



South Coast  
AQMD

# Proposed Amended Rule 1148.1 – Oil and Gas Production Wells



Working Group Meeting No. 4  
April 11, 2024 – 1:00 pm

Zoom URL: <https://scaqmd.zoom.us/j/91059546550>

Dial In: 1 669 900 6833

Webinar ID: 910 5954 6550 (applies to all)

# Agenda



Recap of Previous Meeting and Workshop

Updates on Proposed Amended Rule  
1148.1 (PAR 1148.1)

Next Steps & Contact Info

# Recap of Previous Meeting and Workshop

The background of the slide features a faded image of an oil pumpjack in an industrial setting. The pumpjack is the central focus, with its characteristic walking beam and counterweights. In the background, there are several industrial buildings and tall light poles. The entire scene is overlaid with a semi-transparent white layer, and a solid green horizontal bar runs across the bottom of the slide.

# Summary



## Summary of Proposals for PAR 1148.1

- Adding new definitions to clarify amendments being proposed
- Update signage requirements
- Require the use of enhanced leak detection technology
- Require equipment that uses produced gas to meet specific NO<sub>x</sub> limits and verify compliance via source tests
- Require workover rigs to use Tier 4 Final diesel engines
- Ban use of odorants used to mask odors emanating from oil and gas production facilities



Comments from  
Working Group  
Meeting #3  
(December 2023)  
and Public  
Workshop  
(February 2024)

Produced gas reinjected  
back into the ground  
instead of combusted

Zero emissions from  
workover rig operations

Zero toxics in neutralizing  
agents

Public notification for leak  
detection

Signage Font Size

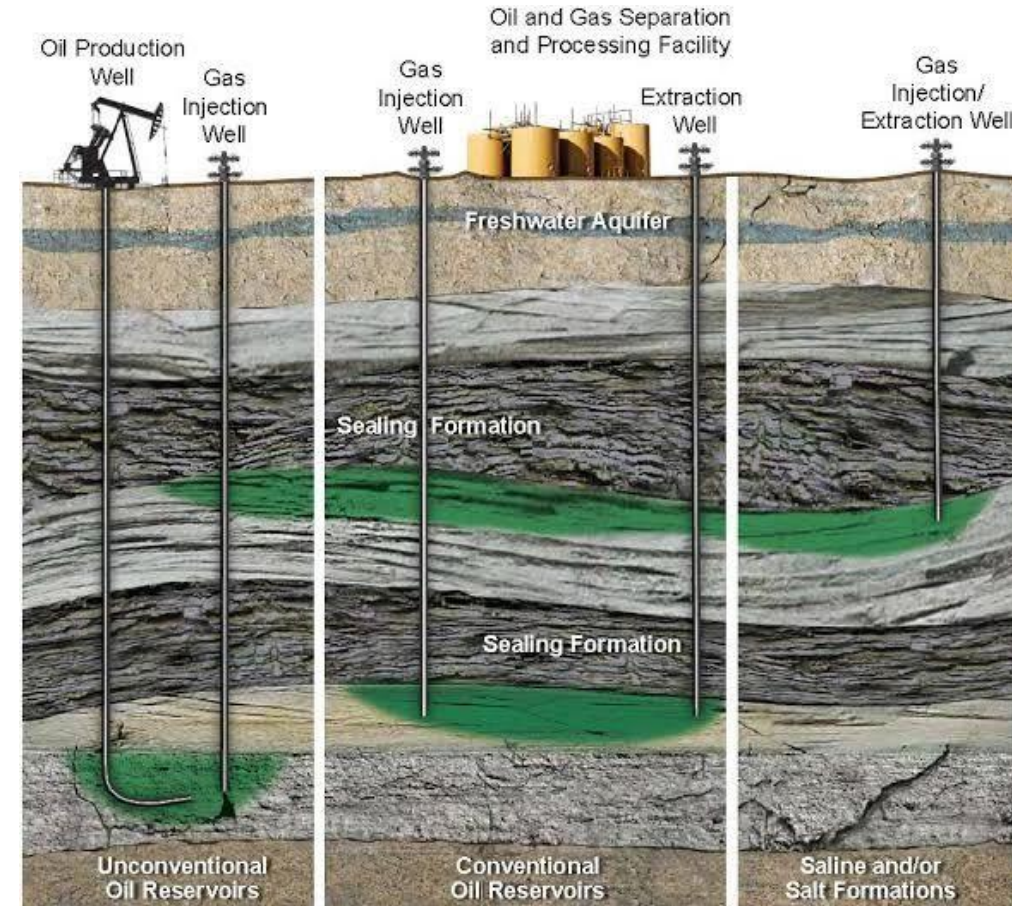
# Updates on PAR 1148.1

# Overview – Gas Reinjection

Stakeholders requested further investigation into gas reinjection as means to eliminate produced gas

- Gas reinjection compresses produced gas from the well back into an underground reservoir

Advantages	Disadvantages
No combustion of gases	Storage of gas below residential communities
Potential increase to oil production	Increase pressure in reservoir affecting operation



# City of Los Angeles Policy on Gas Reinjection

**Notice of Public Hearing**  
 Aviso de Audiencia Pública • 공청회통지  
 Abao ng Pagdating sa Publiko • 公開聽證會通知  
 Հանրային խորհրդի մասին ծանուցում

311 Traducción  
 傳呼 • 電話  
 Pagsasaal  
 電話傳呼

LOS ANGELES CITY PLANNING

June 20, 2023 after 4:30 p.m.  
 South Los Angeles Area Planning Commission

This meeting may be available virtually, in a hybrid format. Please check the meeting agenda approximately 72 hours before the meeting for additional information.

Please see <https://planning.lacity.org/about/commissions-boards-hearings> for the meeting agenda.



**Project Address**  
 2126 West Adams Blvd.  
 Sitio de Proyecto  
 項目地址  
 Address ng Proyekto  
 項目的地址

**Proposed Project**  
 Projecto Propuesto  
 項目建議  
 建議項目  
 建議項目

Plan Approval to re-eval  
 ZA-1959-15227(O)P  
 expansion of the oil o  
 Municipal Code (LAMC)  
 conducted pursuant t  
 conditions or modify

Aprobación del Plan  
 Caso No. ZA-1959-1  
 9x3.2 acres existing  
 Esta revisión está ad  
 (LAMC) por sus regis  
 ZA-1959-15227(O)P

OFFICE OF ZONING ADMINISTRATION  
 303 S. SPRING STREET, ROOM 713  
 LOS ANGELES, CA 90013-4801  
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**ESTHER MALIAN**  
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 CHRISTINA TOY LEE  
 JOSHUA TURNER

CITY OF LOS ANGELES  
 CALIFORNIA

**KAREN BASS**  
 MAYOR

LOS ANGELES DEPARTMENT  
 OF CITY PLANNING  
 EXECUTIVE OFFICES  
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 (planning@lacity.gov)

**February 28, 2023**

Ted Cordova (A)  
 E & B Natural Resources  
 249 East Ocean Boulevard  
 Long Beach, CA 90802

Roman Catholic Archdiocese of Los Angeles (O)  
 3424 Wilshire Boulevard  
 Los Angeles, CA 90010

CASE NO. ZA-1959-15227-O-PA6  
 APPROVAL OF PLANS  
 2126 West Adams Boulevard and 2125 West 26th Place  
 South Los Angeles Community Plan  
 Zone: [Q]R4-1-O-HPOZ  
 C.D.: 10  
 D.M.: 123B193  
 CEQA: ENV-2021-7445-CE  
 Legal Description: Lot A, Tract 9454

Pursuant to the California Environmental Quality Act, I hereby **DETERMINE**:

based on the whole of the administrative record, that the Project is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15301 (Class 1), Section 15303 (Class 3), Section 15305 (Class 5), Section 15308 (Class 8), and Section 15321 (Class 21), and there is no substantial evidence demonstrating that any exceptions contained in Section 15300.2 of the CEQA Guidelines regarding location, cumulative impacts, significant effects or unusual circumstances, scenic highways, or hazardous waste sites, or historical resources applies.

Pursuant to Los Angeles Municipal Code (LAMC) Section 12.24 M, Condition No. 14 in Case No. ZA-1959-15227(O)(PA4), and LAMC Section 13.01-E.2(i), I hereby **DETERMINE**:

that, based on the whole of the administrative record, additional and modified conditions are required for the continued operation of the existing Murphy Oil Drill Site to increase the protection of and to preserve the health, safety and general welfare of the residents and stakeholders of the neighborhood. The additional conditions are also necessary to afford greater protection to surrounding property and to address the nuisance conditions which were demonstrated by substantial evidence.

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Staff met with City of Los Angeles personnel and obtained the following information:

- City of Los Angeles allows the use of microturbines to consume the produced gas
- Use of a flare denied by the Zoning Administrator in 2017
- City of Los Angeles Determination Letter<sup>1</sup> states, “This (gas reinjection) would result in a large amount of natural gas being stored beneath a residential neighborhood. After recent experience with reinjected natural gas in the Aliso Canyon well field of the Southern California Gas Company, which was in a well field at least one mile from nearby homes, it is equally dangerous to store natural gas beneath a solidly residential community at this location.”

Staff has requested a meeting with CalGEM personnel to obtain information and feedback on underground gas storage

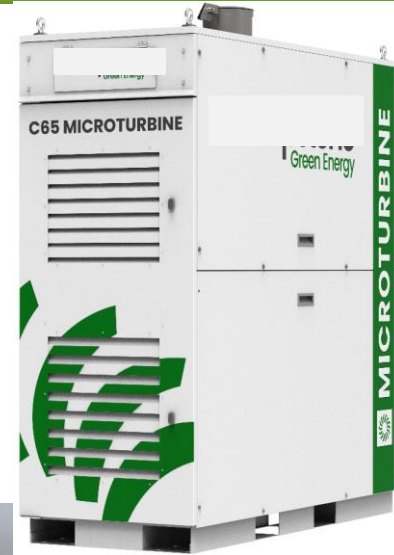
<sup>1</sup>[https://planning.lacity.gov/plndoc/Staff\\_Reports/2023/10-03-2023/ZA\\_1959\\_15227\\_0\\_PA6\\_1A\\_Commission\\_Packet.pdf](https://planning.lacity.gov/plndoc/Staff_Reports/2023/10-03-2023/ZA_1959_15227_0_PA6_1A_Commission_Packet.pdf), pg. 66 of 72



# Gas Reinjection Options

- Facilities have limited options to process produced gas:
  - Flaring
  - Use in microturbines/engines
  - Sell to gas company, where available
  - Reinjection
- Flaring at non-refineries is regulated under South Coast AQMD Rule 1118.1
- Produced gas can be used in microturbines/engines to generate electricity and reduce demand on local power grids
- Current proposal is to require combustion equipment utilizing produced gas to meet:
  - 11 ppmv NOx emission limit for engines powering wells
  - 9 ppmv NOx for microturbines

Staff recommends in lieu of gas reinjection, the use of either engines equivalent to a Tier-4 Final engine or microturbines



# Zero Emissions from Workover Rig Operations

- Stakeholders requested further investigation into the use of electrified workover rigs
- Electrification of workover rigs exceeds 2022 AQMP NOx cost-effectiveness threshold (\$350K per ton of NOx reduced)
- PAR 1148.1 proposal reduces more than 90% of NOx emissions and will be effective by 2027



Emission Reductions Strategy	NOx Emission Reductions (tons/day)	Cost (\$)	Cost-Effectiveness (\$/ton reduced)
Tier 4 Final	0.51	\$50,872,000	\$13,700
Electrification Option	0.54	\$2,054,100,000	\$521,080

# Zero Emissions from Workover Rig Operations

- CARB Advanced Clean Fleet Regulation will require electrification of workover rigs starting in 2036
  - South Coast AQMD does not have jurisdiction over on-road engines
- For workover rigs with engine dedicated solely to workover (does not assist in vehicle travel)
  - Dedicated engine would be considered off-road and subject to fleet rules for portable equipment
  - Workover rig would still need a substation/transformer on site for it to operate
  - Typical diesel-powered engine is 600 HP or 0.44 megawatts (0.5 megawatts can power 500 homes)
  - In the future, other technologies (i.e. fuel cells) may also be available to provide power to electrified workover rigs

Sub-station



# Zero Toxics in Neutralizing Agents



Comparing the Use of Odorants  
vs the Use of Neutralizing  
Agents when Performing  
Maintenance Activities

Odorant

Neutralizing  
Agent



- Purpose is to mask odors using various scents such as guava or cherry
- Odorants are atomized as aerosols
- PAR 1148.1 proposes banning usage of odorants

- Neutralizing agents are typically liquid
- Applied to tubing as tubing is removed
- Bacterial growth on tubing may cause odors
- Typical neutralizing agent is common household cleaning product

# Zero Toxics in Neutralizing Agents

- Stakeholders raised concerns that neutralizing agents may be emitted into air and/or contain toxics
- Added requirement for neutralizing agents to exclude toxics listed in Rule 1401 in quantities greater than 0.1 percent by weight
- Added prohibition of atomizing neutralizing agents into the air
- Staff found that operators use a common household cleaning product as neutralizing agent to encapsulate odors
  - Product does not contain air toxics
  - Product does not contain endocrine disruptors based on EPA's Second List of Chemicals for Tier 1 Screening<sup>2</sup>

Safety Data Sheet:		All-Purpose Cleaner		★
Version No. 13000-21A	Issue Date: February 1, 2021	Supersedes Date: August 8, 2018	OSHA HCS-2012 / GHS	
<b>Section 1: IDENTIFICATION</b>				
Product Name:	All-Purpose Cleaner			
Additional Names:				
Manufacturer's Part Number:	*Please refer to Section 16			
Recommended Use:	Cleaner & Degreaser for water tolerant surfaces.			
Restrictions on Use:	Do not use on non-rinseable surfaces.			
Company:	Sunshine Makers, Inc. 15922 Pacific Coast Highway Huntington Beach, CA 92649 USA	Telephone:	800-228-0709 • 562-795-6000 Mon – Fri, 8am – 5pm PST	
		Fax:	562-592-3830	
		Email:	<a href="mailto:info@simplegreen.com">info@simplegreen.com</a>	
Emergency Phone:	Chem-Tel 24-Hour Emergency Service: 800-255-3924			
<b>Section 2: HAZARDS IDENTIFICATION</b>				
This product is not considered hazardous under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).				
<u>OSHA HCS 2012</u>				
Label Elements				
Signal Word:	None	Hazard Symbol(s)/Pictogram(s):	None required	
Hazard Statements:	None			
Precautionary Statements:	None			
Hazards Not Otherwise Classified (HNOC):	None			
Other Information:	None Known			
<b>Section 3: COMPOSITION/INFORMATION ON INGREDIENTS</b>				
	<u>Ingredient</u>	<u>CAS Number</u>	<u>Percent Range</u>	
	Water	7732-18-5	> 80.698%*	
	C9-11 Alcohols Ethoxylated	68439-46-3	< 5.000%*	
	Surfactant	Proprietary	< 5.000%*	
	Sodium Citrate	68-04-2	< 5.000%*	
	Sodium Carbonate	497-19-8	< 1.000%*	
	Tetrasodium Glutamate Diacetate	51981-21-6	< 1.000%*	
	Citric Acid	77-92-9	< 1.000%*	
	Blend of Polyoxyalkylene Substituted Chromophores (Cyan and Yellow)	Proprietary Mixture	< 0.100%*	
	Fragrances	Proprietary Mixture	< 1.000%*	
	Anethole	104-46-1	< 0.100%*	
	Eucalyptol	470-82-6	< 0.100%*	
	Methylchloroithiazolinone	26172-55-4	< 0.001%*	
	Methylisothiazolinone	2682-20-4	< 0.0001%*	
*specific percentages of composition are being withheld as a trade secret				

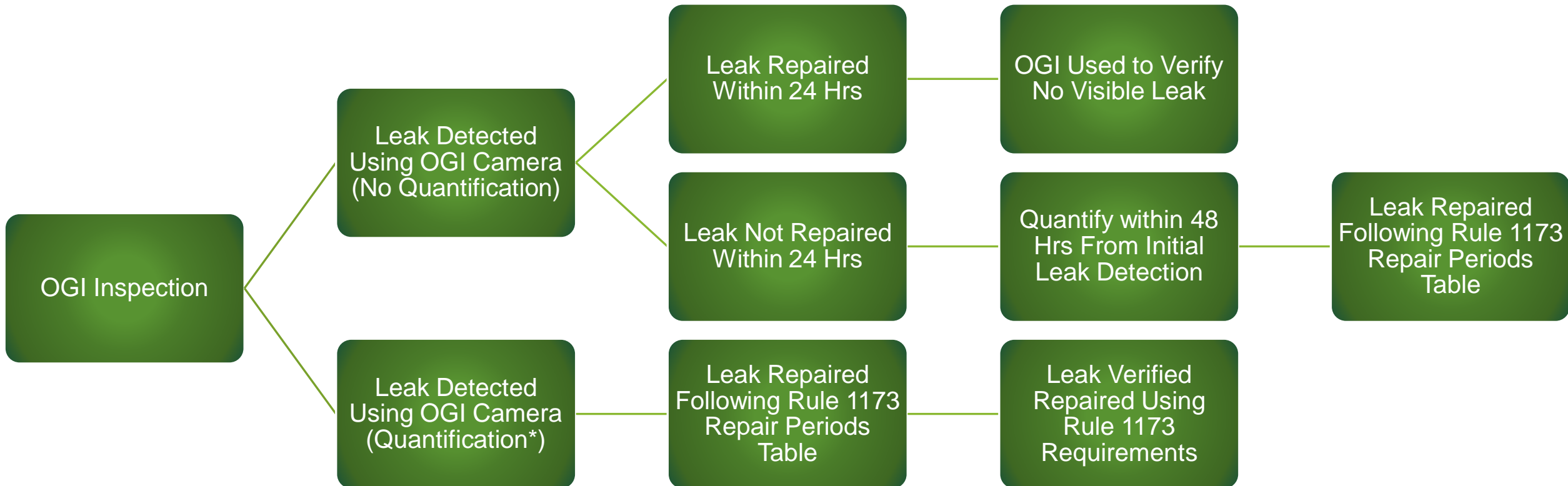
<sup>2</sup> <https://www.epa.gov/system/files/documents/2023-08/List%202.pdf>

# Enhanced Leak Detection Technology

- Original proposal was that visible vapors were to be quantified within 48 hrs of detection and then repaired following Rule 1173 repair period
- Staff is providing option to repair within 24 hrs of detection with no quantification required unless operator chooses to follow Rule 1173 repair period or if more time is needed for repair
- Staff believes this change will encourage leaks to be repaired as soon as they're discovered while still providing flexibility if longer repair time is needed



# Enhanced Leak Detection Technology – Repair Timeline



\*Quantification would require the use of a calibrated Toxic Vapor Analyzer

# Public Notification for Leak Detection

Community requested to be notified when leaks are found with OGI device

- Leaks are identified and corrected within 24 hours so notification would have limited value
- Operators are required to keep records and South Coast AQMD Compliance & Enforcement division follows up on those incidents to ensure corrective action took place
- South Coast AQMD has a complaint hotline (1-800-CUT-SMOG) to respond to immediate community concerns
- Community already receives 20-40 notifications daily and this would substantially increase number of notifications



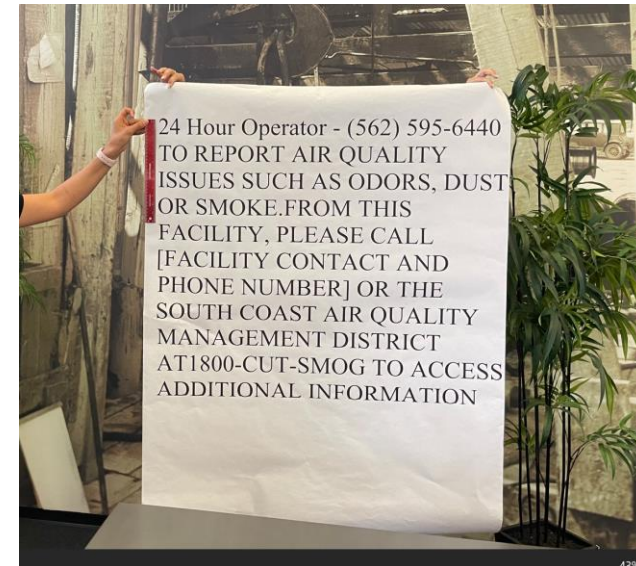


# Signage Proposal Update

- Staff originally proposed 4-inch lettering for signage
- Stakeholder demonstrated that sign would be very large
- Such a large sign may create a **visual nuisance** to the community
- Proposal changed to require lettering at least 2 inches tall with text contrasting with sign background
- Staff noted that 2-inch lettering will still be visible from public streets



4-inch lettering on cubicle partition



2-inch lettering

# Next Steps for PAR 1148.1

Stationary Source Committee – April 19, 2024



Set Public Hearing – May 3, 2024



Public Hearing – June 7, 2024

# Staff Contacts

The following South Coast AQMD staff is available to assist you with any questions or comments.



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