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# Agenda

1. Applicability
2. Compliance Deadlines
3. Warehouse Owner/Operator Perspective
4. Data Collection
5. Earning WAIRE Points
6. Custom WAIRE Plans
7. Compliance Challenges
8. Next Steps

# Applicability

- ▶ Warehouses located with South Coast Air Quality Management District (SCAQMD) with  $\geq 100,000$  square feet of indoor floor space in a single building.
- ▶ **“Warehouse”** – building that stores cargo, goods, or products for later distribution to businesses and/or retail customers
- ▶ **“Warehousing Activity”** – operations related to the storage and distribution of goods
- ▶ **“Goods Movement”** – movement of raw, semi-finished, and finished materials/products

# Compliance Deadlines

Phase	Warehouse Building Size (sf)	Warehouse Operations Notification Date	Initial Site Information Report (ISIR) Date	Annual WAIRE Report Date
1	≥ 250,000	September 1, 2021	July 1, 2022	January 31, 2023
2	≥ 150,000 – < 250,000		July 1, 2023	January 31, 2024
3	≥ 100,000 – < 150,000		July 1, 2024	January 31, 2025

# Warehouse Owner/Operator Perspective

- ▶ First South Coast AQMD rule for many warehouse operators
- ▶ Key to Compliance
  - Early awareness
  - Understanding data collection requirements
  - Selecting compliance options

# Data Collection

## ▶ Truck Trip Data Collection

- Number of straight trucks and tractor/trailers visiting warehouse to deliver or pick up goods stored at the warehouse for later distribution
- Needs to be verifiable – records must be kept for 7 years

## ▶ Methods

- Guard shack log
- Electronic Telematics Systems
- In-Roadway or Driveway Sensors
- Video Monitoring
- Contracts/Manifests/Receipts

# Data Collection – Owned/Leased Trucks

- ▶ Initial Site Information Report
  - Number of trucks and tractors serving a warehouse, by class and fuel type
  - Total Vehicle Miles Traveled (VMT), by class and fuel type
  - Typical dwell time at the facility, by class
  - Information about which trucks or tractors are owned and which are leased

# Earning WAIRE Points

- ▶ WAIRE Menu
  - Capital Expenditure
  - Annual Usage



# WAIRE Menu - Capital Expenditure

Based on SCAQMD Background Data

Category	Units	Cost/ Incremental Cost <sup>1</sup>	Points
Purchase NZE Class 8 <sup>1</sup>	1 truck	\$65,000	55
Purchase ZE Class 8 <sup>1</sup>	1 truck	\$150,000	126
Purchase NZE Class 4-7 Truck <sup>1</sup>	1 truck	\$30,000	26
Purchase ZE Class 4-7 Truck <sup>1</sup>	1 truck	\$80,000	68
Purchase ZE Yard Truck <sup>1</sup>	1 truck	\$210,000	177
Install Rooftop Solar Panels	100 kW	\$260,000	15
Install Carport Solar Panels	100 kW	\$374,000	19
Install Electric Charger (19.2 kW)	1 charger	\$15,000	15
Install Electric Charger (19.2-50 kW)	1 charger	\$110,000	94
Install Electric Charger (51-149 kW)	1 charger	\$140,000	119
Install Electric Charger (150-350 kW)	1 charger	\$220,000	186
Install Filter System	25 filters	\$65,000	55

1. Cost only includes incremental cost compared to diesel equivalent since full cost is not available for all categories. For example, a diesel yard truck is estimated at \$100,000; therefore, a ZE yard truck could cost \$310,000.

# Related CARB Rules Affecting Warehouses

- ▶ Executive Order B-32-15 (Brown) required the development of an interagency *California Sustainable Freight Action Plan*
- ▶ Executive Order N-79-20 (Newsom) requires 100% of sales of new cars, light trucks, heavy-duty vehicles, and off-road vehicles to be Zero Emission (ZE) by 2035 where feasible
- ▶ CARB Rulemakings Affecting Warehouses:
  - Advanced Clean Trucks (adopted 6/2020)
  - Advanced Clean Fleets (proposed adoption 12/2021)
  - New Transportation Refrigeration Unit (TRU) Rule (proposed adoption fall 2021)
  - Zero Emission (ZE) Forklifts (proposed adoption 2022)

# WAIRE Menu – Annual Usage

*Based on SCAQMD Background Data*

Category	Units	Cost/ Incremental Cost	Points
Pay Fee	1 point	\$1,000	1
NZE Class 8 Truck Visits	365 annual visits	\$3,825	42
ZE Class 8 Truck Visits	365 annual visits	\$54,400	51
NZE Class 4-7 Truck Visits	365 annual visits	\$13,928	12
ZE Class 4-7 Truck Visits	365 annual visits	\$701	12
Charger Usage	165,000 kWh dispensed	\$34,650	42
ZE Yard Truck Usage	1000 annual hours used	\$6,250	291
Solar Panel Usage	165,000 kWh produced	\$0	1
Filter Purchases	200 filters	\$60,000	51

# WAIRE Menu Strategies

Strategy No.	Strategy Options	Strategy Description	Initial Number of WAIRE Points	WAIRE Points/Year	Ten Year Cost (2022-2031)	Cost per Point <sup>1</sup>
1	B+J+E	ZE Yard Truck + EV + Solar (100 kW)	207	334	\$541,250	\$168
2	B+J	ZE Yard Truck + EV	192	333	\$593,100	\$186
3	7C+J	7 NZE Class 8 + EV	400	336	\$1,022,825	\$299
4	26F+J	26 ZE Class 4-7 + EV	1,783	354	\$2,570,884	\$517
5	8J	8 EV Chargers (up to 19.2 kW)	120	336	\$2,614,800	\$832
6	M	1 EV Charger (150-350 kW)	186	557	\$4,359,100	\$838
7	2L	2 EV Charger (51-149 kW)	238	444	\$3,591,280	\$848
8	5K	5 EV Chargers (19.2-50 kW)	470	385	\$3,414,257	\$868
9	A	Pay Fee	NA	321	\$2,889,000	\$1,000
10	6D+J	6 ZE Class 8 + EV	771	348	\$4,164,450	\$1,067
11	26E+J	26 NZE Class 4-7 + EV	691	354	\$4,366,002	\$1,126
12	7I	7 Filter Systems (25 systems)	385	357	\$4,235,000	\$1,177
13	321G	321 Rooftop Solar (100 kW each)	4,815	321	\$83,460,000	\$10,833

1. Cost per Point is based on the Ten Year Cost and the total number of points that would be earned over the 10-year period.

# Earning WAIRE Points

- ▶ WAIRE Menu
  - Capital Expenditure
  - Annual Usage
- ▶ Experience shows cost may change based on new market demand
- ▶ Current most cost-effective strategy
  - Purchase and/or use a ZE yard truck
  - Install electric charger with solar panels

# Custom Strategies

- ▶ Thinking ahead and early action provides best compliance opportunities
- ▶ Unique strategy for each facility

# Compliance Challenges

- ▶ Most warehouses are new to South Coast AQMD rules
- ▶ Trucking fleet – owned vs. contracted
  - Near Zero Emission (NZE) or Zero Emission (ZE) trucks difficult to implement at this time

# Next Steps for Operators

- ▶ Confirm applicability and phasing for compliance and reporting
- ▶ Data collection
- ▶ Create strategy using combination of compliance options



# IMPORTANT CLARIFICATIONS

- ▶ **“Goods Movement”** – movement of raw, semi-finished, and finished materials/products
  - The truck trip data collection requirement must include truck trips delivering or picking up raw, semi-finished, and finished materials and products.
- ▶ Phasing is based on the total building size, not warehousing activity size.
- ▶ The Initial Site Information Report (ISIR) requires some additional truck trip information for operators that own or lease their truck fleet.

<https://www.trinityconsultants.com/news>

<https://www.trinityconsultants.com/news/scaqmd-warehouse-isr-rule-2305-immediate-action-guidance>

<https://www.trinityconsultants.com/news/south-coast-aqmd-warehouse-isr-rule-2305-reporting-requirements>

**Questions?**

